

**Oracle® Retail Service Backbone**

Installation Guide

Release 19.0.1

**F44790-01**

September 2021

Primary Author:

This software and related documentation are provided under a license agreement containing restrictions on use and disclosure and are protected by intellectual property laws. Except as expressly permitted in your license agreement or allowed by law, you may not use, copy, reproduce, translate, broadcast, modify, license, transmit, distribute, exhibit, perform, publish, or display any part, in any form, or by any means. Reverse engineering, disassembly, or decompilation of this software, unless required by law for interoperability, is prohibited.

The information contained herein is subject to change without notice and is not warranted to be error-free. If you find any errors, please report them to us in writing.

If this is software or related documentation that is delivered to the U.S. Government or anyone licensing it on behalf of the U.S. Government, then the following notice is applicable:

U.S. GOVERNMENT END USERS: Oracle programs, including any operating system, integrated software, any programs installed on the hardware, and/or documentation, delivered to U.S. Government end users are "commercial computer software" pursuant to the applicable Federal Acquisition Regulation and agency-specific supplemental regulations. As such, use, duplication, disclosure, modification, and adaptation of the programs, including any operating system, integrated software, any programs installed on the hardware, and/or documentation, shall be subject to license terms and license restrictions applicable to the programs. No other rights are granted to the U.S. Government.

This software or hardware is developed for general use in a variety of information management applications. It is not developed or intended for use in any inherently dangerous applications, including applications that may create a risk of personal injury. If you use this software or hardware in dangerous applications, then you shall be responsible to take all appropriate fail-safe, backup, redundancy, and other measures to ensure its safe use. Oracle Corporation and its affiliates disclaim any liability for any damages caused by use of this software or hardware in dangerous applications.

Oracle and Java are registered trademarks of Oracle and/or its affiliates. Other names may be trademarks of their respective owners.

Intel and Intel Xeon are trademarks or registered trademarks of Intel Corporation. All SPARC trademarks are used under license and are trademarks or registered trademarks of SPARC International, Inc. AMD, Opteron, the AMD logo, and the AMD Opteron logo are trademarks or registered trademarks of Advanced Micro Devices. UNIX is a registered trademark of The Open Group.

This software or hardware and documentation may provide access to or information about content, products, and services from third parties. Oracle Corporation and its affiliates are not responsible for and expressly disclaim all warranties of any kind with respect to third-party content, products, and services unless otherwise set forth in an applicable agreement between you and Oracle. Oracle Corporation and its affiliates will not be responsible for any loss, costs, or damages incurred due to your access to or use of third-party content, products, or services, except as set forth in an applicable agreement between you and Oracle.

#### 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:

- (i) the **MicroStrategy** Components developed and licensed by MicroStrategy Services Corporation (MicroStrategy) of McLean, Virginia to Oracle and imbedded in the MicroStrategy for Oracle Retail Data Warehouse and MicroStrategy for Oracle Retail Planning & Optimization applications.
- (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.

The VAR Applications contain trade secrets of Oracle and Oracle's licensors and Customer shall not attempt, cause, or permit the alteration, decompilation, reverse engineering, disassembly or other reduction of the VAR Applications to a human perceivable form. Oracle reserves the right to replace, with functional equivalent software, any of the VAR Applications in future releases of the applicable program.



# Contents

|  |      |
|--|------|
| <b>Send Us Your Comments</b> .....                                 | vii  |
| <b>Preface</b> .....   | ix   |
| Audience .....   | ix   |
| Documentation Accessibility .....                                  | ix   |
| Related Documents .....  | ix   |
| Customer Support .....   | x    |
| Review Patch Documentation .....                                   | x    |
| Improved Process for Oracle Retail Documentation Corrections ..... | x    |
| Oracle Retail Documentation on the Oracle Technology Network ..... | x    |
| Conventions .....  | xi   |
| <br>   |      |
| <b>1 Introduction</b>  |      |
| <br>   |      |
| <b>2 RSB Installation Master Checklist</b>                         |      |
| RSB Installation Master Checklist .....                            | 2-1  |
| <br>   |      |
| <b>3 Technical Specifications</b>                                  |      |
| Requesting Infrastructure Software .....                           | 3-1  |
| Server Requirements .....  | 3-1  |
| Additional Requirement for Retail Integration Console (RIC) .....  | 3-2  |
| Additional Requirement for Installing JSIT .....                   | 3-3  |
| Supported Oracle Retail Products .....                             | 3-3  |
| The RSB and Oracle WebLogic Server Cluster .....                   | 3-3  |
| <br>   |      |
| <b>4 Preinstallation Tasks</b>                                     |      |
| Prepare WebLogic Application Server .....                          | 4-1  |
| Steps for Configuring OSB Domain .....                             | 4-1  |
| HTTPS Configuration for WebLogic Server .....                      | 4-12 |
| <br>   |      |
| <b>5 Database Installation Tasks</b>                               |      |
| Repository Creation Utility .....                                  | 5-1  |
| Steps for Creating Database Schema using RCU .....                 | 5-1  |
| <br>   |      |
| <b>6 RSB Installation</b>  |      |
| Steps to Install RSB .....   | 6-1  |
| Download .....   | 6-1  |
| Configuration .....  | 6-2  |
| Compilation .....  | 6-5  |
| Deployment .....   | 6-5  |

|  |      |
|--|------|
| How to Deploy and Configure RCE Decorators .....   | 6-7  |
| Installation Steps .....   | 6-8  |
| Post-Installation Steps .....  | 6-8  |
| Business Service to End Point URL Mapping .....  | 6-9  |
| For Secured Installations (Policy-A) .....   | 6-10 |
| Prerequisites .....  | 6-10 |
| Installation Steps .....   | 6-10 |
| Post-Installation Steps .....  | 6-11 |
| <b>RIC Modes</b> .....   | 6-12 |
| How to decide which mode should RIC run on? .....  | 6-12 |
| Installation of RIC in different modes.....  | 6-12 |
| RIB only Mode.....   | 6-12 |
| RSB only Mode .....  | 6-13 |
| DUAL Mode (RIB and RSB) .....  | 6-14 |
| <b>7 Install JSIT</b>  |      |
| Download and Prepare SIT .....   | 7-1  |
| Deploy javaee-service-interface-tester-<version>.ear to Glassfish .....                        | 7-1  |
| Deploy SIT to WebLogic 12c .....   | 7-2  |
| Verify JSIT .....  | 7-2  |
| <b>8 Post Installation Tasks</b>   |      |
| Verification using Oracle Service Bus Console .....  | 8-1  |
| Verification using Retail Integration Console .....  | 8-1  |
| Common Issues.....   | 8-2  |
| <b>A Appendix: RSB Installation Checklist</b>  |      |
| <b>B Appendix: How to Secure Application Service (including JSIT)</b>                          |      |
| <b>C External LDAP Configuration</b>   |      |
| Introducing the Oracle Internet Directory (OID) .....  | C-1  |
| Introducing the Microsoft Active Directory (AD) .....  | C-1  |
| Architecture Overview .....  | C-2  |
| Configuring the Oracle Internet Directory (OID) as an Authentication Provider in WebLogic..... | C-2  |
| Verifying the Oracle Internet Directory (OID) Configuration .....                              | C-8  |
| Using LDIF Scripts to Configure Users and Groups for OID .....                                 | C-8  |
| Integration-oid-create-groups.ldif .....   | C-9  |
| Integration-oid-create-users.ldif .....  | C-14 |
| Configuring Active Directory (AD) as an Authentication Provider in WebLogic.....               | C-38 |
| Verifying the Active Directory (AD) Configuration.....   | C-44 |

---

---

# Send Us Your Comments

Oracle® Retail Service Backbone Installation Guide, Release 19.0.1.

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 Online Documentation available on the Oracle Technology Network Web site. 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](mailto: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 <http://www.oracle.com>.





---

---

# Preface

The Oracle® Retail Service Backbone Installation Guide contains the requirements and procedures that are necessary for the retailer to install Oracle Retail Service Backbone product.

## Audience

The Installation Guide is written for the following audiences:

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

## Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc>.

### Access to Oracle Support

Oracle customers that have purchased support have access to electronic support through My Oracle Support. For information, visit <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info> or visit <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs> if you are hearing impaired.

## Related Documents

For more information, see the following documents in the Oracle Retail Service Backbone Release 19.0 documentation set:

- *Oracle Retail Service Backbone Release Notes*
- *Oracle Retail Service Backbone Implementation Guide*
- *Oracle Retail Service Backbone Developers Guide*
- *Oracle Retail Service Backbone Integration Console Guide*
- *Oracle Retail Service Backbone Security Guide*

## 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, 19.0) or a later patch release (for example, 19.0.1). If you are installing the base release and 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

Oracle Retail product documentation is 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. You can obtain these documents through My Oracle Support.)

## Conventions

The following text conventions are used in this document:

| <b>Convention</b>      | <b>Meaning</b>   |
|------------------------|--|
| <b>boldface</b>        | Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.         |
| <i>italic</i>          | Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.                          |
| <code>monospace</code> | Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter. |



---

---

## Introduction

This document is the installation guide for the Retail Service Backbone (RSB) product. Generally, an RSB installation contains the following components:

- An installation of RSB's Decorator Services on Java EE 5 compliant application server.
- (Optional) Installation of the Java Service Interface Tester tool (JSIT)

It is important to also follow all installation steps of the Oracle Retail Applications that are being connected to the RSB. Failure to follow these may result in a faulty RSB installation. See the installation guides for the relevant Oracle Retail applications for more information.

---

---

**Note:** The instructions provided in this guide apply to a full installation of the RSB 19.0.1.

---

---



---



---

## RSB Installation Master Checklist

### RSB Installation Master Checklist

This list covers all of the sequential steps required to perform a full installation of the RSB using a command line installation.

| Task   | Notes   |
|--|---|
| Install JDK 1.8  | Prerequisite  |
| Prepare the Oracle Database schemas that the RIB will use: <ul style="list-style-type: none"> <li>■ Install Repository Creation Utility (RCU) 12.2.1.4</li> <li>■ Create DB schema for OSB using RCU</li> </ul>  | Prerequisite  |
| Prepare the Oracle WebLogic Servers for installation of the RSB Components: <ul style="list-style-type: none"> <li>■ Install Oracle Service Bus (OSB) on WebLogic</li> <li>■ Configure OSB domain and ADF runtime (Oracle JRF-12.2.1.4)</li> <li>■ Create Cluster</li> </ul> | Prerequisite  |
| Verify that the applications to which RSB will be integrating are configured appropriately   |   |
| Gather information for the installation (URLs, credentials, path information etc)  | During the prerequisites steps, there is information that should be noted that will be used to configure the RSB during the installation process. |
| Install using the RSB command line tools.  |   |





---



---

## Technical Specifications

RSB has several dependencies on Oracle Retail Application installations, as well as on the Oracle WebLogic servers. This section covers these requirements.

---



---

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

---



---

### Requesting Infrastructure Software

If you are unable to find the necessary version of the required Oracle infrastructure software (database server, application server, WebLogic, etc.) on the Oracle Software Delivery Cloud, you should file a non-technical 'Contact Us' Service Request (SR) and request access to the media. For instructions on filing a non-technical SR, see My Oracle Support Note 1071023.1 - *Requesting Physical Shipment or Download URL for Software Media*.

### Server Requirements

---

| Supported On       | Versions Supported   |
|--------------------|--|
| Database Server OS | <p>OS certified with Oracle Database 19c (19.3.0.0.0) Enterprise Edition. Options are:</p> <ul style="list-style-type: none"> <li>■ Oracle Linux 6 or 7 for x86-64 (Actual hardware or Oracle virtual machine).</li> <li>■ Red Hat Enterprise Linux 6 or 7 for x86-64 (actual hardware or Oracle virtual machine)</li> <li>■ IBM AIX 7.1 (actual hardware or LPARs)</li> <li>■ Solaris 11.3 Sparc (actual hardware or logical domains)</li> <li>■ HP-UX Itanium 11.31 Integrity (Actual hardware, HPVM, or vPars)</li> </ul> |

|   |   |
|---|---|
| Database Server 19c                                     | <p>Oracle Database Enterprise Edition 19c (19.3.0.0.0) with the following specifications:</p> <p><b>Components:</b></p> <ul style="list-style-type: none"> <li>■ DB HOME</li> <li>■ Examples CD</li> </ul> <p><b>Other Components:</b></p> <ul style="list-style-type: none"> <li>■ Perl interpreter 5.0 or later</li> <li>■ X-Windows interface</li> <li>■ JDK 1.8</li> </ul>  |
| Application Server OS                                   | <p>OS certified with Oracle Fusion Middleware 19c. Options are:</p> <ul style="list-style-type: none"> <li>■ Oracle Linux 6 or 7 for x86-64 (Actual hardware or Oracle virtual machine).</li> <li>■ Red Hat Enterprise Linux 6 or 7 for x86-64 (actual hardware or Oracle virtual machine)</li> <li>■ IBM AIX 7.1 (actual hardware or LPARs)</li> <li>■ Solaris 11.x Sparc (actual hardware or logical domains)</li> <li>■ HP-UX Itanium 11.31 Integrity (Actual hardware, HPVM, or vPars)</li> </ul> |
| Application Server                                      | <p>Oracle Fusion Middleware 12c (12.2.1.4)</p> <p><b>Components:</b></p> <ul style="list-style-type: none"> <li>■ Oracle WebLogic Server 12c (12.2.1.4)</li> <li>■ Java: JDK 1.8+ latest security updates 64 bit</li> </ul>   |
| Minimum required JAVA version for all operating systems | JDK 1.8+ latest security updates 64 bit   |

---

**Important:** If there is an existing WebLogic installation on the server, you must upgrade to WebLogic 12.2.1.4. All middleware components associated with WebLogic server should be upgraded to 12.2.1.4.

Back up the weblogic.policy file (\$WLS\_HOME/wlserver/server/lib) before upgrading your WebLogic server, because this file could be overwritten. Restore the weblogic.policy from backup file after the WebLogic upgrade is finished and the post patching installation steps are completed.

---

## Additional Requirement for Retail Integration Console (RIC)

The RIC model and view components require ADF runtime to run properly. Verify that ADF runtime 12.2.1.4 or higher is available in the WebLogic Application Server (12.2.1.4) and applied to the domain where RIC will be installed.

### Other Resources

For information about WebLogic Application Server 12.2.1.4, see the Oracle WebLogic Server Documentation Library.

- WebLogic Application Server 12c - Index  
<http://docs.oracle.com/middleware/12214/cross/getstartedtasks.htm>

- WebLogic Application Server 12c - Documents  
<http://docs.oracle.com/middleware/12214/wls/index.html>

---

**Note:** See also the Oracle Database Administrator's Guide 19c (19.3.0.0.0) and the Oracle WebLogic Application Server 12c (12.2.1.4) documentation.

---

## Additional Requirement for Installing JSIT

JSIT requires WebLogic Application Server 12c (12.2.1.4). Before installing JSIT, verify that the WebLogic Application Server 12c (12.2.1.4) is available in your environment. For more information on installing JSIT, see [Install JSIT](#).

## Supported Oracle Retail Products

| Retail Product  | Version Supported |
|---|-------------------|
| Oracle Retail Warehouse Management System (RWMS) 19.0 | RIB 19.0.1        |
| Oracle Retail Merchandising System (RMS) 19.0.1       | RIB 19.0.1        |
| Oracle Retail Price Management (RPM) 19.0.1           | RIB 19.0.1        |
| Oracle Retail Store Inventory Management (SIM) 19.0   | RIB 19.0.1        |
| Oracle Retail Advanced Inventory Planning (AIP) 19.0  | RIB 19.0.1        |
| Integration Gateway Services (IGS) 19.0.1             | RSB 19.0.1        |
| Oracle Retail Financial Integration (ORFI) 19.0.1     | RSB 19.0.1        |
| Oracle Retail Invoice Matching (ReIM) 19.0.1          | RSB 19.0.1        |
| Rib4OMS 19.0.1  | RSB 19.0.1        |

## The RSB and Oracle WebLogic Server Cluster

Oracle Service Bus (OSB) supports three types of topologies: Admin-only topology, Admin + Managed Server topology and Cluster topology. The first two topologies are non-clustered topologies which are not highly-available; therefore it is recommended that you use Cluster topology.

Clustering allows OSB to run on a group of servers that can be managed as a single unit. An OSB deployment can use clustering and load balancing to improve scalability by distributing the workload across nodes. A WebLogic server clustered domain consists of only one Admin Server, and one or more managed servers. The managed servers in an OSB domain can be grouped in a cluster. When OSB resources are configured, resources are targeted to the named cluster. The advantage of specifying a cluster as the target for resource deployment is that it makes it possible to dynamically increase capacity by adding Managed Servers to the cluster.

### Singleton Resources

While most resources used by OSB are deployed homogeneously across the cluster, there are a few resources that must be pinned to a single Managed Server in order to operate correctly. The following table lists these components:

- Service Bus Cluster Singleton Marker Application
- Service Bus Domain Singleton Marker Application
- Service Bus Message Reporting Purger
- configwiz-jms service

#### **Load balancing in an OSB cluster**

Load balancing distributes the workload proportionately across all the servers in a cluster so that each server can run at full capacity. Web services (SOAP or XML over HTTP) can use HTTP load balancing. External load balancing can be accomplished through the WebLogic HttpClusterServlet, a WebServer plug-in or a hardware router. In the steps described in this document, it uses a HTTP proxy server which is a managed server in the same domain and is not a part of the cluster.

---

---

## Preinstallation Tasks

Before you begin installation, check to be sure that you have the most recent version of this installation guide. Oracle Retail installation guides are available on the Oracle Technology Network.

### Prepare WebLogic Application Server

Oracle Service Bus (OSB) supports 3 types of topologies: Admin-only, Admin + Managed Server and Cluster. The first two topologies are non-clustered topologies which are not high-available, therefore we recommend using Cluster topology and this document describes how to configure a sample cluster topology for OSB applications.

### Steps for Configuring OSB Domain

This section describes step-by-step process of creating and configuring an OSB domain using the configuration wizard. In this configuration, there are following servers:

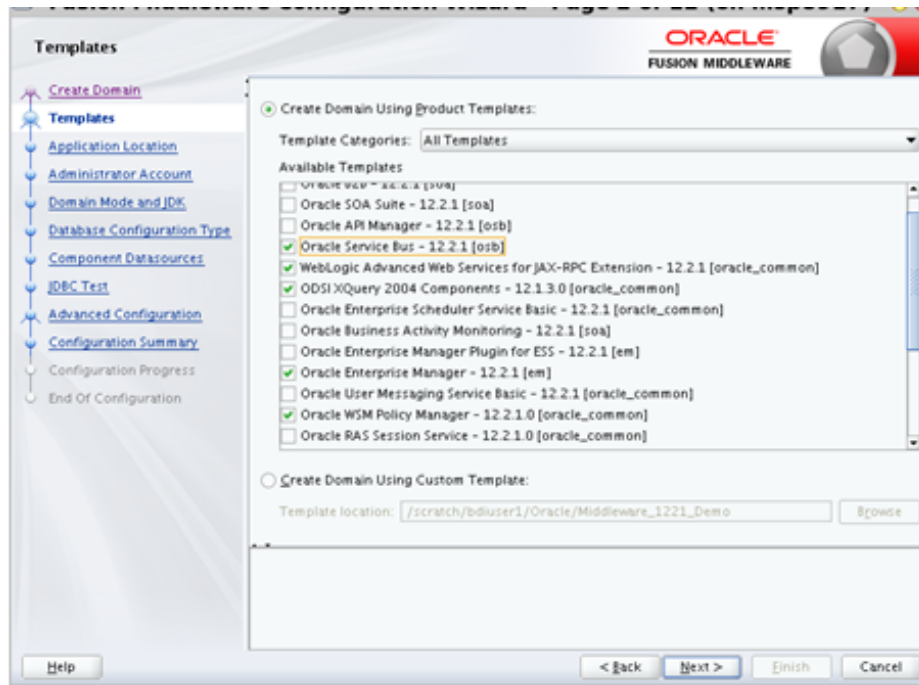
- One Admin Server
- Three Managed Servers: *rsb\_server1*, *rsb\_server2* and *rsb\_http\_proxy*.
- Cluster: The cluster consists of *rsb\_server1* and *rsb\_server2* as managed servers. OSB features are deployed on this cluster. Also, *rsb\_server1* hosts the singleton resources of OSB.
- Managed server *rsb\_http\_proxy* acts as the proxy server of the cluster. It does not have OSB code installed on it.

Perform the following steps to create a new WebLogic domain:

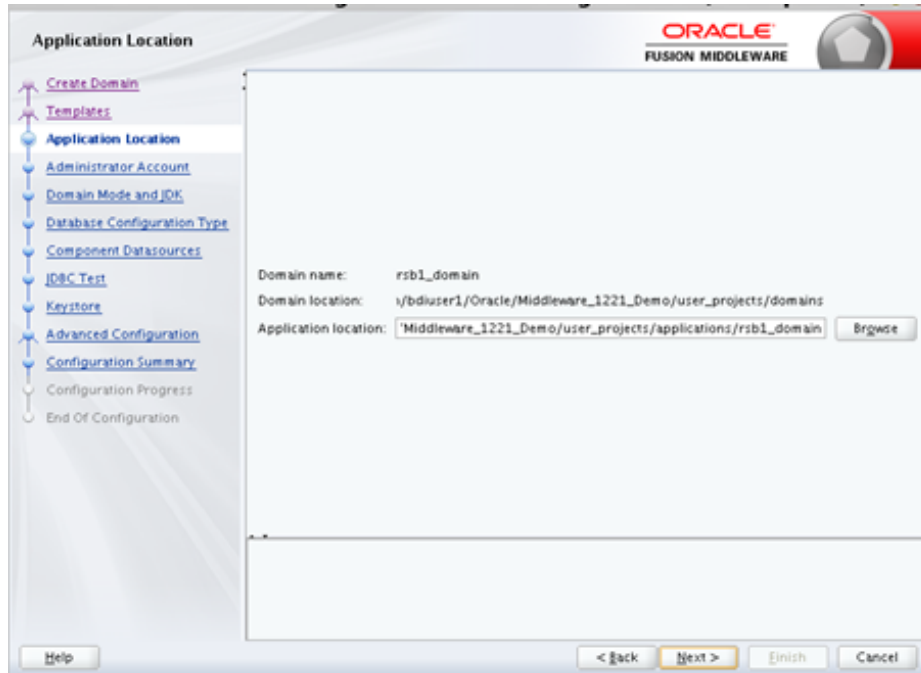
1. Run `<WLS_HOME>/wlserver/common/bin/config.sh`.
2. Select **Create a new Domain**. Click **Next**.



3. Select Oracle Service Bus -12.2.1.4 [osb] option as shown, this will select other required options for OSB like EM, OWSM, JRF etc. Click Next.



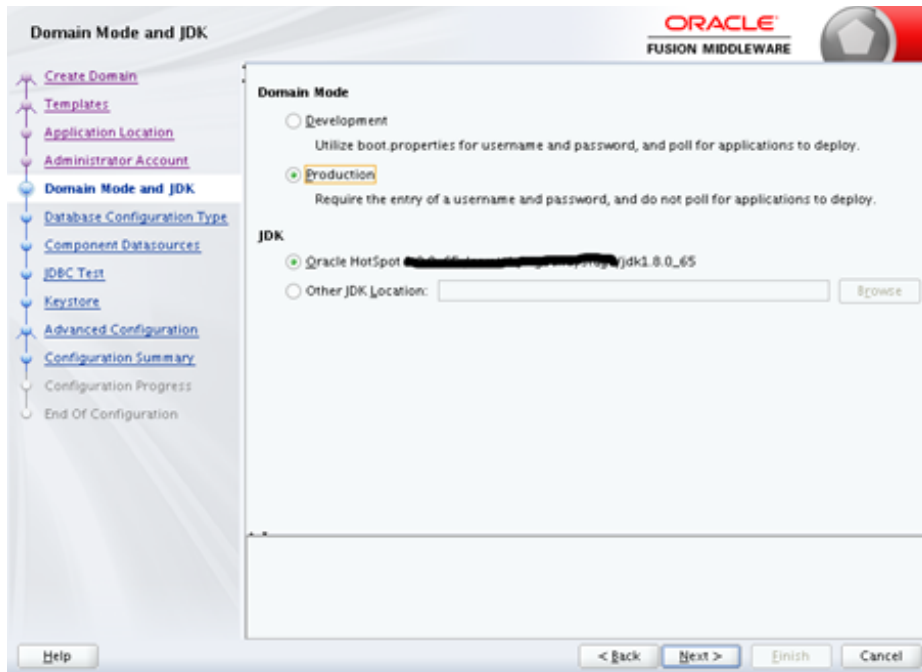
4. Select Application Location and click Next.



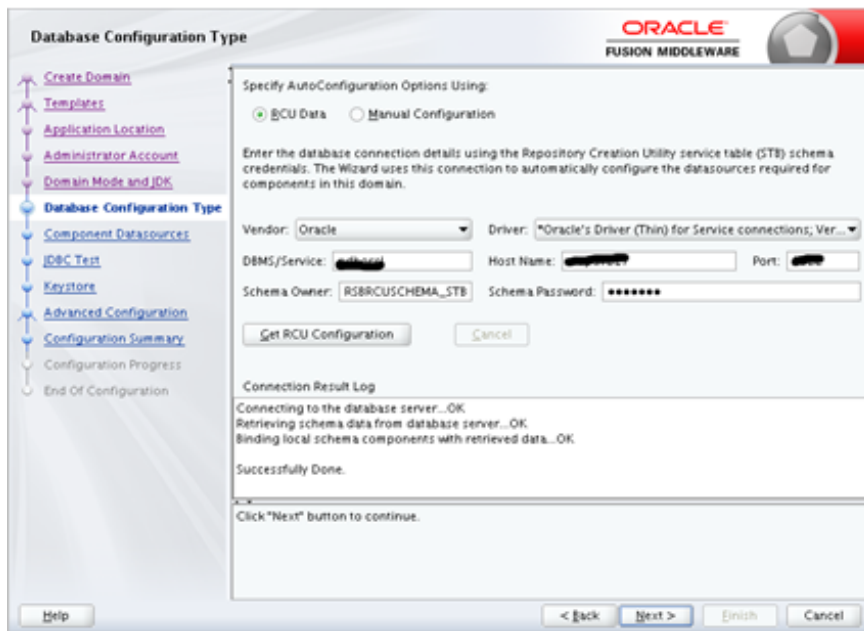
5. Enter **Name** (Username) and **User password** for the domain. Please note down the username and password. These are required again in the compilation phase of RSB.



6. Select domain mode option as production and point to latest jdk location. Click **Next**.

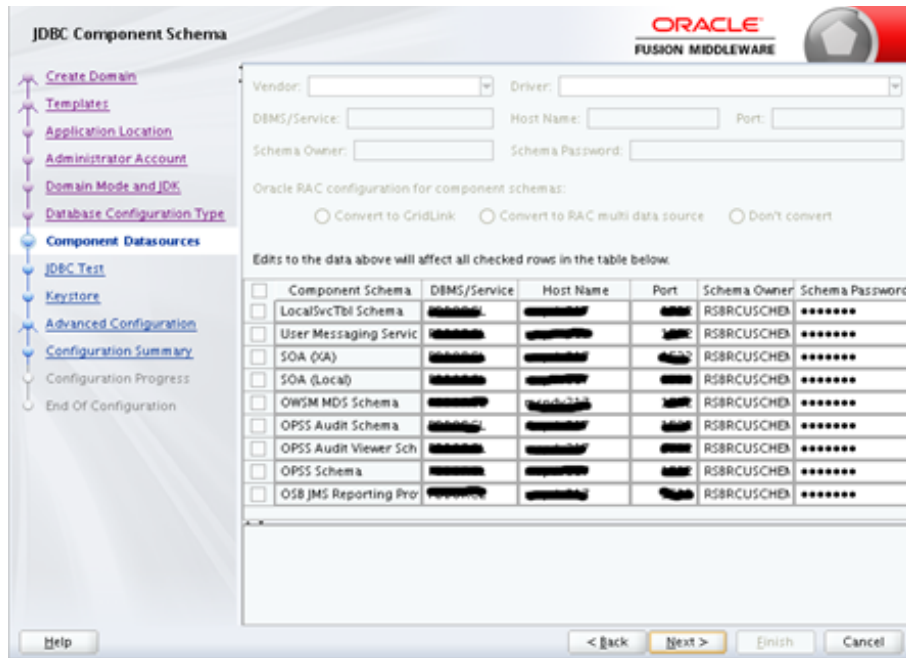


7. Select RCU Data option and enter database details like driver, hostname, service, port, schema owner and password. The schema must be created already using the RCU tool. Then click on Get RCU Configuration button to get the RCU data for RSB. If connection result logs are OK, then click Next.

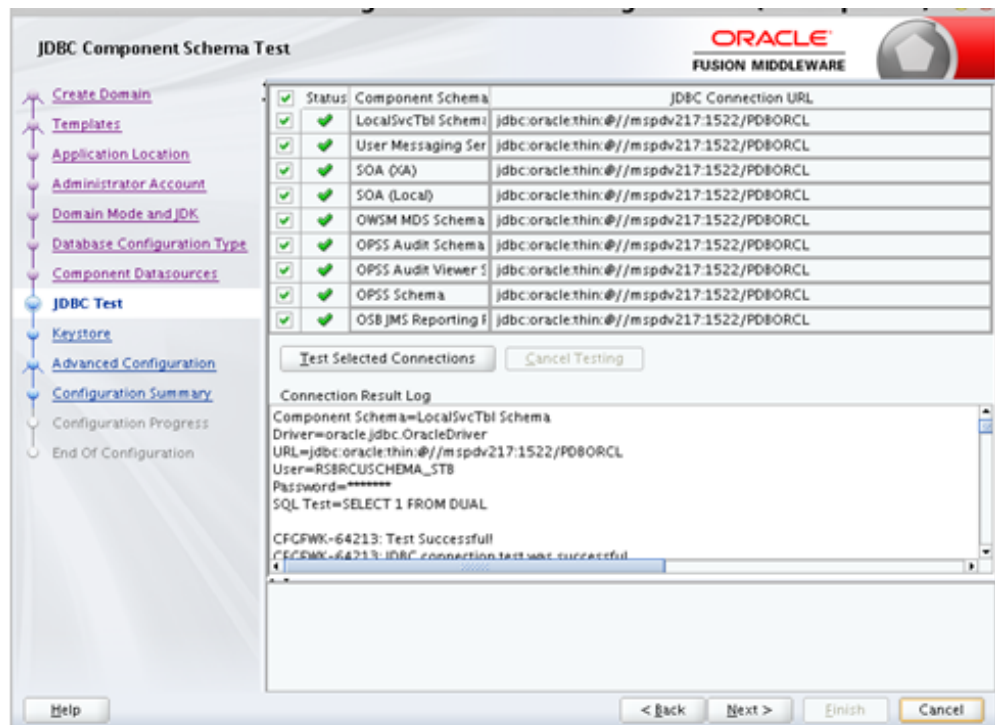


8. This screen shows all RCU schemas for RSB. Select all schemas by clicking on Component Schema Label and click Next.

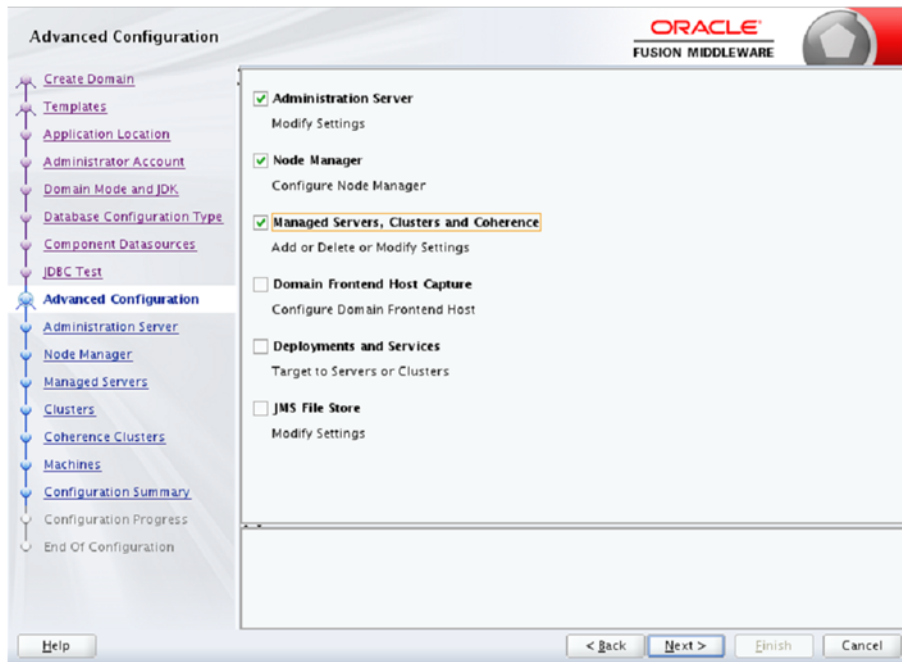




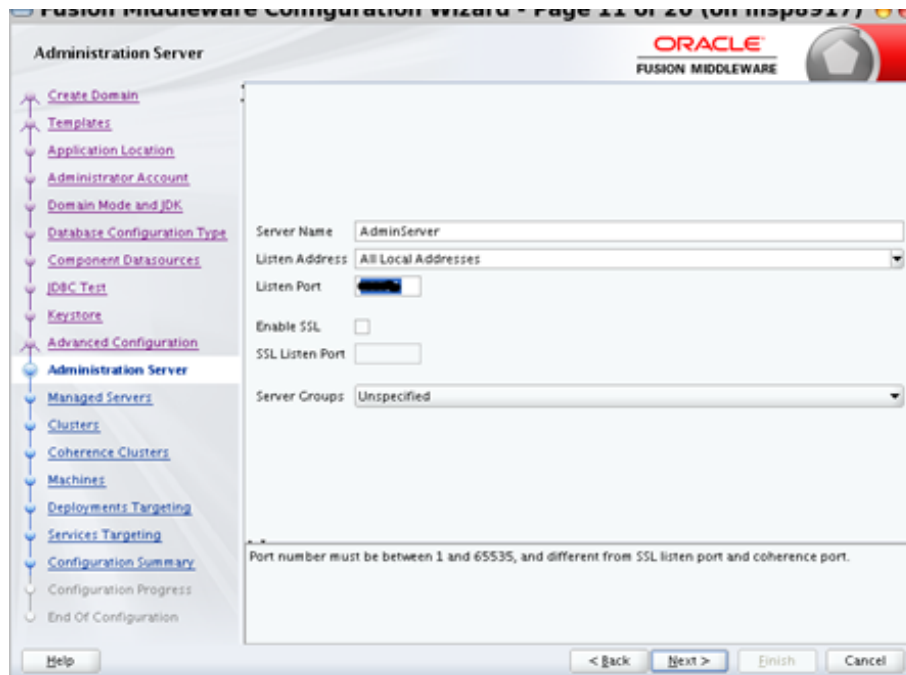
9. Here all the schemas will be tested and corresponding data sources will be created in domain. When all statuses are green, click **Next**.



10. Select the options for creating AdminServer, Node Manager, Managed Servers and Cluster. Click **Next**.



11. Enter Admin Server details, Listen address will be IP address and enter valid Listen port. If you are using SSL, you can enable SSL in this step and specify the SSL port.



12. Enter Node Manager details like select Per Domain Default Location and provide Node Manager Credentials same as weblogic credentials. Click Next.

**Node Manager**

ORACLE  
FUSION MIDDLEWARE

Node Manager Type

Per Domain Default Location

Per Domain Custom Location

Node Manager Home:  Browse

Manual Node Manager Setup

Node Manager Credentials

Username:

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.

Help < Back Next > Finish Cancel

13. Enter details of all managed servers. If you are using SSL, you can enable the SSL in this step and specify the SSL port. Click Next.

**Managed Servers**

ORACLE  
FUSION MIDDLEWARE

+ Add Clone X Delete Disard Changes

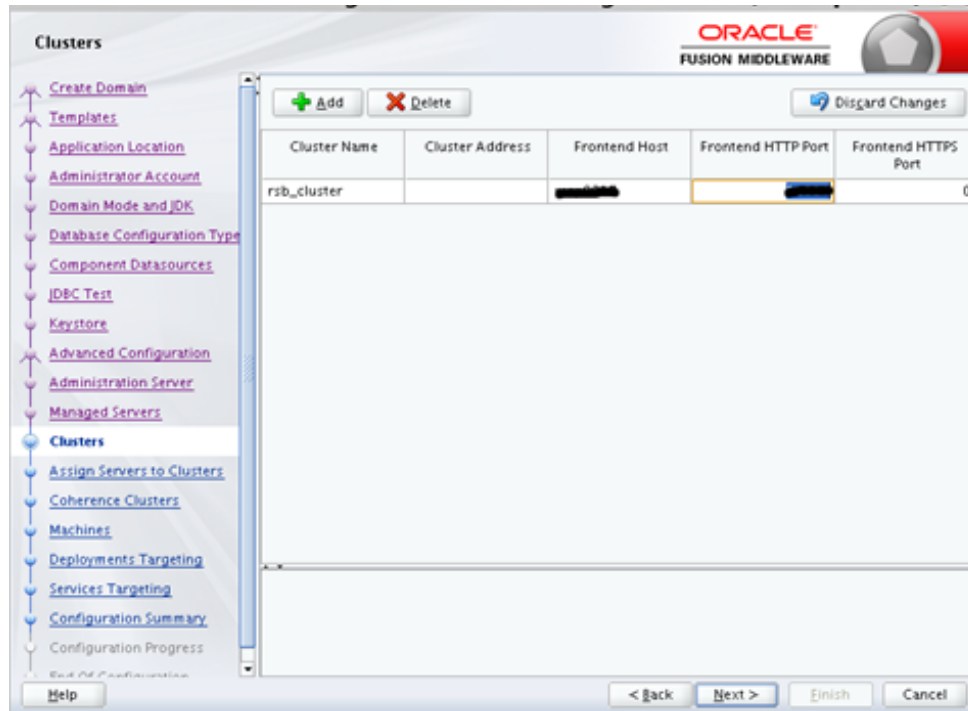
| Server Name    | Listen Address | Listen Port | Enable SSL               | SSL Listen Port | Server Groups |
|----------------|----------------|-------------|--------------------------|-----------------|---------------|
| rsb_server1    | ...            | ...         | <input type="checkbox"/> | Disabled        | OSB-MCO-...   |
| rsb_server2    | ...            | ...         | <input type="checkbox"/> | Disabled        | Unspecified   |
| rsb_http_proxy | ...            | ...         | <input type="checkbox"/> | Disabled        | Unspecified   |

Help < Back Next > Finish Cancel

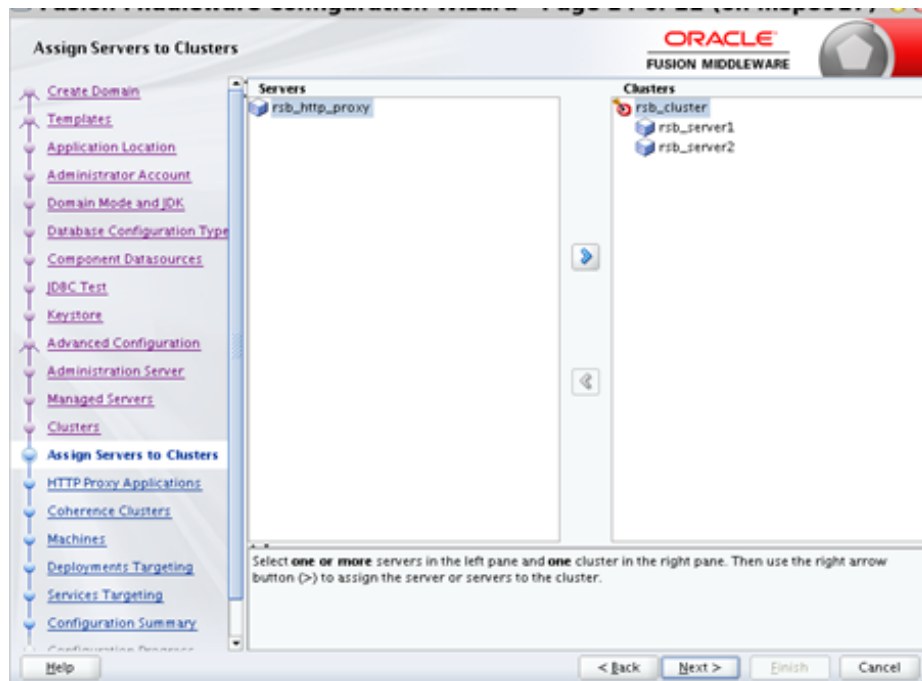
**Note:** Oracle recommends to disable SSLv3 in all products. We recommend to use TLSv1.2 protocol. WebLogic server can be configured to use TLSv1.2 protocol by adding the following line in the setDomainEnv.sh. Restart the server after making the change.

```
JAVA_OPTIONS=" $JAVA_OPTIONS
-DwebLogic.security.SSL.minimumProtocolVersion=TLSv1.2"
```

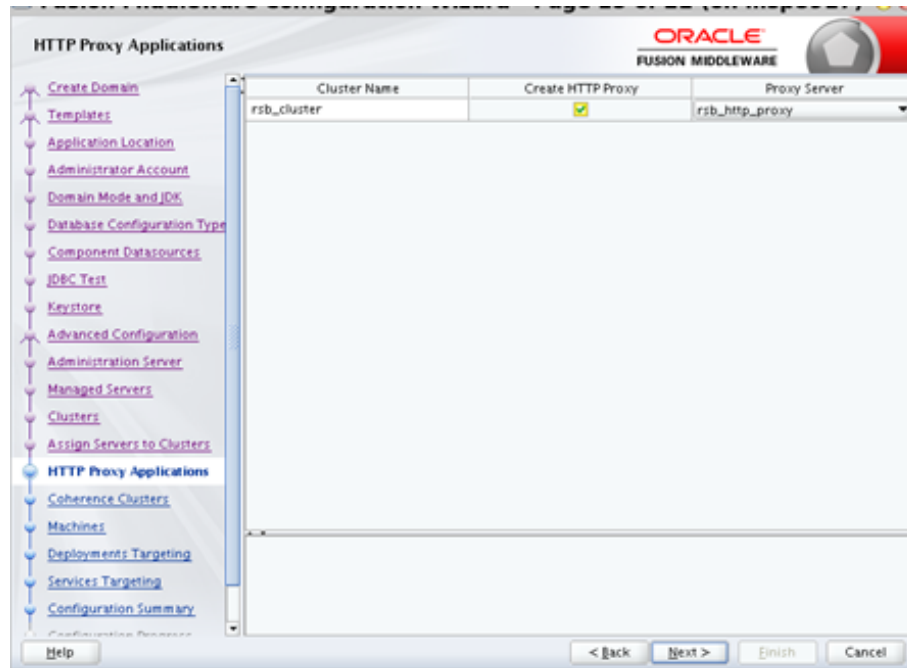
14. Enter the cluster name.



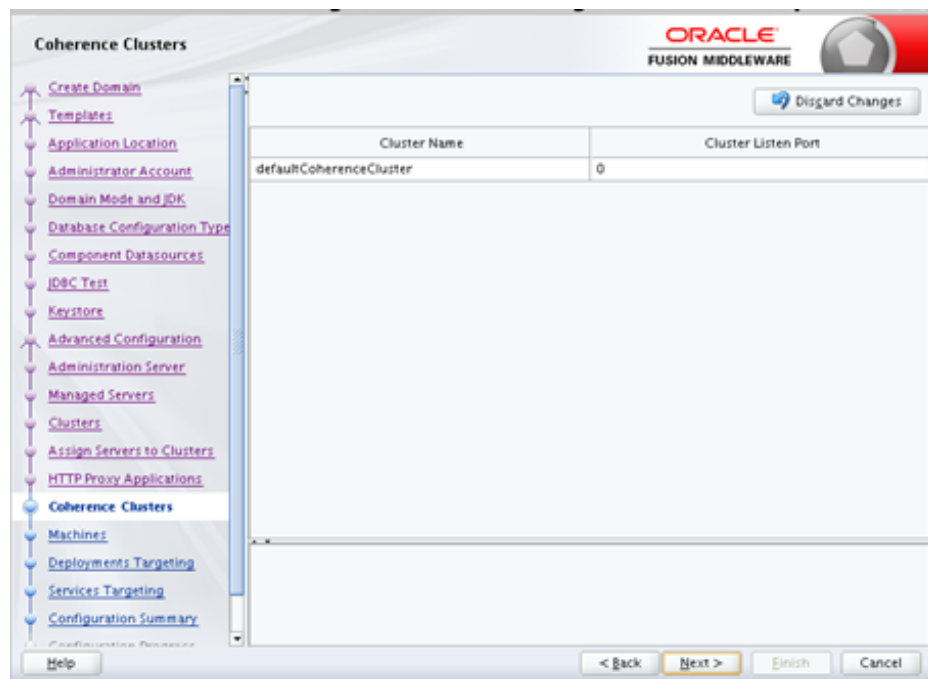
15. Add managed servers to the cluster. Notice that the proxy server, rsb\_http\_proxy, is not added to the cluster because we need that server as the HTTP proxy of the cluster.



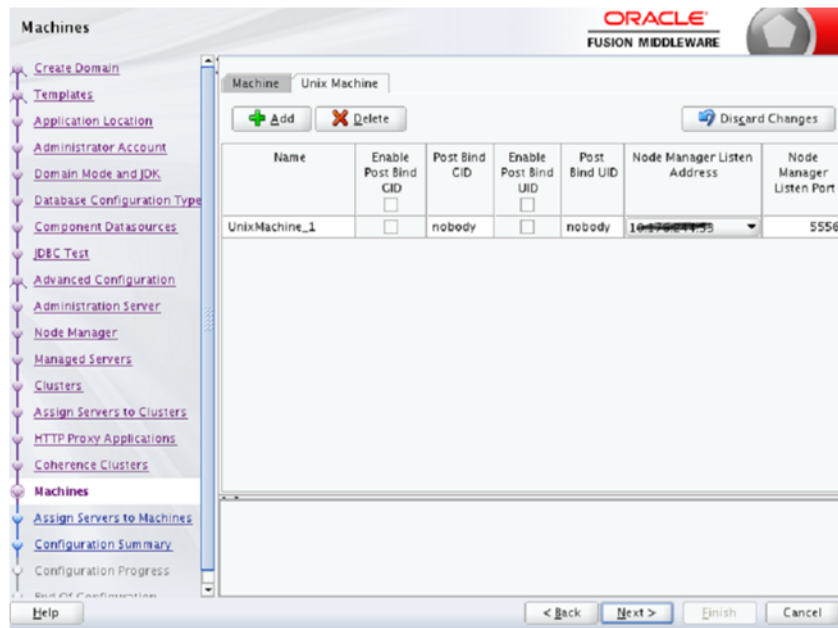
16. Enter HTTP Proxy details.



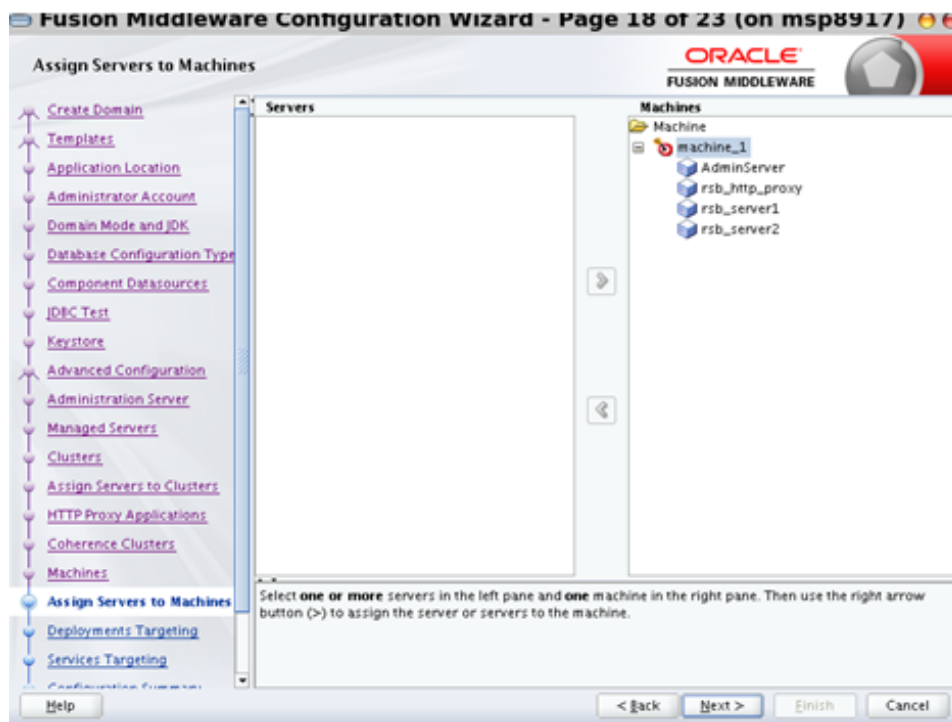
17. Do not modify coherence cluster details keep it as is and Click Next.



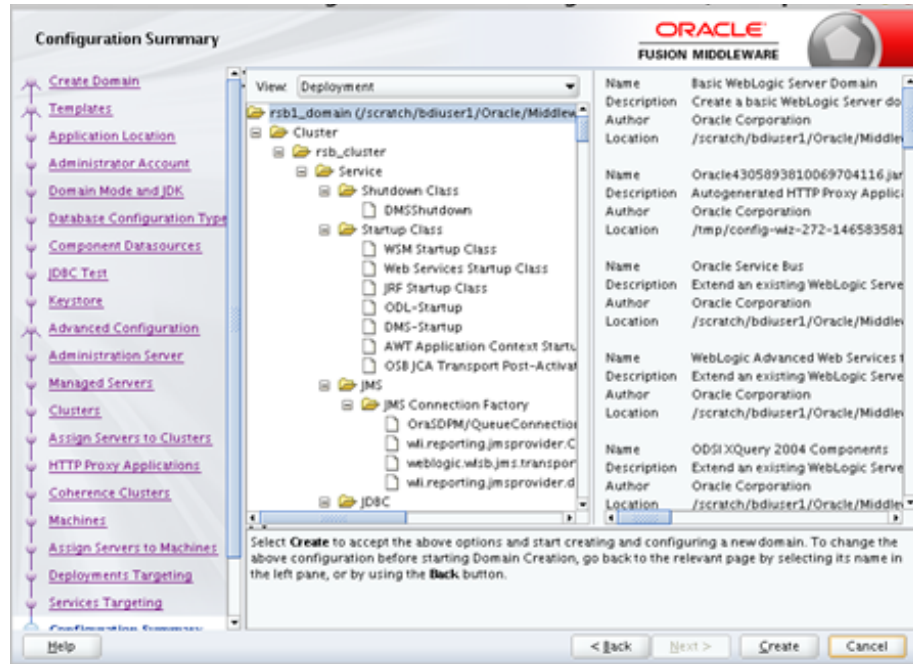
18. Configure Machine details. Click **Unix Machine** and specify the Name, Node Manager hostname and port. Click Next.



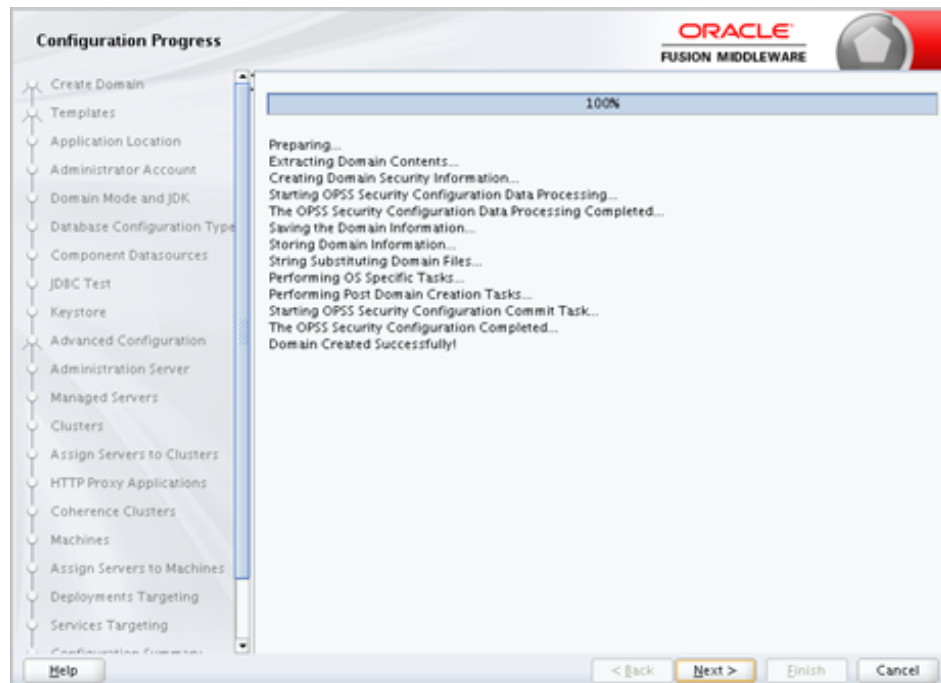
19. Add servers to the machine. Add all the servers.



20. From the Configuration Summary page, click **Create**.



## 21. Domain creation confirmation page



## 22. The following screen appears after successful domain creation. Click **Finish**.



23. Grant required permission for WebLogic to access the credential store. Edit the `<wlsHome>/wlsserver/server/lib/weblogic.policy` file and add the following permission, after replacing `<domain-home>` with the correct value.

```
grant codeBase "file:<domain-home>/-" {
    permission java.security.AllPermission;
    permission oracle.security.jps.service.credstore.CredentialAccessPermission
    "credstoersp.credstore", "read,write,update,delete";
    permission oracle.security.jps.service.credstore.CredentialAccessPermission
    "credstoersp.credstore.*", "read,write,update,delete";
};
```

24. Edit the `DOMAIN-HOME/bin/setDomainEnv.sh` to add the max and min memory requirement for the servers. It is recommended to use 2GB or more for max memory.

```
USER_MEM_ARGS="-Xms1024m -Xmx2048m -XX:MaxPermSize=1024m"
```

25. If NodeManager is used to control the servers in the cluster, edit `WL_HOME/common/nodemanager/nodemanager.properties` file to change the `StartScriptEnabled` property to `true` and make sure the `StartScriptName` property is set to `startWebLogic.sh`. Below is a sample from the file:

```
StartScriptName=startWebLogic.sh
StartScriptEnabled=true
```

## HTTPS Configuration for WebLogic Server

If you are using https (for Policy A), you will have to configure the following:

---



---

**Note:** For additional information on configuring Policy A or Policy B, see the *Oracle Retail Service Backbone Security Guide*.

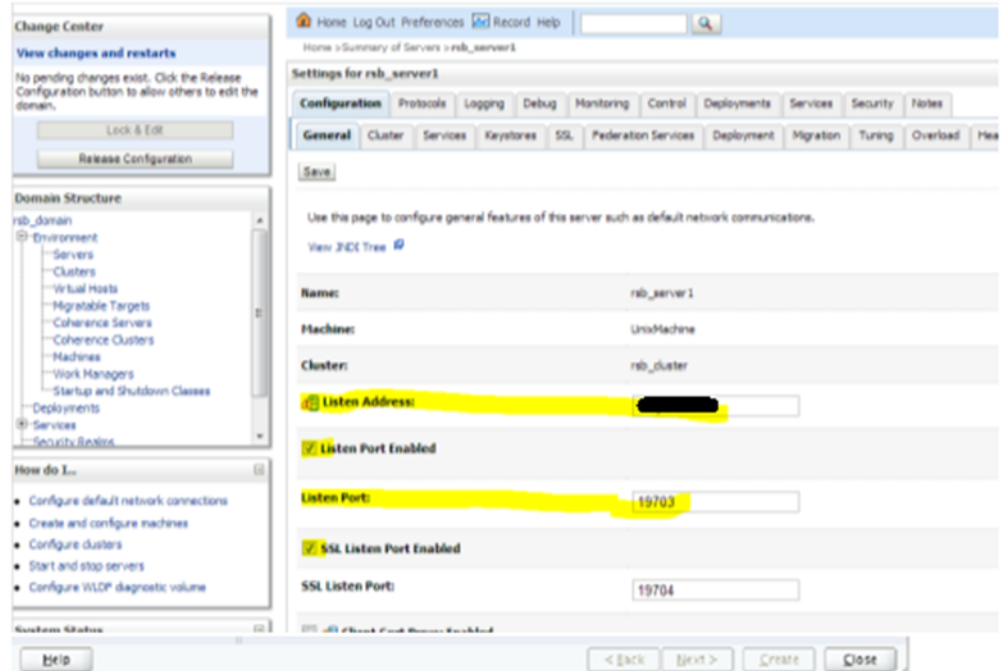
---



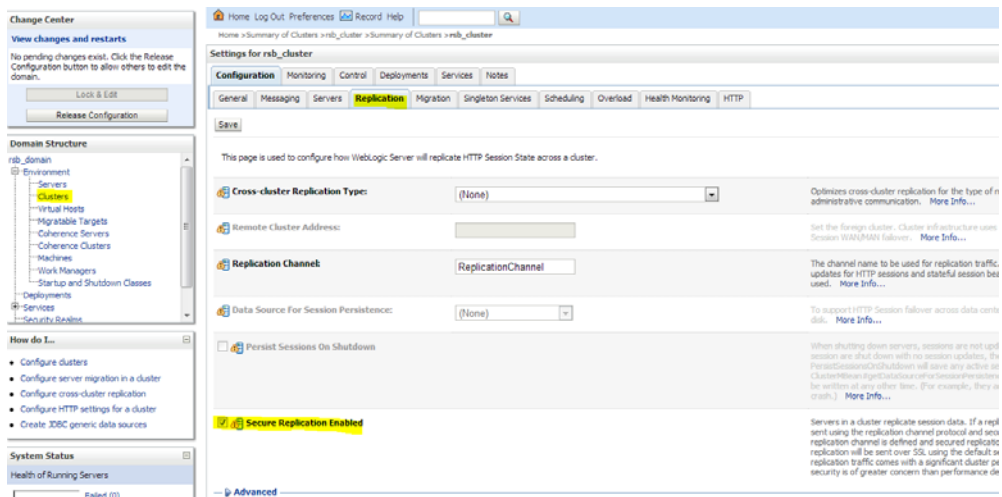
---



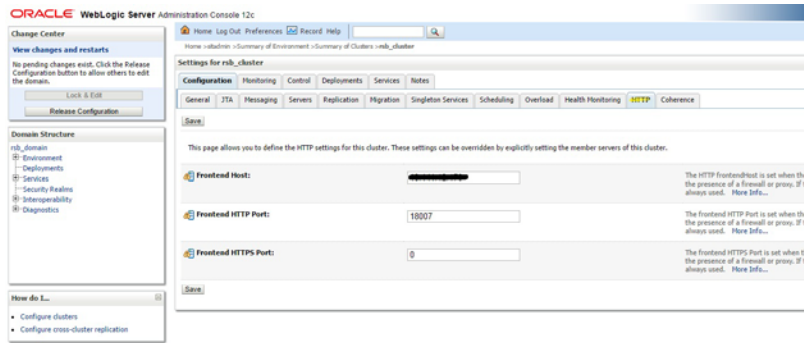
1. Enable https port for AdminServer, Http Proxy Server and all managed servers. Specify the **Listen Address**. The **Listen Address** must match the CN entry of the server certificate. Sometimes the CN entry of the server certificate is the fully qualified name (for example, rsbhost.example.com) instead of the short hostname (for example, rsbhost). If the entries do not match, the security configurations will not work.



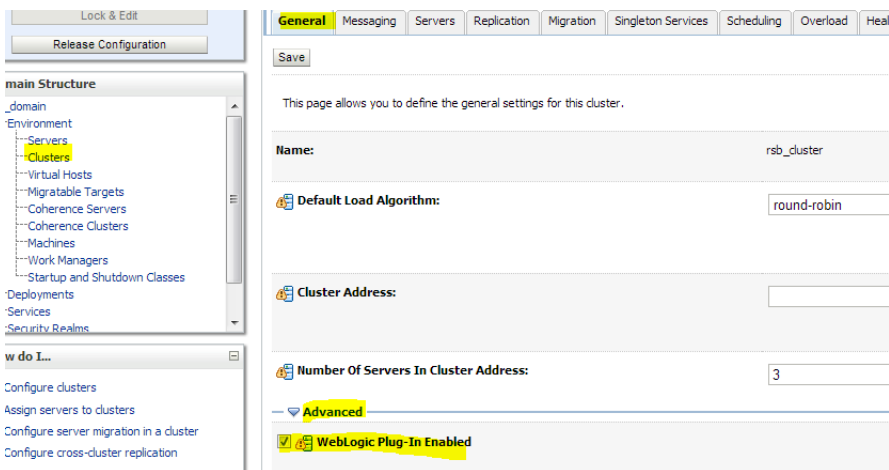
2. Enable secure replication. Enable the Secure Replication Enabled option available in **Environment --> Clusters --> <cluster name> --> Configuration --> Replication**



3. Set the Frontend Hostname for the cluster. This should match the CN entry of the certificate. **Environment --> Clusters --> <cluster name> --> Configuration --> HTTP**



4. Enable WebLogic plug-in. Check **WebLogic Plug-In Enabled** checkbox in **Environment --> Clusters --> <cluster name> --> Configuration --> General --> Advanced**. After the change, **Save, Activate Changes** and restart the Admin Server.



---

---

## Database Installation Tasks

This chapter describes how to install the necessary database.

### Repository Creation Utility

Many of the Oracle Fusion Middleware components require the existence of schemas in a database prior to installation. These schemas are created and loaded in your database using the Repository Creation Utility (RCU).

See Repository Creation Utility documentation for more information:

<http://docs.oracle.com/middleware/1221/core/RCUUG/toc.htm>

RCU is available with the Oracle Fusion Middleware Infrastructure distribution in 12c (12.2.1).

The repository for Oracle Service Bus (OSB) must be created using RCU tool. The repository must contain SOA Infrastructure (SOAINFRA) schema and all schemas under AS Common Schemas label.

While creating a schema using RCU tool, user must select/mention a prefix which is added to all the schemas created by RCU. In the following example, RCU tool is used to create a repository with SOA Infrastructure schema as <prefix>\_SOAINFRA, Metadata Services schema as <prefix>\_MDS etc.

### Steps for Creating Database Schema using RCU

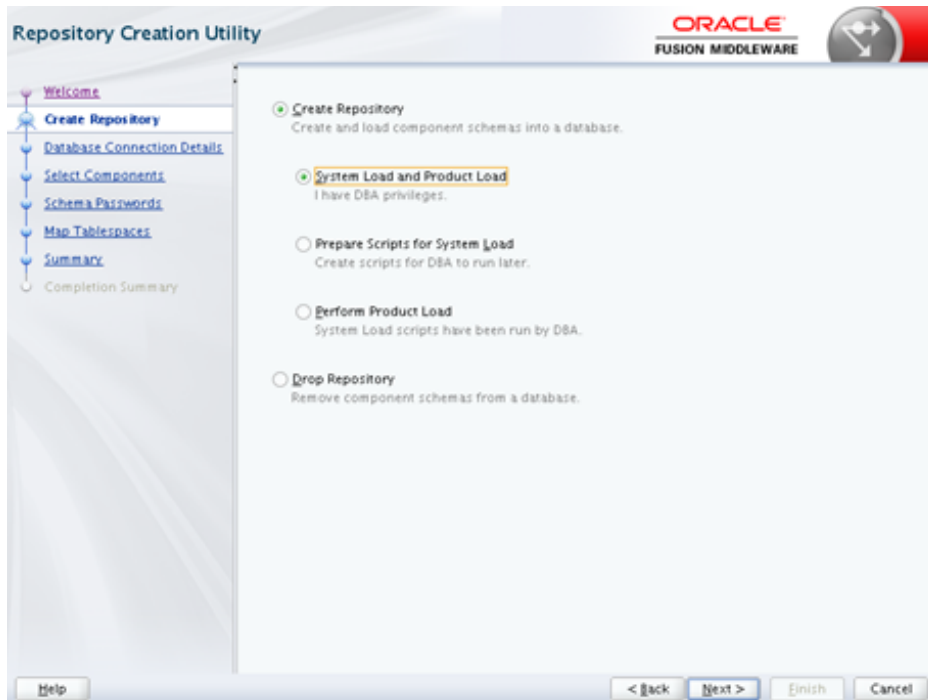
1. Run rcu executable from `<wlsHome>/Oracle_Home/oracle_common/bin`

```
cd <wlsHome>/Oracle_Home/oracle_common/bin
```

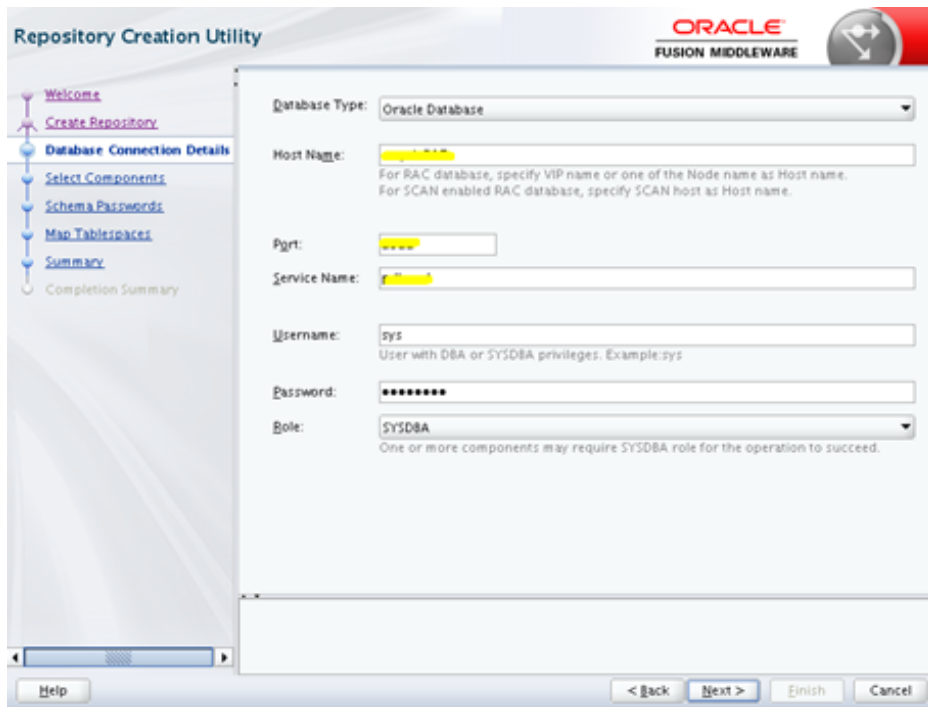
```
rcu
```

The Welcome page appears.

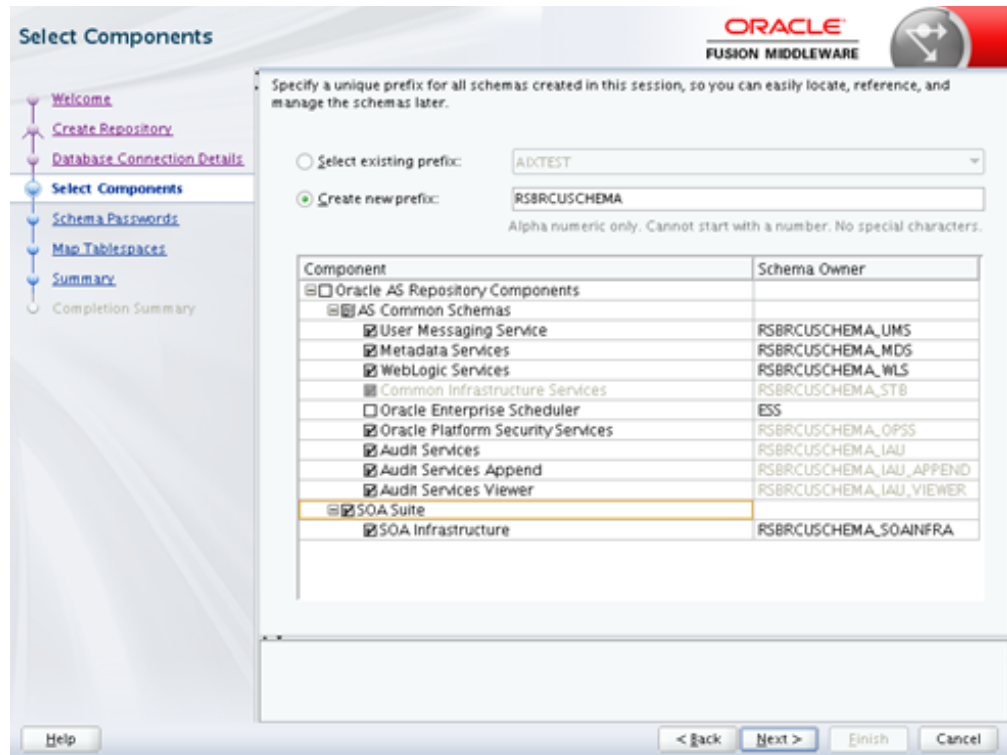
2. Click **Next** to continue.



3. In Repository Creation Utility window, select Create Repository option and System Load and Product Load. Click Next.



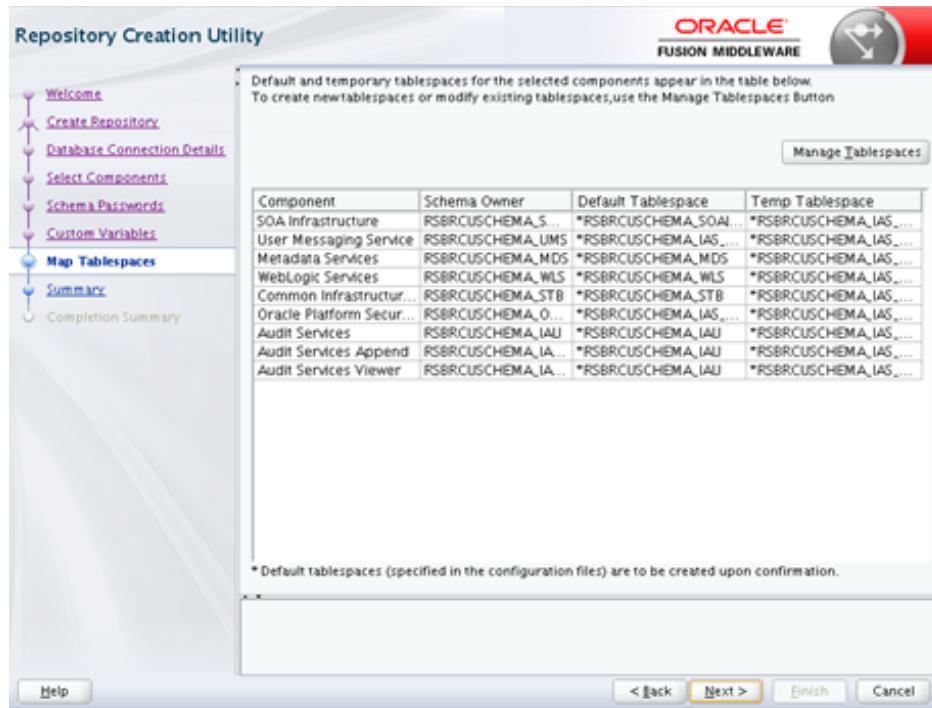
4. In Database Connection Details window, provide database details and click Next.  
**Database Type:** Oracle Database  
**Role:** SYSDBA



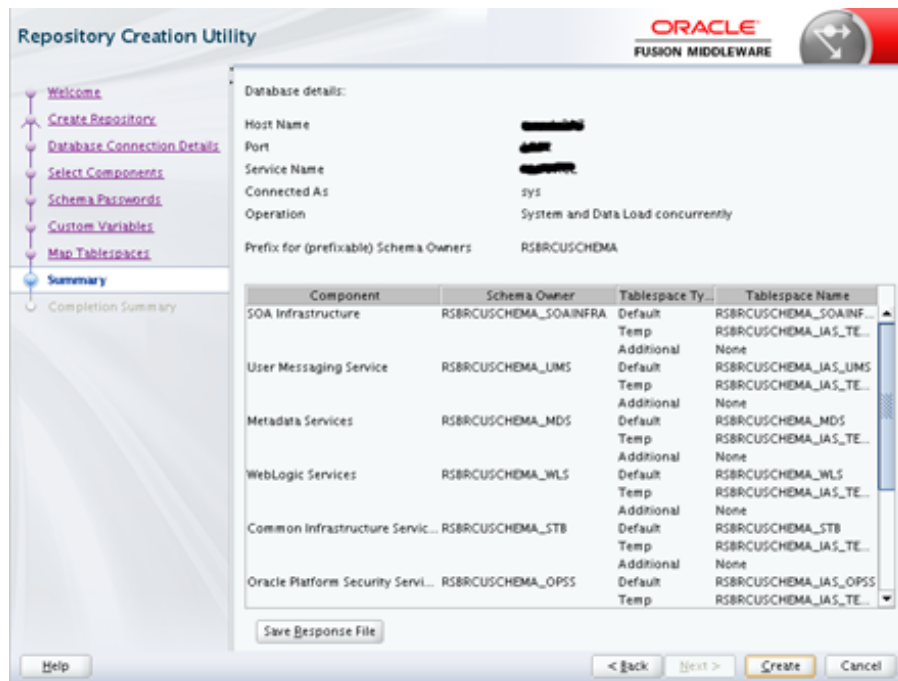
- In Select Components window, provide a prefix (Select an existing prefix from drop down or give a new one). In Component box, select all options under AS Common Schemas and SOA Infrastructure as shown.



- In Schema Passwords window, provide password and Click Next. Note down the schema name and passwords. These are needed during the domain creation time for configuring the OSB schemas and RSB compilation phase as credentials for sidb-jdbc-user-alias.



7. In Map Tablespaces window, check tablespace mapping details and click Next.



8. In Summary window, check database details and click Create.



9. In Completion Summary window, click **Close**.





---

---

## RSB Installation

This chapter provides instructions for installing RSB. The complete installation of RSB can be broadly divided into four phases:

- Download
- Configuration
- Compilation
- Deployment

---

---

**Note:** If there is an existing WebLogic installation on the server, you must upgrade to WebLogic 12.2.1.4. All middleware components associated with WebLogic server should be upgraded to 12.2.1.4.

Back up the `weblogic.policy` file (`$WLS_HOME/wlserver/server/lib`) before upgrading your WebLogic server, because this file could be overwritten. Copy over the `weblogic.policy` backup file after the WebLogic upgrade is finished and the post patching installation steps are completed.

---

---

- Overview of RIC modes and installation of RIC in RSB only mode and DUAL mode.
  - RIC modes
  - Installation of RIC in different modes

### Steps to Install RSB

The following sections describe the process of installing the RSB product.

#### Download

In this phase, you have to download all the necessary archive files.

1. Download `RsbKernel19.0.1ForAll19.x.xApps_eng_ga.zip` to a directory in Linux/Unix. The `rsb-home` will be created inside this directory. Extract the archive file.

```
unzip RsbKernel19.0.1ForAll19.x.xApps_eng_ga.zip
```

2. Download all `RsbAppServiceDecoratorPak<rsb_major_version>For<app><app_version>_eng_ga.zip` to

rsb-home/download-home/all-app-service-decorator directory. Do not extract the files.

3. Download all RsbServiceIntegrationFlowPak<rsb\_major\_version>For<service-name>\_eng\_ga.zip to rsb-home/download-home/all-functional-service-int-flow directory. Do not extract the files.

4. Set JAVA\_HOME to a JDK 1.8 64 bit.

For example:

```
export JAVA_HOME=/usr/bin/java/1.8
```

5. Run rsb-home/download-home/bin/check-version-and-unpack.sh script.

```
check-version-and-unpack.sh
```

This will verify the versions of the kernel and downloaded decorators and extract them in respective folders.

## Configuration

---



---

**Note:** Please run the command `uname -n` and make sure that the output matches exactly with hostname of the machine. This is important since hostname is a part of the names of many internal configuration attributes.

---



---

1. Edit `rsb-home/deployment-home/conf/rsb-deployment-env-info.properties` to configure the following properties:
  - JAVA\_HOME
  - rsb-deployment-env-info.service-provider-app-in-scope-for-integration
  - rsb-deployment-env-info.service-requester-app-in-scope-for-integration
  - rsb-osb-container.domain-name
  - rsb-osb-container.<domain-name>.home
  - rsb-osb-container.<domain-name>.cluster-name
  - rsb-osb-container.<domain-name>.<cluster-name>.http-url (Cluster port is the port of http proxy server )
  - rsb-osb-container.<domain-name>.admin-server-name
  - rsb-osb-container.<domain-name>.admin-server-http-url
  - rsb-osb-container.<domain-name>.admin-server-connection-url
  - rsb-osb-container.<domain-name>.<cluster-name>.managed-servers: It is a comma-separated list of managed servers in the cluster, excluding the http proxy managed server.
  - rsb-osb-container.<domain-name>.<cluster-name>.<managed-server>.managed-server-connection-url: Repeat this property for all the managed servers in the cluster.
  - service-infrastructure-db.jdbc-url
  - edge-app-container.<app>.connection-url: The host:port of the edge-application.

- `global.app-service-end-point-url-pattern`: The pattern of edge service URLs. (**Note:** This is different if the service is hosted on glassfish Vs WebLogic 12c)
- `rib.home.path`: It is an optional field, to be given only if a valid rib-home is present.

Following table lists the various properties and their example values:

| Property  | Value (Illustration)  |
|---|---|
| <code>JAVA_HOME</code>  | <code>/usr/java/jdk1.8.0_65</code>  |
| <code>rsb-osb-container.domain-name</code>  | <code>rsb_domain</code>   |
| <code>rsb-osb-container.&lt;domain&gt;.home</code>  | <code>rsb-osb-container.rsb_domain.home</code><br><code>=/u00/rsb/Oracle/Middleware/user_</code><br><code>projects/domains/rsb_domain</code>  |
| <code>rsb-osb-container.&lt;domain&gt;.cluster-name</code>  | <code>rsb-osb-container.rsb_</code><br><code>domain.cluster-name=rsb_cluster</code>   |
| <code>rsb-osb-container.&lt;domain&gt;.&lt;cluster</code><br><code>name&gt;.http-url</code><br>(Cluster port is the port of http proxy<br>server )  | <code>rsb-osb-container.rsb_</code><br><code>domain.rsb_</code><br><code>cluster.http-url=http://rsbhost:7004</code>  |
| <code>rsb-osb-container.&lt;domain-name&gt;.admin-s</code><br><code>erver-name</code>   | <code>rsb-osb-container.rsb_</code><br><code>domain.admin-server-name=AdminServer</code>  |
| <code>rsb-osb-container.&lt;domain&gt;.admin-server-</code><br><code>http-url</code>  | <code>rsb-osb-container.rsb_</code><br><code>domain.admin-server-http-url=http://rsbho</code><br><code>st:7001</code>   |
| <code>rsb-osb-container.&lt;domain&gt;.admin-server-</code><br><code>connection-url</code>  | <code>rsb-osb-container.rsb_</code><br><code>domain.admin-server-connection-url=t3://r</code><br><code>sbhost:7001</code>   |
| <code>rsb-osb-container.&lt;domain&gt;.&lt;cluster</code><br><code>name&gt;.managed-servers</code><br>(Comma separated list of managed servers<br>in the cluster, excluding the http proxy<br>managed server)                   | <code>rsb-osb-container.rsb_</code><br><code>domain.rsb_</code><br><code>cluster.managed-servers=rsb_server1,rsb_</code><br><code>server2</code>                                      |
| <code>rsb-osb-container.&lt;domain&gt;.&lt;cluster</code><br><code>name&gt;.&lt;managed</code><br><code>server&gt;.managed-server-connection-url</code><br>(Repeat this property for all the managed<br>servers in the cluster) | <code>rsb-osb-container.rsb_</code><br><code>domain.rsb_</code><br><code>cluster.rsb_</code><br><code>server1.managed-server-connection-url=t3:</code><br><code>//rsbhost:7002</code> |
| <code>service-infrastructure-db.jdbc-url</code>   | <code>jdbc:oracle:thin:@rsbhost:1521:rra1</code>  |
| <code>edge-app-container.&lt;app&gt;.connection-url</code><br>(the host:port of the edge application)   | <code>edge-app-container.sim.connection-url=t3:/</code><br><code>/rsbhost:8080</code>   |
| <code>global.app-service-end-point-url-pattern</code><br>(The pattern of edge service URLs. Note:<br>This is different if the service is hosted on<br>glassfish Vs WebLogic)  | <code>http://&lt;HTTP_HOSTNAME&gt;:&lt;HTTP_</code><br><code>PORT&gt;/&lt;SERVICE_</code><br><code>NAME&gt;Service/&lt;SERVICE_NAME&gt;Bean</code>                                    |
| <code>rib.home.path</code><br>(optional)  | <code>rib1@ribhost:/u00/rib1/rib2/Rib1901ForAl</code><br><code>l19xxApps/rib-home</code>  |

### Additional steps for Policy A configuration

If RSB is configured with Security Policy A, perform the following additional steps:

- Property configuration in `rsb-deployment-env-info.properties`  
`rsb-osb-container.<domain>.<cluster>.https-url`: The property provides the HTTPS URL of the http proxy managed server.
- Override the `<decorator>.app-service-end-point-url` to use **https** protocol and **SSL port**. This can be done at global level OR app level too, but it is recommended to test single service end to end with SSL first during initial stabilization

Following table lists the various properties and their example values:

| Property  | Value (Illustration)   |
|---|--|
| <code>rsb-osb-container.rsb_domain.rsb_cluster.https-url</code>   | <code>rsb-osb-container.rsb_domain.rsb_cluster.https-url=https://rsbhost:7104</code>                   |
| <code>&lt;decorator&gt;.app-service-end-point-url</code><br><code>oms-AdvancedShipmentNotification-AppServiceDecorator.app-service-end-point-url</code> | <code>https://rsbhost:7102/AdvancedShipmentNotificationBean/AdvancedShipmentNotificationService</code> |

- Set the port in `edge-app-container.<app>.connection-url` property to point https port or override protocol with https in property  
`global.app-service-end-point-url-pattern` to apply pattern at global level in case all the services are secured with policyA for an app, by default its http.

The following table lists the various properties and their example values

| Property   | Value (Illustration)  |
|--|---|
| <code>edge-app-container.&lt;app&gt;.connection-url</code>   | <code>t3://&lt;hostname&gt;:&lt;httpsport&gt;</code>  |
| <code>edge-app-container.sim.connection-url</code>   | <code>t3s://rsbhost:8102</code>   |
| <code>global.app-service-end-point-url-pattern</code><br>(The pattern of edge service URLs. Note: This is different if the service is hosted on glassfish Vs WebLogic) | <code>http://&lt;HTTP_HOSTNAME&gt;:&lt;HTTP_PORT&gt;/&lt;SERVICE_NAME&gt;Bean/&lt;SERVICE_NAME&gt;Service</code><br><code>https://&lt;HTTP_HOSTNAME&gt;:&lt;HTTP_PORT&gt;/&lt;SERVICE_NAME&gt;Bean/&lt;SERVICE_NAME&gt;Service</code> |

- Security Configuration: Download edge app service WSDL files.

```
cd rsb-home/service-assembly-home/bin
download-app-service-wsdl.sh
```

- Create Policy Mapping File: Create security policy mapping file.

```
generate-rsb-decorator-security-config.sh
```

#### Additional steps for Policy B configuration

If RSB is configured with Policy B, perform the following additional steps:

- Security Configuration: Download edge app web service WSDL files.

```
cd rsb-home/service-assembly-home/bin
download-app-service-wsdl.sh
```

- Create Policy Mapping File: Create security policy mapping file

```
generate-rsb-decorator-security-config.sh
```

- Setup Security Credentials: Setup security credentials for Message Protection.

```
setup-message-protection-security-credentials.sh
```

## Compilation

Setup security credentials and compile:

```
cd rsb-home/service-assembly-home/bin
rsb-compiler.sh-setup-security-credential
```

During the compilation step, credentials need to be provided for the following aliases.

- sidb-jdbc-user-alias
- admin-server-user-alias

Example:

| Alias Name              | Value (Illustration) |
|-------------------------|----------------------|
| sidb-jdbc-user-alias    | <soainfra schema>    |
| admin-server-user-alias | <weblogic user>      |

The `-setup-security-credential` option creates or updates the wallet file in `deployment-home/conf/security` folder. The wallet file contains userids and passwords in encrypted form. However it is possible to decrypt the information programmatically by anyone who has access to this file. Hence it is a good idea to lock down this folder from unauthorized users. You may use the following command to remove read access to this folder:

```
chmod 700 rsb-home/deployment-home/conf/security
```

---

**Note:** If the security credentials are already setup for the above aliases (in a previous compilation attempt), compilation can be directly carried out as follows:

```
cd rsb-home/service-assembly-home/bin
rsb-compiler.sh
```

---

## Deployment

1. Start Admin Server, Proxy Server and Managed servers:

```
cd <domainHome>/bin
startManagedWebLogic.sh
<managed server>
<AdminServer URL>
```

For example:

```
startManagedWebLogic.sh "qa_test_managedServer_1" "http://rsbhost:17001"
```

2. Prepare instrumentation configurations for WebLogic server.

```
cd rsb-home/deployment-home/bin
rsb-deployer.sh -prepare-wls
```

If RSB is configured with Policy B, perform the following steps before proceeding further. For unsecured configuration or RSB configuration with Policy A, move directly to Step 3.

- a. Copy Script: Copy security scripts to RSB server

```
cd rsb-home/integration-lib/rsb-tools/scripts
scp generate-pki-certificate-keystore-for-osb.sh
<user>@<host>: /<domainHome>/config/
scp import-remote-server-public-key-certificate-into-keystore.sh
```

```
<user>@<host>: /<domainHome>/config/
scp export-server-public-key-certificate-from-keystore.sh
<user>@<host>: /<domainHome>/config/
```

- b. Generate Certs and Key store: Generate private key, public key and key store for the RSB server (To be done in the RSB server).**

<domainHome>/bin/setDomainEnv.sh (This command must be run in the current shell. Prefix the command with a period and a space character)

```
cd <domainHome>/config
generate-pki-certificate-keystore-for-osb.sh
```

You will be asked for a keystore password and private key password. Please note the passwords. You will have to provide the same passwords in subsequent steps.

---

**Note:** If you are getting the certificate from a CA, do not run the above command. Instead, create a keystore with the name <hostname>-keystore.jks where hostname is the short hostname of the server (output of *hostname -s* command) and then import the certificate and key (public key and private key) to the key store. You may use the following command to import to the keystore.

For more information on RSB Policy Configuration, refer to the *Oracle Retail Service Backbone Security Guide*.

---

```
java utils.ImportPrivateKey -certfile <certificate file> -keyfile <private
key file> -keyfilepass <private key password> -keystore
<hostname>-keystore.jks -storepass <keystore password> -alias
<hostname>-public-private-key-alias -keypass <private key password>
```

- c. Copy app server certificate(s)**

Copy edge app certificate file(s) to <domainHome>/config of the RSB server. The file name must be <remote-host>-certificate.der

**Note:** See RSB Security Guide for instructions to export certificate from edge app server.

- d. Import app server certificate(s):**

Import all the edge app server public key certificates to RSB server's keystore. If the edge apps are deployed in different servers, import all the certificates to the keystore (To be done in the RSB server):

```
cd <domainHome>/config
import-remote-server-public-key-certificate-into-keystore.sh <app>
<remote-host>
```

For example:

```
import-remote-server-public-key-certificate-into-keystore.sh cm <hostname>
```

For the keystore password, provide the password you specified in the step b.

- e. Configure RSB Server: Configure the RSB server to use the key store generate in the previous steps.**

```
cd rsb-home/deployment-home/bin
configure-rsb-app-server-for-security-policy-b.sh
```

For the keystore password and private key password, provide the passwords you specified in the step ii.

- f. Restart Servers: Restart Admin and Managed Servers**

- 3. Deploy all the decorators using one of the methods below:**

- Deploy one decorator at a time.

```
cd rsb-home/deployment-home/bin
rsb-deployer.sh -deploy-rsb-service <OSB Project jar>
For example, rsb-deployer.sh -deploy-rsb-service
igs-ASNInPublishing-AppServiceDecorator.jar
```

- Deploy all the decorators of an app at a time.

```
cd rsb-home/deployment-home/bin
rsb-deployer.sh -deploy-all-rsb-service-for-app <appName>
For example, rsb-deployer.sh -deploy-all-rsb-service-for-app igs
```

- Deploy all the decorators of all apps in scope at a time.

```
cd rsb-home/deployment-home/bin
rsb-deployer.sh -deploy-all-rsb-service
```

#### 4. Deploy rib4oms injector service

```
cd rsb-home/deployment-home/bin
rsb-deployer.sh -deploy-rsb-service
RibOmsToRsbOmsRouting-ServicesIntegrationFlow.jar
```

#### 5. If RSB policy B is configured, perform the following step else jump to Step 6:

Export Certificate: Copy the script from integration-lib. Export the certificate, so that it can be used by the service consumers. (To be done in the RSB server).

```
cd <wlsHome>/config
export-server-public-key-certificate-from-keystore.sh
```

#### 6. Restrict access to the \$RSB-HOME folder:

```
cd $RSB-HOME
chmod -R 700 .
```

#### 7. Restart all the servers i.e. Admin Server, managed servers and proxy server.

---

**Note:** By default the maximum number of in-memory sessions for WebLogic web applications is unlimited. This setting can be misused by external attackers to create unlimited number of sessions by accessing the web application. In such cases it is possible that the WebLogic server run out of memory and eventually crash. So it is required to limit the number of sessions to a reasonable number (e.g., 100). The settings can be changed through the admin console of the WebLogic server. Follow the steps below to change this configuration setting:

1. Login to Admin Console.
  2. Click **Deployments**.
  3. Expand the rsb-admin-<version>.ear deployment. Click on the **rsb-admin** module.
  4. Click **Configuration**.
  5. Set Maximum in-memory Sessions to 100.
  6. Save the changes. Activate the session, if needed.
- 

## How to Deploy and Configure RCE Decorators

RCE decorators have built-in transformation of messages that allows integration of micros Customer Engagement app with Retail Extension Modules (RXM) application. This section describes how to install RCE decorators using the rsb-home toolset.

**For non-secured installations:** (for implementation OR early test environments only)

**Prerequisite:** A valid rsb-home.

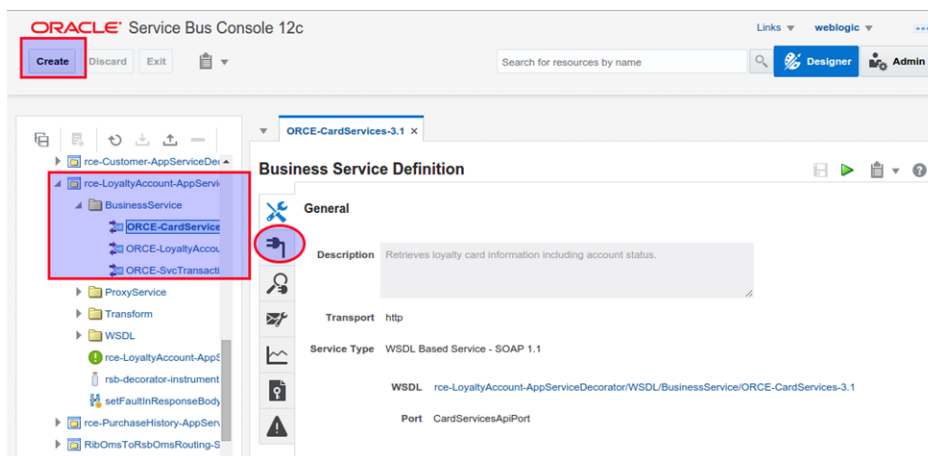
### Installation Steps

1. Download RsbAppServiceDecoratorPakWithTransform<\$current\_version>ForRce<\$current\_version>\_eng\_ga.zip into rsb-home/download-home/all-app-service-decorator
2. Delete the base decorator (with NO transformations) RsbAppServiceDecoratorPak<\$current\_version>ForRce<\$current\_version>\_eng\_ga.zip if that exists under rsb-home/download-home/all-app-service-decorator
3. Run all life cycle management scripts in rsb-home listed below
  - rsb-home/download-home/bin/check-version-and-unpack.sh
  - rsb-home/service-assembly-home/bin/download-app-service-wsdl.sh
  - rsb-home/service-assembly-home/bin/rsb-compiler.sh
  - rsb-home/deployment-home/bin/rsb-deployer.sh -deploy-all-rsb-service-for-app rce

### Post-Installation Steps

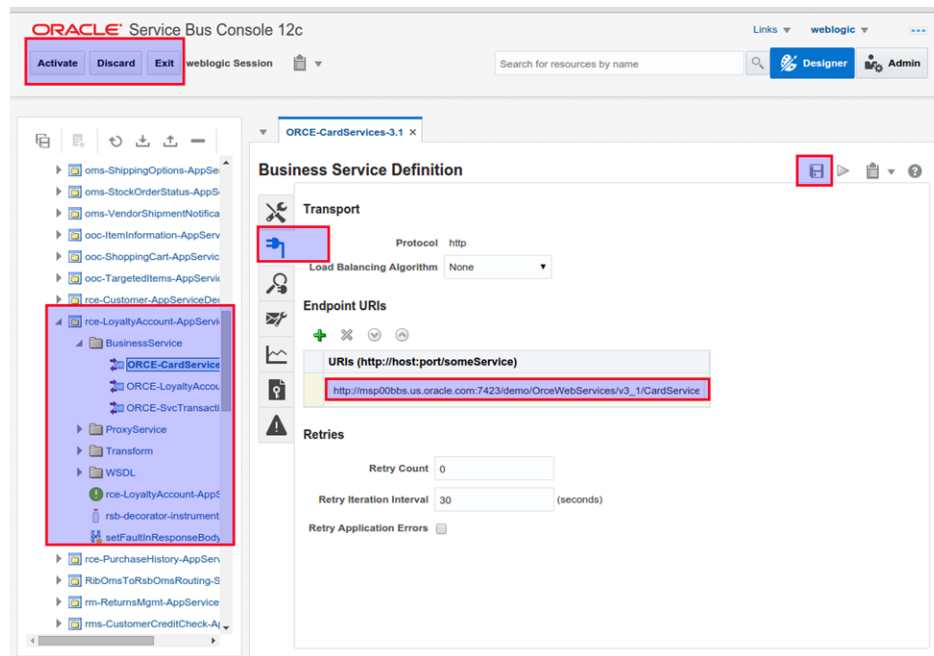
Some transformation enabled RCE decorators have multiple business service components inside a single decorator service. We need to manually update the end-point URL's for these decorators.

1. Login to SbConsole as Weblogic administrator
2. Identify the below decorators from navigation bar and perform steps 3 to for each of them.
  - rce-GiftList-AppServiceDecorator
  - rce-LoyaltyAccount-AppServiceDecorator
3. Create a Session, drill down to rce-LoyaltyAccount-AppServiceDecorator ORCE-CardServices Business Services as shown below

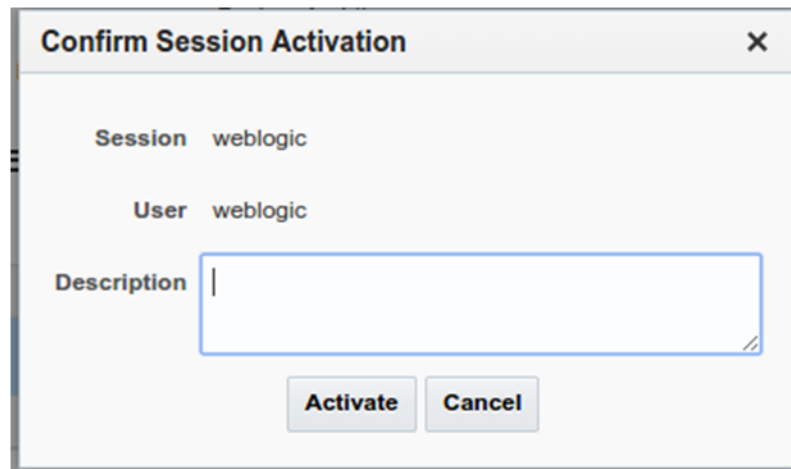


4. Go to Transport tab, Edit the End Point URL to be `http://<HTTP_HOSTNAME>:<HTTP_PORT>/demo/OrceWebServices/v3_1/CardServicesApiService`





5. Click on Save button then Activate the Session



6. Repeat steps 3 to 5 for ORCE-SvcTransactionServices in LoyaltyAccount decorator, with end point URL as in the Business Service to End Point URL mapping table.
7. Repeat steps 3 to 5 for ORCE-RegistryServices in GiftList decorator, with end point URL as in the Business Service to End Point URL mapping table.

### Business Service to End Point URL Mapping

| Decorator                        | Business Service      | End point URL  |
|----------------------------------|-----------------------|--|
| rce-GiftList-AppServiceDecorator | ORCE-RegistryServices | <http_OR_https>://<HTTP_HOSTNAME>:<HTTP_PORT>/demo/OrceWebServices/v3_0/RegistryServicesApiService |

| Decorator                              | Business Service            | End point URL  |
|--|-----------------------------|--|
| rce-LoyaltyAccount-AppServiceDecorator | ORCE-CardServices           | <http_OR_https>://<HTTP_HOSTNAME>:<HTTP_PORT>/demo/OrceWebServices/v3_1/CardServicesApiService           |
| rce-LoyaltyAccount-AppServiceDecorator | ORCE-SvcTransactionServices | <http_OR_https>://<HTTP_HOSTNAME>:<HTTP_PORT>/demo/OrceWebServices/v3_1/SvcTransactionServicesApiService |

## For Secured Installations (Policy-A)

For Policy-A services, there are a few required manual steps.

### Prerequisites

- A valid rsb-home, from where other secured decorator services have already been deployed. Remove rce from app-in-scope when installing other secured decorator services.
- SSL enabled WebLogic servers for RSB

### Installation Steps

1. Download RsbAppServiceDecoratorPakWithTransform<current\_version>ForRce<current\_version>\_eng\_ga.zip into rsb-home/download-home/all-app-service-decorator
2. Delete the base decorator (with NO transformations) RsbAppServiceDecoratorPak<current\_version>ForRce<current\_version>\_eng\_ga.zip if that exists under rsb-home/download-home/all-app-service-decorator
3. Add rce back to app-in-scope list as service provider
 

```
rsb-deployment-env-info.service-provider-app-in-scope-for-integration=rce
rsb-deployment-env-info.service-requester-app-in-scope-for-integration=rxm
```
4. Run rsb-home/download-home/bin/check-version-and-unpack.sh
5. Do NOT run the generate-rsb-decorator-security-config.sh, instead find the file rsb-home/service-assembly-home/service-policy-config/output/decorator-service-proxy-security-policy/service-name-to-policy-id-map.properties

---

**Note:** This manual step is required because the edge app RCE uses a custom security policy (non-Policy-A) but RSB decorator needs to be secured with Policy-A. To handle this special case of mismatch in security policies between the decorator proxy service (Policy-A) and the edge-app service (custom security policy), we need to manually update the file.

service-name-to-policy-id-map.properties would exist if there were other secured decorators compiled previously, if the file does not exist the create a new file and copy the below configurations into that file.

```

service-provider.rce-CustomerService=owsm,policyA
service-provider.rce-Customer-AppServiceDecorator/ProxyService/CustomerAppServiceProxy=owsm,policyA
service-consumer.rce-Customer-AppServiceDecorator/ProxyService/CustomerAppServiceProxy=owsm,policyA
service-consumer.rce-Customer-AppServiceDecorator/BusinessService/CustomerAppServiceBiz=owsm,policyA
service-provider.rce-GiftListService=owsm,policyA
service-provider.rce-GiftList-AppServiceDecorator/ProxyService/GiftListAppServiceProxy=owsm,policyA
service-consumer.rce-GiftList-AppServiceDecorator/ProxyService/GiftListAppServiceProxy=owsm,policyA
service-consumer.rce-GiftList-AppServiceDecorator/BusinessService/GiftListAppServiceBiz=owsm,policyA
service-provider.rce-LoyaltyAccountService=owsm,policyA
service-provider.rce-LoyaltyAccount-AppServiceDecorator/ProxyService/LoyaltyAccountAppServiceProxy=owsm,policyA
service-consumer.rce-LoyaltyAccount-AppServiceDecorator/ProxyService/LoyaltyAccountAppServiceProxy=owsm,policyA
service-consumer.rce-LoyaltyAccount-AppServiceDecorator/BusinessService/LoyaltyAccountAppServiceBiz=owsm,policyA
service-provider.rce-PurchaseHistoryService=owsm,policyA
service-provider.rce-PurchaseHistory-AppServiceDecorator/ProxyService/PurchaseHistoryAppServiceProxy=owsm,policyA
service-consumer.rce-PurchaseHistory-AppServiceDecorator/ProxyService/PurchaseHistoryAppServiceProxy=owsm,policyA
service-consumer.rce-PurchaseHistory-AppServiceDecorator/BusinessService/PurchaseHistoryAppServiceBiz=owsm,policyA

```

---

6. Run `rsb-home/service-assembly-home/bin/rsb-compiler.sh`
7. Run `rsb-home/deployment-home/bin/rsb-deployer.sh -deploy-all-rsb-service-for-app rce`

### Post-Installation Steps

1. Refer to Post-Installation steps and update all the Business service end point URL's with relevant URL's as described in the Business Service to End Point URL mapping table.
2. For Rce Decorators with security setup(proprietary in RCE and Policy-A in RSB), Weblogic requires an additional JAVA\_OPTIONS. Locate `setDomainEnv.sh` file in the `RSBDomain` and add `-Dcom.bea.wli.sb.transports.http.GetHttpAuthorizationHeaderAllowed=true`

**Note:** This is required because RCE uses proprietary security headers that the client has to pass in and OSB/RSB has to copy and forward those proprietary headers in the SOAP call to AppService.

- Restart the WebLogic servers.

## RIC Modes

The following table shows different RIC modes:

**Table 6–1**

| Supported Modes | Description   | When to use?   | Settings in the deployment file                                    |
|-----------------|---|--|--|
| RSB ONLY        | RIC is configured to collect and display only RSB data.         | If RSB is in-scope for your integration and not RIB.   | "ribEnable":"false",<br>"rsbEnable":"true",<br>"ddiEnable":"true", |
| DUAL (RIB+RSB)  | RIC is configured to collect and display both RIB and RSB data. | If both RIB and RSB are in-scope for your integration. | "ribEnable":"true",<br>"rsbEnable":"true",<br>"ddiEnable":"true",  |
| RIB ONLY        | RIC is configured to collect and display only RIB data.         | If RIB is in-scope for your integration and not RSB.   | "ribEnable":"true",<br>"rsbEnable":"false",<br>"ddiEnable":"true", |

### How to decide which mode should RIC run on?

Retailer's site specific integration topology must drive this decision. RIC can be installed in DUAL mode if you have a valid rib-home with jms-console and rsb-home on same machine. This configuration yields maximum visibility of Integration system and is our recommended mode. When only service oriented integration (RSB) is used then, one must configure RIC with RSB\_ONLY mode.

DDI is enabled by default in all RIC modes, irrespective of the value of ddiEnable flag in the configuration file. The value of the properties ribEnable and rsbEnable in the ric configuration file ric-deployment-env-info.json inside ric-home/conf/ folder decides RIC mode.

**Note:** For more information, see the *Oracle Retail Integration Bus Implementation Guide* and the *RIC User Guide*.

### Installation of RIC in different modes

After configuring RIC follow the installation steps according to the selected RIC mode.

#### RIB only Mode

RIC can be installed in RIB only mode to provide visibility into RIB.

#### Pre-requisites

- RIB must be deployed.

2. JMS-Console must be deployed from rib-home/tools-home/.
3. rib-home must be accessible to ric-home, in other words both reside in the same file system.

RIC can be deployed in RIB\_Only mode with the following steps:

1. Download RicKernel19.0.1ForAll19.x.xApps\_eng\_ga.zip to a location (for example - RIC-APP-BUILDER) on the computer which has your rib-home.
2. Edit the configuration file ric-deployment-env-info.json inside ric-home/conf/ folder.
3. Modify the MiddlewareServerDef and IntegrationProduct with information that is specific to your environment.
  - Set the value of ribEnable property in the configuration file to true.
  - Set the value of ribHome property in the configuration file to point to rib-home.
4. Set the value of RicAppServer fields to point to the environment where you want to deploy RIC.
5. Go to the ric-home/bin/ folder, run the compiler to update the RIC ear as follows:
 

```
$ sh ric-app-compiler.sh -setup-credentials
```

 When prompted by the compiler, enter the user name and password for weblogic server and RIC admin user, the RIC admin user will be used to log in RIC.
6. From the same folder, run the deployer script to create the user and group and deploy RIC on your weblogic server as follows:
 

```
$ sh ric-app-deployer.sh -deploy-ric-app
```
7. Restrict access to the \$RIC-HOME folder:
 

```
cd $RIC-HOME
chmod -R 700 .
```
8. Restart the WebLogic server.

### RSB only Mode

RIC can be installed in RSB only mode to provide RSB visibility if you have a valid rsb-home, with the following steps:

---



---

**Note:** RIB is already installed then we recommend configuring DUAL mode, which will provide visibility into both RIB and RSB systems.

---



---

1. Download RicKernel19.0.1ForAll19.x.xApps\_eng\_ga.zip to a location (for example - RIC-APP-BUILDER) on the computer which has your rsb-home.
2. Edit the configuration file ric-deployment-env-info.json inside ric-home/conf/ folder.
3. Modify the DataSourceDef, MiddlewareServerDef and IntegrationProduct with information that is specific to your environment.
  - set the value of rsbEnable property in the configuration file to true.
  - set the value of rsbHome property in the configuration file to point to rsb-home.

- set the value of RicDataSource : jdbcUrl property same as service-infrastructure-db.jdbc-url property in rsb-home/deployment-home/conf/rsb-deployment-env-info.properties.
- set the value of RicAppServer fields to point to the environment where you want to deploy RIC.

---

---

**Note:** RicDataSource and RsbDataSource should point to the same database schema.

---

---

4. Go to the ric-home/bin/ folder, run the compiler to update the RIC ear as follows:

```
$ sh ric-app-compiler.sh -setup-credentials
```

When prompted by the compiler, enter the user name and password for the WebLogic server, RicDataSource and RIC admin user, the RIC admin user will be used to log in RIC.

---

---

**Note:** If the DISPLAY environment variable is set but no XWindow is running, the RIC compiler will fail. As a workaround, run this command before running compiling:

```
unset DISPLAY
```

---

---

5. Run the deployer script to deploy RIC and create the user and group on your WebLogic server from the same folder as follows:

```
$ sh ric-app-deployer.sh -deploy-ric-app
```

6. Restrict access to the \$RIC-HOME folder:

```
cd $RIC-HOME
chmod -R 700 .
```

7. Restart the WebLogic server.

## DUAL Mode (RIB and RSB)

RIC can be installed in DUAL mode to provide visibility into both RIB and RSB.

### Prerequisites

- RIB must be deployed.
- JMS-Console must be deployed from rib-home/tools-home/.
- RSB must be deployed.
- rib-home and rsb-home must be accessible to ric-home. rib-home and rsb-home (or copies of them) must reside in the same machine as ric-home.

RIC can be deployed in DUAL mode with the following steps:

1. Download RicKernel19.0.0ForAll19.x.xApps\_eng\_ga.zip to a location (for example - RIC-APP-BUILDER) on your computer which has your rib-home and rsb-home.
2. Edit the configuration file ric-deployment-env-info.json inside ric-home/conf/ folder.

---

---

**Note:** Although users can deploy RIC in any domain, for dual mode it is recommended to deploy RIC in the RSB domain.

---

---

3. Modify the DataSourceDef, MiddlewareServerDef and IntegrationProduct with information that is specific to your environment.
  - set the value of ribEnable and rsbEnable property in the configuration file to true.
  - set the value of ribHome property in the configuration file to point to your rib-home.
  - set the value of rsbHome property in the configuration file to point to your rsb-home.
  - set the value of ddiHome property in the configuration file to point to rsb-home.
  - set the value of RicDataSource : jdbcUrl property same as service-infrastructure-db.jdbc-url property in rsb-home/deployment-home/conf/rsb-deployment-env-info.properties.
  - set the value of RicAppServer fields to point to the environment where you want to deploy RIC.

---

**Note:** RicDataSource and RsbDataSource should point to the same database schema.

---

4. Go to the ric-home/bin/ folder, run the compiler to update the RIC ear as follows:

```
$ sh ric-app-compiler.sh -setup-credentials
```

When prompted by the compiler, enter the user name and password for the WebLogic server, RicDataSource and RIC admin user, the RIC admin user will be used to log in RIC.

---

**Note:** If the DISPLAY environment variable is set but no XWindow is running, the RIC compiler will fail. As a workaround, run this command before running compiling:

```
unset DISPLAY
```

---

5. Run the deployer script to deploy RIC and create the user and group on your WebLogic server from the same folder as follows:

```
$ sh ric-app-deployer.sh -deploy-ric-app
```

6. Restrict access to the \$RIC-HOME folder:

```
cd $RIC-HOME
chmod -R 700 .
```

7. Restart the WebLogic server.





---



---

## Install JSIT

JSIT is a tool that can help to mock the behavior of retail applications. JSIT can be used to validate the installation of RSB, in the absence of edge applications. This is an optional step, only needed when one or more real oracle retail edge application is not ready at the time of RSB installation. Later, when the applications are ready, modify the service endpoints in the RSB configuration file (*rsb-deployment-env-info.properties*), recompile RSB and redeploy RSB decorators.

### Download and Prepare SIT

1. Download and save `javaee-service-interface-tester-<version>.ear` in an install stage folder, which will be referred to here as `SIT_JAVAEES_APP_HOME`.
2. Download and save RSE generated JavaEE `ejb-jar (<app>-service-ejb.jar)` in `SIT_JAVAEES_APP_HOME`. `<app>` is the application name that hosts the application service. e.g., `rms-service-ejb.jar`. The `<app>-service-ejb.jar` can be found inside the `RsbServiceIntegration Paks`, for example:

```
RsbServiceIntegrationPak19.0.1For<app>19.0.1_eng_
ga.zip\<app>-app-service-contract\service-provider\generated-output\deployable-
component\<app>_JavaEEServiceProvider.zip\<app>-service-ejb.jar
```

Merge the two components:

```
jar -uvf javaee-service-interface-tester-<version>.ear <app>-service-ejb.jar
```

---



---

**Note:** Multiple applications can be hosted on JSIT.

For example:

```
jar uvf javaee-service-interface-tester-<version>.ear
rms-service-ejb.jar ooc-service-ejb.jar oms-service-ejb.jar
```

---



---

### Deploy `javaee-service-interface-tester-<version>.ear` to Glassfish

1. Open Glassfish (JavaEE 6) Application Service console.

For example:

```
http://localhost:4848/
```

2. Deploy `javaee-service-interface-tester-<version>.ear`.

Your web browser --> Glassfish AdminConsole --> Application --> Deploy --> Browse to **`javaee-service-interface-tester-<version>.ear`**

3. Click **Deploy**.

## Deploy SIT to WebLogic 12c

1. Open WebLogic 12c Console.
  - a. Deploy `javaee-service-interface-tester-<version>.ear`.  
Your Web Browser --> WebLogic AdminConsole --> Deployments --> Deploy --> Browse to `javaee-service-interface-tester-<version>.ear`
  - b. Click **Deploy**.

---

**Note:** Please do not change the default application name. It should be kept as `javaee-service-interface-tester-<version>.ear`.

If run into any DERB jar error, add `derby.jar` into weblogic startup classpath. To do this edit the `commEnv.sh` script in WLS and add the `derby.jar` to `DERBY_CLIENT_CLASSPATH` variable.

For example, `DERBY_CLIENT_CLASSPATH="{DERBY_HOME}/lib/derby.jar:{DERBY_HOME}/lib/derbyclient.jar"`

---

- c. Create a new user for JSIT:
  - click on **Security Realms**
  - click on **myrealm**
  - click on **Users and Groups**
  - create a new group called "sitadmin"
  - create a new user. Add this new user to the sitadmin group.
- d. Bounce the managed server where JSIT is deployed.

## Verify JSIT

JSIT Installation can be verified by browsing the URL `http://<hostname>:<port>/javaee-service-interface-tester-web`. You should be able to see the following screens if the installation is successful.

The screenshot shows the Oracle Service Interface Tester (SIT) web application. At the top, it says "ORACLE Service Interface Tester" and "Welcome, situser". Below this, there are navigation tabs: "Home", "Show All Request/Response/Stage/Data Items", and "Search Request/Response/Stage/Data Items". The main content area has a blue background and contains the following text:

**About Service Interface Tester (SIT) tool:**  
Service Interface Tester(SIT) tool provides an easy way to test Web Services generated through Retail SOA Enabler(RSE) tool even before the real business implementation behind the Web Services are hooked into them. The SIT tool has two version one for each technology(JavaEE or PL/SQL) that RSE generates/supports.

**How to use Service Interface Tester (SIT) tool:**

1. Point your service requester code to the SIT endpoint url.
2. Call the service from your client.
3. Through SIT-UI find and edit the response data
4. Reinvoke your service to get new response.

At the bottom, there is a copyright notice: "Copyright © 2015, Oracle and/or its affiliates. All rights reserved."

Showing All Request/Response Data Items    Search Request/Response Data

Displaying 1-10 of 19 records

| Request   | Response   | RequestID/Track                 | Status                      | OperationName        | ServiceName                |  |
|---|--|---------------------------------|-----------------------------|----------------------|----------------------------|--|
| Request 1: curl -s -X POST http://www.oracle.com/retail/integration/...<br>Response 1: <html><head><title>Oracle Retail Integration</title></head><body><div class="message"></div></body></html> | Response 1: <html><head><title>Oracle Retail Integration</title></head><body><div class="message"></div></body></html> | DBA361AF10D021102D4066AF558EB   | ACTIVE_SUCCESS_RESPONSE_XML | orderConfirm         | FulfillOrderConfirmService | <a href="#">View</a><br><a href="#">Edit</a><br><a href="#">Delete</a> |
| Request 2: curl -s -X POST http://www.oracle.com/retail/integration/...<br>Response 2: <html><head><title>Oracle Retail Integration</title></head><body><div class="message"></div></body></html> | Response 2: <html><head><title>Oracle Retail Integration</title></head><body><div class="message"></div></body></html> | 876C78C8F9F8D46308F83304FFA3AF  | ACTIVE_SUCCESS_RESPONSE_XML | queryCustomer        | CustomerService            | <a href="#">View</a><br><a href="#">Edit</a><br><a href="#">Delete</a> |
| Request 3: curl -s -X POST http://www.oracle.com/retail/integration/...<br>Response 3: <html><head><title>Oracle Retail Integration</title></head><body><div class="message"></div></body></html> | Response 3: <html><head><title>Oracle Retail Integration</title></head><body><div class="message"></div></body></html> | 8928E4A911C8B83F68D5142E9038    | ACTIVE_SUCCESS_RESPONSE_XML | queryCustomer        | CustomerService            | <a href="#">View</a><br><a href="#">Edit</a><br><a href="#">Delete</a> |
| Request 4: curl -s -X POST http://www.oracle.com/retail/integration/...<br>Response 4: <html><head><title>Oracle Retail Integration</title></head><body><div class="message"></div></body></html> | Response 4: <html><head><title>Oracle Retail Integration</title></head><body><div class="message"></div></body></html> | 893C43B18A044FCE12B197928408CA1 | ACTIVE_SUCCESS_RESPONSE_XML | queryShippingOptions | ShippingOptionsService     | <a href="#">View</a><br><a href="#">Edit</a><br><a href="#">Delete</a> |

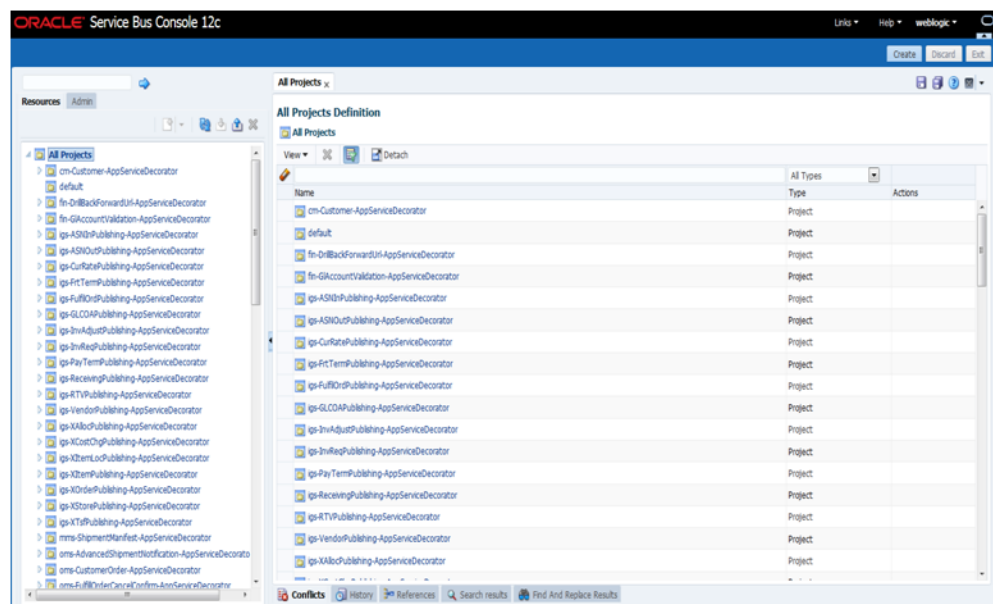


## Post Installation Tasks

### Verification using Oracle Service Bus Console

Once Deployment process is completed and decorators deployed can also be verified using weblogic test client Oracle Service Bus (OSB) console.

Open the link: <http://hostname:port/sbconsole>, where hostname and port are of weblogic Admin Server. All decorators are visible on Resources tab of Oracle Service Bus (OSB) Console.



### Verification using Retail Integration Console

Once the deployment process is completed and all the servers are restarted, verify the success by accessing the Retail Integration Console (RIC)

Open the link: <http://hostname:port/rsb-admin>, where hostname and port are specific to the RIC deployment server.

Check if all the tabs are opening without error.

## Common Issues

- -bash: sqlplus command not found

**Solution:** sqlplus command should be run on machine where Oracle database is installed.

Set Oracle Database Home directory path in a variable say ORACLE\_HOME and export ORACLE\_HOME/bin in the classpath. To add entries into path perform the following steps:

```
ORACLE_HOME= /u00/oracle/app/oracle/product/12.1/dbhome_1
```

```
export ORACLE_HOME
```

```
PATH=$PATH:$ORACLE_HOME/bin
```

```
export PATH
```

- Decorators not getting deployed in unsecured environment.

**Solution:** OWSM is required even in non-secure deployment. Make sure that OWSM is configured for WebLogic domain where decorators are being deployed. User must make sure that Oracle Service Bus OWSM Extension is selected while WebLogic domain is created/extended.

- Admin app was showing the error "*Could not initialize class au.awt.GraphicsEnvironment*" or web browser stuck in refresh loop after logging in.

**Solution:** Issue can be resolved by setting the variable *java.awt.headless* to true.

(-Djava.awt.headless=true)

---

## Appendix: RSB Installation Checklist

### Notations

- wlsHome - The home directory of WebLogic. For example, /u00/rsb/Oracle/Middleware/Oracle\_Home
- domainHome - The home directory of the domain. For example, /u00/rsb/Oracle/Middleware/Oracle\_Home/user\_projects/domains/rsb\_domain
- app - the application acronym. For example, sim, rms
- HIGHLIGHTED STEPS ARE ADDITIONAL STEPS REQUIRED FOR SECURITY. INSTALLATION WILL WORK WITHOUT ENABLING THE SECURITY
- [PolicyA] - These instructions are specific to security policy A configuration
- [PolicyB] - These instructions are specific to security policy B configuration

### Prerequisites

| Task  | Notes   | Command   | Example |
|---|---|---|---------|
| 1. [PolicyA][PolicyB] Security Prerequisite: Secure Edge App Services | RSB supports security. However, primary lifecycle steps work with/without enabling security | Refer to the document <i>RSB Security Guide</i> for securing app services |         |
| 2. Download and stage all third-party software                        |   |   |         |
| 3. Install JDK  | Version 1.8   |   |         |
| 4. Install WebLogic   | Version 12.2.1.4  |   |         |
| 5. Install Oracle DB server   | 12c   |   |         |
| 6. Install OSB on WebLogic  | Version 12.2.1.4  |   |         |
| 7. Install RCU  | Version 12.2.1.4<br>The repository for OSB must be created with this tool                   |   |         |

|  |  |  |   |
|--|--|--|---|
| 8. Create DB schema for OSB  | Use Repository Creation Utility (RCU)  | <wlsHome>/oracle_common/bin/rcu                  | Create schema name: RSB_SOAINFRA -Under SOA Infrastructure in RCU<br><br>[PolicyA][PolicyB]Create schema name: RSB_MDS - Under Metadata Services in RCU<br><br>(OWSM domain requires MDS schema)  |
| 9. Configure OSB domain<br>[PolicyA][Policy B]<br>Create OWSM domain<br>Create a cluster | Choose OSB (Oracle Service Bus - 12.2.1.0). This will select all other required templates<br><br>ADF (Oracle JRF - 12.2.1.0)<br><br>Create AdminServer<br><br>Create 1 managed server for Http Proxy<br><br>Create 2 managed servers | cd<br><wlsHome>/wlserver/common/bin<br>config.sh | rsb_domain<br><br>(See <i>RSB Deployment Architecture.doc</i> in References for detailed instructions)<br><br>rsb_cluster<br><br>AdminServer<br><br>rsb_server1<br><br>rsb_server2<br><br>[PolicyA] Note: Enable SSL for all the managed servers during creation. This can be done post creation too using WebLogic Console.<br><br><b>Environment --&gt;</b><br><b>Servers --&gt;</b> Click on <M.Server> --><br><b>Check "SSL Listen Port Enabled" --&gt;</b><br>Specify the port number --> <b>Save --&gt;</b><br>Activate Session |
| 10. Install RIB (optional)   | A valid RIB home is required for the deployment of RSB, if RIB is enabled.   |  |   |

### Recommended Port Numbers for WebLogic Servers

| Each WLS Domain has a unique number in the thousands place value. It starts from 7, increments of 1 | SSL or non SSL is designated by the hundredth place value | Admin Server - Tenth and Unit place value is always 01 | Managed Server - covers unit and tenth place value, starting from 2 increment of 1 | Example      |
|---|---|--|--|--------------|
| 7XXX - first domain in a machine, 8XXX - second domain in a machine, 9XXX, 10XXX, 11XXX             | X0XX for non-SSL<br>X1XX for SSL                          | X001 - for non SSL                                     | X0X2, X0X3, X0X4,...X0X9,X010, X011 - for non SSL                                  | 7001<br>7101 |



---

|                |   |
|----------------|---|
| X101 - for SSL | X1X2, X1X3,<br>X1X4,...X1X9,X110,<br>X111 - for SSL |
|----------------|---|

---

### Prepare WebLogic Server for RSB deployment

| Task   | Notes   | Command   | Example   |
|--|---|---|---|
| 1. Grant WebLogic permission to access credential wallet | Edit <i>weblogic.policy</i> and add the permission to access credential wallet. | cd<br><wlsHome>/wlserver<br>/server/lib<br>vi weblogic.policy | grant codeBase<br>"file:/u00/rsb/Oracl<br>e/Middleware/user_<br>projects/domains/rs<br>b_domain/" {<br><br>permission<br>java.security.AllPerm<br>ission;<br><br>permission<br>oracle.security.jps.ser<br>vice.credstore.Creden<br>tialAccessPermission<br>"credstore.sp.credsto<br>re",<br>"read,write,update,de<br>lete";<br><br>permission<br>oracle.security.jps.ser<br>vice.credstore.Creden<br>tialAccessPermission<br>"credstore.sp.credsto<br>re.*",<br>"read,write,update,de<br>lete";<br><br>}; |
| 2. JVM heap size (Optional)                              | Set maximum and minimum heap size   | cd<br><domainHome>/bin<br>vi setDomainEnv.sh                  | USER_MEM_<br>ARGS="-Xms1024m<br>-Xmx2048m<br>-XX:MaxPermSize=10<br>24m"   |

---

### Download

| Task                   | Notes  | Command/Example |
|------------------------|--|-----------------|
| 1. Download RSB Kernel | Download <i>RsbKernel19.0.1ForAll19.x.xApps_eng_ga.zip</i> to a directory in Linux/Unix. The rsb-home will be created inside this directory. Extract the archive file. |                 |

---

|   |   |  |
|---|---|--|
| 2. Download Decorators  | Download all <i>RsbAppServiceDecoratorPak</i> <rsb_major_version>For<app_version>_eng_ga.zip to rsb-home/download-home/all-app-service-decorator/ directory. Do not extract the files.            |  |
| 3. Download Service Flows   | Download all <i>RsbServiceIntegrationFlowPak</i> < rsb_major_version >For<service-name>_eng_ga.zip to rsb-home/download-home/all-functional-service-int-flow directory. Do not extract the files. |  |
| 4. Set JAVA_HOME  | Set JAVA_HOME to a JDK 1.8+ 64 bit with latest security updates.  | export JAVA_HOME=/usr/bin/java/1.8.0_65                      |
| 5. Check version and unpack                                       | Run the check version and unpack script   | cd rsb-home/download-home/bin<br>check-version-and-unpack.sh |
| 6. Create tablespaces with names 'RETAIL_DATA' and 'RETAIL_INDEX' | The rsb-deployer.sh script expects permanent Tablespace with correct names created as a prerequisite and will use these Tablespaces to create RSB_SOAINFRA database objects.                      |  |

---

## Configure

Edit *rsb-home/deployment-home/conf/rsb-deployment-env-info.properties* to configure following properties:

---

| Property                         | Example Value   |
|----------------------------------|---|
| JAVA_HOME                        | /usr/java/jdk1.8.0_65   |
| rsb-osb-container.do main-name   | rsb_domain  |
| rsb-osb-container.<do main>.home | rsb-osb-container.rsb-domain.home=/u00/rib1/Oracle/Middleware/user_projects/do mains/rsb_domain |

|  |  |
|--|--|
| rsb-osb-container.<do<br>main>.cluster-name  | rsb-osb-container. <i>rsb_</i><br><i>domain</i> .cluster-name=<br>rsb_cluster  |
| rsb-osb-container.<do<br>main>.<cluster<br>name>.http-url  | rsb-osb-container. <i>rsb_</i><br><i>domain</i> . <i>rsb_</i><br><i>cluster</i> .http-url=http:<br>//rsbhost:7004  |
| (Cluster port is the<br>port of http proxy<br>server)  |  |
| [PolicyA]<br>rsb-osb-container. <i>rsb_</i><br><i>domain</i> . <i>rsb_</i><br><i>cluster</i> .https-url          | rsb-osb-container. <i>rsb_</i><br><i>domain</i> . <i>rsb_</i><br><i>cluster</i> .http-url=https:<br>//rsbhost:7104   |
| (Provide the HTTPS<br>URL of the http<br>proxy managed<br>server)  |  |
| rsb-osb-container.<do<br>main>.admin-server-<br>http-url   | rsb-osb-container. <i>rsb_</i><br><i>domain</i> .admin-server-<br>http-url=http://rsbho<br>st:7001   |
| rsb-osb-container.<do<br>main>.admin-server-<br>connection-url   | rsb-osb-container. <i>rsb_</i><br><i>domain</i> .admin-server-<br>connection-url=t3://<br>rsbhost:7001   |
| rsb-osb-container.<do<br>main>.<cluster<br>name>.managed-serv<br>ers   | rsb-osb-container. <i>rsb_</i><br><i>domain</i> . <i>rsb_</i><br><i>cluster</i> .managed-serv<br>ers=rsb_server1,rsb_<br>server2   |
| (Comma separated<br>list of managed<br>servers in the cluster,<br>excluding the http<br>proxy managed<br>server) |  |
| rsb-osb-container.<do<br>main>.<cluster<br>name>.<managed<br>server>.managed-ser<br>ver-connection-url           | rsb-osb-container. <i>rsb_</i><br><i>domain</i> . <i>rsb_</i><br><i>cluster</i> . <i>rsb_</i><br><i>server1</i> .managed-serv<br>er-connection-url=t3:<br>//rsbhost:7002 |
| (Repeat this property<br>for all the managed<br>servers in the cluster)  |  |
| service-infrastructure<br>-db.jdbc-url   | jdbc:oracle:thin:@db<br>ost:1521:rra1  |
| edge-app-container.<<br>app>.connection-url  | edge-app-container. <i>si</i><br><i>m</i> .connection-url=t3:<br>//edgeapphost:8080  |
| (the host:port of the<br>edge application)   |  |

---

|   |   |
|---|---|
| global.app-service-end-point-url-pattern  | http://<HTTP_HOSTNAME>:<HTTP_PORT>/<SERVICE_NAME>Service/<SERVICE_NAME>Bean |
| (The pattern of edge service URLs. Note: This is different if the service is hosted on glassfish Vs WebLogic) |   |
| rib.home.path (optional)  | rib1@ribhost:/u00/rib1/rib2/Rib1901ForAll19xxApps/rib-home                  |

---

## Compile

---

| Task   | Notes   | Command  |
|--|---|--|
| 1. [Policy A]<br>[PolicyB]<br>Security Configuration       | Download edge app service WSDLs   | cd<br>rsb-home/service-assembly-home/bin/<br>download-app-service-wsdl.sh                  |
| 2. [PolicyA]<br>[PolicyB]<br>Create Policy Mapping file    | Create security policy mapping file   | generate-rsb-decorator-security-config.sh  |
| 3. [PolicyB]<br>Setup Credentials                          | Setup security credentials for Message Protection   | setup-message-protection-security-credentials.sh   |
| 4. Setup credentials and compile                           | Setup the user IDs and passwords in the wallet file <ul style="list-style-type: none"> <li>■ admin-server-user-alias</li> <li>■ sidb-jdbc-user-alias</li> </ul> | cd<br>rsb-home/service-assembly-home/bin/<br>rsb-compiler.sh<br>-setup-security-credential |
| 5. Compile<br>Note: If step 4 is executed, skip this step. | Compile the configurations  | cd<br>rsb-home/service-assembly-home/bin/<br>rsb-compiler.sh                               |

---

## Deploy

---

| Task                 | Notes  | Command  |
|----------------------|--|--|
| 1. Start the servers | Start Admin Server, Proxy Server, Managed Servers          | cd<br><domainHome>/bin<br>startWeblogic.sh<br>startManagedWebLogic.sh <managed server> |
| 2. Prepare WLS       | Prepare instrumentation configurations for WebLogic server | cd<br>rsb-home/deployment-home/bin<br>rsb-deployer.sh<br>-prepare-wls                  |

|  |  |  |
|--|--|--|
| 3. Restart Servers                             | Restart all the servers (Admin + Managed servers)  |  |
| 4. [PolicyB]<br>Copy script                    | Copy security scripts to RSB server  | <pre> cd rsb-home/integration-lib/rsb-tools/scripts scp generate-pki-certificate-keystore-for-osb.sh &lt;user&gt;@&lt;host&gt;:/&lt;domainHome&gt;/config/ scp import-remote-server-public-key-certificate-into-keystore.sh &lt;user&gt;@&lt;host&gt;:/&lt;domainHome&gt;/config/ scp export-server-public-key-certificate-from-keystore.sh &lt;user&gt;@&lt;host&gt;:/&lt;domainHome&gt;/config/ </pre> |
| 5. [PolicyB]<br>Generate Certs and Key store   | <p>Generate private key, public key and key store for the RSB server (To be done in the RSB server)</p> <p><b>Note:</b> If you are using CA certificates, do not generate certificates. Instead import the certificates to the keystore.</p> | <pre> . &lt;domainHome&gt;/bin/setDomainEnv.sh cd &lt;domainHome&gt;/config generate-pki-certificate-keystore-for-osb.sh </pre>  |
| 6. [PolicyB]<br>Copy app server certificate(s) | Go to <wlsHome>/config of the <b>remote</b> edge app server and export the public key certificate. Copy the certificate file to <wlsHome>/config of the RSB server. The file name must be <remote-host>-certificate.der                      | Follow RSB Security Guide for instructions to export certificate   |

---

|  |  |   |
|--|--|---|
| 7. [PolicyB]<br>Import app server certificate(s) | Import all the edge app server public key certificates to RSB server's key store. If the edge apps are deployed in different servers, import all the certificates to the keystore (To be done in the RSB server) | <pre>cd &lt;domainHome&gt;/config import-remote-server-public-key-certificate-into-keystore.sh &lt;app&gt; &lt;remote-host&gt;</pre> <p>e.g.,</p> <pre>import-remote-server-public-key-certificate-into-keystore.sh cm &lt;hostname&gt;</pre> |
| 8. [PolicyB]<br>Configure RSB Server             | Configure the RSB server to use the key store generate in the previous steps   | <pre>cd rsb-home/deployment-home/bin configure-rsb-app-server-for-security-policy-b.sh</pre>  |
| 9. [PolicyB]<br>Restart                          | Restart Admin and Managed Servers  |   |
| 10. Deploy Decorator                             | Deploy all the decorators  | <pre>cd rsb-home/deployment-home/bin rsb-deployer.sh -deploy-all-rsb-service</pre>  |
| 11. Deploy Injector                              | Deploy rib4oms injector service  | <pre>cd rsb-home/deployment-home/bin rsb-deployer.sh -deploy-rsb-service RibOmsToRsbOmsRouting-ServicesIntegrationFlow.jar</pre>  |
| 12. [PolicyB]<br>Export OSB certificate          | Copy the script from integration-lib<br>Export the certificate, so that it can be used by the service consumers. (To be done in the RSB server)  | <pre>cd &lt;wlsHome&gt;/config export-server-public-key-certificate-from-keystore.sh</pre>  |
| 13. Restart                                      | Restart all the servers (Admin + Managed servers)  |   |

---

---

---

## Appendix: How to Secure Application Service (including JSIT)

Depending on the security configuration chosen for each application (i.e., Policy A or Policy B) various security related configuration changes need to be made in the application side. This must be done prior to the installation of RSB. If the security on the application side is done after RSB installation, some of the steps of RSB deployment will have to redone after the security configuration change in the edge app server. The details steps on how to secure edge app services is given in the RSB Security guide.

---

---

**Note:** For more information, see *RSB Security Guide*.

---

---





---

---

## External LDAP Configuration

WebLogic ships with a default internal Light-weight Directory Access Protocol (LDAP) authentication provider. In an environment where a couple of domains exist, an administrator can set up users and groups in an internal LDAP provider and use these parameters during login and authentication. Alternatively, in an environment that contains multiple domains, managing/maintaining users and groups can be a difficult task. Oracle recommends that you use a centralized LDAP server to manage/maintain the users and groups.

This chapter describes the steps you should take to configure the Oracle Internet Directory (OID) and the Active Directory (AD) LDAP based authentication provider in WebLogic.

### Introducing the Oracle Internet Directory (OID)

An online directory is a specialized database that stores and retrieves collections of information about objects. The information can represent any resources that require management, for example:

- Employee names, titles, and security credentials
- Information about partners
- Information about shared resources such as conference rooms and printers

The information in the directory is available to different clients, such as single sign-on solutions, e-mail clients, and database applications. Clients communicate with a directory server by means of the LDAP. The Oracle Internet Directory is an LDAP directory that uses an Oracle database for storage.

### Introducing the Microsoft Active Directory (AD)

An Active Directory (AD) is a directory service implemented by Microsoft for Windows domain networks. It is included in most Windows Server operating systems.

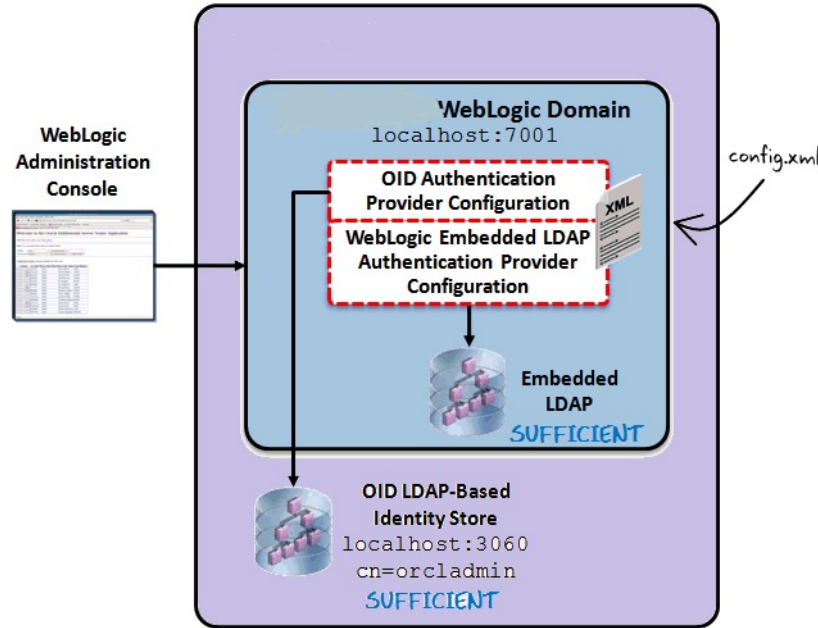
Active Directory is a special-purpose database — it is not a registry replacement. The directory is designed to handle a large number of read and search operations and a significantly smaller number of changes and updates. Active Directory data is hierarchical, replicated, and extensible. Because it is replicated, you do not want to store dynamic data, such as corporate stock prices or CPU performance.

In Windows 2000, Active Directory has three partitions. These are also known as naming contexts: do-main, schema, and configuration. The domain partition contains users, groups, contacts, computers, organizational units, and many other object types. Because Active Directory is extensible, you can also add your own classes and/or

attributes. The schema partition contains classes and attributes definitions. The configuration partition includes configuration data for services, partitions, and sites.

## Architecture Overview

The architecture diagram describes the configuration of an OID and AD LDAP-based authentication provider used by applications deployed in an WebLogic server environment.



The diagram displays a sample environment and consists of the following:

- The WebLogic Server running on port 7001
- The WebLogic Administration Console used to configure authentication providers
- The WebLogic Embedded LDAP server with a control flag setting of SUFFICIENT
- An OID LDAP-based identity store running on port 3060 with a control flag setting of SUFFICIENT
- The WebLogic config.xml that stores the authentication provider configuration

By default, the WebLogic server uses a security realm with the name "myrealm" that uses an embedded LDAP server (two default users WebLogic & OracleSystemUser) that acts as data store for Authentication, Authorization, Credential Mapping and Role Mapping Provider.

## Configuring the Oracle Internet Directory (OID) as an Authentication Provider in WebLogic

To configure the OID as an authentication provider in WebLogic, take the following steps:

1. Login to **WebLogic Console** -> **Security Realm** -> **myrealm**.

**ORACLE WebLogic Server® Administration Console**

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

**Summary of Security Realms**

A security realm is a container for the mechanisms—including users, groups, security roles, security policies, and security providers—that are in the Server domain, but only one can be set as the default (active) realm.

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

**Customize this table**

**Realms (Filtered - More Columns Exist)**

| Name    | Default Realm |
|---------|---------------|
| myrealm | true          |

2. Select tab **Providers -> Authentication -> Default Provider (DefaultAuthenticator)**.

Home > Summary of Security Realms > myrealm > Providers > DefaultAuthenticator > 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 have different types of Authentication providers designed to access different data stores, such as LDAP servers or DBMS. You can also configure a Realm Adapter Authentication groups from previous releases of WebLogic Server.

**Customize this table**

**Authentication Providers**

| Name                    | Description                          |
|-------------------------|--------------------------------------|
| DefaultAuthenticator    | WebLogic Authentication Provider     |
| DefaultIdentityAsserter | WebLogic Identity Assertion provider |

3. Change the **Control Flag (JAAS Flag)** parameter from **REQUIRED** to **SUFFICIENT** and click **Save**.

**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 Flag.

**Name:** DefaultAuthenticator

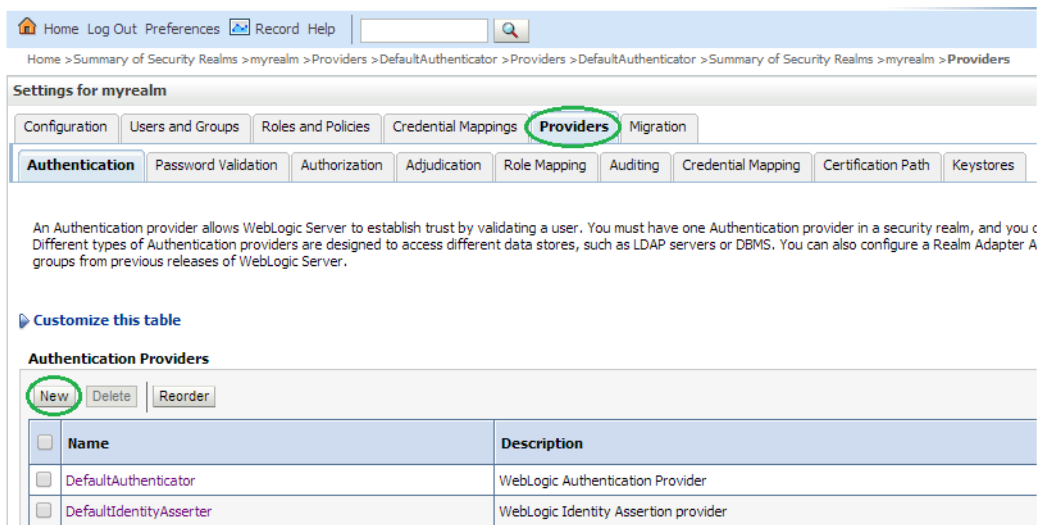
**Description:** WebLogic Authentication Provider

**Version:** 1.0

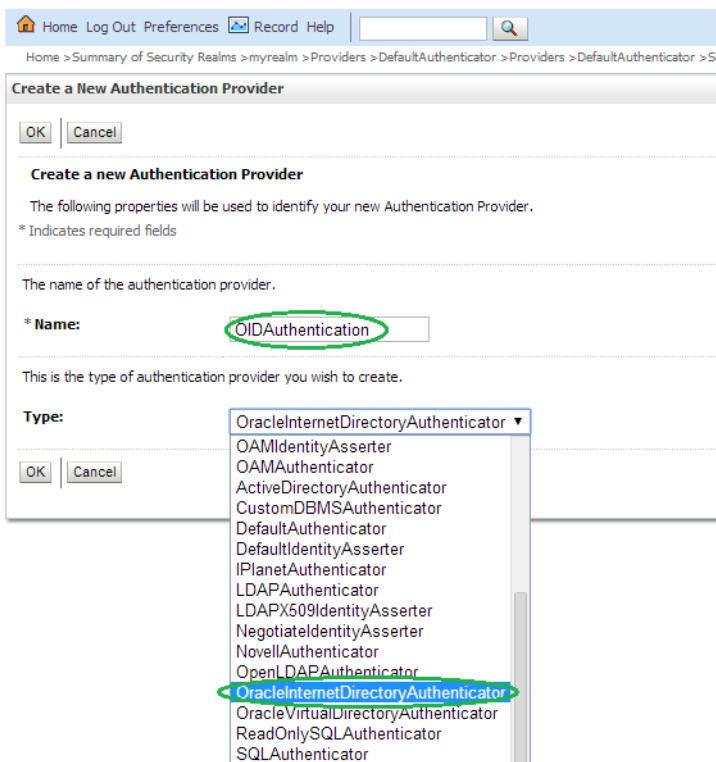
**Control Flag:** SUFFICIENT

Save

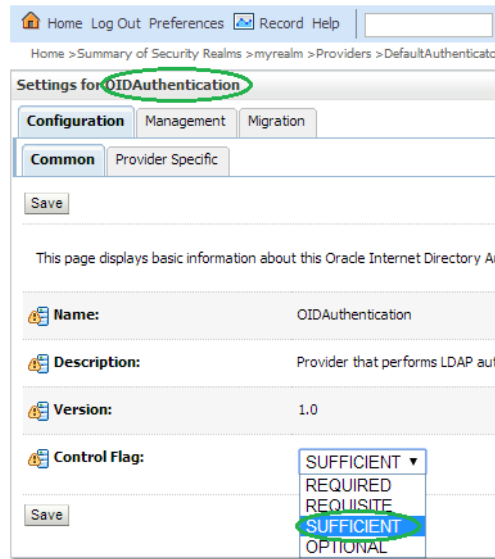
4. Click **New** to add a new Authentication Provider.



5. Enter **OIDAuthentication** as the **Name** of the new provider. Select **OracleInternetDirectoryAuthenticator** as **Type** and then click **OK**.

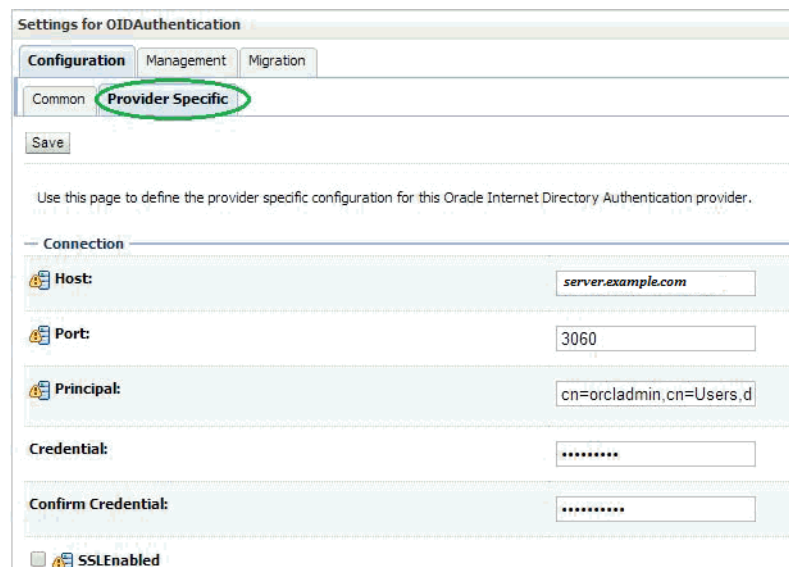


6. Change the **Control Flag** to **SUFFICIENT** for the **OIDAuthentication** Provider added and click **Save**.



7. Select the **Provider Specific** tab and enter your OID server details.
  - a. The first section contains the Connection settings for the OID server. Use the appropriate values based on where the OID is hosted and the credentials:

| Name                 | Value   | Purpose  |
|----------------------|---|--|
| Host:                | server.example.com                            | The OID host name  |
| Port:                | 3060  | The standard OID listening port  |
| Principal:           | cn=orcladmin,cn=Users,dc=idc,dc=oracle,dc=com | The LDAP user that logs into OID on behalf of your authentication provider |
| Credentials:         |   | Password for the principal user  |
| Confirm Credentials: |   | Confirmation of the password   |
| SSL Enabled:         | Unchecked                                     | Enables or disables SSL connectivity                                       |



- b. The second section contains the Users settings for the OID provider. Use appropriate values:

| Name                                  | Value  | Purpose   |
|---------------------------------------|--|---|
| User Base DN:                         | cn=Users,dc=idc,dc=oracle,dc=com                   | The root (base DN) of the LDAP tree where searches are performed for user data                            |
| All Users Filter:                     | (&(cn=*)(objectclass=person)) -- Leave as default  | The LDAP search filter that is used to show all the users below the User Base DN                          |
| User From Name Filter:                | (&(cn=%u)(objectclass=person)) -- Leave as default | The LDAP search filter used to find the LDAP user by name   |
| User Search Scope:                    | Leave as default                                   | Specifies how deep in the LDAP tree to search for users   |
| User Name Attribute:                  | Leave as default                                   | The attribute of the LDAP user that specifies the user name   |
| User Object Class:                    | Leave as default                                   | The LDAP object class that stores users   |
| Use Retrieved User Name as Principal: | Checked  | Specifies if the user name retrieved from the LDAP directory will be used as the Principal in the Subject |

The screenshot shows a configuration page titled "Users". It contains the following settings:

- User Base DN:** cn=Users,dc=idc,dc=orac
- All Users Filter:** (&(cn=\*)(objectclass=pers
- User From Name Filter:** (&(cn=%u)(objectclass=pe
- User Search Scope:** subtree
- User Name Attribute:** cn
- User Object Class:** person
- Use Retrieved User Name as Principal:**

- c. The third section contains the Groups settings for the OID provider. Use appropriate values:

| Name                    | Value  | Purpose  |
|-------------------------|--|--|
| Group Base DN:          | cn=Groups,dc=idc,dc=oracle,dc=com  | The root (base DN) of the LDAP tree where searches are per-formed for group data   |
| All Groups Filter:      | (&(cn=*)(  (objectclass=groupofUniqueNames)(objectclass=orcldynamicgroup))) -- Leave as default            | The LDAP search filter that is used to show all the groups below the Group Base DN |
| Group From Name Filter: | (  (&(cn=%g)(objectclass=groupofUniqueNames))(&(cn=%g)(objectclass=orcldynamicgroup))) -- Leave as default | The LDAP search filter used to find the LDAP group by name                         |

| Name                                | Value            | Purpose   |
|-------------------------------------|------------------|---|
| Group Search Scope:                 | Leave as default | Specifies how deep in the LDAP tree to search for groups  |
| Group Member-ship Searching:        | Leave as default | Specifies whether group searches into nested groups are limited or unlimited  |
| Max Group Member-ship Search Level: | Leave as default | Specifies how many levels of group membership can be searched. This setting is only valid if GroupMembershipSearching is set to limited |
| Ignore Duplicate Membership:        | Unchecked        | Determines whether duplicates members are ignored when adding groups.   |

— Groups

**Group Base DN:**

**All Groups Filter:**

**Group From Name Filter:**

**Group Search Scope:**

**Group Membership Searching:**

**Max Group Membership Search Level:**

**Ignore Duplicate Membership**

- d. Click **Save**.
8. Click **Reorder** to change the order of your configured authentication providers. In order to ensure that the new OID authenticator is recognized as authentication provider, you must reorder your list of authentication providers so that the OID authentication provider is first in the list.

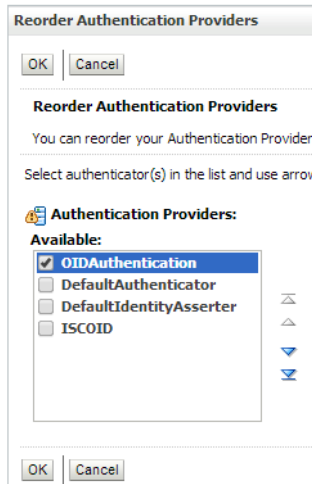
**Authentication Providers**

New Delete Reorder

| <input type="checkbox"/> | Name                    |
|--------------------------|-------------------------|
| <input type="checkbox"/> | DefaultAuthenticator    |
| <input type="checkbox"/> | DefaultIdentityAsserter |
| <input type="checkbox"/> | ISCOID                  |
| <input type="checkbox"/> | OIDAuthentication       |

New Delete **Reorder**

9. Select the OIDAuthentication and use the arrows on the right to move it into the first position. Click **OK**.



## Verifying the Oracle Internet Directory (OID) Configuration

To verify the OID configuration, take the following steps:

1. Restart the WebLogic Server for your changes to take effect.
2. Using the WebLogic Administration Console, select **Security Realms > myrealm > Users and Groups** tab. The Users sub-tab should be selected by default. The circled users are created in OID and can verify the Provider – OIDAAuthentication provider.

**Users**

New Delete Showing 1 to 10 of 15 Previous | Next

| Name             | Description   | Provider             |
|------------------|---|----------------------|
| agadmin          | agadmin User  | OIDAuthentication    |
| alsb-system-user | The ALSB system user is a built-in system account which belongs to the ALSBSystem role. As such it has access to ALSBs internal artifacts. The password for this account is automatically changed when the admin server boots to prevent direct access to this account. | DefaultAuthenticator |
| dummy            | Dummy User  | OIDAuthentication    |
| jsituser         | jsit User   | OIDAuthentication    |
| OracleSystemUser | Oracle application software system user.  | DefaultAuthenticator |
| orcladmin        | Seed administrative user for subscriber.  | OIDAuthentication    |
| PUBLIC           | This entry is used as the identification for unauthenticated users.   | OIDAuthentication    |
| ribadmin         | User to authenticate RIB GUI App  | OIDAuthentication    |
| rihauser         | riha User   | OIDAuthentication    |
| rsbadmin         | User to authenticate RSB GUI App  | OIDAuthentication    |

New Delete Showing 1 to 10 of 15 Previous | Next

3. Click the **Groups** tab to see the list of groups the server can see. The highlighted groups are created in OID and can verify the Provider – OIDAAuthentication provider.

## Using LDIF Scripts to Configure Users and Groups for OID

LDIF scripts can be used to import users and groups into OID. Two sample scripts are supplied below. The scripts contain users and groups for multiple Oracle Retail integration products. You must review and edit the scripts to match your deployment topology and in-scope applications.



**Integration-oid-create-groups.ldif**

```
dn: cn=BdiJobAdminGroup,cn=groups,dc=us,dc=oracle,dc=com
```

```
objectclass: groupOfUniqueNames
```

```
objectclass: orclGroup
```

```
objectclass: top
```

```
cn: BdiJobAdminGroup
```

```
description: BDI Job Admin is a group of individuals who can start the job, view the runtime statistics of the job , stop the job and edit the configuration.
```

```
displayname: BDI Job Administrator
```

```
#businessCategory: TBD
```

```
uniquemember: cn=bdirmsjobadmin,cn=users,dc=us,dc=oracle,dc=com
```

```
uniquemember: cn=bdirxmjobadmin,cn=users,dc=us,dc=oracle,dc=com
```

```
uniquemember: cn=bdisimjobadmin,cn=users,dc=us,dc=oracle,dc=com
```

```
dn: cn=BdiJobOperatorGroup,cn=groups,dc=us,dc=oracle,dc=com
```

```
objectclass: groupOfUniqueNames
```

```
objectclass: orclGroup
```

```
objectclass: top
```

```
cn: BdiJobOperatorGroup
```

```
description: BDI Job Operator is a group of individuals who can start the job , view the runtime statistics of the job , stop the job but cannot edit the configuration.
```

```
displayname: BDI Job Operator
```

```
#businessCategory: TBD
```

```
uniquemember: cn=bdirmsjoboperator,cn=users,dc=us,dc=oracle,dc=com
```

```
uniquemember: cn=bdirxmjoboperator,cn=users,dc=us,dc=oracle,dc=com
```

```
uniquemember: cn=bdisimjoboperator,cn=users,dc=us,dc=oracle,dc=com
```

```
dn: cn=BdiJobMonitorGroup,cn=groups,dc=us,dc=oracle,dc=com
```

```
objectclass: groupOfUniqueNames
```

```
objectclass: orclGroup
```

```
objectclass: top
```

```
cn: BdiJobMonitorGroup
```

```
description: BDI Job Monitor is a group of individuals who can view the runtime statistics of the job.
```

```
displayname: BDI Job Monitor
```

```
#businessCategory: TBD
```

```
uniquemember: cn=bdirmsjobmonitor,cn=users,dc=us,dc=oracle,dc=com
```

```
uniquemember: cn=bdirxmjobmonitor,cn=users,dc=us,dc=oracle,dc=com
```

uniquemember: cn=bdisimjobmonitor,cn=users,dc=us,dc=oracle,dc=com

dn: cn=BdiProcessAdminGroup,cn=groups,dc=us,dc=oracle,dc=com

objectclass: groupOfUniqueNames

objectclass: orclGroup

objectclass: top

cn: BdiProcessAdminGroup

description: BDI process admin is a group of individuals who can start the process , view the runtime statistics of the process , stop the process and edit the process flows.

displayname: BDI Process Administrator

#businessCategory: TBD

uniquemember: cn=bdiprocessadmin,cn=users,dc=us,dc=oracle,dc=com

dn: cn=BdiProcessOperatorGroup,cn=groups,dc=us,dc=oracle,dc=com

objectclass: groupOfUniqueNames

objectclass: orclGroup

objectclass: top

cn: BdiProcessOperatorGroup

description: BDI process opeartor is a group of individuals who can start the process , view the runtime statistics of the process , stop the process but cannot edit the process flows.

displayname: BDI Process Opeartor

#businessCategory: TBD

uniquemember: cn=bdiprocessoperator,cn=users,dc=us,dc=oracle,dc=com

dn: cn=BdiProcessMonitorGroup,cn=groups,dc=us,dc=oracle,dc=com

objectclass: groupOfUniqueNames

objectclass: orclGroup

objectclass: top

cn: BdiProcessMonitorGroup

description: BDI process Monitor is a group of individuals who can view the runtime statistics of the process.

displayname: BDI Process Monitor

#businessCategory: TBD

uniquemember: cn=bdiprocessmonitor,cn=users,dc=us,dc=oracle,dc=com

dn: cn=BdiSchedulerAdminGroup,cn=groups,dc=us,dc=oracle,dc=com

objectclass: groupOfUniqueNames

```
objectclass: orclGroup
objectclass: top
cn: BdiSchedulerAdminGroup
description: BDI scheduler admin is a group of individuals who can start/stop the
schedule , view the summary of scheduled runs metrics and schedule details.Also
create, edit, delete/disable the schedules.
displayname: BDI Scheduler Administrator
#businessCategory: TBD
uniquemember: cn=bdischeduleraadmin,cn=users,dc=us,dc=oracle,dc=com
```

```
dn: cn=BdiSchedulerOperatorGroup,cn=groups,dc=us,dc=oracle,dc=com
objectclass: groupOfUniqueNames
objectclass: orclGroup
objectclass: top
cn: BdiSchedulerOperatorGroup
description: BDI scheduler Operator is a group of individuals who can start/stop the
schedule , view the summary of scheduled runs metrics and schedule details.
displayname: BDI Scheduler Operator
#businessCategory: TBD
uniquemember: cn=bdischedulerooperator,cn=users,dc=us,dc=oracle,dc=com
```

```
dn: cn=BdiSchedulerMonitorGroup,cn=groups,dc=us,dc=oracle,dc=com
objectclass: groupOfUniqueNames
objectclass: orclGroup
objectclass: top
cn: BdiSchedulerMonitorGroup
description: BDI scheduler monitor is a group of individuals who can view the
summary of scheduled runs metrics and schedule details.
displayname: BDI Scheduler Monitor
#businessCategory: TBD
uniquemember: cn=bdischedulermmonitor,cn=users,dc=us,dc=oracle,dc=com
```

```
dn: cn=agAdminGroup,cn=groups,dc=us,dc=oracle,dc=com
objectclass: groupOfUniqueNames
objectclass: orclGroup
objectclass: top
cn: agAdminGroup
description: ArtifactGenerator Administrator is a group of individuals who can
generate artifacts used in the integration products like OracleObject, JavaBeans.
```

displayname: ArtifactGenerator Administrator

#businessCategory: TBD

uniquemember: cn=agadmin,cn=users,dc=us,dc=oracle,dc=com

dn: cn=JmsConsoleAdminGroup,cn=groups,dc=us,dc=oracle,dc=com

objectclass: groupOfUniqueNames

objectclass: orclGroup

objectclass: top

cn: JmsConsoleAdminGroup

description: JMS Console Administrator is a group of individuals who can perform various administrator task on jmsconsole like publishing message on topic, browsing messages on topic.

displayname: JMS Console Administrator

#businessCategory: TBD

uniquemember: cn=jmsconsoleadmin,cn=users,dc=us,dc=oracle,dc=com

dn: cn=ribAdminGroup,cn=groups,dc=us,dc=oracle,dc=com

objectclass: groupOfUniqueNames

objectclass: orclGroup

objectclass: top

cn: ribAdminGroup

description: RIB Administrator is a group of individuals who can administrator rib-admin-gui. View the adapters state, start/stop adapters, view logs,set the log levels for adapters.

displayname: RIB Administrator

#businessCategory: TBD

uniquemember: cn=ribrmsadmin,cn=users,dc=us,dc=oracle,dc=com

uniquemember: cn=ribsimadmin,cn=users,dc=us,dc=oracle,dc=com

uniquemember: cn=ribrwmsadmin,cn=users,dc=us,dc=oracle,dc=com

uniquemember: cn=ribaipadmin,cn=users,dc=us,dc=oracle,dc=com

uniquemember: cn=ribomsadmin,cn=users,dc=us,dc=oracle,dc=com

uniquemember: cn=ribrxmadmin,cn=users,dc=us,dc=oracle,dc=com

uniquemember: cn=ribtafradmin,cn=users,dc=us,dc=oracle,dc=com

uniquemember: cn=ribrfmadmin,cn=users,dc=us,dc=oracle,dc=com

uniquemember: cn=ribrpmadmin,cn=users,dc=us,dc=oracle,dc=com

dn: cn=IntegrationGroup,cn=groups,dc=us,dc=oracle,dc=com

objectclass: groupOfUniqueNames

```
objectclass: orclGroup
objectclass: top
cn: IntegrationGroup
description: IntegrationGroup is a group of individuals who can invoke rib interface
api inject and publish.
displayname: Integration Group
#businessCategory: TBD
uniquemember: cn=integrationuser,cn=users,dc=us,dc=oracle,dc=com
```

```
dn: cn=RihaAdminGroup,cn=groups,dc=us,dc=oracle,dc=com
objectclass: groupOfUniqueNames
objectclass: orclGroup
objectclass: top
cn: RihaAdminGroup
description: Riha Admin Group is a group of individuals who can administer rib
hospital. Can flush the messages stuck in rib error hospital, can retry the
messages,view the messages in error hospital and can edit.
displayname: Riha Administrator
#businessCategory: TBD
uniquemember: cn=rihaadmin,cn=users,dc=us,dc=oracle,dc=com
```

```
dn: cn=RicAdminGroup,cn=groups,dc=us,dc=oracle,dc=com
objectclass: groupOfUniqueNames
objectclass: orclGroup
objectclass: top
cn: RicAdminGroup
description: Ric Admin Group is a group of individuals who can administer rib
runtime statistics , rsb runtime statistics.
displayname: Ric Administrator
#businessCategory: TBD
uniquemember: cn=ricadmin,cn=users,dc=us,dc=oracle,dc=com
```

```
dn: cn=rseAdminGroup,cn=groups,dc=us,dc=oracle,dc=com
objectclass: groupOfUniqueNames
objectclass: orclGroup
objectclass: top
cn: rseAdminGroup
description: Rse Admin Group is a group of individuals who can generate webservice
provider , consumer.
```

```
displayname: RSE Administrator
#businessCategory: TBD
uniquemember: cn=rseadmin,cn=users,dc=us,dc=oracle,dc=com
```

```
dn: cn=RfiAdminGroup,cn=groups,dc=us,dc=oracle,dc=com
objectclass: groupOfUniqueNames
objectclass: orclGroup
objectclass: top
cn: RfiAdminGroup
description: RFI Admin
displayname: RFI Administrator
#businessCategory: TBD
uniquemember: cn=rfiadmin,cn=users,dc=us,dc=oracle,dc=com
```

### **Integration-oid-create-users.ldif**

```
dn: cn=bdirmsjobadmin, cn=Users,dc=us,dc=oracle,dc=com
description: A user for the 'BDI Job Admin' role.
objectclass: inetOrgPerson
objectclass: organizationalPerson
objectclass: person
objectclass: top
objectclass: orcluser
objectclass: orcluserV2
objectclass: orclIDXPerson
cn: bdirmsjobadmin
orclsamaccountname: bdirmsjobadmin
sn: bdirmsjobadmin
uid: bdirmsjobadmin
givenname: bdirmsjobadmin
displayname: bdirmsjobadmin
userpassword: <update your password here>
employeeNumber:
middleName:
orclHireDate:
telephoneNumber:
facsimileTelephoneNumber:
mail: bdirmsjobadmin@example.com
```

postalAddress:

street:

postalCode:

title:

employeeType:

dn: cn=bdirxmjobadmin, cn=Users,dc=us,dc=oracle,dc=com

description: A user for the 'BDI Job Admin' role.

objectclass: inetOrgPerson

objectclass: organizationalPerson

objectclass: person

objectclass: top

objectclass: orcluser

objectclass: orcluserV2

objectclass: orclIDXPerson

cn: bdirxmjobadmin

orclsamaccountname: bdirxmjobadmin

sn: bdirxmjobadmin

uid: bdirxmjobadmin

givenname: bdirxmjobadmin

displayname: bdirxmjobadmin

userpassword: <update your password here>

employeeNumber:

middleName:

orclHireDate:

telephoneNumber:

facsimileTelephoneNumber:

mail: bdirxmjobadmin@example.com

postalAddress:

street:

postalCode:

title:

employeeType:

dn: cn=bdisimjobadmin, cn=Users,dc=us,dc=oracle,dc=com

description: A user for the 'BDI Job Admin' role.

objectclass: inetOrgPerson

```
objectclass: organizationalPerson
objectclass: person
objectclass: top
objectclass: orcluser
objectclass: orcluserV2
objectclass: orclIDXPerson
cn: bdisimjobadmin
orclsamaccountname: bdisimjobadmin
sn: bdisimjobadmin
uid: bdisimjobadmin
givenname: bdisimjobadmin
displayname: bdisimjobadmin
userpassword: <update your password here>
employeeNumber:
middleName:
orclHireDate:
telephoneNumber:
facsimileTelephoneNumber:
mail: bdisimjobadmin@example.com
postalAddress:
street:
postalCode:
title:
employeeType:

dn: cn=bdirmsjoboperator, cn=Users,dc=us,dc=oracle,dc=com
description: A user for the 'BDI Job Operator' role.
objectclass: inetOrgPerson
objectclass: organizationalPerson
objectclass: person
objectclass: top
objectclass: orcluser
objectclass: orcluserV2
objectclass: orclIDXPerson
cn: bdirmsjoboperator
orclsamaccountname: bdirmsjoboperator
sn: bdirmsjoboperator
```



```
uid: bdirmsjoboperator
givenname: bdirmsjoboperator
displayname: bdirmsjoboperator
userpassword: <update your password here>
employeeNumber:
middleName:
orclHireDate:
telephoneNumber:
facsimileTelephoneNumber:
mail: bdirmsjoboperator@example.com
postalAddress:
street:
postalCode:
title:
employeeType:
```

```
dn: cn=bdirxmjoboperator, cn=Users,dc=us,dc=oracle,dc=com
description: A user for the 'BDI Job Operator' role.
objectclass: inetOrgPerson
objectclass: organizationalPerson
objectclass: person
objectclass: top
objectclass: orcluser
objectclass: orcluserV2
objectclass: orclIDXPerson
cn: bdirxmjoboperator
orclsamaccountname: bdirxmjoboperator
sn: bdirxmjoboperator
uid: bdirxmjoboperator
givenname: bdirxmjoboperator
displayname: bdirxmjoboperator
userpassword: <update your password here>
employeeNumber:
middleName:
orclHireDate:
telephoneNumber:
facsimileTelephoneNumber:
```

mail: bdirxmjoboperator@example.com  
postalAddress:  
street:  
postalCode:  
title:  
employeeType:

dn: cn=bdisimjoboperator, cn=Users,dc=us,dc=oracle,dc=com  
description: A user for the 'BDI Job Operator' role.  
objectclass: inetOrgPerson  
objectclass: organizationalPerson  
objectclass: person  
objectclass: top  
objectclass: orcluser  
objectclass: orcluserV2  
objectclass: orclIDXPerson  
cn: bdisimjoboperator  
orclsamaccountname: bdisimjoboperator  
sn: bdisimjoboperator  
uid: bdisimjoboperator  
givenname: bdisimjoboperator  
displayname: bdisimjoboperator  
userpassword: <update your password here>  
employeeNumber:  
middleName:  
orclHireDate:  
telephoneNumber:  
facsimileTelephoneNumber:  
mail: bdisimjoboperator@example.com  
postalAddress:  
street:  
postalCode:  
title:  
employeeType:

dn: cn=bdirmsjobmonitor, cn=Users,dc=us,dc=oracle,dc=com  
description: A user for the 'BDI Job Monitor' role.

```
objectclass: inetOrgPerson
objectclass: organizationalPerson
objectclass: person
objectclass: top
objectclass: orcluser
objectclass: orcluserV2
objectclass: orclIDXPerson
cn: bdirmsjobmonitor
orclsamaccountname: bdirmsjobmonitor
sn: bdirmsjobmonitor
uid: bdirmsjobmonitor
givenname: bdirmsjobmonitor
displayname: bdirmsjobmonitor
userpassword: <update your password here>
employeeNumber:
middleName:
orclHireDate:
telephoneNumber:
facsimileTelephoneNumber:
mail: bdirmsjobmonitor@example.com
postalAddress:
street:
postalCode:
title:
employeeType:

dn: cn=bdirmjobmonitor, cn=Users,dc=us,dc=oracle,dc=com
description: A user for the 'BDI Job Monitor' role.
objectclass: inetOrgPerson
objectclass: organizationalPerson
objectclass: person
objectclass: top
objectclass: orcluser
objectclass: orcluserV2
objectclass: orclIDXPerson
cn: bdirmjobmonitor
orclsamaccountname: bdirmjobmonitor
```

sn: bdirxmjobmonitor  
uid: bdirxmjobmonitor  
givenname: bdirxmjobmonitor  
displayname: bdirxmjobmonitor  
userpassword: <update your password here>  
employeeNumber:  
middleName:  
orclHireDate:  
telephoneNumber:  
facsimileTelephoneNumber:  
mail: bdirxmjobmonitor@example.com  
postalAddress:  
street:  
postalCode:  
title:  
employeeType:

dn: cn=bdisimjobmonitor, cn=Users,dc=us,dc=oracle,dc=com  
description: A user for the 'BDI Job Monitor' role.  
objectclass: inetOrgPerson  
objectclass: organizationalPerson  
objectclass: person  
objectclass: top  
objectclass: orcluser  
objectclass: orcluserV2  
objectclass: orclIDXPerson  
cn: bdisimjobmonitor  
orclsamaccountname: bdisimjobmonitor  
sn: bdisimjobmonitor  
uid: bdisimjobmonitor  
givenname: bdisimjobmonitor  
displayname: bdisimjobmonitor  
userpassword: <update your password here>  
employeeNumber:  
middleName:  
orclHireDate:  
telephoneNumber:

facsimileTelephoneNumber:  
mail: bdisimjobmonitor@example.com  
postalAddress:  
street:  
postalCode:  
title:  
employeeType:

dn: cn=bdiprocessadmin, cn=Users,dc=us,dc=oracle,dc=com  
description: A user for the 'BDI Process Admin' role.  
objectclass: inetOrgPerson  
objectclass: organizationalPerson  
objectclass: person  
objectclass: top  
objectclass: orcluser  
objectclass: orcluserV2  
objectclass: orclIDXPerson  
cn: bdiprocessadmin  
orclsamaccountname: bdiprocessadmin  
sn: bdiprocessadmin  
uid: bdiprocessadmin  
givenname: bdiprocessadmin  
displayname: bdiprocessadmin  
userpassword: <update your password here>  
employeeNumber:  
middleName:  
orclHireDate:  
telephoneNumber:  
facsimileTelephoneNumber:  
mail: bdiprocessadmin@example.com  
postalAddress:  
street:  
postalCode:  
title:  
employeeType:

dn: cn=bdiprocessoperator, cn=Users,dc=us,dc=oracle,dc=com

```
description: A user for the 'BDI Process Operator' role.
objectclass: inetOrgPerson
objectclass: organizationalPerson
objectclass: person
objectclass: top
objectclass: orcluser
objectclass: orcluserV2
objectclass: orclIDXPerson
cn: bdiprocessoperator
orclsamaccountname: bdiprocessoperator
sn: bdiprocessoperator
uid: bdiprocessoperator
givenname: bdiprocessoperator
displayname: bdiprocessoperator
userpassword: <update your password here>
employeeNumber:
middleName:
orclHireDate:
telephoneNumber:
facsimileTelephoneNumber:
mail: bdiprocessoperator@example.com
postalAddress:
street:
postalCode:
title:
employeeType:
```

```
dn: cn=bdiprocessmonitor, cn=Users,dc=us,dc=oracle,dc=com
description: A user for the 'BDI Process Monitor' role.
objectclass: inetOrgPerson
objectclass: organizationalPerson
objectclass: person
objectclass: top
objectclass: orcluser
objectclass: orcluserV2
objectclass: orclIDXPerson
cn: bdiprocessmonitor
```

```
orclsamaccountname: bdiprocessmonitor
sn: bdiprocessmonitor
uid: bdiprocessmonitor
givenname: bdiprocessmonitor
displayname: bdiprocessmonitor
userpassword: <update your password here>
employeeNumber:
middleName:
orclHireDate:
telephoneNumber:
facsimileTelephoneNumber:
mail: bdiprocessmonitor@example.com
postalAddress:
street:
postalCode:
title:
employeeType:
```

```
dn: cn=bdischeduleradmin, cn=Users,dc=us,dc=oracle,dc=com
description: A user for the 'BDI Scheduler Admin' role.
objectclass: inetOrgPerson
objectclass: organizationalPerson
objectclass: person
objectclass: top
objectclass: orcluser
objectclass: orcluserV2
objectclass: orclIDXPerson
cn: bdischeduleradmin
orclsamaccountname: bdischeduleradmin
sn: bdischeduleradmin
uid: bdischeduleradmin
givenname: bdischeduleradmin
displayname: bdischeduleradmin
userpassword: <update your password here>
employeeNumber:
middleName:
orclHireDate:
```

telephoneNumber:  
facsimileTelephoneNumber:  
mail: bdischeduleraadmin@example.com  
postalAddress:  
street:  
postalCode:  
title:  
employeeType:

dn: cn=bdischedulerooperator, cn=Users,dc=us,dc=oracle,dc=com  
description: A user for the 'Bdi Scheduler Operator' role.  
objectclass: inetOrgPerson  
objectclass: organizationalPerson  
objectclass: person  
objectclass: top  
objectclass: orcluser  
objectclass: orcluserV2  
objectclass: orclIDXPerson  
cn: bdischedulerooperator  
orclsamaccountname: bdischedulerooperator  
sn: bdischedulerooperator  
uid: bdischedulerooperator  
givenname: bdischedulerooperator  
displayname: bdischedulerooperator  
userpassword: <update your password here>  
employeeNumber:  
middleName:  
orclHireDate:  
telephoneNumber:  
facsimileTelephoneNumber:  
mail: bdischedulerooperator@example.com  
postalAddress:  
street:  
postalCode:  
title:  
employeeType:



```
dn: cn=bdischedulermonitor, cn=Users,dc=us,dc=oracle,dc=com
description: A user for the 'Bdi Scheduler Monitor' role.
objectclass: inetOrgPerson
objectclass: organizationalPerson
objectclass: person
objectclass: top
objectclass: orcluser
objectclass: orcluserV2
objectclass: orclIDXPerson
cn: bdischedulermonitor
orclsamaccountname: bdischedulermonitor
sn: bdischedulermonitor
uid: bdischedulermonitor
givenname: bdischedulermonitor
displayname: bdischedulermonitor
userpassword: <update your password here>
employeeNumber:
middleName:
orclHireDate:
telephoneNumber:
facsimileTelephoneNumber:
mail: bdischedulermonitor@example.com
postalAddress:
street:
postalCode:
title:
employeeType:
```

```
dn: cn=agadmin, cn=Users,dc=us,dc=oracle,dc=com
description: A user for the 'AG Admin' role.
objectclass: inetOrgPerson
objectclass: organizationalPerson
objectclass: person
objectclass: top
objectclass: orcluser
objectclass: orcluserV2
objectclass: orclIDXPerson
```

cn: agadmin  
orclsamaccountname: agadmin  
sn: agadmin  
uid: agadmin  
givenname: agadmin  
displayname: agadmin  
userpassword: <update your password here>  
employeeNumber:  
middleName:  
orclHireDate:  
telephoneNumber:  
facsimileTelephoneNumber:  
mail: agadmin@example.com  
postalAddress:  
street:  
postalCode:  
title:  
employeeType:

dn: cn=jmsconsoleadmin, cn=Users,dc=us,dc=oracle,dc=com  
description: A user for the 'JMS Console Admin' role.  
objectclass: inetOrgPerson  
objectclass: organizationalPerson  
objectclass: person  
objectclass: top  
objectclass: orcluser  
objectclass: orcluserV2  
objectclass: orclIDXPerson  
cn: jmsconsoleadmin  
orclsamaccountname: jmsconsoleadmin  
sn: jmsconsoleadmin  
uid: jmsconsoleadmin  
givenname: jmsconsoleadmin  
displayname: jmsconsoleadmin  
userpassword: <update your password here>  
employeeNumber:  
middleName:

orclHireDate:  
telephoneNumber:  
facsimileTelephoneNumber:  
mail: jmsconsoleadmin@example.com  
postalAddress:  
street:  
postalCode:  
title:  
employeeType:

dn: cn=ribrmsadmin, cn=Users,dc=us,dc=oracle,dc=com  
description: A user for the 'RIB Admin' role.  
objectclass: inetOrgPerson  
objectclass: organizationalPerson  
objectclass: person  
objectclass: top  
objectclass: orcluser  
objectclass: orcluserV2  
objectclass: orclIDXPerson  
cn: ribrmsadmin  
orclsamaccountname: ribrmsadmin  
sn: ribrmsadmin  
uid: ribrmsadmin  
givenname: ribrmsadmin  
displayname: ribrmsadmin  
userpassword: <update your password here>  
employeeNumber:  
middleName:  
orclHireDate:  
telephoneNumber:  
facsimileTelephoneNumber:  
mail: ribrmsadmin@example.com  
postalAddress:  
street:  
postalCode:  
title:  
employeeType:

```
dn: cn=ribrpadmin, cn=Users,dc=us,dc=oracle,dc=com
description: A user for the 'RIB Admin' role.
objectclass: inetOrgPerson
objectclass: organizationalPerson
objectclass: person
objectclass: top
objectclass: orcluser
objectclass: orcluserV2
objectclass: orclIDXPerson
cn: ribrpmadmin
orclsamaccountname: ribrpmadmin
sn: ribrpmadmin
uid: ribrpmadmin
givenname: ribrpmadmin
displayname: ribrpmadmin
userpassword: <update your password here>
employeeNumber:
middleName:
orclHireDate:
telephoneNumber:
facsimileTelephoneNumber:
mail: ribrpmadmin@example.com
postalAddress:
street:
postalCode:
title:
employeeType:
```

```
dn: cn=ribrxadmin, cn=Users,dc=us,dc=oracle,dc=com
description: A user for the 'RIB Admin' role.
objectclass: inetOrgPerson
objectclass: organizationalPerson
objectclass: person
objectclass: top
objectclass: orcluser
objectclass: orcluserV2
```

```
objectclass: orclIDXPerson
cn: ribrxmadmin
orclsamaccountname: ribrxmadmin
sn: ribrxmadmin
uid: ribrxmadmin
givenname: ribrxmadmin
displayname: ribrxmadmin
userpassword: <update your password here>
employeeNumber:
middleName:
orclHireDate:
telephoneNumber:
facsimileTelephoneNumber:
mail: ribrxmadmin@example.com
postalAddress:
street:
postalCode:
title:
employeeType:
```

```
dn: cn=ribrwmsadmin, cn=Users,dc=us,dc=oracle,dc=com
description: A user for the 'RIB Admin' role.
objectclass: inetOrgPerson
objectclass: organizationalPerson
objectclass: person
objectclass: top
objectclass: orcluser
objectclass: orcluserV2
objectclass: orclIDXPerson
cn: ribrwmsadmin
orclsamaccountname: ribrwmsadmin
sn: ribrwmsadmin
uid: ribrwmsadmin
givenname: ribrwmsadmin
displayname: ribrwmsadmin
userpassword: <update your password here>
employeeNumber:
```

middleName:  
orclHireDate:  
telephoneNumber:  
facsimileTelephoneNumber:  
mail: ribrwmsadmin@example.com  
postalAddress:  
street:  
postalCode:  
title:  
employeeType:

dn: cn=ribomsadmin, cn=Users,dc=us,dc=oracle,dc=com  
description: A user for the 'RIB Admin' role.  
objectclass: inetOrgPerson  
objectclass: organizationalPerson  
objectclass: person  
objectclass: top  
objectclass: orcluser  
objectclass: orcluserV2  
objectclass: orclIDXPerson  
cn: ribomsadmin  
orclsamaccountname: ribomsadmin  
sn: ribomsadmin  
uid: ribomsadmin  
givenname: ribomsadmin  
displayname: ribomsadmin  
userpassword: <update your password here>  
employeeNumber:  
middleName:  
orclHireDate:  
telephoneNumber:  
facsimileTelephoneNumber:  
mail: ribomsadmin@example.com  
postalAddress:  
street:  
postalCode:  
title:

employeeType:

dn: cn=ribtafradmin, cn=Users,dc=us,dc=oracle,dc=com

description: A user for the 'RIB Admin' role.

objectclass: inetOrgPerson

objectclass: organizationalPerson

objectclass: person

objectclass: top

objectclass: orcluser

objectclass: orcluserV2

objectclass: orclIDXPerson

cn: ribtafradmin

orclsamaccountname: ribtafradmin

sn: ribtafradmin

uid: ribtafradmin

givenname: ribtafradmin

displayName: ribtafradmin

userpassword: <update your password here>

employeeNumber:

middleName:

orclHireDate:

telephoneNumber:

facsimileTelephoneNumber:

mail: ribtafradmin@example.com

postalAddress:

street:

postalCode:

title:

employeeType:

dn: cn=ribaipadmin, cn=Users,dc=us,dc=oracle,dc=com

description: A user for the 'RIB Admin' role.

objectclass: inetOrgPerson

objectclass: organizationalPerson

objectclass: person

objectclass: top

objectclass: orcluser

```
objectclass: orcluserV2
objectclass: orclIDXPerson
cn: ribaipadmin
orclsamaccountname: ribaipadmin
sn: ribaipadmin
uid: ribaipadmin
givenname: ribaipadmin
displayname: ribaipadmin
userpassword: <update your password here>
employeeNumber:
middleName:
orclHireDate:
telephoneNumber:
facsimileTelephoneNumber:
mail: ribaipadmin@example.com
postalAddress:
street:
postalCode:
title:
employeeType:

dn: cn=ribsimadmin, cn=Users,dc=us,dc=oracle,dc=com
description: A user for the 'RIB Admin' role.
objectclass: inetOrgPerson
objectclass: organizationalPerson
objectclass: person
objectclass: top
objectclass: orcluser
objectclass: orcluserV2
objectclass: orclIDXPerson
cn: ribsimadmin
orclsamaccountname: ribsimadmin
sn: ribsimadmin
uid: ribsimadmin
givenname: ribsimadmin
displayname: ribsimadmin
userpassword: <update your password here>
```



employeeNumber:  
middleName:  
orclHireDate:  
telephoneNumber:  
facsimileTelephoneNumber:  
mail: ribsimadmin@example.com  
postalAddress:  
street:  
postalCode:  
title:  
employeeType:

dn: cn=ribrfmadmin, cn=Users,dc=us,dc=oracle,dc=com  
description: A user for the 'RIB Admin' role.  
objectclass: inetOrgPerson  
objectclass: organizationalPerson  
objectclass: person  
objectclass: top  
objectclass: orcluser  
objectclass: orcluserV2  
objectclass: orclIDXPerson  
cn: ribrfmadmin  
orclsamaccountname: ribrfmadmin  
sn: ribrfmadmin  
uid: ribrfmadmin  
givenname: ribrfmadmin  
displayname: ribrfmadmin  
userpassword: <update your password here>  
employeeNumber:  
middleName:  
orclHireDate:  
telephoneNumber:  
facsimileTelephoneNumber:  
mail: ribrfmadmin@example.com  
postalAddress:  
street:  
postalCode:

```
title:
employeeType:

dn: cn=integrationuser, cn=Users,dc=us,dc=oracle,dc=com
description: A user for the 'Integration' role.
objectclass: inetOrgPerson
objectclass: organizationalPerson
objectclass: person
objectclass: top
objectclass: orcluser
objectclass: orcluserV2
objectclass: orclIDXPerson
cn: integrationuser
orclsamaccountname: integrationuser
sn: integrationuser
uid: integrationuser
givenname: integrationuser
displayname: integrationuser
userpassword: <update your password here>
employeeNumber:
middleName:
orclHireDate:
telephoneNumber:
facsimileTelephoneNumber:
mail: integrationuser@example.com
postalAddress:
street:
postalCode:
title:
employeeType:

dn: cn=rihaadmin, cn=Users,dc=us,dc=oracle,dc=com
description: A user for the 'RIHA Admin' role.
objectclass: inetOrgPerson
objectclass: organizationalPerson
objectclass: person
objectclass: top
```

```
objectclass: orcluser
objectclass: orcluserV2
objectclass: orclIDXPerson
cn: rihaadmin
orclsamaccountname: rihaadmin
sn: rihaadmin
uid: rihaadmin
givenname: rihaadmin
displayname: rihaadmin
userpassword: <update your password here>
employeeNumber:
middleName:
orclHireDate:
telephoneNumber:
facsimileTelephoneNumber:
mail: rihaadmin@example.com
postalAddress:
street:
postalCode:
title:
employeeType:

dn: cn=ricadmin, cn=Users, dc=us, dc=oracle, dc=com
description: A user for the 'RIC Admin' role.
objectclass: inetOrgPerson
objectclass: organizationalPerson
objectclass: person
objectclass: top
objectclass: orcluser
objectclass: orcluserV2
objectclass: orclIDXPerson
cn: ricadmin
orclsamaccountname: ricadmin
sn: ricadmin
uid: ricadmin
givenname: ricadmin
displayname: ricadmin
```

userpassword: <update your password here>  
employeeNumber:  
middleName:  
orclHireDate:  
telephoneNumber:  
facsimileTelephoneNumber:  
mail: ricadmin@example.com  
postalAddress:  
street:  
postalCode:  
title:  
employeeType:

dn: cn=rseadmin, cn=Users,dc=us,dc=oracle,dc=com  
description: A user for the 'RSE Admin' role.  
objectclass: inetOrgPerson  
objectclass: organizationalPerson  
objectclass: person  
objectclass: top  
objectclass: orcluser  
objectclass: orcluserV2  
objectclass: orclIDXPerson  
cn: rseadmin  
orclsamaccountname: rseadmin  
sn: rseadmin  
uid: rseadmin  
givenname: rseadmin  
displayname: rseadmin  
userpassword: <update your password here>  
employeeNumber:  
middleName:  
orclHireDate:  
telephoneNumber:  
facsimileTelephoneNumber:  
mail: rseadmin@example.com  
postalAddress:  
street:

```
postalCode:
title:
employeeType:

dn: cn=rfiadmin, cn=Users,dc=us,dc=oracle,dc=com
description: A user for the 'RFI Admin' role.
objectclass: inetOrgPerson
objectclass: organizationalPerson
objectclass: person
objectclass: top
objectclass: orcluser
objectclass: orcluserV2
objectclass: orclIDXPerson
cn: rfiadmin
orclsamaccountname: rfiadmin
sn: rfiadmin
uid: rfiadmin
givenname: rfiadmin
displayname: rfiadmin
userpassword: <update your password here>
employeeNumber:
middleName:
orclHireDate:
telephoneNumber:
facsimileTelephoneNumber:
mail: rfiadmin@example.com
postalAddress:
street:
postalCode:
title:
employeeType:
```

**Groups**

New Delete Showing 11 to 20 of 21 Previous | Next

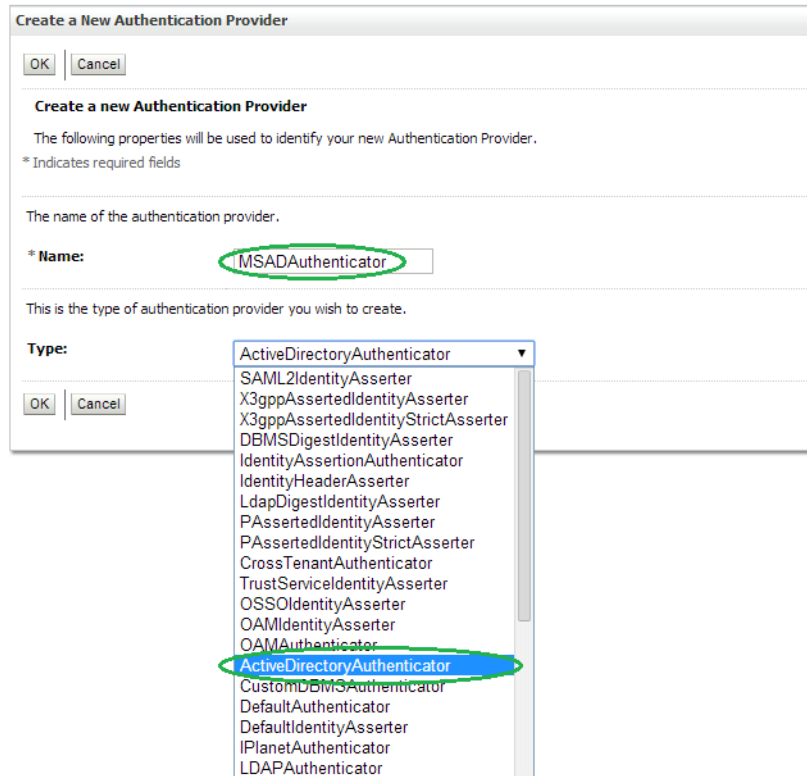
| Name                 | Description   | Provider             |
|----------------------|---|----------------------|
| IntegrationMonitors  | IntegrationMonitors have read-only access to all AquaLogic Service Bus resources  | DefaultAuthenticator |
| IntegrationOperators | IntegrationOperators have access to the following operations: 1) read all AquaLogic Service Bus resources, 2) view, create, update and delete alert rules, and 3) session management including create, commit, discard and undo of sessions | DefaultAuthenticator |
| Monitors             | Monitors can view and modify all resource attributes and perform operations not restricted by roles.  | DefaultAuthenticator |
| OCS_PORTAL_USERS     | Group of users for whom the Oracle Collaboration Suite home page is the default page.   | OIDAuthentication    |
| Operators            | Operators can view and modify all resource attributes and perform server lifecycle operations.  | DefaultAuthenticator |
| OracleSystemGroup    | Oracle application software system group.   | DefaultAuthenticator |
| ribAdminGroup        | RIB Admin Group   | OIDAuthentication    |
| RihaAdminGroup       | RIHA Admin Group  | OIDAuthentication    |
| RsbAdminGroup        | RSB Admin Group   | OIDAuthentication    |
| RseAdminGroup        | RSE Admin Group   | OIDAuthentication    |

New Delete Showing 11 to 20 of 21 Previous | Next

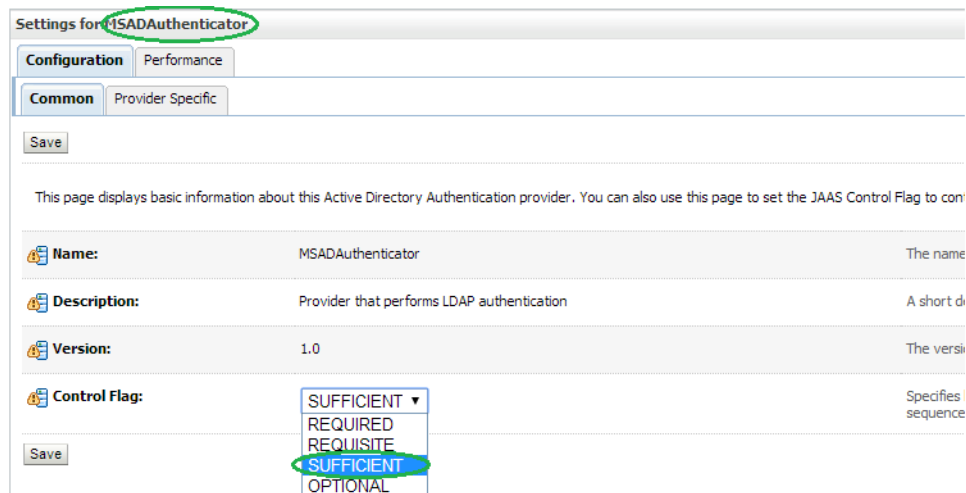
## Configuring Active Directory (AD) as an Authentication Provider in WebLogic

To configure the AD as an authentication provider in WebLogic, take the following steps:

1. Login to **WebLogic Console** -> **Security Realm** -> **myrealm**.
2. Select tab **Providers** -> **Authentication** -> **Default Provider (DefaultAuthenticator)**.
3. Change the **Control Flag (JAAS Flag)** from **REQUIRED** to **SUFFICIENT** and click **Save**.
4. Click **New** to add a new Authentication Provider.
5. Enter **MSADAuthenticator** as the **Name**. Select **ActiveDirectoryAuthenticator** as the **Type** and click **OK**.



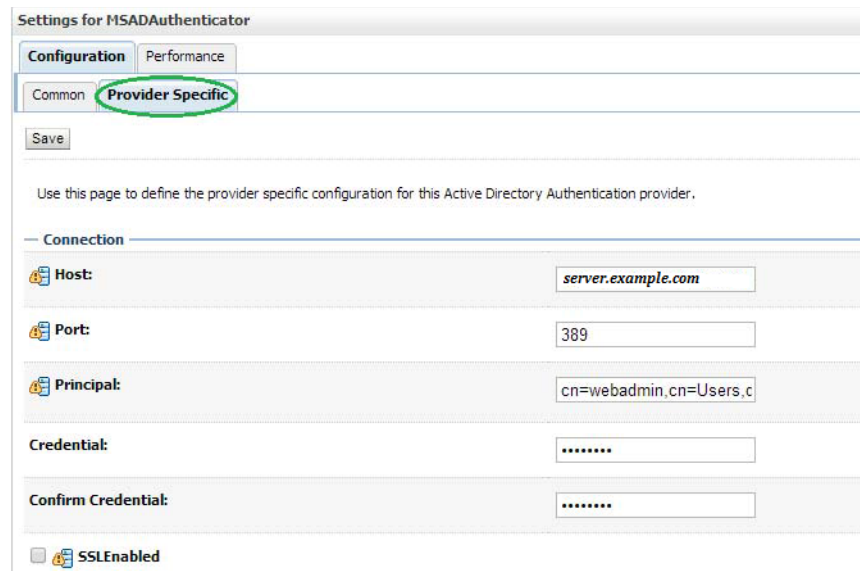
6. Change the **Control Flag** to SUFFICIENT for the MSADAuthenticator Provider added and click **Save**.



7. Select **Provider Specific** tab and enter the Active Directory (AD) server details.
  - a. The first section contains the Connection settings for the AD server. Use appropriate values based on where AD is hosted and the credentials:

| Name  | Value              | Purpose                        |
|-------|--------------------|--------------------------------|
| Host: | server.example.com | The AD host name               |
| Port: | 389                | The standard AD listening port |

| Name                 | Value                                       | Purpose   |
|----------------------|---|---|
| Principal:           | cn=webadmin,cn=Users,dc=us,dc=oracle,dc=com | The LDAP user that logs into AD on behalf of your authentication provider |
| Credentials:         |   | Password for the principal user   |
| Confirm Credentials: |   | Confirmation of the password  |
| SSL Enabled:         | Unchecked                                   | Enables or disables SSL connectivity                                      |



- b. The second section contains the Users settings for the AD provider. Use appropriate values:

| Name                                  | Value                           | Purpose   |
|---------------------------------------|---------------------------------|---|
| User Base DN:                         | cn=Users,dc=us,dc=oracle,dc=com | The root (base DN) of the LDAP tree where searches are performed for user data                            |
| All Users Filter:                     | (&(cn=*)(objectclass=person))   | The LDAP search filter that is used to show all the users below the User Base DN                          |
| User From Name Filter:                | (&(cn=%u)(objectclass=user))    | The LDAP search filter used to find the LDAP user by name   |
| User Search Scope:                    | Leave as default                | Specifies how deep in the LDAP tree to search for users   |
| User Name Attribute:                  | Leave as default                | The attribute of the LDAP user that specifies the user name   |
| User Object Class:                    | Leave as default                | The LDAP object class that stores users   |
| Use Retrieved User Name as Principal: | Unchecked                       | Specifies if the user name retrieved from the LDAP directory will be used as the Principal in the Subject |



**Users**

**User Base DN:**

**All Users Filter:**

**User From Name Filter:**

**User Search Scope:**

**User Name Attribute:**

**User Object Class:**

**Use Retrieved User Name as Principal**

- c. The third section contains the Groups settings for the AD provider. Use appropriate values:

| Name                               | Value                            | Purpose   |
|------------------------------------|----------------------------------|---|
| Group Base DN:                     | cn=Groups,dc=us,dc=oracle,dc=com | The root (base DN) of the LDAP tree where searches are performed for group data   |
| All Groups Filter:                 | (&(cn=*)( (objectclass=group)))  | The LDAP search filter that is used to show all the groups below the Group Base DN  |
| Group From Name Filter:            | (&(cn=%g)(objectclass=group))    | The LDAP search filter used to find the LDAP group by name  |
| Group Search Scope:                | Leave as default                 | Specifies how deep in the LDAP tree to search for groups  |
| Group Membership Searching:        | Leave as default                 | Specifies whether group searches into nested groups are limited or unlimited  |
| Max Group Membership Search Level: | Leave as default                 | Specifies how many levels of group membership can be searched. This setting is only valid if GroupMembershipSearching is set to limited |
| Ignore Duplicate Membership:       | Unchecked                        | Determines whether duplicates members are ignored when adding groups.   |

**Groups**

**Group Base DN:**

**All Groups Filter:**

**Group From Name Filter:**

**Group Search Scope:**

**Group Membership Searching:**

**Max Group Membership Search Level:**

**Ignore Duplicate Membership**

**Use Token Groups For Group Membership Lookup**

- d. Click **Save**.
- 8. Click **Reorder** to change the order of your configured authentication providers. In order to ensure that MSAD authenticator is recognized as authentication provider, you must reorder your list of authentication providers so that the MSAD authentication provider is first in the list.

**Authentication Providers**

New Delete Reorder

| <input type="checkbox"/> | Name                    | Description                                |
|--------------------------|-------------------------|--|
| <input type="checkbox"/> | DefaultAuthenticator    | WebLogic Authentication Provider           |
| <input type="checkbox"/> | DefaultIdentityAsserter | WebLogic Identity Assertion provider       |
| <input type="checkbox"/> | MSADAuthenticator       | Provider that performs LDAP authentication |

New Delete Reorder

- 9. Select the MSADAuthenticator and use the arrows on the right to move it into the first position. Click **OK**.

**Create a New Authentication Provider**

OK Cancel

**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:

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

Type:

OK Cancel

- ActiveDirectoryAuthenticator
- SAML2IdentityAsserter
- X3gppAssertedIdentityAsserter
- X3gppAssertedIdentityStrictAsserter
- DBMSDigestIdentityAsserter
- IdentityAssertionAuthenticator
- IdentityHeaderAsserter
- LdapDigestIdentityAsserter
- PAssertedIdentityAsserter
- PAssertedIdentityStrictAsserter
- CrossTenantAuthenticator
- TrustServiceIdentityAsserter
- OSSOIdentityAsserter
- OAMIdentityAsserter
- OAMAuthenticator
- ActiveDirectoryAuthenticator
- CustomDBMSAuthenticator
- DefaultAuthenticator
- DefaultIdentityAsserter
- IPlanetAuthenticator
- LDAPAuthenticator

- Click **Reorder** to change the order of your configured authentication providers. In order to ensure that MSAD authenticator is recognized as authentication provider, you must reorder your list of authentication providers so that the MSAD authentication provider is first in the list.

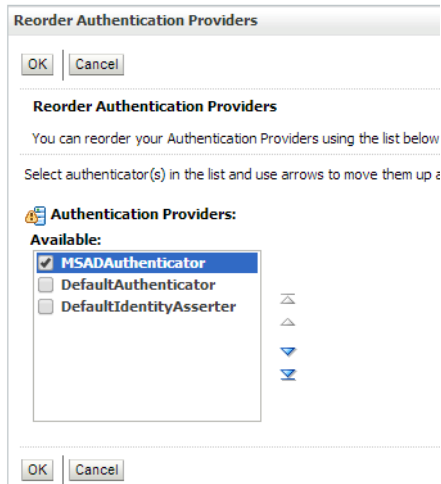
**Authentication Providers**

New Delete Reorder

| <input type="checkbox"/> | Name                    | Description                                |
|--------------------------|-------------------------|--|
| <input type="checkbox"/> | DefaultAuthenticator    | WebLogic Authentication Provider           |
| <input type="checkbox"/> | DefaultIdentityAsserter | WebLogic Identity Assertion provider       |
| <input type="checkbox"/> | MSADAuthenticator       | Provider that performs LDAP authentication |

New Delete Reorder

- Select the MSADAuthenticator and use the arrows on the right to move it into the first position. Click OK.



## Verifying the Active Directory (AD) Configuration

To verify the AD configuration, take the following steps:

1. Restart the WebLogic Server for your changes to take effect.
2. Using the WebLogic Administration Console, select **Security Realms > myrealm > Users and Groups** tab. The Users sub-tab should be selected by default. The circled users are created in AD and can verify the Provider – MSADAuthenticator provider.

Users

New Delete Showing 1 to 18 of 18 Previous | Next

| Name             | Description  | Provider             |
|------------------|--|----------------------|
| Administrator    | Built-in account for administering the computer/domain   | MSADAuthenticator    |
| agadmin          | ag admin   | MSADAuthenticator    |
| agadmin          | agadmin  | DefaultAuthenticator |
| devsrvspt        | Oracle Sys Admin Account                                 | MSADAuthenticator    |
| Guest            | Built-in account for guest access to the computer/domain | MSADAuthenticator    |
| jsituser         | jsit user  | MSADAuthenticator    |
| krbtgt           | Key Distribution Center Service Account                  | MSADAuthenticator    |
| logUser          |  | MSADAuthenticator    |
| OracleSystemUser | Oracle application software system user.                 | DefaultAuthenticator |
| ribadmin         | rib admin  | MSADAuthenticator    |
| rihauser         | riha user  | MSADAuthenticator    |
| rmsuser          |  | DefaultAuthenticator |
| rsbadmin         | rsb admin  | MSADAuthenticator    |
| rsbuser          | rsb user   | MSADAuthenticator    |
| rseadmin         | rse admin  | MSADAuthenticator    |
| user             |  | MSADAuthenticator    |
| webadmin         |  | MSADAuthenticator    |
| weblogic         | This user is the default administrator.                  | DefaultAuthenticator |

New Delete Showing 1 to 18 of 18 Previous | Next

3. Click the **Groups** tab to see the list of groups the server can see. The highlighted groups are created in AD and can verify the Provider – MSADAuthenticator provider.

Groups

| New Delete               |                       | Showing 1 to 16 of 16 Previous   Next  |                      |
|--------------------------|-----------------------|--|----------------------|
| <input type="checkbox"/> | Name ↕                | Description  | Provider             |
| <input type="checkbox"/> | AdminChannelUsers     | AdminChannelUsers can access the admin channel.  | DefaultAuthenticator |
| <input type="checkbox"/> | Administrators        | Administrators can view and modify all resource attributes and start and stop servers.               | DefaultAuthenticator |
| <input type="checkbox"/> | agAdminGroup          | ag Admin Group   | MSADAuthenticator    |
| <input type="checkbox"/> | agAdminGroup          | agAdminGroup   | DefaultAuthenticator |
| <input type="checkbox"/> | AppTesters            | AppTesters group.  | DefaultAuthenticator |
| <input type="checkbox"/> | CrossDomainConnectors | CrossDomainConnectors can make inter-domain calls from foreign domains.                              | DefaultAuthenticator |
| <input type="checkbox"/> | Deployers             | Deployers can view all resource attributes and deploy applications.                                  | DefaultAuthenticator |
|                          | logUserGroup          |  | MSADAuthenticator    |
| <input type="checkbox"/> | Monitors              | Monitors can view and modify all resource attributes and perform operations not restricted by roles. | DefaultAuthenticator |
| <input type="checkbox"/> | Operators             | Operators can view and modify all resource attributes and perform server lifecycle operations.       | DefaultAuthenticator |
| <input type="checkbox"/> | OracleSystemGroup     | Oracle application software system group.  | DefaultAuthenticator |
| <input type="checkbox"/> | ribAdminGroup         | Rib Admin Group  | MSADAuthenticator    |
| <input type="checkbox"/> | RihaAdminGroup        | Riha admin group   | DefaultAuthenticator |
| <input type="checkbox"/> | RsbAdminGroup         | Rsb Admin Group  | MSADAuthenticator    |
| <input type="checkbox"/> | rseAdminGroup         | rse Admin Group  | MSADAuthenticator    |
| <input type="checkbox"/> | rseAdminGroup         |  | DefaultAuthenticator |
| New Delete               |                       | Showing 1 to 16 of 16 Previous   Next  |                      |

