Oracle® Retail Service Backbone

Installation Guide

Release 15.0.3

F18452-01

May 2019

ORACLE®

Oracle® Retail Service Backbone Installation Guide, Release 15.0.3

F18452-01

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Contents

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Oracle® Retail Service Backbone Installation Guide, Release 15.0.3.

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- Did you find any errors in the information?
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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

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

Review Patch Documentation

When you install the application for the first time, you install either a base release (for example, 15.0) or a later patch release (for example, 15.0.3). 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.

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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:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.

Convention	Meaning
`monospace`	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

1
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 15.0.3.

2

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: ■ Install Repository Creation Utility (RCU) 12.2.1.3 ■ Create DB schema for OSB using RCU	Prerequisite
Prepare the Oracle WebLogic Servers for installation of the RSB Components: ■ Install Oracle Service Bus (OSB) on WebLogic ■ Configure OSB domain and ADF runtime (Oracle JRF-12.2.1.3.0) ■ Create Cluster	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.	

3

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	OS certified with Oracle Database 12c Enterprise Edition. Options are: ■ Oracle Linux 6 or 7 for x86-64 (Actual hardware or Oracle virtual machine). ■ Red Hat Enterprise Linux 6 or 7 for x86-64 (actual hardware or Oracle virtual machine) ■ IBM AIX 7.1 (actual hardware or LPARs) ■ Solaris 11.3 Sparc (actual hardware or logical domains) ■ HP-UX Itanium 11.31 Integrity (Actual hardware, HPVM, or vPars)

Database Server 12c	Oracle Database Enterprise Edition 12c (12.1.0.2) with the following specifications: **Components:** ■ Enterprise Edition ■ Examples CD (formerly the companion CD) **Oneoff Patches:** ■ 20846438: ORA-600 [KKPAPXFORMFKK2KEY_1] WITH LIST PARTITION ■ Patch 19623450: MISSING JAVA CLASSES AFTER UPGRADE TO JDK 7 ■ 20406840: PROC 12.1.0.2 THROWS ORA-600 [17998] WHEN PRECOMPILING BY 'OTHER' USER **Other Components:** ■ Perl interpreter 5.0 or later ■ X-Windows interface ■ JDK 1.7 with latest security updates 64 bit
Application Server OS	OS certified with Oracle Fusion Middleware 12c. Options are: ■ Oracle Linux 6 or 7 for x86-64 (Actual hardware or Oracle virtual machine). ■ Red Hat Enterprise Linux 6 or 7 for x86-64 (actual hardware or Oracle virtual machine) ■ IBM AIX 7.1 (actual hardware or LPARs) ■ Solaris 11 Sparc (actual hardware or logical domains) ■ HP-UX Itanium 11.31 Integrity (Actual hardware, HPVM, or vPars)
Application Server	Oracle Fusion Middleware 12c (12.2.1.3) **Components:** ■ Oracle WebLogic Server 12c (12.2.1.3) ■ Java: JDK 1.8.0+ latest security updates 64 bit
Minimum required JAVA version for all operating systems	JDK 1.8.0+ latest security updates 64 bit

Note: By default, JDK is at 1.6. After installing the 12.1.0.2 binary, apply patch 19623450. Follow the instructions on *Oracle Database Java Developer's Guide 12c Release 1* to upgrade JDK to 1.7. The Guide is available at:

http://docs.oracle.com/database/121/JJDEV/chone.htm#JJDEV01000.

Follow-through to complete the post-patch operation.

Important: If there is an existing WebLogic installation on the server, you must upgrade to WebLogic 12.2.1.3. All middleware components associated with WebLogic server should be upgraded to 12.2.1.3.

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 12.2.1.3 or higher is available in the WebLogic Application Server (12.2.1.3) and applied to the domain where RIC will be installed.

Other Resources

For information about WebLogic Application Server 12.2.1.3, see the Oracle WebLogic Server Documentation Library.

- WebLogic Application Server 12c - Index
  http://docs.oracle.com/middleware/1213/index.html
- WebLogic Application Server 12c - Documents
  http://docs.oracle.com/middleware/1213/wls/index.html.

Note: See also the Oracle Database Administrator's Guide 12c (12.1) and the Oracle WebLogic Application Server 12c (12.2.1.3) documentation.

Additional Requirement for Installing JSIT

JSIT requires WebLogic Application Server 12c (12.2.1.3). Before installing JSIT, verify that the WebLogic Application Server 12c (12.2.1.3) 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) 15.0.3	RIB 15.0.3
Oracle Retail Merchandising System (RMS) 15.0.3	RIB 15.0.3
Oracle Retail Price Management (RPM) 15.0.3	RIB 15.0.3
Oracle Retail Store Inventory Management (SIM) 15.0.3	RIB 15.0.3
Oracle Retail Advanced Inventory Planning (AIP) 15.0.3	RIB 15.0.3
Integration Gateway Services (IGS) 15.0.3	RSB 15.0.3

Oracle Retail Financial Integration (ORFI) 15.0.3	RSB 15.0.3
Oracle Retail Returns Management (RM) 14.1	RSB 15.0.3
Oracle Retail Invoice Matching (ReIM) 15.0.3	RSB 15.0.3
POS Suite 14.1	RSB 15.0.3
Rib4OMS 15.0.3	RSB 15.0.3

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.

4

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 RSB applications.

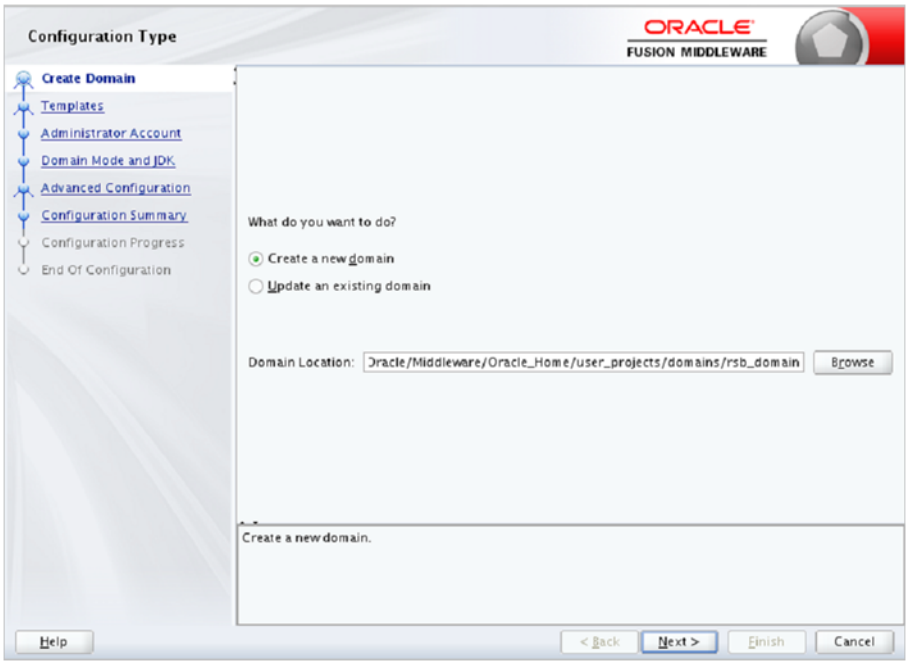
Steps for Configuring OSB Domain

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:

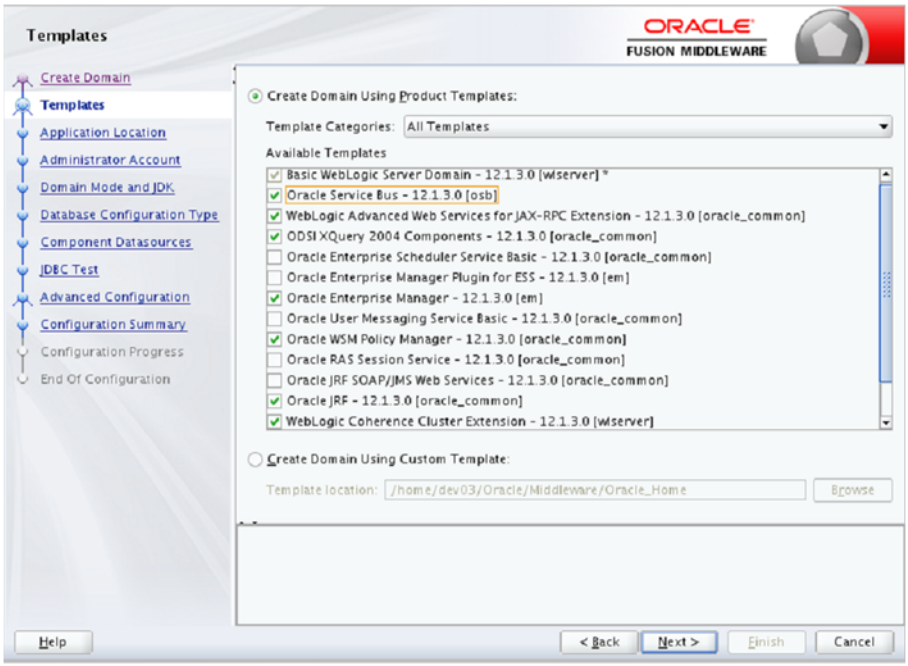
- One Admin Server
- Three Managed Servers: *rsb_server1*, *rsb_server2* and *rsb_http_proxy*.
- Cluster: The cluster consists of rsb_server1 and rsb_server2 as managed servers. OSB features are deployed on this cluster. Also, rsb_server1 hosts the singleton resources of OSB.
- Managed server *rsb_http_proxy* 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:

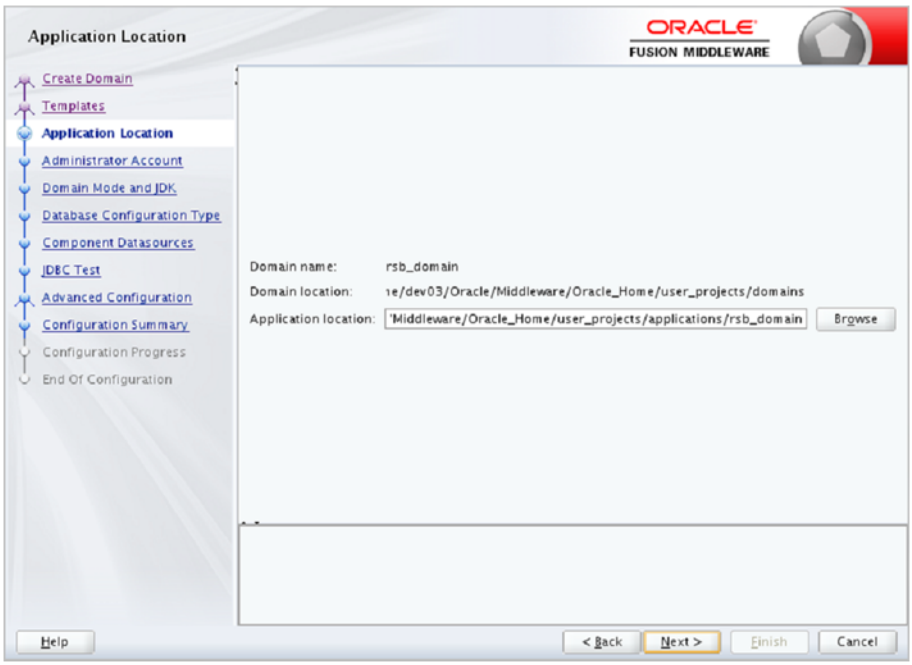
1. Run <WLS_HOME>/wlsserver/common/bin/config.sh.
2. Select **Create a new Domain**. Click **Next**.



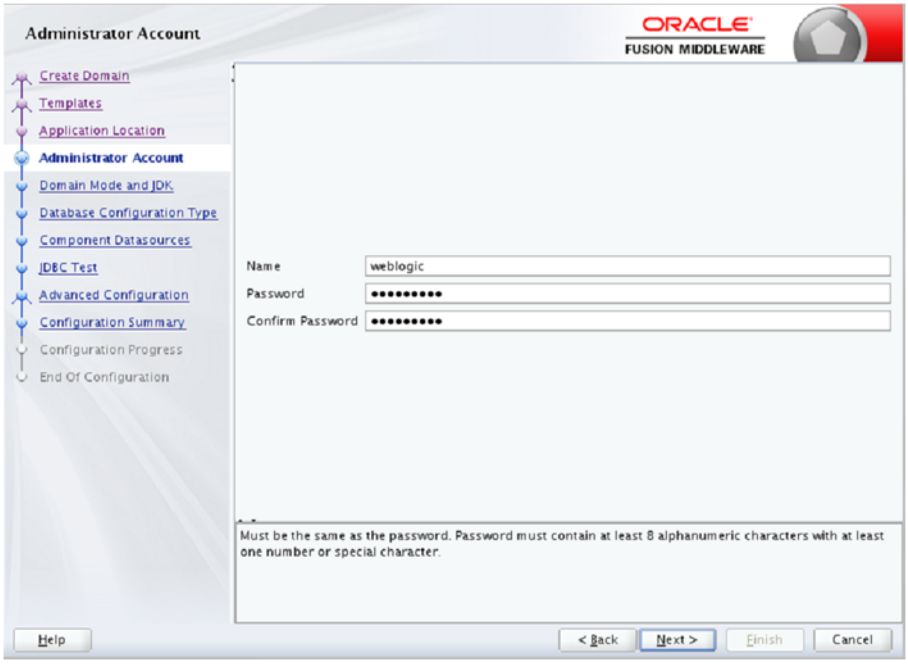
3. Select Oracle Service Bus -12.2.1.3 [osb] option as shown, this will select other required options for OSB like EM, OWSM, JRF etc. Click **Next**.



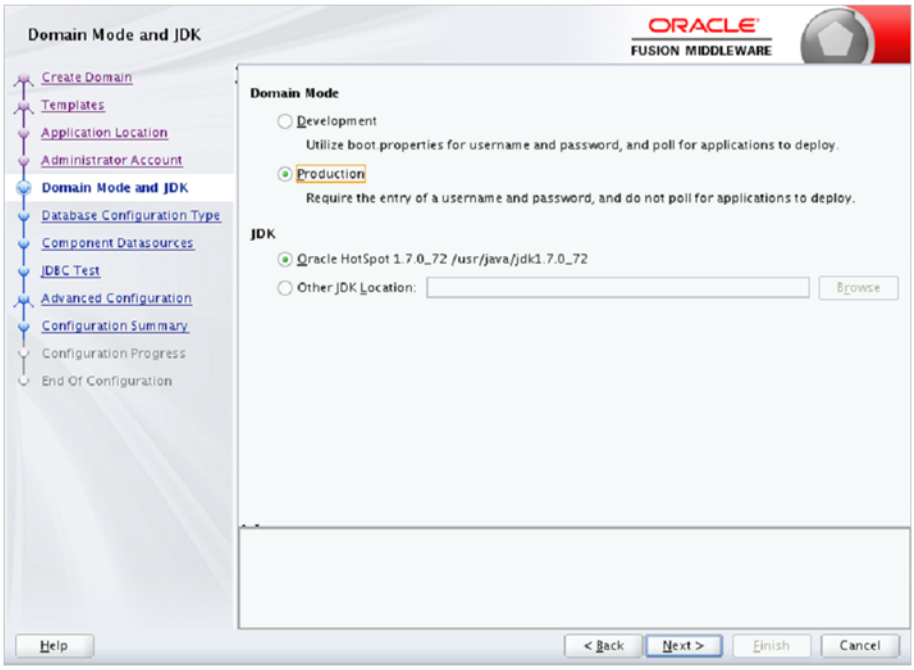
4. Select Application Location and click **Next**.



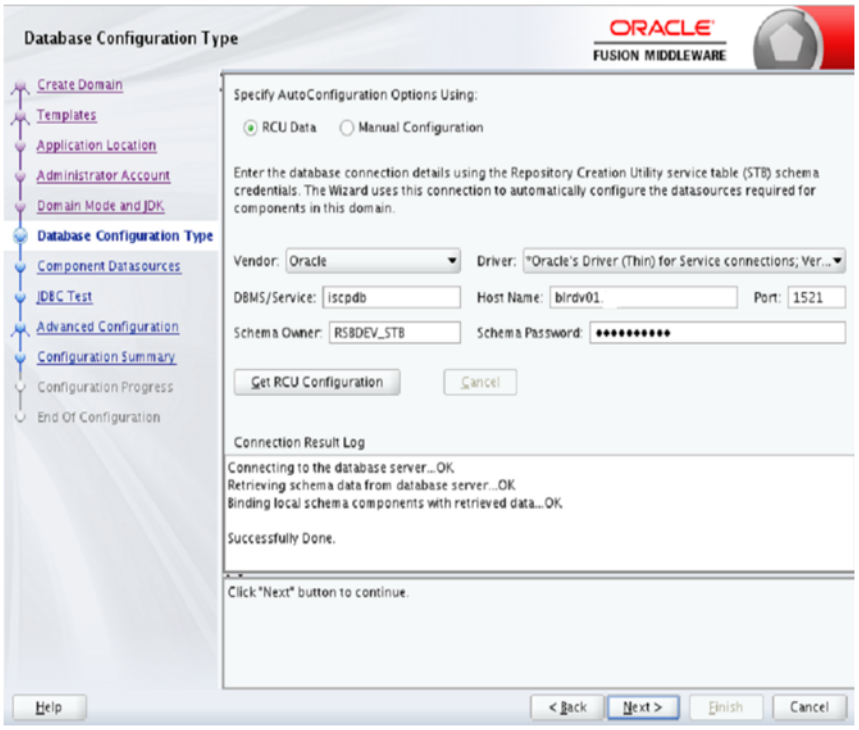
5. Enter **Name** (Username) and **User password** for the domain. Please note down the username and password. These are required again in the compilation phase of RSB.



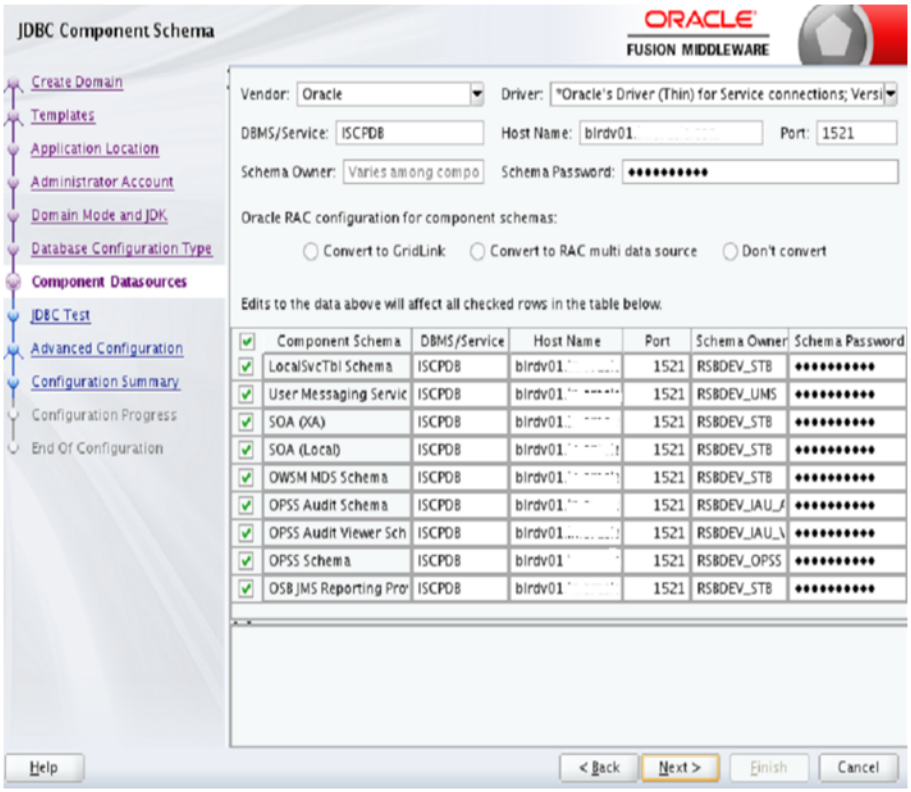
6. Select domain mode option as production and point to latest jdk location. Click **Next**.



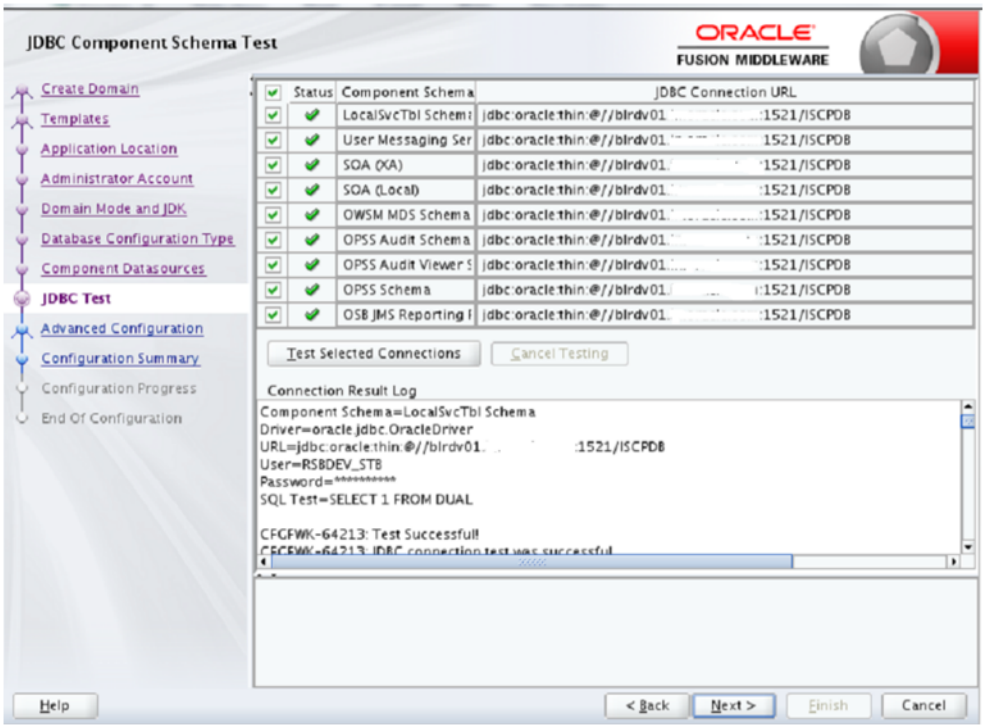
7. Select RCU Data option and enter database details like driver, hostname, service, port, schema owner and password. The schema must be created already using the RCU tool. Then click on Get RCU Configuration button to get the RCU data for RSB. If connection result logs are OK, then click Next.



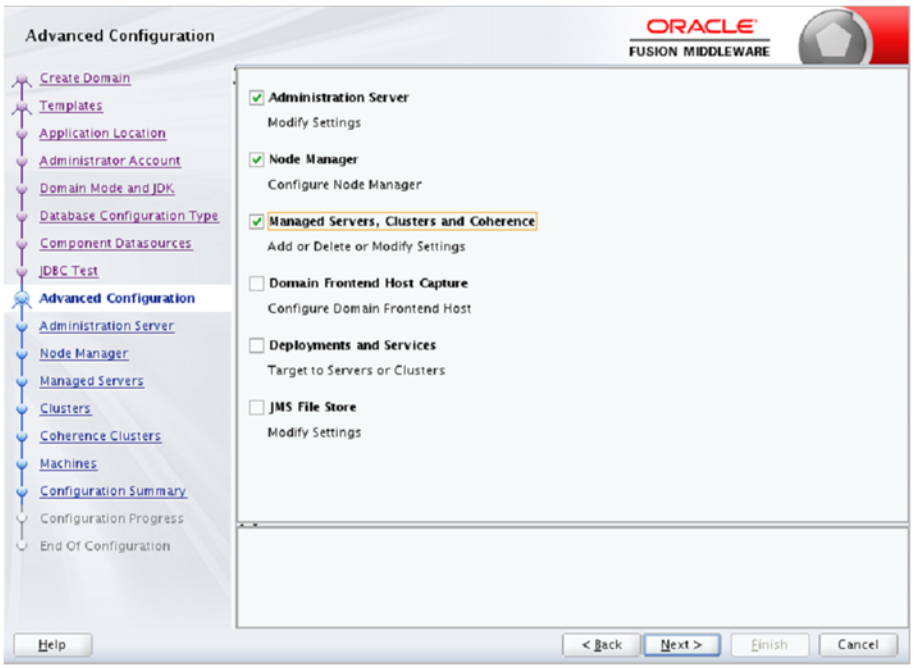
8. This screen shows all RCU schemas for RSB. Select all schemas by clicking on Component Schema Label and click **Next**.



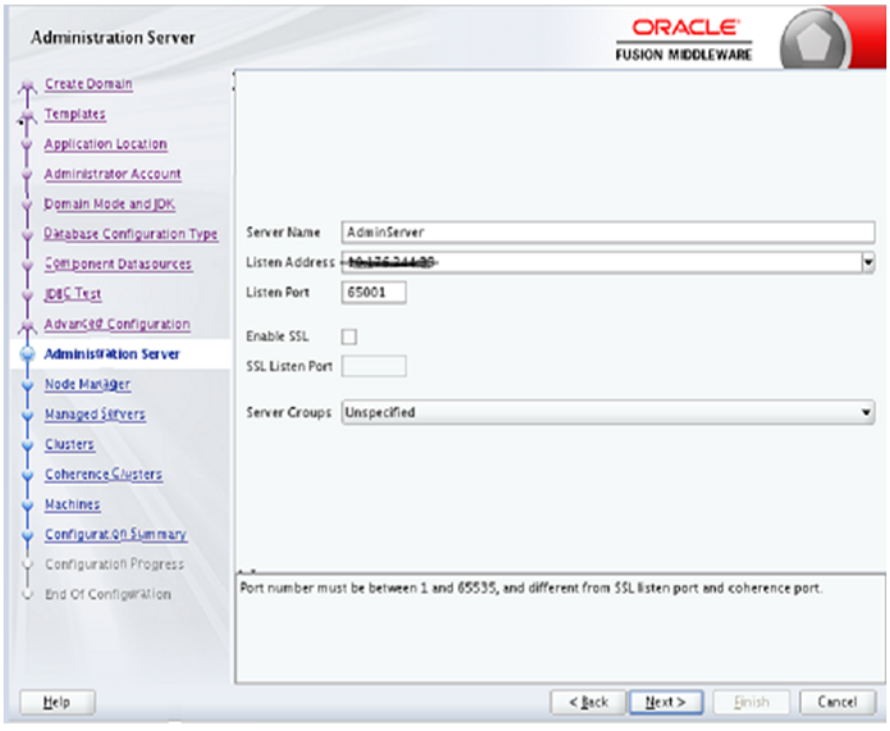
9. Here all the schemas will be tested and corresponding data sources will be created in domain. When all statuses are green, click **Next**.



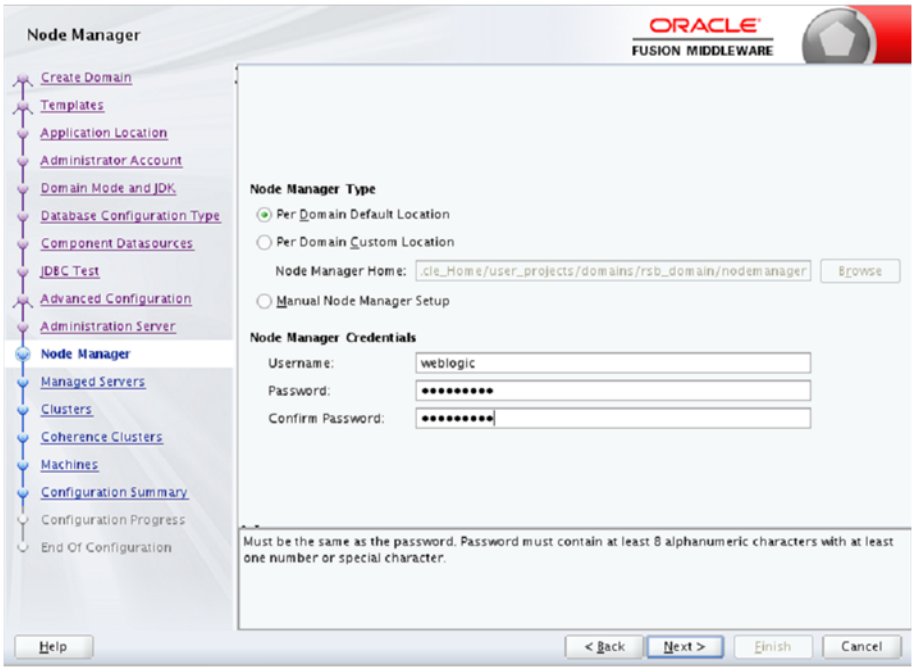
10. Select the options for creating AdminServer, Node Manager, Managed Servers and Cluster. Click **Next**.



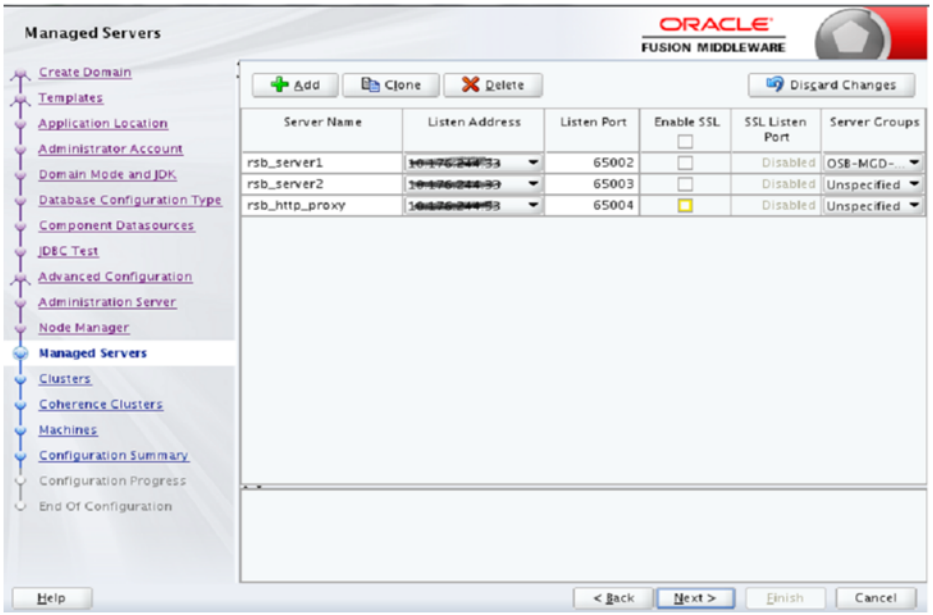
11. Enter Admin Server details, Listen address will be IP address and enter valid Listen port. If you are using SSL, you can enable SSL in this step and specify the SSL port.



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



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.

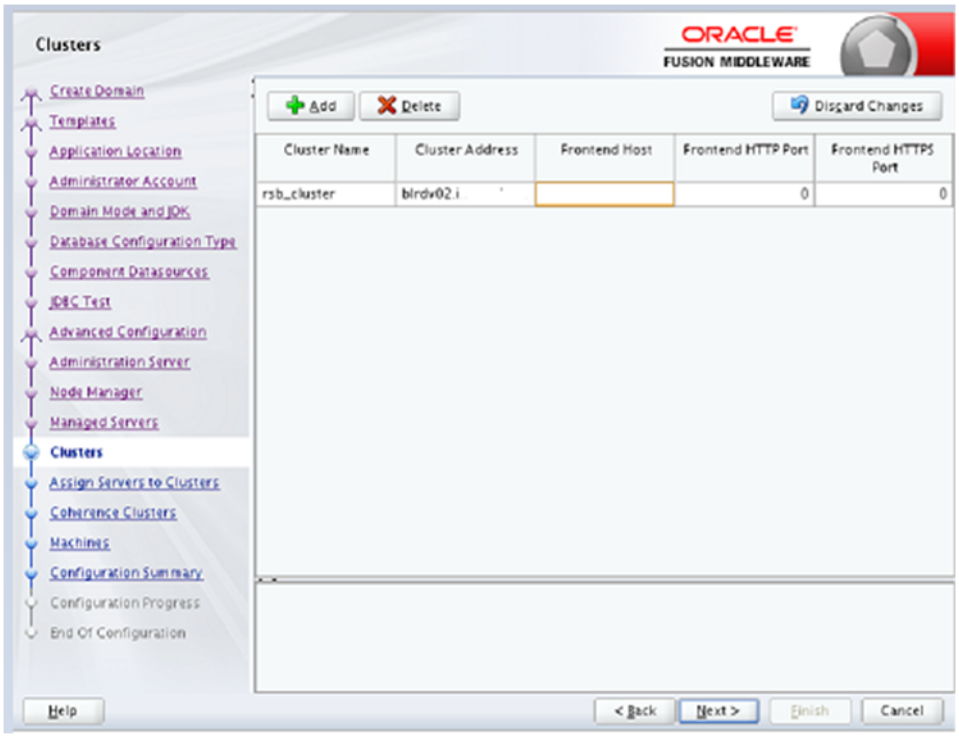


Note: Oracle recommends to disable SSLv3 in all products. We recommend to use TLSv1.2 protocol. WebLogic server can be configured to use TLSv1.2 protocol by adding the following line in the setDomainEnv.sh. Restart the server after making the change.

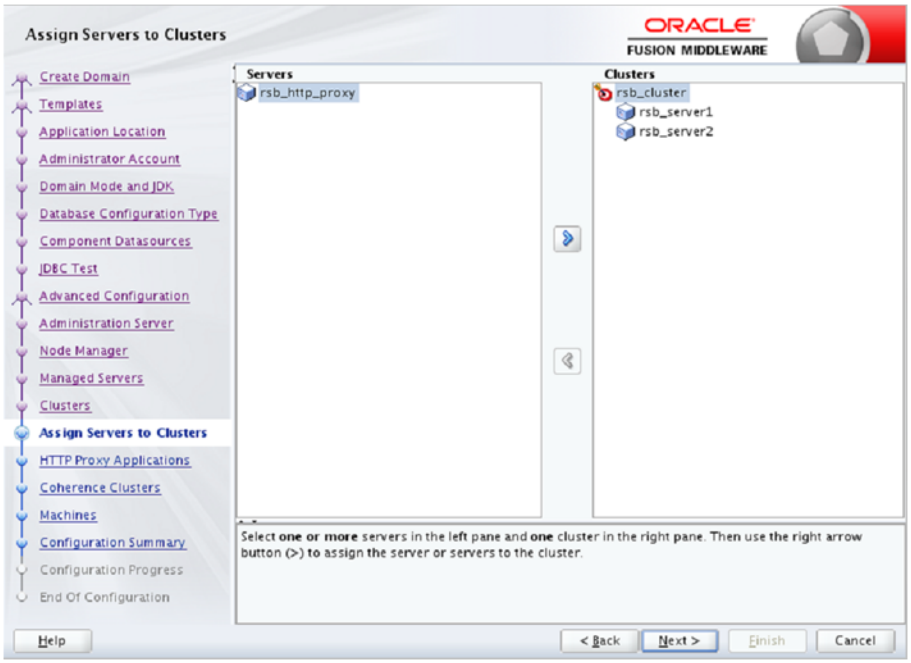
JAVA_OPTIONS=" $JAVA_OPTIONS
-DwebLogic.security.SSL.minimumProtocolVersion=TLSv1.2"

---

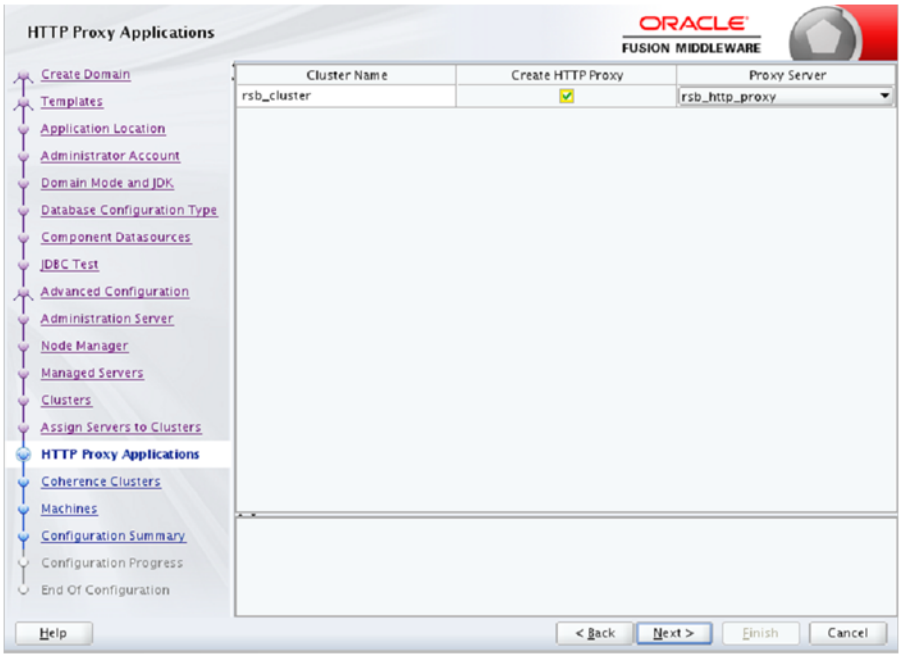
14. Enter the cluster name.



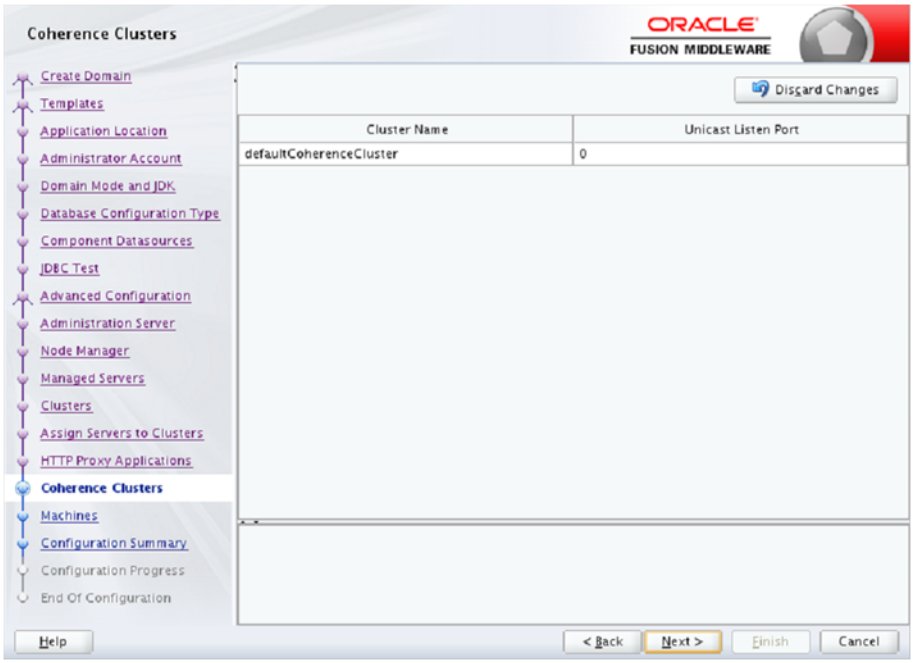
15. Add managed servers to the cluster. Notice that the proxy server, rsb_http_proxy, is not added to the cluster because we need that server as the HTTP proxy of the cluster.



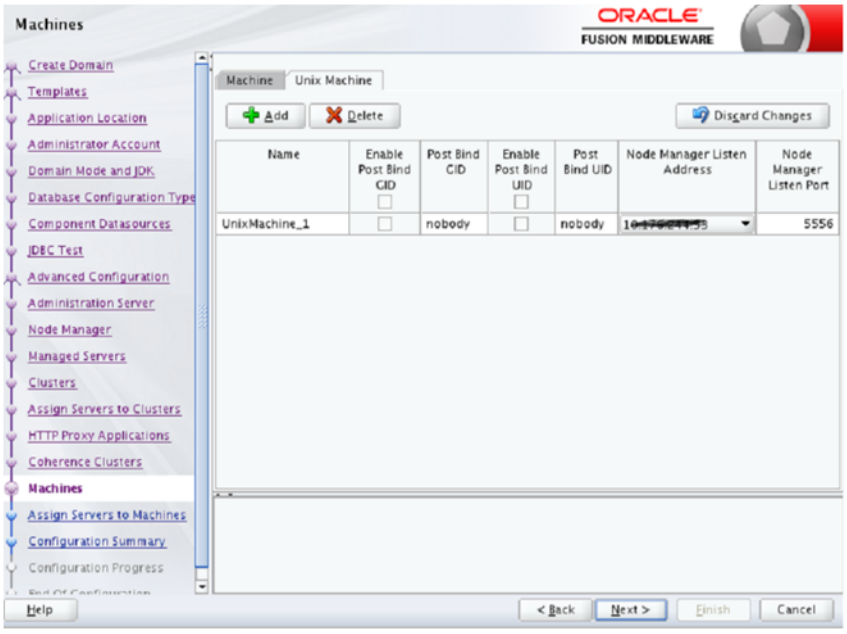
16. Enter HTTP Proxy details.



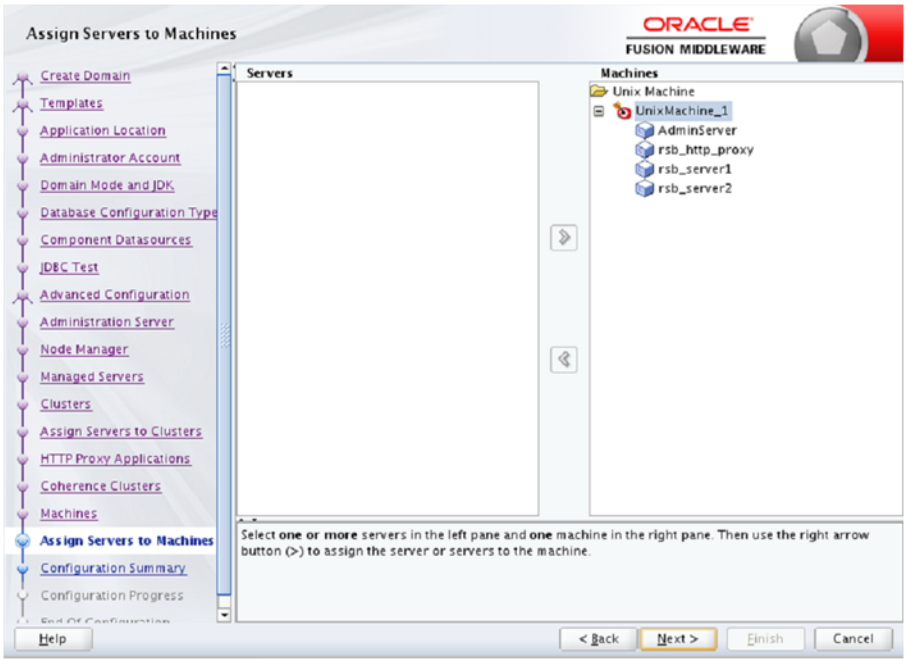
17. Do not modify coherence cluster details keep it as is and Click **Next**.



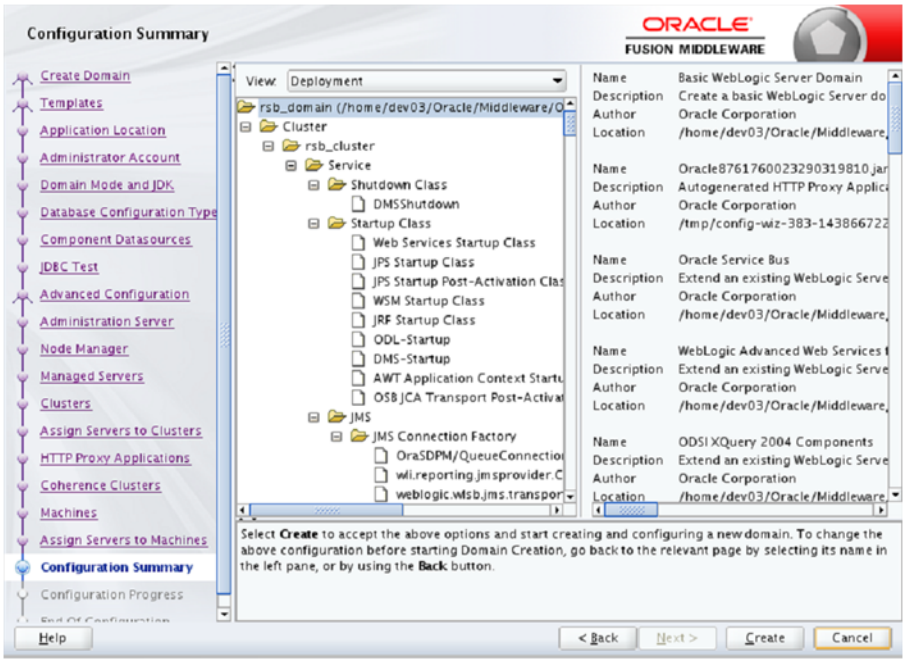
18. Configure Machine details. Click **Unix Machine** and specify the Name, Node Manager hostname and port. Click **Next**.



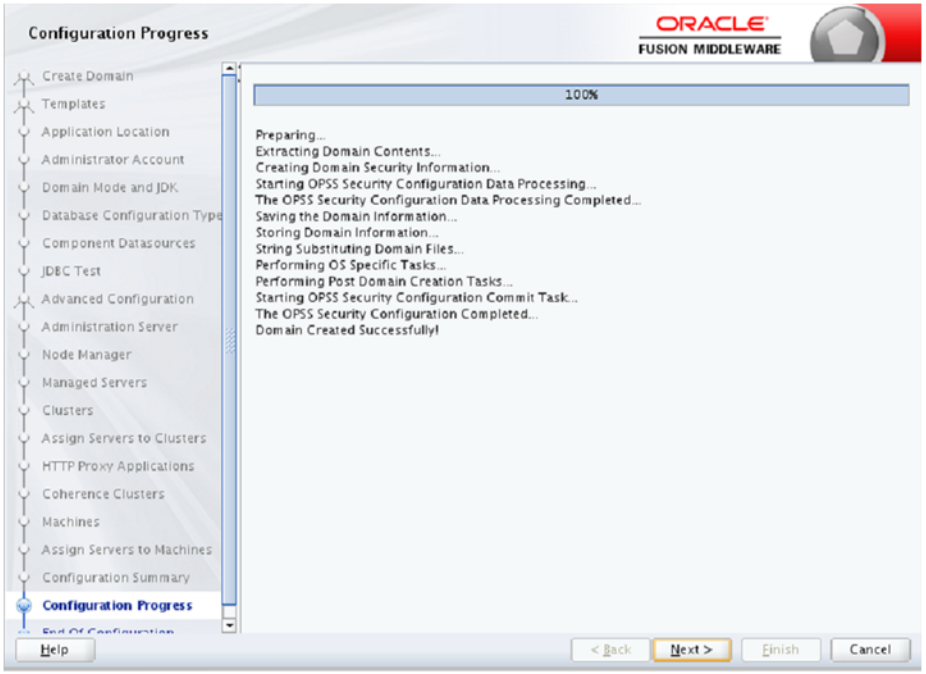
19. Add servers to the machine. Add all the servers.



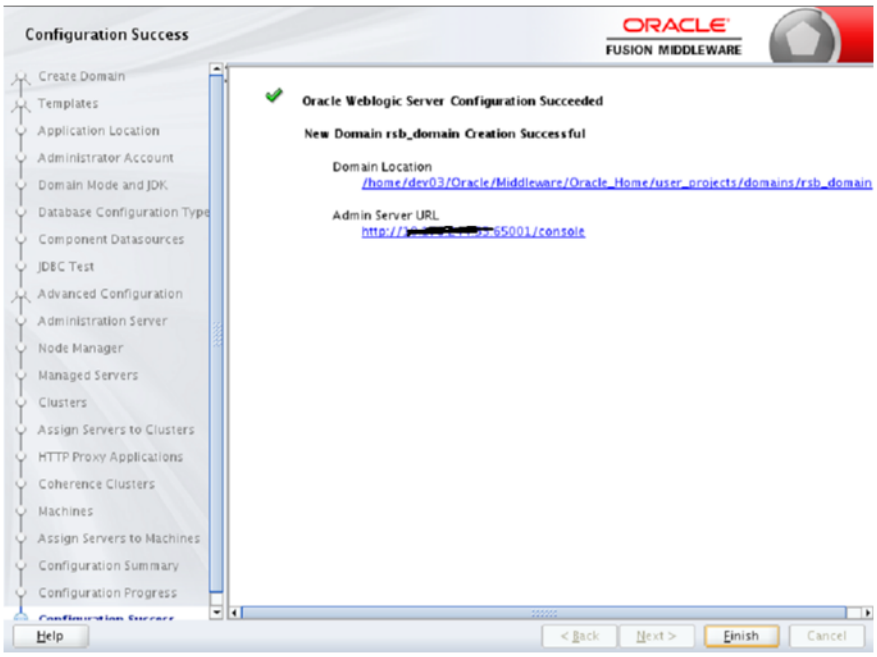
20. From the Configuration Summary page, click **Create**.



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>/wlserver/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 "credstoressp.credstore", "read,write,update,delete";

    permission oracle.security.jps.service.credstore.CredentialAccessPermission "credstoressp.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
    ```

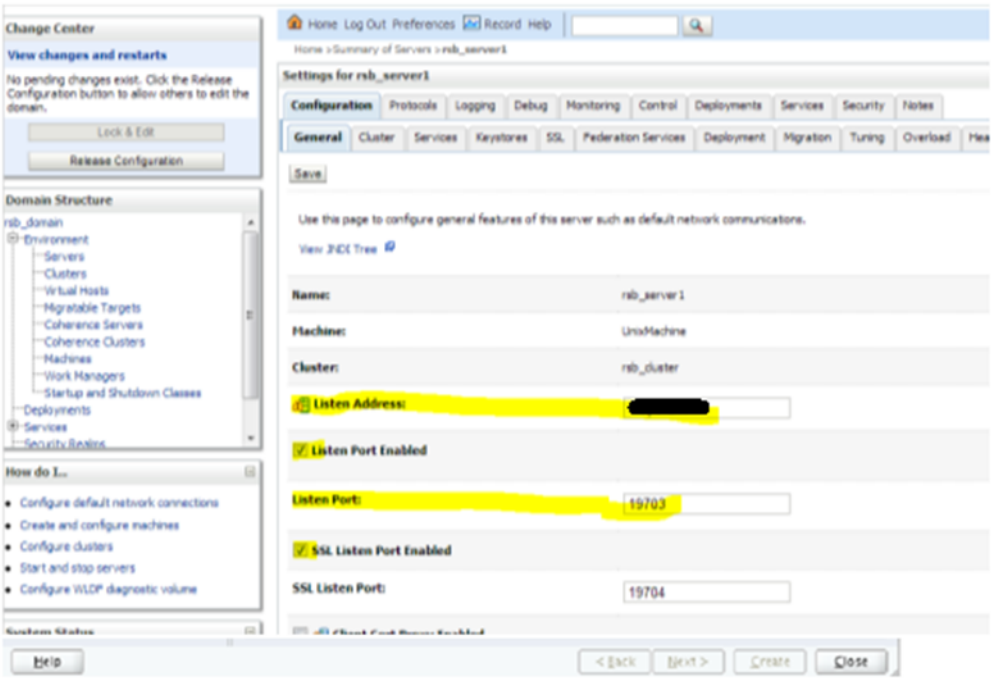
HTTPS Configuration for WebLogic Server

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

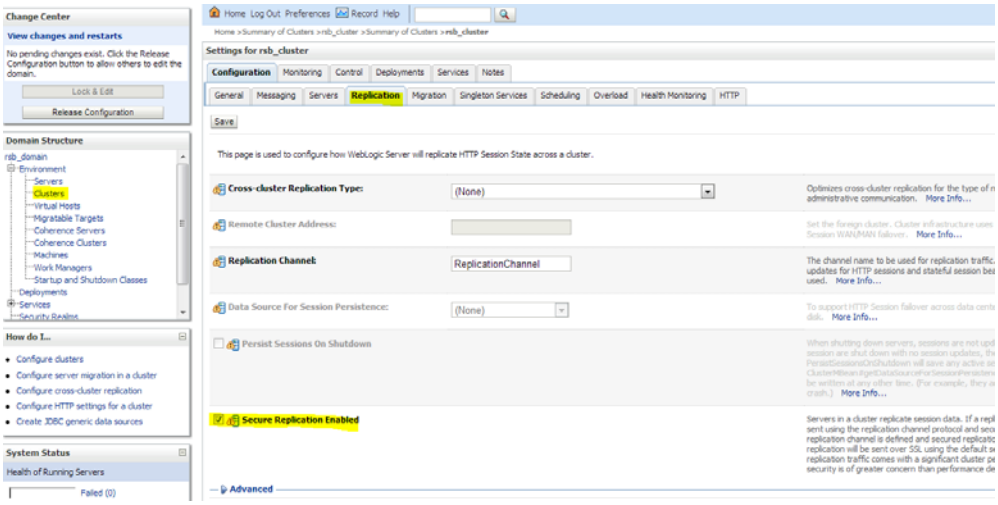
Note: For additional information on configuring Policy A or Policy B, see the *Oracle Retail Service Backbone Security Guide*.

---

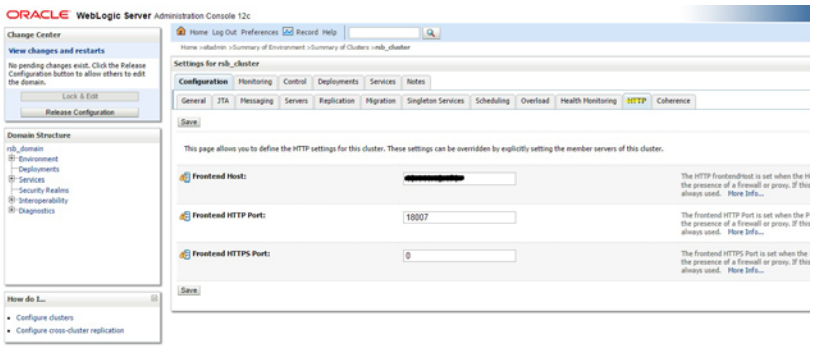
1. Enable https port for AdminServer, Http Proxy Server and all managed servers. Specify the **Listen Address**. The **Listen Address** must match the CN entry of the server certificate. Sometimes the CN entry of the server certificate is the fully qualified name (for example, rsbhost.example.com) instead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



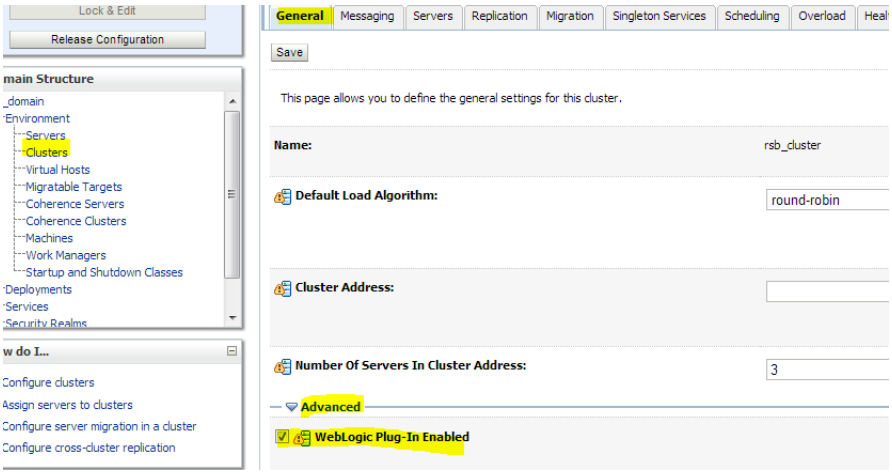
2. Enable secure replication. Enable the Secure Replication Enabled option available in **Environment** --> **Clusters** --> <cluster name> --> **Configuration** --> **Replication**



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.



5

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/1213/core/RCUUG/toc.htm

RCU is available with the Oracle Fusion Middleware Infrastructure distribution in 12c (12.2.1.3).

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.

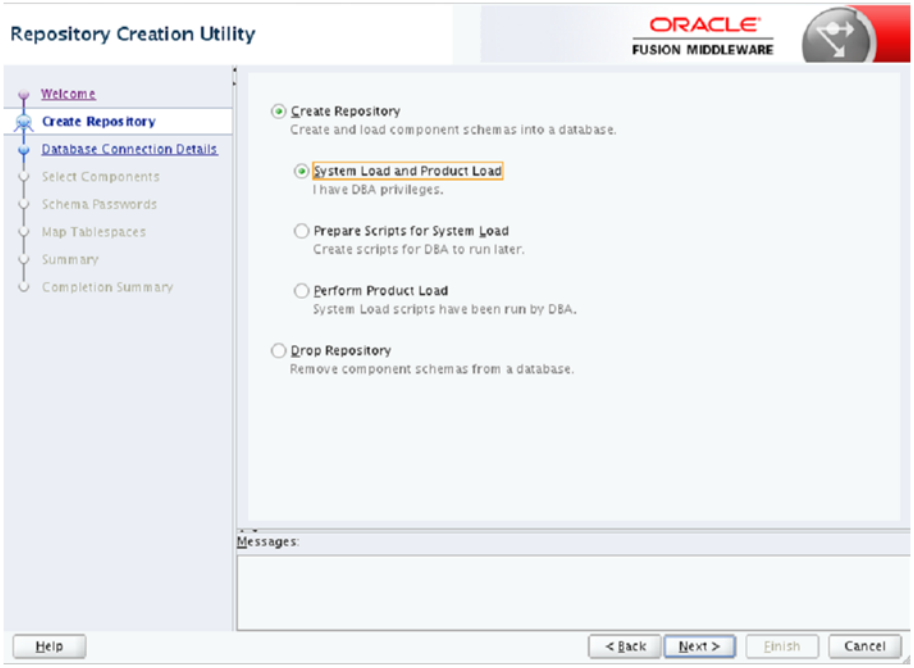
Steps for Creating Database Schema using RCU

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

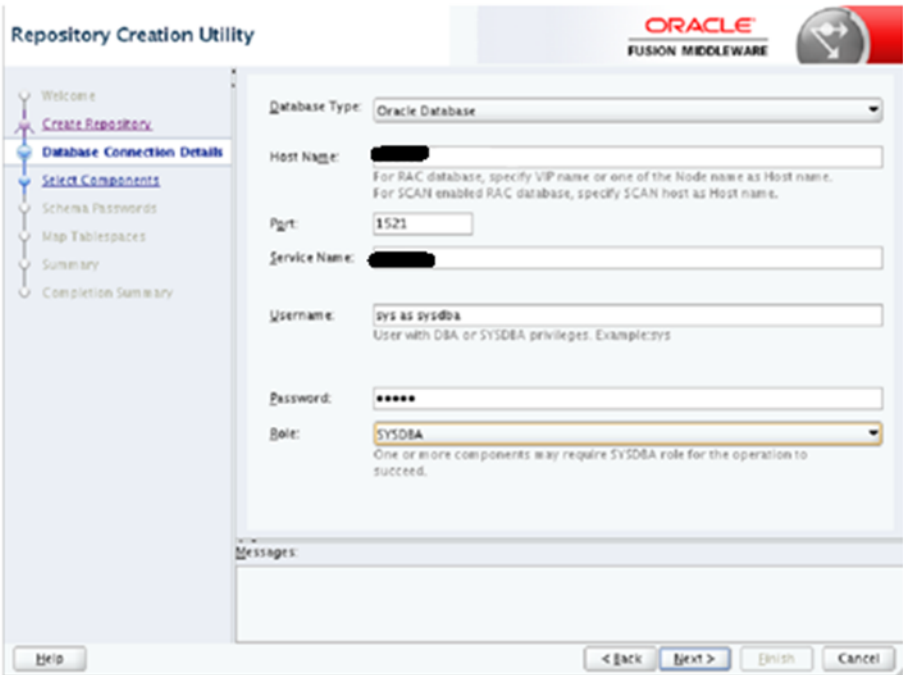
   ```
   cd <wlsHome>/Oracle_Home/oracle_common/bin
   rcu
   ```

   The Welcome page appears.

2. Click **Next** to continue.



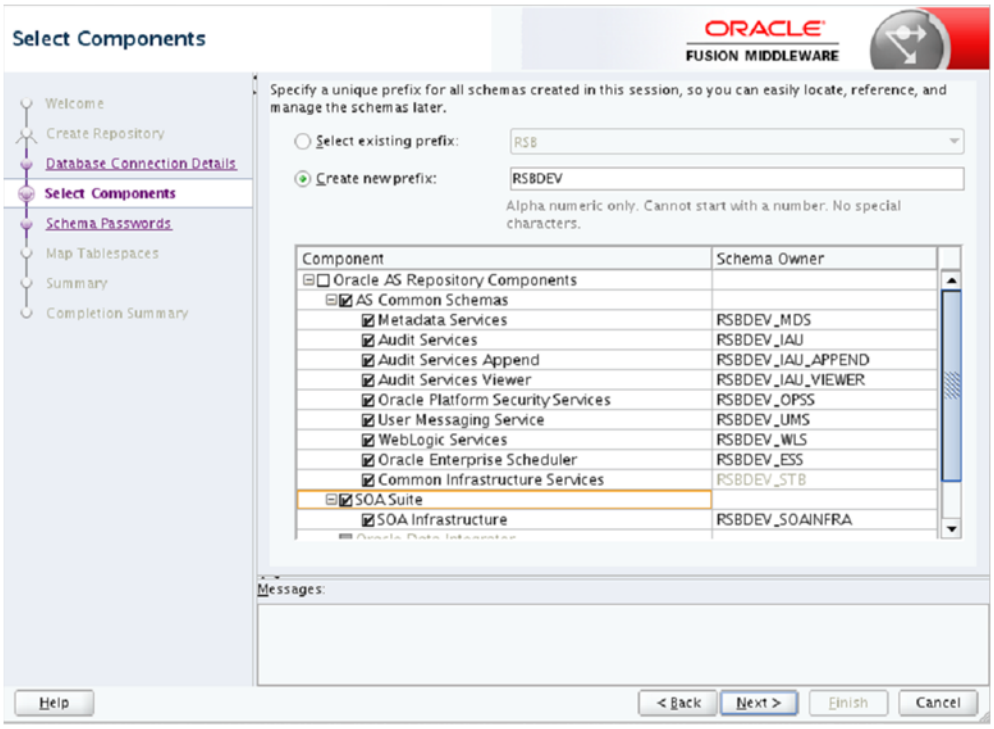
3. In Repository Creation Utility window, select Create Repository option and System Load and Product Load. Click **Next**.



4. In Database Connection Details window, provide database details and click **Next**.

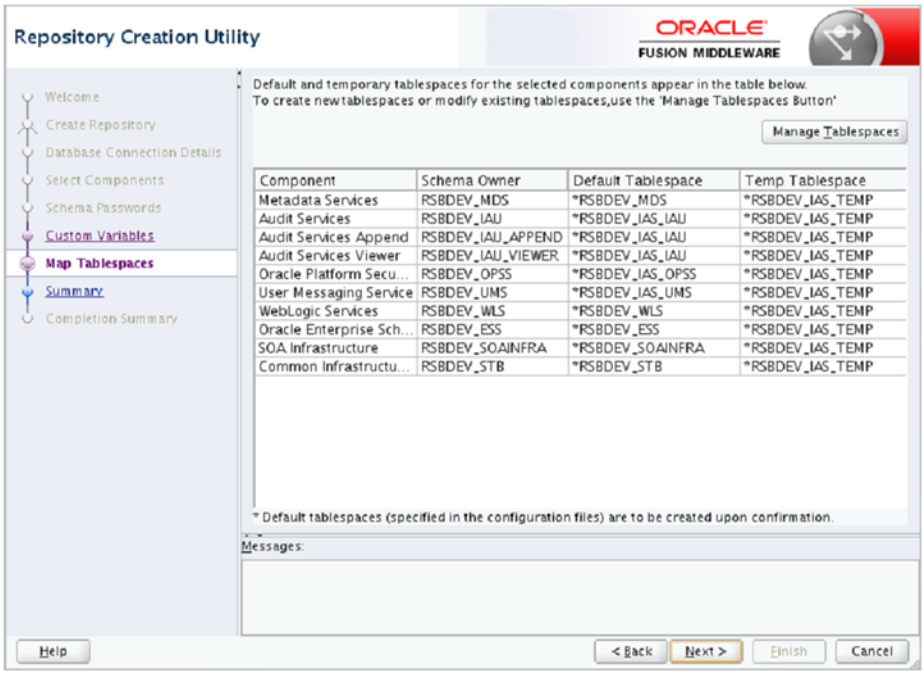
   Database Type: Oracle Database

   Role: SYSDBA

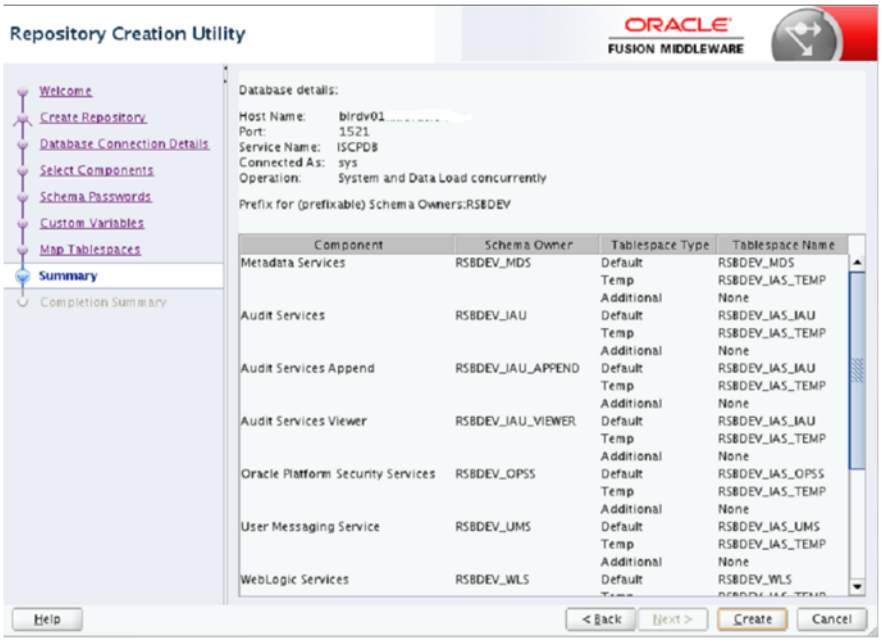


5. In Select Components window, provide a prefix (Select an existing prefix from drop down or give a new one). In Component box, select all options under AS Common Schemas and SOA Infrastructure as shown.

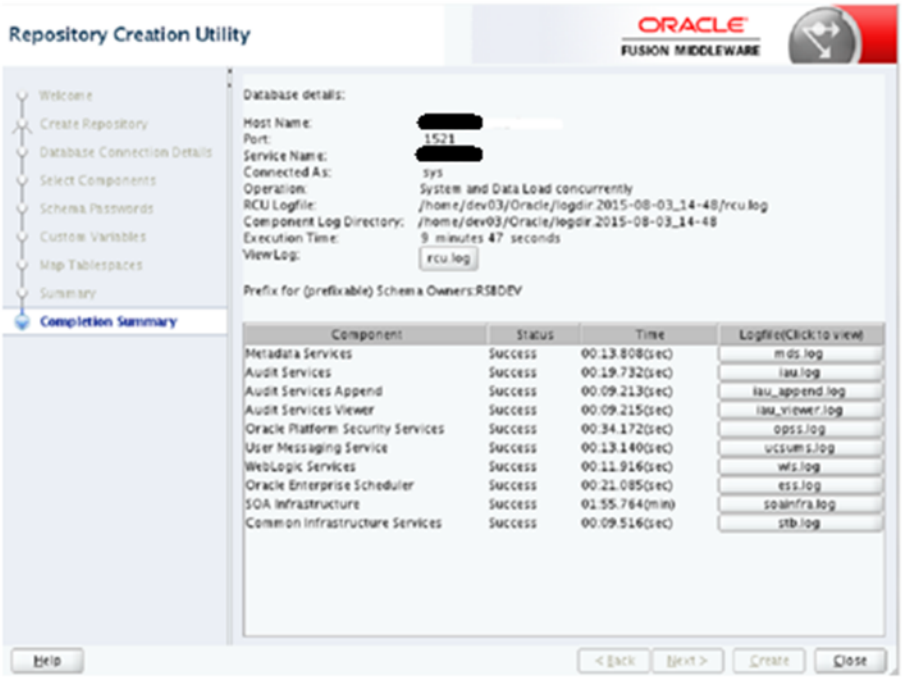
6. In Schema Passwords window, provide password and Click **Next**. Note down the schema name and passwords. These are needed during the domain creation time for configuring the OSB schemas and RSB compilation phase as credentials for sidb-jdbc-user-alias.



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**.

6

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 12.2.1.3. All middleware components associated with WebLogic server should be upgraded to 12.2.1.3.
>
> 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 `RsbKernel15.0.3ForAll15.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 RsbKernel15.0.3ForAll15.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 1.7.0+ 64 bit.

   For example:

   ```
   export JAVA_HOME=/usr/bin/java/1.7.0
   ```
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)
JAVA_HOME	/usr/java/jdk1.7.0_51
rsb-osb-container.domain-name	rsb_domain
rsb-osb-container.<domain>.home	rsb-osb-container.*rsb-domain*.home =/u00/rsb/Oracle/Middleware/user_ projects/do mains/rsb_domain
rsb-osb-container.<domain>.cluster-name	rsb-osb-container.*rsb_ domain*.cluster-name=rsb_cluster
rsb-osb-container.<domain>.<cluster name>.http-url (Cluster port is the port of http proxy server)	rsb-osb-container.*rsb_domain.rsb_ cluster*.http-url=http://*rsbhost*:7004
rsb-osb-container.<domain-name>.admin-server-name	rsb-osb-container.rsb_ domain.admin-server-name=AdminServer
rsb-osb-container.<domain>.admin-server-http-url	rsb-osb-container.*rsb_ domain*.admin-server-http-url=http://*rsbhost*:7001
rsb-osb-container.<domain>.admin-server-connection-url	rsb-osb-container.*rsb_ domain*.admin-server-connection-url=t3://*rsbhost*:7001
rsb-osb-container.<domain>.<cluster name>.managed-servers (Comma separated list of managed servers in the cluster, excluding the http proxy managed server)	rsb-osb-container.*rsb_domain.rsb_ cluster*.managed-servers=rsb_server1,rsb_ server2
rsb-osb-container.<domain>.<cluster name>.<managed server>.managed-server-connection-url (*Repeat this property for all the managed servers in the cluster*)	rsb-osb-container.*rsb_domain.rsb_cluster.rsb_ server1*.managed-server-connection-url=t3: //*rsbhost*:7002
service-infrastructure-db.jdbc-url	jdbc:oracle:thin:@*rsbhost*:1521:rra1
edge-app-container.<app>.connection-url (the host:port of the edge application)	edge-app-container.*sim*.connection-url=t3:/ /*rsbhost*:8080
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)	http://<HTTP_HOSTNAME>:<HTTP_ PORT>/<SERVICE_ NAME>Service/<SERVICE_NAME>Bean
rib.home.path (optional)	rib1@*ribhost*:/u00/rib1/rib2/Rib1503ForAl l15xxApps/rib-home

Additional steps for Policy A configuration

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

1. 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.

2. 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)
rsb-osb-container.rsb_domain.rsb_cluster.https-url	rsb-osb-container.*rsb_domain.rsb_cluster*.http-url=https://*rsbhost*:7104
<decorator>.app-service-end-point-url oms-AdvancedShipmentNotification-AppServiceDecorator.app-service-end-point-url	**https**://*rsbhost*:**7102**/AdvancedShipmentNotificationBean/AdvancedShipmentNotificationService

3. 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)
edge-app-container.<app>.connection-url	t3://<hostname>:<httpsport>
edge-app-container.sim.connection-url	t3s://rsbhost:8102
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)	http://<HTTP_HOSTNAME>:<HTTP_PORT>/<SERVICE_NAME>Bean/<SERVICE_NAME>Service https://<HTTP_HOSTNAME>:<HTTP_PORT>/<SERVICE_NAME>Bean/<SERVICE_NAME>Service

4. Security Configuration: Download edge app service WSDL files.

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

5. 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:

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

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

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

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

3. 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. 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.

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", "rsbEnable":"true", "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", "rsbEnable":"true", "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", "rsbEnable":"false", "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

1. 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 RicKernel15.0.3ForAll15.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
   ```

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 RicKernel15.0.3ForAll15.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
   ```

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 RicKernel15.0.3ForAll15.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
```

7

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_JAVAEE_APP_HOME.
2. Download and save RSE generated JavaEE ejb-jar (<app>-service-ejb.jar) in SIT_JAVAEE_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:

   RsbServiceIntegrationPak15.0.3For<app>15.0.3_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/"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**

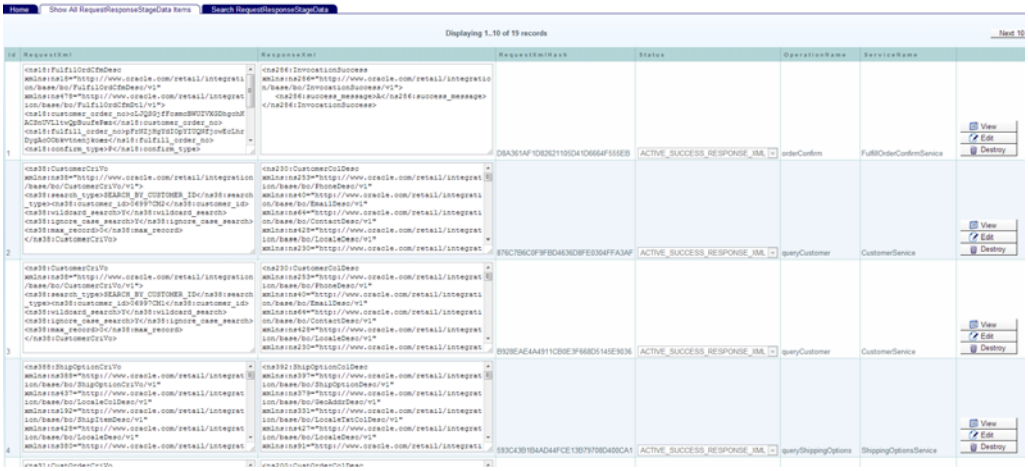
      - click on **Users and Groups**

      - create a new group called "sitadmin"

      - create a new user. Add this new user to the sitadmin group.

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.


Home
Show All RequestResponseStageData Items
Search RequestResponseStageData
Displaying 1..10 of 19 records
Next 10
Id
RequestXml
ResponseXml
RequestXmlHash
Status
OperationName
ServiceName
ACTIVE_SUCCESS_RESPONSE_XML
orderConfirm
FulfillOrderConfirmService
queryCustomer
CustomerService
queryShippingOptions
ShippingOptionsService
View
Edit
Destroy

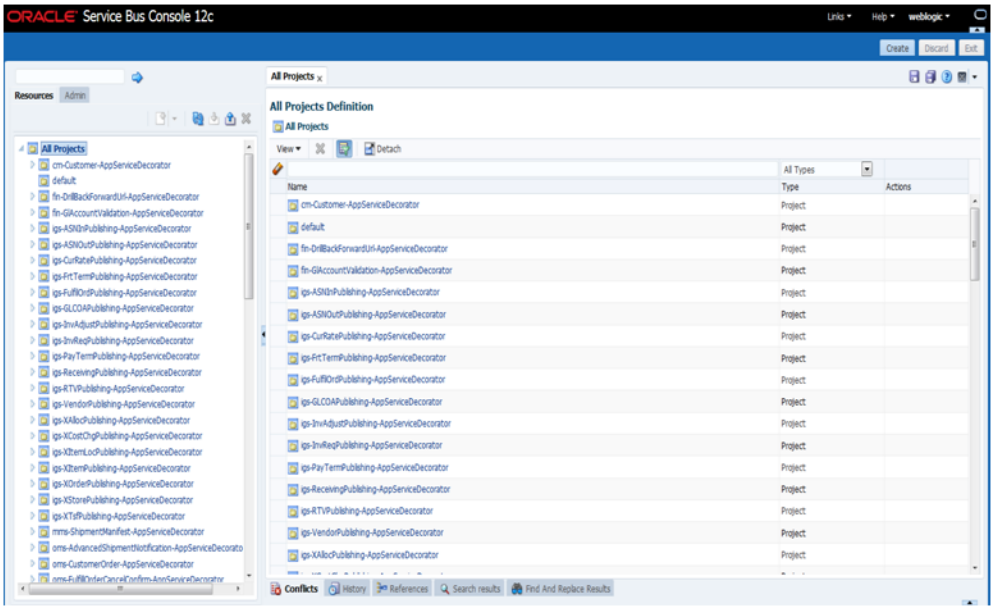
8

Post Installation Tasks

Verification using Oracle Service Bus Console

Once Deployement 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)

A

Appendix: RSB Installation Checklist

Notations

- wlsHome - The home directory of WebLogic. e.g., /u00/rsb/Oracle/Middleware/Oracle_Home
- domainHome - The home directory of the domain. e.g., /u00/rsb/Oracle/Middleware/Oracle_Home/user_projects/domains/rsb_domain
- app - the application acronym. e.g., 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 *RSB Security Guide* for securing app services	
2. Download and stage all third-party software			
3. Install JDK	Version 1.7		
4. Install WebLogic	Version 12.2.1.3		
5. Install Oracle DB server	12c		
6. Install OSB on WebLogic	Version 12.2.1.3		
7. Install RCU	Version 12.2.1.3 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 [PolicyA][PolicyB]Create schema name: RSB_MDS - Under Metadata Services in RCU (OWSM domain requires MDS schema)
9. Configure OSB domain [PolicyA][Policy B] Create OWSM domain Create a cluster	Choose OSB (Oracle Service Bus - 12.2.1.3.0). This will select all other required templates ADF (Oracle JRF - 12.2.1.3.0) Create AdminServer Create 1 managed server for Http Proxy Create 2 managed servers	**cd <wlsHome>/wlserver/common/bin config.sh**	rsb_domain (See *RSB Deployment Architecture.doc* in References for detailed instructions) rsb_cluster AdminServer rsb_server1 rsb_server2 [PolicyA] Note: Enable SSL for all the managed servers during creation. This can be done post creation too using WebLogic Console. **Environment** --> **Servers** --> Click on <M.Server> --> Check "**SSL Listen Port Enabled**" --> Specify the port number --> **Save** --> 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 X1XX for SSL	X001 - for non SSL	X0X2, X0X3, X0X4,...X0X9,X010, X011 - for non SSL	7001 7101

X101 - for SSL	X1X2, X1X3, X1X4,...X1X9,X110, X111 - for SSL

Prepare WebLogic Server for RSB deployment

Task	Notes	Command	Example

1. Grant WebLogic permission to access credential wallet	Edit *weblogic.policy* and add the permission to access credential wallet.	**cd <wlsHome>/wlserver/server/lib**
		vi weblogic.policy
			grant codeBase "file:/u00/rsb/Oracle/Middleware/user_projects/domains/rsb_domain/-" {
			permission java.security.AllPermission;
			permission oracle.security.jps.service.credstore.CredentialAccessPermission "credstoressp.credstore", "read,write,update,delete";
			permission oracle.security.jps.service.credstore.CredentialAccessPermission "credstoressp.credstore.*", "read,write,update,delete";
			};

2. JVM heap size (Optional)	Set maximum and minimum heap size	**cd <domainHome>/bin** **vi setDomainEnv.sh**	USER_MEM_ARGS="-Xms1024m -Xmx2048m -XX:MaxPermSize=1024m"

Download

Task	Notes	Command/Example
1. Download RSB Kernel	Download *RsbKernel15.0.3ForAll15.x.xApps_eng_ga.zip* to a directory in Linux/Unix. The rsb-home will be created inside this directory. Extract the archive file.	

2. Download Decorators	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 Service Flows	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	Set JAVA_HOME to a JDK 1.7.0+ 64 bit with latest security updates.	**export JAVA_HOME=/usr/bin/java/1.7.0_75**
5. Check version and unpack	Run the check version and unpack script	**cd rsb-home/download-home/bin 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/jdk1.7.0_75
rsb-osb-container.domain-name	rsb_domain
rsb-osb-container.<domain>.home	rsb-osb-container.*rsb-domain*.home =/u00/rib1/Oracle/Middleware/user_projects/domains/rsb_domain

rsb-osb-container.<domain>.cluster-name	rsb-osb-container.*rsb_domain*.cluster-name=rsb_cluster
rsb-osb-container.<domain>.<cluster name>.http-url (Cluster port is the port of http proxy server)	rsb-osb-container.*rsb_domain.rsb_cluster*.http-url=http://*rsbhost*:7004
[PolicyA] rsb-osb-container.rsb_domain.rsb_cluster.https-url (Provide the HTTPS URL of the http proxy managed server)	rsb-osb-container.*rsb_domain.rsb_cluster*.http-url=https://*rsbhost*:7104
rsb-osb-container.<domain>.admin-server-http-url	rsb-osb-container.*rsb_domain*.admin-server-http-url=http://*rsbhost*:7001
rsb-osb-container.<domain>.admin-server-connection-url	rsb-osb-container.*rsb_domain*.admin-server-connection-url=t3://*rsbhost*:7001
rsb-osb-container.<domain>.<cluster name>.managed-servers (Comma separated list of managed servers in the cluster, excluding the http proxy managed server)	rsb-osb-container.*rsb_domain.rsb_cluster*.managed-servers=rsb_server1,rsb_server2
rsb-osb-container.<domain>.<cluster name>.<managed server>.managed-server-connection-url (Repeat this property for all the managed servers in the cluster)	rsb-osb-container.*rsb_domain.rsb_cluster.rsb_server1*.managed-server-connection-url=t3://*rsbhost*:7002
service-infrastructure-db.jdbc-url	jdbc:oracle:thin:@*dbhost*:1521:rra1
edge-app-container.<app>.connection-url (the host:port of the edge application)	edge-app-container.*sim*.connection-url=t3://*edgeapphost*:8080

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)	http://<HTTP_HOSTNAME>:<HTTP_PORT>/<SERVICE_NAME>Service/<SERVICE_NAME>Bean
rib.home.path (optional)	rib1@*ribhost*:/u00/rib1/rib2/Rib1503ForAll15xxApps/rib-home

Compile

Task	Notes	Command
1. [Policy A] [PolicyB] Security Configuration	Download edge app service WSDLs	**cd rsb-home/service-assembly-home/bin/ download-app-service-wsdl.sh**
2. [PolicyA] [PolicyB] Create Policy Mapping file	Create security policy mapping file	**generate-rsb-decorator-security-config.sh**
3. [PolicyB] 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 ■ admin-server-user-alias ■ sidb-jdbc-user-alias	**cd rsb-home/service-assembly-home/bin/ rsb-compiler.sh -setup-security-credential**
5. Compile Note: If step 4 is executed, skip this step.	Compile the configurations	**cd rsb-home/service-assembly-home/bin/ rsb-compiler.sh**

Deploy

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

3. Restart Servers	Restart all the servers (Admin + Managed servers)	
4. [PolicyB] 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/**
5. [PolicyB] Generate Certs and Key store	Generate private key, public key and key store for the RSB server (To be done in the RSB server) **Note**: If you are using CA certificates, do not generate certificates. Instead import the certificates to the keystore.	**. <domainHome>/bin/setDomainEnv.sh** **cd <domainHome>/config** **generate-pki-certificate-keystore-for-osb.sh**
6. [PolicyB] Copy app server certificate(s)	Go to <wlsHome>/config of the **remote** 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] 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)	**cd <domainHome>/config** **import-remote-server-public-key-certificate-into-keystore.sh <app> <remote-host>** e.g., **import-remote-server-public-key-certificate-into-keystore.sh cm *<hostname>***
8. [PolicyB] Configure RSB Serve	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**
9. [PolicyB] Restart	Restart Admin and Managed Servers	
10. Deploy Decorator	Deploy all the decorators	**cd rsb-home/deployment-home/bin** **rsb-deployer.sh -deploy-all-rsb-service**
11. Deploy Injector	Deploy rib4oms injector service	**cd rsb-home/deployment-home/bin** **rsb-deployer.sh -deploy-rsb-service RibOmsToRsbOmsRouting-ServicesIntegrationFlow.jar**
12. [PolicyB] Export OSB 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**
13. Restart	Restart all the servers (Admin + Managed servers)	

B

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*.

C

Appendix: Installation Order

This section provides a guideline for the order in which the Oracle Retail applications should be installed. If a retailer has chosen to use only some of the applications, the order is still valid, less the applications not being installed.

Note: The installation order is not meant to imply integration between products.

Enterprise Installation Order

1. Oracle Retail Merchandising System (RMS), Oracle Retail Trade Management (RTM)
2. Oracle Retail Sales Audit (ReSA)
3. Oracle Retail Extract, Transform, Load (RETL)
4. Oracle Retail Active Retail Intelligence (ARI)
5. Oracle Retail Warehouse Management System (RWMS)
6. Oracle Retail Invoice Matching (ReIM)
7. Oracle Retail Price Management (RPM)
8. Oracle Retail Allocation
9. Oracle Retail Mobile Merchandising (ORMM)
10. Oracle Retail Xstore Office
11. Oracle Retail Xstore Point-of-Service, including Xstore Point-of-Service for Grocery, and including Xstore Mobile
12. Oracle Retail Xstore Environment
13. Oracle Retail EFTLink
14. Oracle Retail Store Inventory Management (SIM), including Mobile SIM
15. Oracle Retail Batch Service Architecture (BSA)
16. Oracle Retail Predictive Application Server (RPAS)
17. Oracle Retail Demand Forecasting (RDF)
18. Oracle Retail Category Management Planning and Optimization/Macro Space Optimization (CMPO/MSO)
19. Oracle Retail Replenishment Optimization (RO)

20. Oracle Retail Analytic Parameter Calculator Replenishment Optimization (APC RO)
21. Oracle Retail Regular Price Optimization (RPO)
22. Oracle Retail Merchandise Financial Planning (MFP)
23. Oracle Retail Size Profile Optimization (SPO)
24. Oracle Retail Assortment Planning (AP)
25. Oracle Retail Item Planning (IP)
26. Oracle Retail Item Planning Configured for COE (IP COE)
27. Oracle Retail Advanced Inventory Planning (AIP)
28. Oracle Retail Integration Bus (RIB)
29. Oracle Retail Services Backbone (RSB)
30. Oracle Retail Financial Integration (ORFI)
31. Oracle Retail Data Extractor for Merchandising
32. Oracle Retail Clearance Optimization Engine (COE)
33. Oracle Retail Analytic Parameter Calculator for Regular Price Optimization (APC-RPO)
34. Oracle Retail Insights, including Retail Merchandising Insights (previously Retail Merchandising Analytics) and Retail Customer Insights (previously Retail Customer Analytics)