Oracle® Retail Omnichannel Cloud Data Service

Installation Guide

Release 19.0.0

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Oracle® Retail Omnichannel Cloud Data Service Installation Guide, Release 19.0.0

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Oracle® Retail Omnichannel Cloud Data Service Installation Guide, 19.0.0

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Preface

The *Oracle® Retail Omnichannel Cloud Data Service Installation Guide* provides information about the processing of the Oracle Omnichannel Cloud Data Service (OCDS) data hub.

Audience

This guide is for technical personnel who configure, maintain and support, or use Oracle Retail Omnichannel Cloud Data Service.

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

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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

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When you install the application for the first time, you install either a base release (for example, 19.0.0) or a later patch release (for example, 19.0.1). If you are installing the base release or additional patches, 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.

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

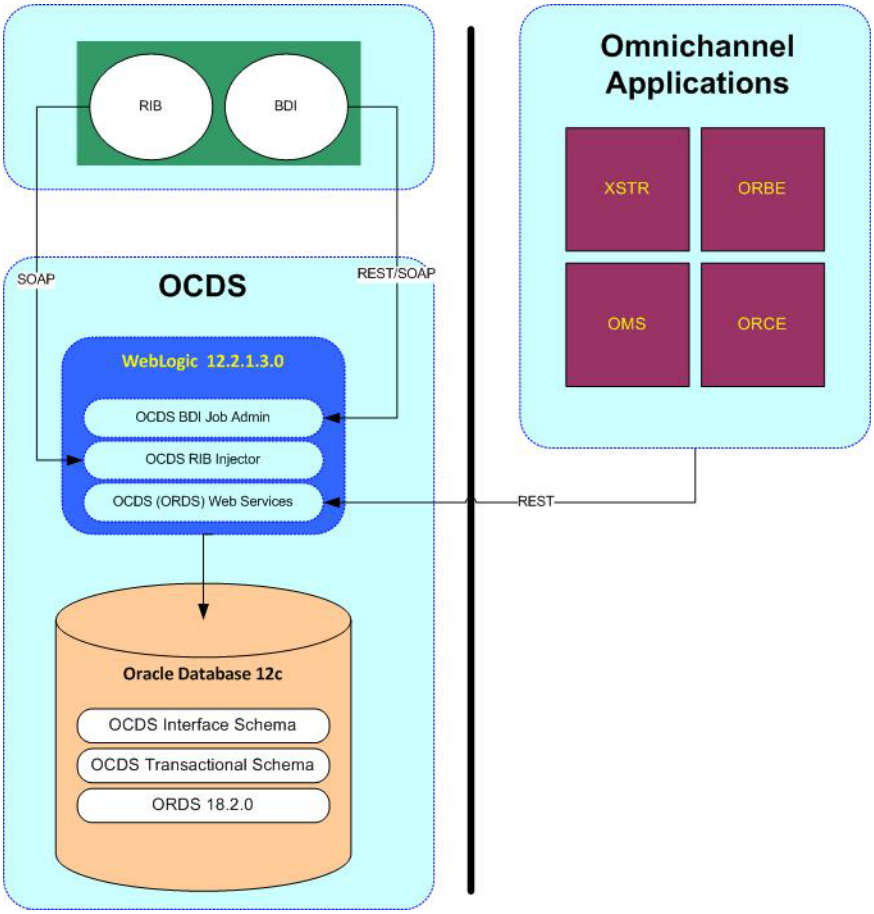
1

Introduction

Oracle Omnichannel Cloud Data Service (OCDS) is a data hub, enabling Oracle Retail Merchandising and Pricing applications to share foundation data with Oracle Retail Omnichannel applications. OCDS contains the following components:

- BDI Batch Job Admin - Enables in-bound data flow into OCDS using Oracle Bulk Data Integration (BDI) technology. Job Admin has a User Interface (UI) to support the management of BDI batch Jobs.
- RIB Injector - Enables in-bound data flow into OCDS from the Oracle Retail Integration Bus (RIB).
- ORDS - Enables out-bound data flow from OCDS to Omnichannel Applications through the use of RESTful web services.

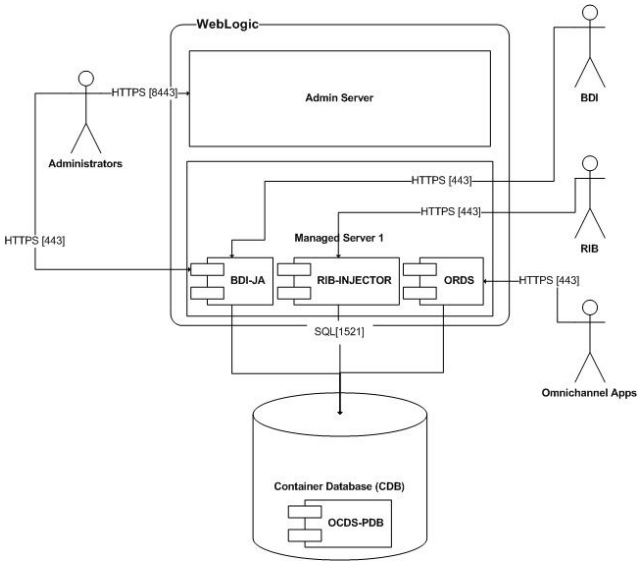
Figure 1–1 OCDS Components



OCDS Topology

The diagram below illustrates the basic deployment topology for OCDS. Alternatively, each OCDS component can be hosted in its own WebLogic Managed Server.

Figure 1–2 Basic Deployment



- **BDI-JA:** OCDS (BDI) Job Admin is the interface between the Oracle Retail Bulk Data Integration and OCDS, enabling BDI data to flow into the OCDS database.
- **RIB-INJECTOR:** OCDS (RIB) Injector is the interface between RIB infrastructure and OCDS; it listens for SOAP-based RIB messages containing incremental changes to data initially populated through BDI.
- **ORDS:** The OCDS (ORDS) Web Service exposes the data managed by OCDS to Omnichannel applications.

2

Technical Specifications

Oracle Omnichannel Cloud Data Service (OCDS) has several dependencies. This section covers these requirements.

Requesting Infrastructure Software

If you are unable to find the necessary version of the required Oracle infrastructure software (database server, application server, WebLogic, and so on) 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

The table below lists the server requirements

Supported On	Versions Supported
Database Server OS	OS certified with Oracle Database 12c (12.1.0.2) 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 11.2 Sparc (actual hardware or logical domains)

Supported On	Versions Supported
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 1.8 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)
Application Server	Oracle Fusion Middleware 12c (12.2.1.3.0) **Components:** ■ Oracle WebLogic Server 12c (12.2.1.3.0) ■ Java: JDK 1.8+ latest security updates 64 bit **Patches:** ■ Patch 22648025: ILLEGALSTATEEXCEPTION WHEN INVOKING A WEBSERVICE/EJB IN WLS 12.2.1 (Oracle support account required)
Minimum required JAVA version for all operating systems	JDK 1.8+ latest security updates 64 bit

Installation Sequence

It is recommended that the installation of OCDS is performed in the order presented in this guide.

1. Create OCDS Schemas.
2. Create a WebLogic Domain.
3. The following OCDS components can be installed and deployed in any order:
   - Install and deploy OCDS (BDI) Job Admin.
   - Install and deploy OCDS (RIB) Injector.
   - Install and deploy OCDS (ORDS) Web Services.

Software Dependencies

The installation and operation of Oracle Omnichannel Cloud Data Service (OCDS) depends several Oracle and third-party software, in addition to the OCDS distribution files. The following should be performed before starting the OCDS install process.

- Install Java JDK 8 or later.
- Install Oracle Database 12c (Release 12.1.0.2).
- Download Oracle Fusion Middleware (WebLogic 12.2.1.3.0).
- Download Oracle REST Data Services 19.2 (`ords-19.2.0.199.1647zip`).

  https://www.oracle.com/database/technologies/appdev/rest-data-services-v192-downloads.html

  If upgrading from a previous Oracle REST Data Service follow the instructions provided in the download package.

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OCDS Schemas

This chapter describes the instructions for building the OCDS schemas on an Oracle 12c Pluggable Database (PDB).

Prerequisites

1. Oracle Database 12c (Release 12.1.0.2) has been installed.
2. Container Database (CDB) has been created.
3. Pluggable Database (PDB) for OCDS schema has been created.
4. Configured ORDS 19.2 for the OCDS database:
   - Set the location of the ORDS configuration files

     ```
     java -jar ords.war configdir </path/to/ords/config>
     ```

   - Configure database connection to the OCDS database

     ```
     java -jar ords.war setup --database <database name>
     ```

   - Configure the request routing rule for OCDS services

     ```
      java -jar ords.war map-url --type base-path <path prefix>
     <database name>
     ```

5. The two OCDS database users have been created with the following names and empty schemas:
   - `ocds_ifc`
   - `ocds_txn`

Preparation

Perform the following procedure to prepare for these schema creation of the OCDS database. This archive file contains scripts to populate the two OCDS schemas, enable and secure the OCDS REST services.

- Unzip `ocds-database-creation.zip`. The location where the files were extracted will be referenced as <dbScripts> in the following steps.

Database Schema Population

Perform the following steps to populate the OCDS schemas.

1. Connect to the ocds_ifc schema and execute the following scripts:

- <dbScripts>/scripts/rtg_ifc/ddl/BDI_BATCH_JOB_INFRA_CREATE.sql
- <dbScripts>/scripts/rtg_ifc/ddl/BDI_RECEIVER_INFRA_CREATE.sql
- <dbScripts>/scripts/rtg_ifc/ddl/ocds_ddl.sql

2. Connect to the ocds_ifc schema as a user with permissions to grant access to tables in the ocds_ifc schema and execute the following scripts:
   - <dbScripts>/ocds_txn/plsql/Interface_Schema_Access.sql
3. Connect to the ocds_txn schema and execute the following scripts:
   - <dbScripts>/scripts/ocds_txn/ddl/ocds-txn-ddl.sql
   - <dbScripts>/scripts/ocds_txn/plsql/ocds-txn-plsql.sql
4. Connect to the ocds_txn schema as a user with permissions to grant access to packages on the ocds_txn schema and execute the following scripts:
   - <dbScripts>/scripts/ocds_ifc/plsql/Transaction_Schema_Access.sql
5. Connect to the ocds_ifc schema and execute the following scripts:
   - <dbScripts>/scripts/ocds_ifc/plsql/ocds-ifc-plsql.sql

Enable REST Services on OCDS Database

Perform the following procedure to enable the OCDS web services on the `ocds_txn` schema.

1. Connect to the ocds_txn schema and execute the following script:
   - <dbScriptRoot>/scripts/ocds_txn/rest/ocds-enable-rest.sql

Secure OCDS Web Services on OCDS Database

Perform the following procedure to secure the OCDS web services on the `ocds_txn` schema.

1. Connect to the ocds_txn schema and execute the following script:
   - <dbScriptRoot>/scripts/ocds_txn/rest/ocds-secure-rest.sql

4

WebLogic Middleware

This chapter describes the procedure for installing and creating the WebLogic Middleware needed to host OCDS. Important information about the installation and deployment of a BDI Job Admin can be found in the *Oracle Retail Bulk Data Integration Installation Guide*.

Installing WebLogic

Obtain WebLogic 12c (12.2.1.3.0) by visiting the Oracle Technology Network and taking the following steps.

1. Find `fmw_12.2.1.3.0.0_infrastructure_Disk1_1of1.zip` and download this file to your system.
2. Extract the contents of this zip file to your system. You will use the `fmw_12.2.1.3.0.0_infrastructure.jar` file to run the installer.
3. Run the installer by executing the jar file:

   ```
   java -jar fmw_12.2.1.3.0.0_infrastructure.jar
   ```

   The Welcome window appears.
4. Click **Next**. The Auto Updates window appears.
5. Select the appropriate radio button and click **Next**. The Installation Location window appears.
6. Click **Browse** to select the Oracle Home location where the WebLogic Server is to be installed.
7. Click **Next**. The Installation Type window appears.
8. Select Fusion Middleware Infrastructure (JRF and Enterprise Manager) and click **Next**. The installer performs the pre-requisite checks and ensures all required conditions are satisfied.
9. When the prerequisite check completes successfully, click **Next**. The Security Updates window appears.
10. Provide information and click **Next**.
11. Click **Install**. The Installation Progress window appears.
12. Click **Next** when the installation completes. The Installation Complete window appears.

Creating Schemas with the Repository Creation Utility (RCU)

The installation of OCDS Job Admin and Injector components requires 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).

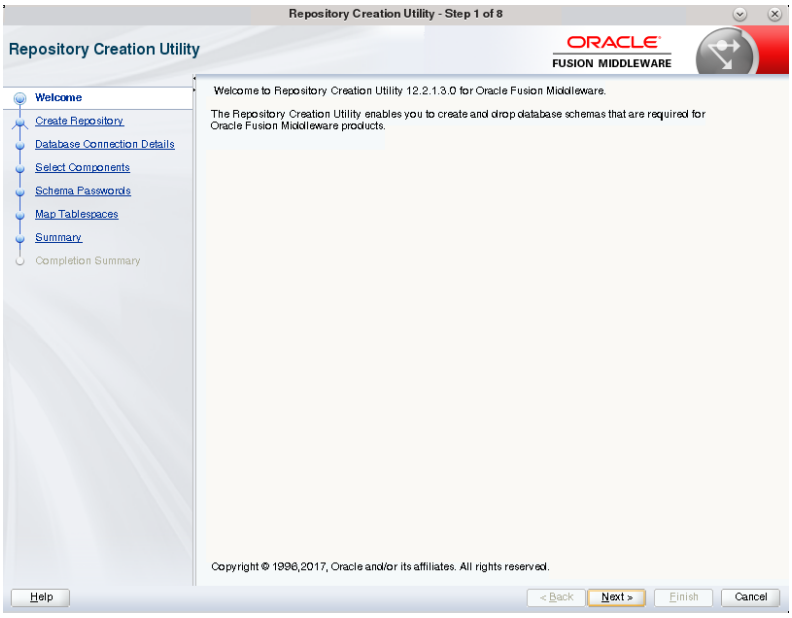
This section describes the instructions for running the RCU. See the Oracle Fusion Middleware documentation for detailed instructions on using the RCU.

The following steps will create Oracle AS Repository Components for:

- Common Infrastructure Services
- Oracle Platform Security Services (includes Audit Services)
- WebLogic Services

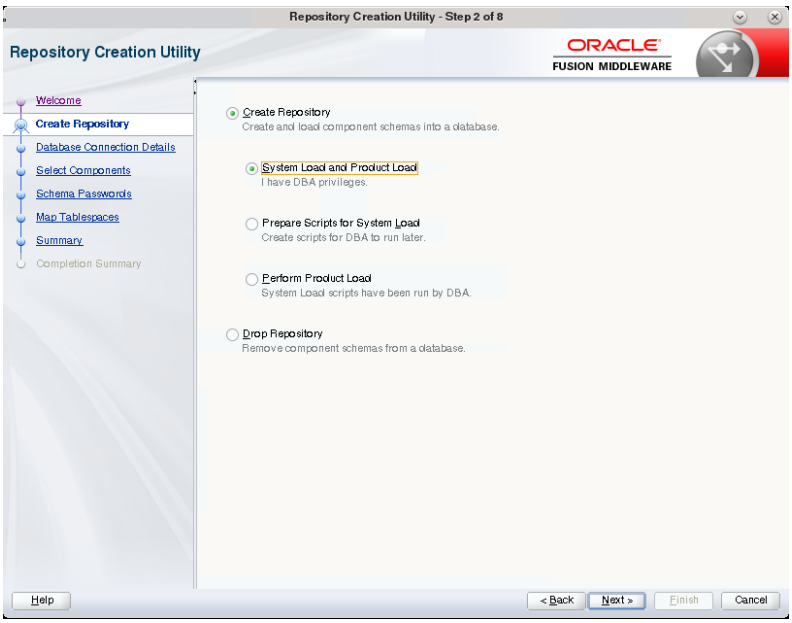
1. Launch the rcu from `ORACE_HOME/oracle_common/bin`.
2. Click **Next**.

Figure 4–1 Welcome Screen



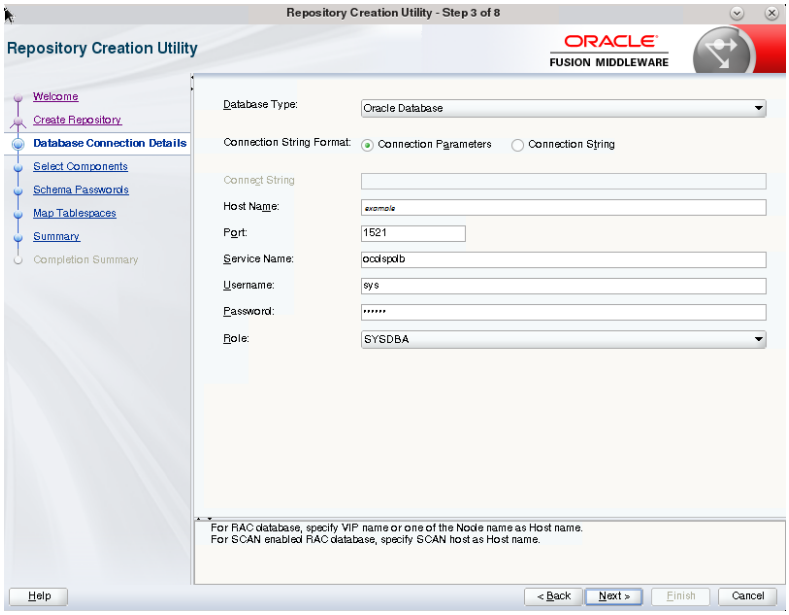
3. Select System Load and Product Load, then click **Next**.

Figure 4–2 Create Repository Screen



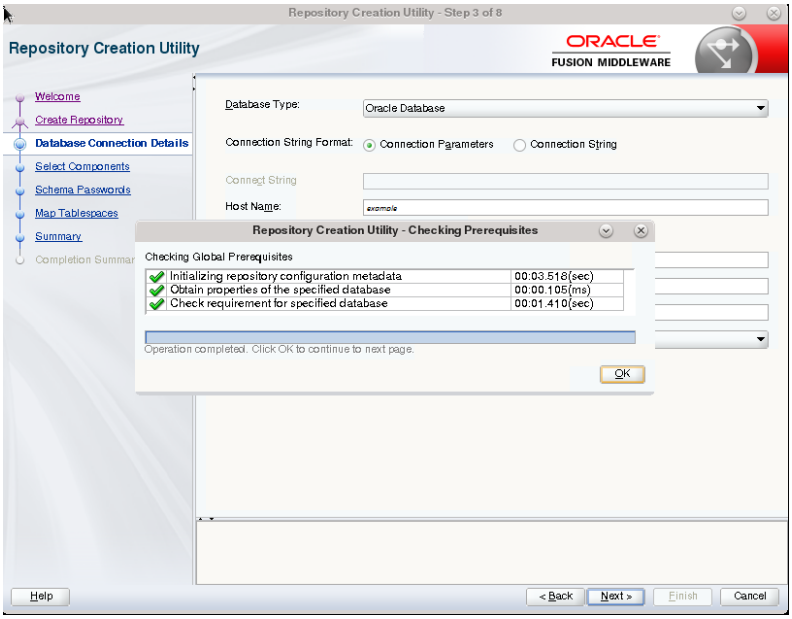
4. Enter database credentials.

Figure 4–3 Database Connection Details Screen



5. Click **OK** after prerequisites check completes.

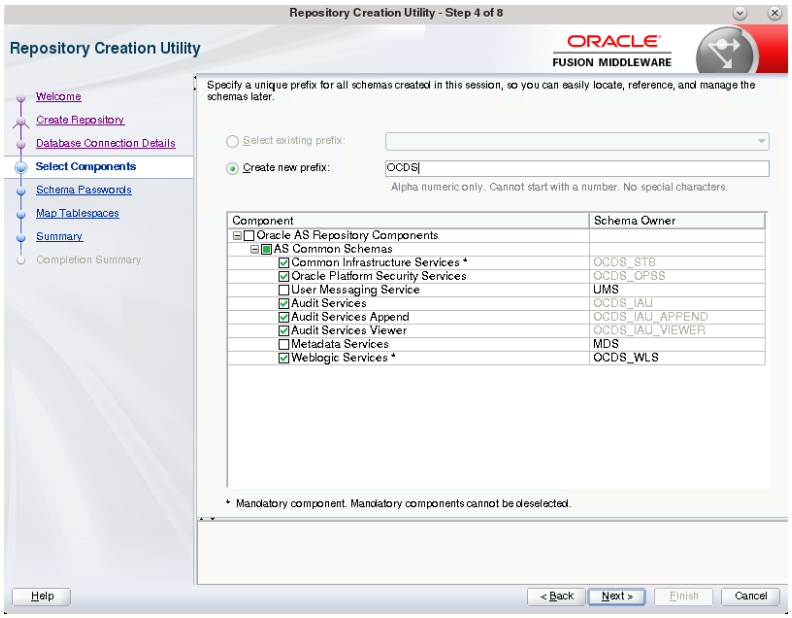
Figure 4–4 Database Connection Details - Checking Prerequisites



6. The database object created by the RCU will be used during the installation of OCDS (BDI) Job Admin and the OCDS Injector. Choose an appropriate prefix. In addition to the defaults, check the box for Oracle Platform Security Services.

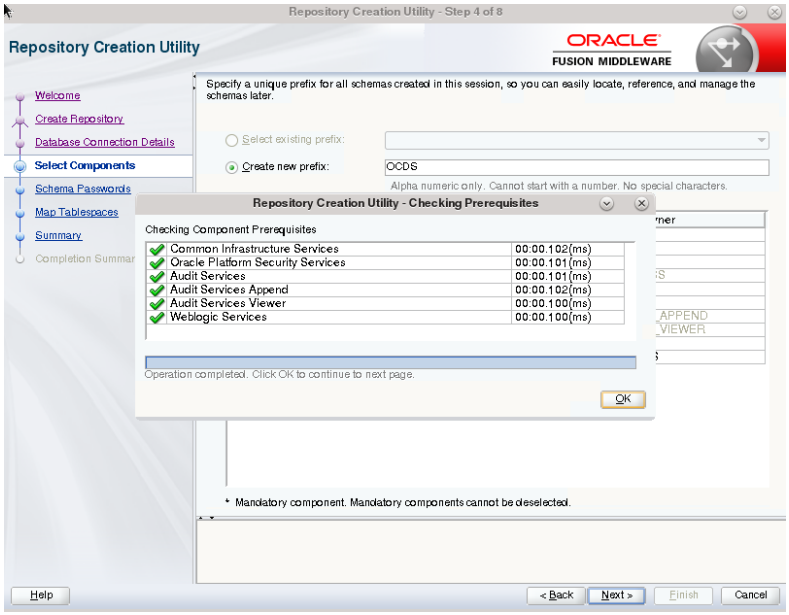
Important: Keep track of the Prefix, Schema Owner names, and Passwords used in RCU, they will be needed to deploy OCDS components.

Figure 4–5 Select Components Screen



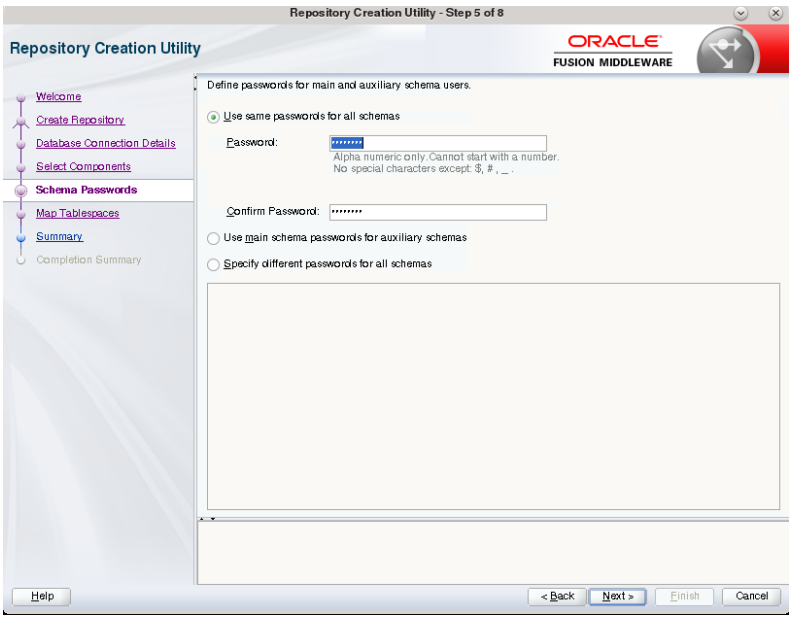
7. Click **Next** after Checking Component Prerequisites completes.

Figure 4–6 Components - Checking Prerequisites



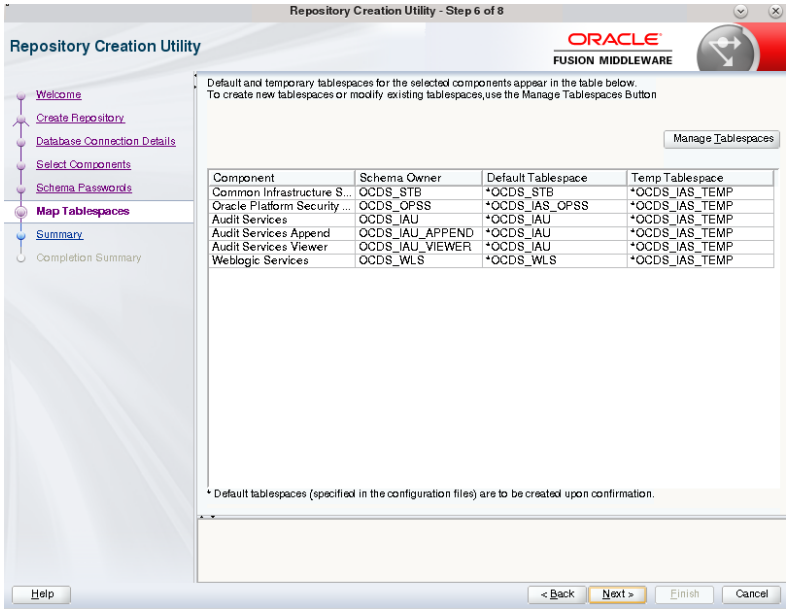
8. Click **OK**, enter password, and then click **Next**.

Figure 4–7 Schema Passwords Screen



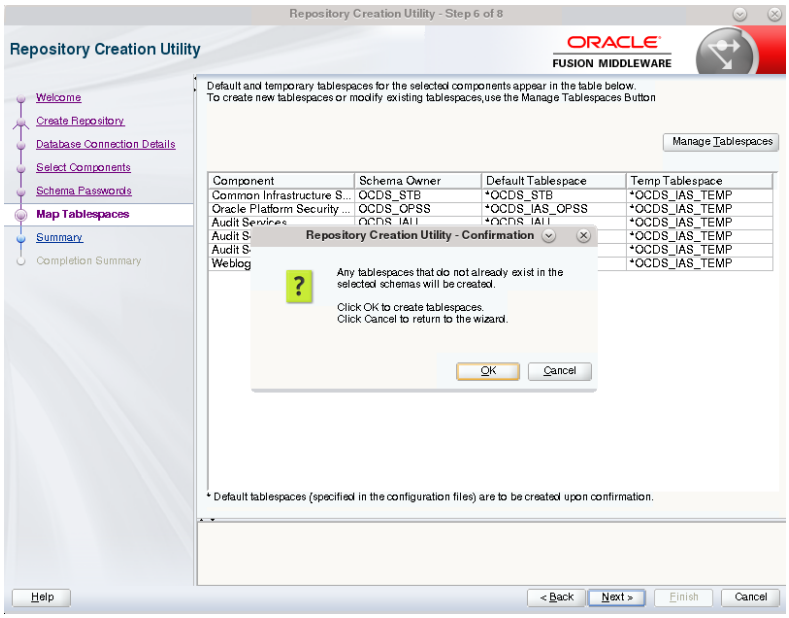
9. Click **Next** to accept Default Tablespaces, or click **Manage Tablespaces** for advanced handling, then click **Next**.

Figure 4–8 Map Tablespaces Screen



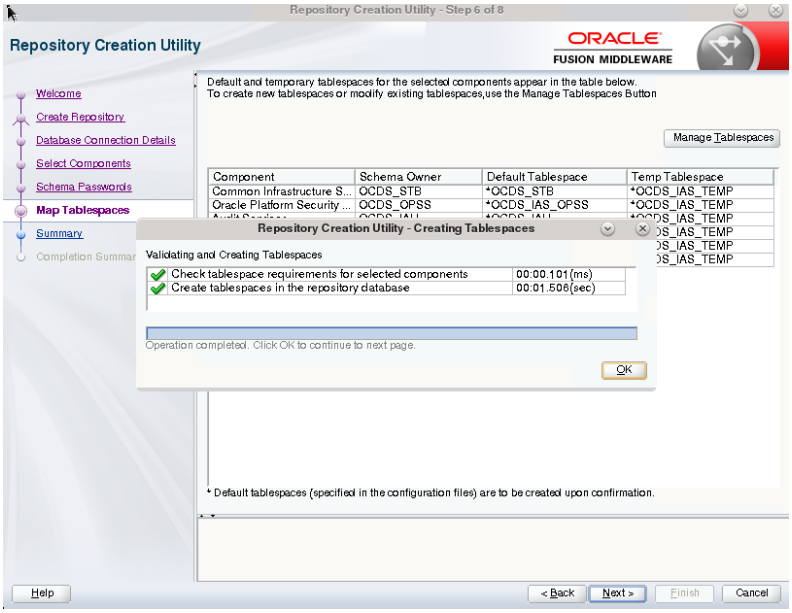
10. Click **OK** to confirm.

Figure 4–9 Confirm Tablespaces Prompt



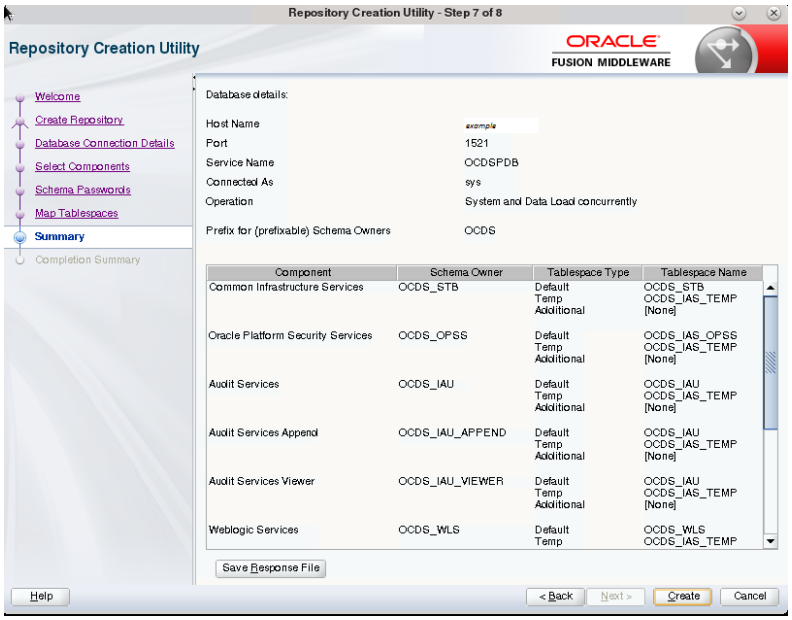
11. Click **OK** to continue.

Figure 4–10 Creating Tablespaces Progress Bar



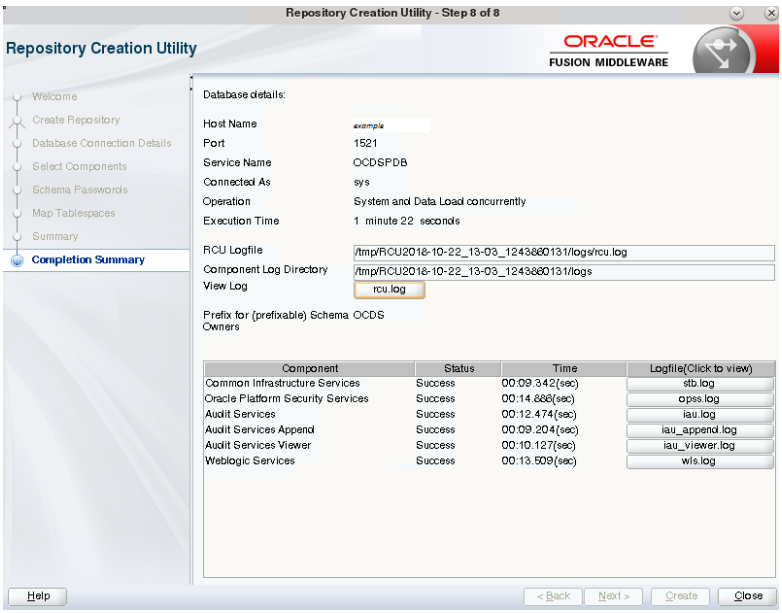
12. Click **Create**.

Figure 4–11 Repository Creation Utility Summary Screen



13. Click **Close** when Repository Creation has completed.

Figure 4–12 Completion Summary Screen



Creating a WebLogic Domain with JRF

This section describes instructions for creating a new WebLogic domain with JRF, and instructions to create a managed server into which the OCDS Job Admin, Injector, and ORDS components can be deployed.

Prerequisites

The installation of OCDS components requires 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). OCDS requires Oracle WebLogic server 12c (12.2.1.3.0), built with Java 8 (JDK 1.8 64 bit with the latest security updates).

The minimum recommended Java VM memory setting for the OCDS application domain is:

```
-Xms1024m -Xmx2048m
```

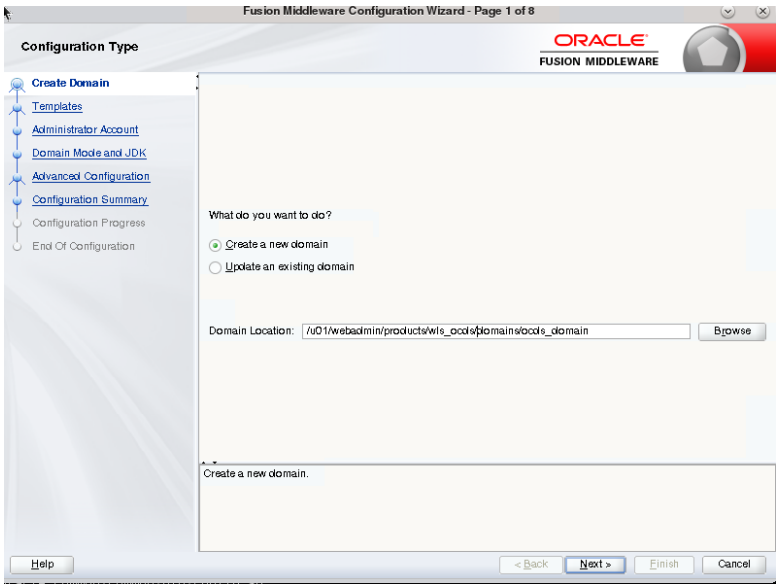
If re-creating a domain using the same RCU schemas, and those schemas are not in `ocds_*` tablespaces, then run RCU to drop old RCU schemas.

WebLogic Domain Creation

Perform the following procedure to create a WebLogic Domain with one Managed Server. OCDS can be installed on more than one managed server if preferred.

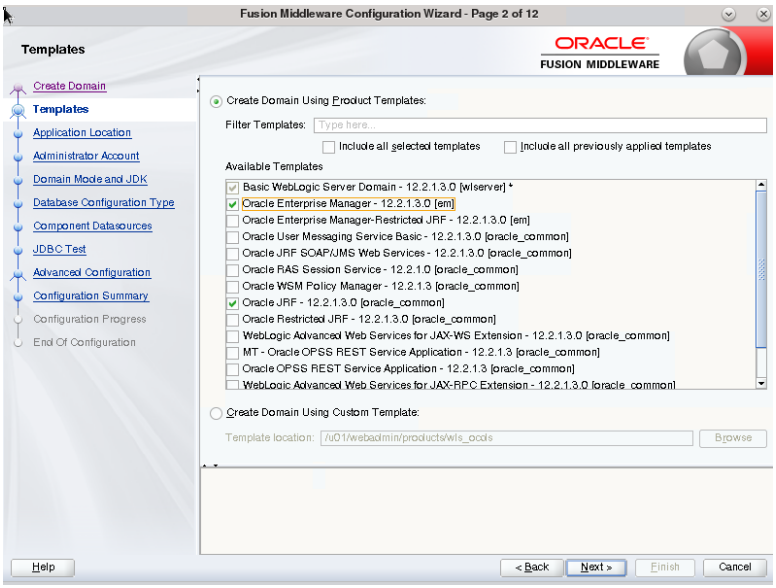
1. Launch the Fusion Middleware Configuration Wizard from `ORACLE_HOME/oracle_common/common/bin`.
2. Select **Create a new Domain**, and enter the domain location.

Figure 4–13 WebLogic Create Domain Screen



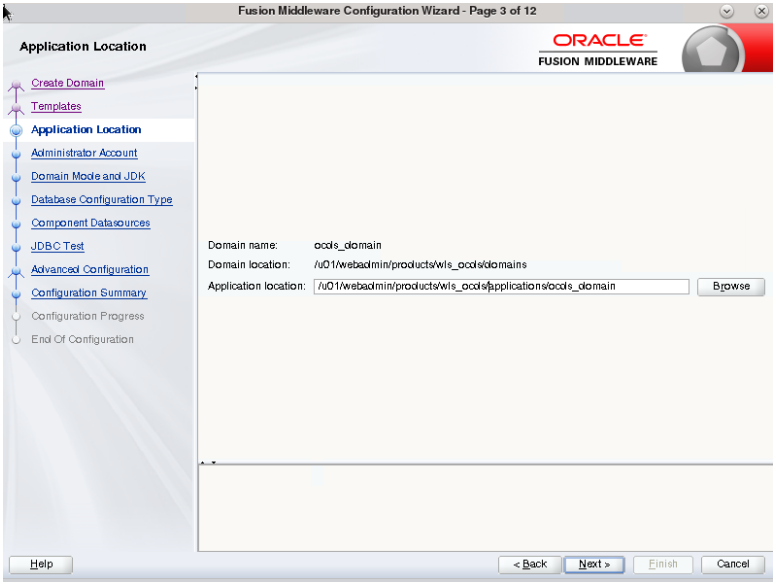
3. Select Oracle Enterprise Manager to cause the Oracle JRF and WLS Coherence Cluster Extension templates to be selected, in addition to the Basic WebLogic Server Domain template.

Figure 4–14 Templates Screen



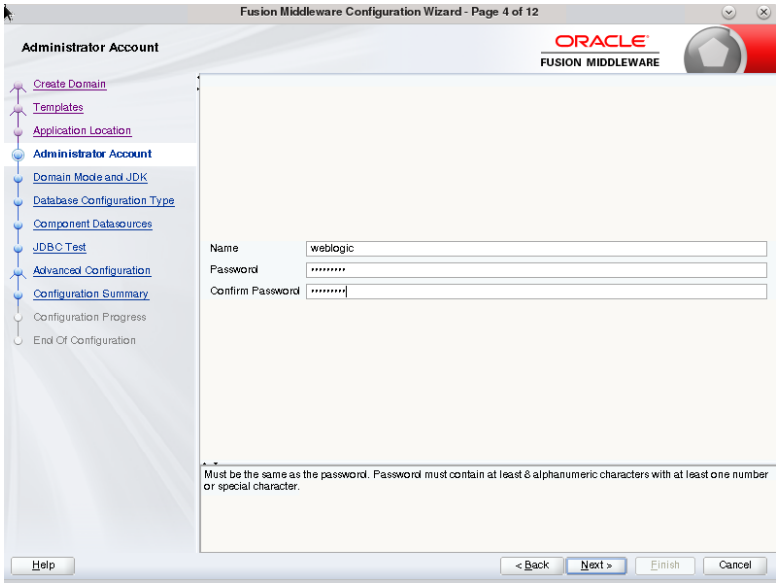
4. Select the application location.

Figure 4–15 Application Location Screen



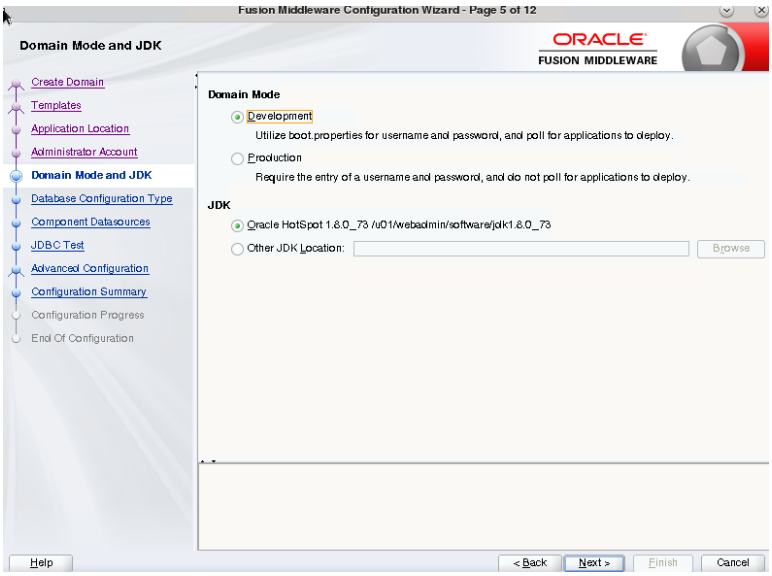
5. Create a WLS Administrator account.

Figure 4–16 Administrator Account Screen



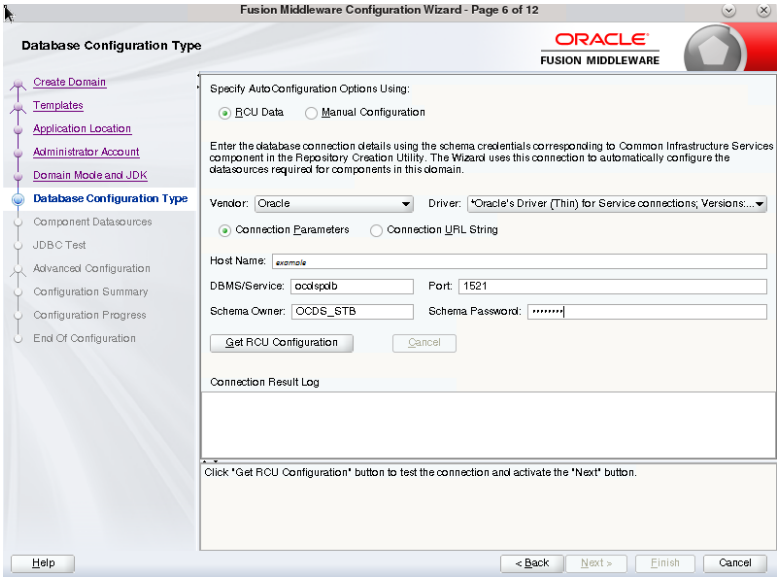
6. Choose a domain mode.

Figure 4–17 Domain Mode and JDK Screen



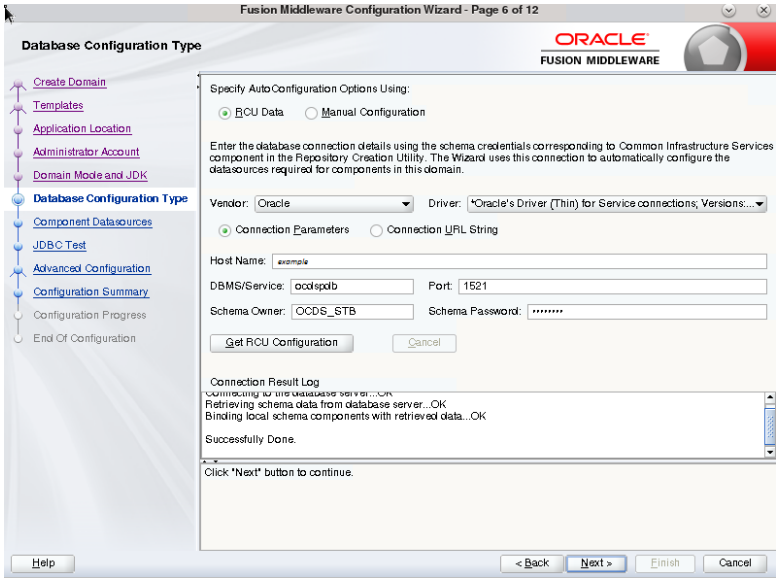
7. Specify the RCU AutoConfiguration. The Schema Owner was created during the RCU step. Complete the form and click the **Get RCU Configuration** button.

Figure 4–18 Database Configuration Type Screen



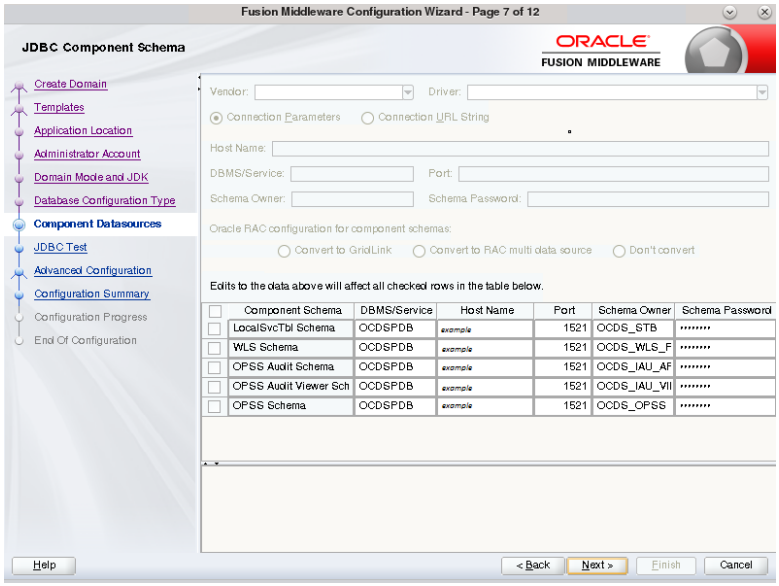
8. Click **Next**, if the Connection Result Log is error free.

Figure 4–19 Database Configuration Type Screen - Displaying Result Log



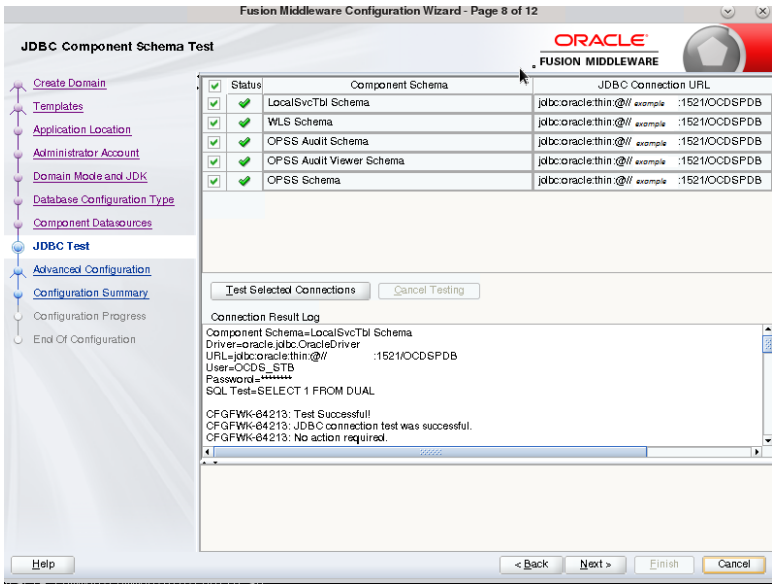
9. Accept defaults, then click **Next** (unless you need to edit schema passwords because they are not all the same).

Figure 4–20 Component Datasources Screen



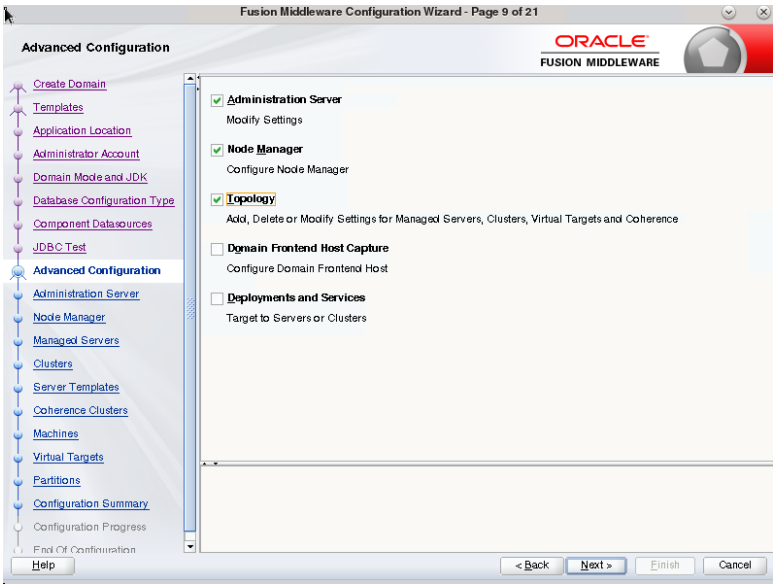
10. Test the selected connections. If all connections are successful, click **Next**.

Figure 4–21 JDBC Test Screen



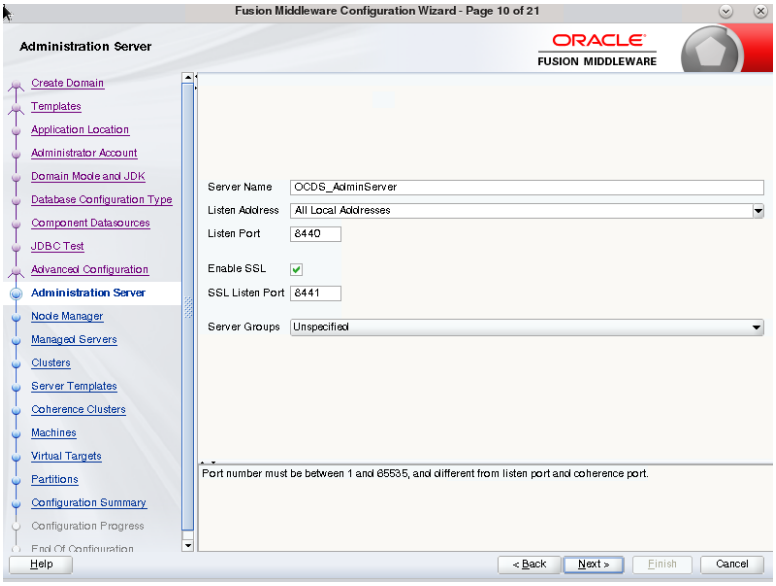
11. Select the settings according to the deployment topology and click **Next**. The Managed Server is shown here.

Figure 4–22 Advanced Configuration Screen



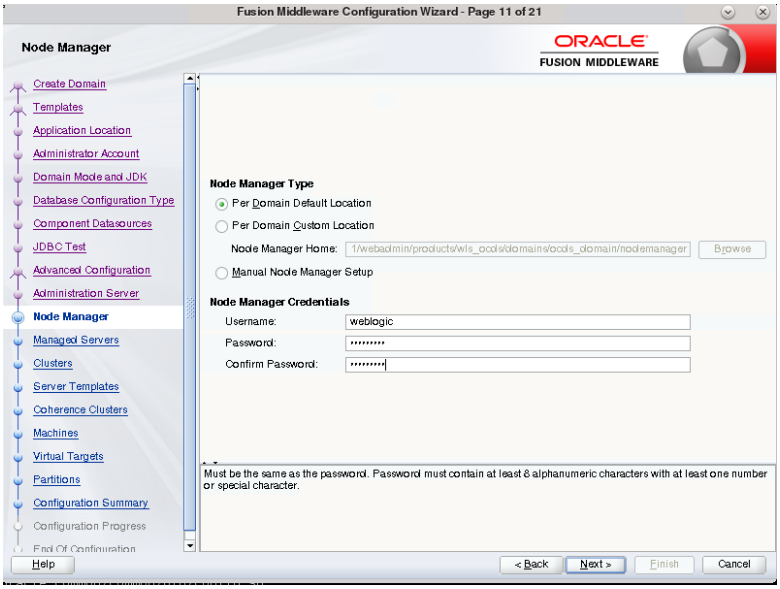
12. Choose the server name and ports, and enable SSL. Then click **Next**.

Figure 4–23 Administration Server Screen



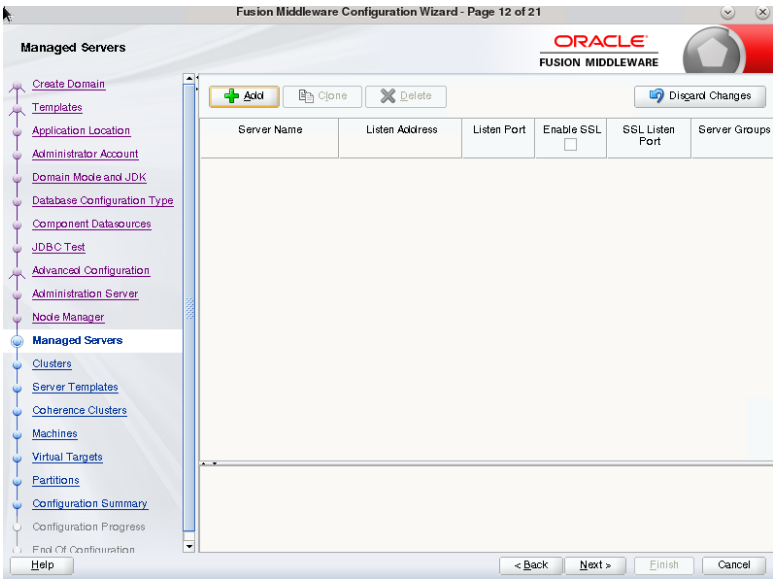
13. Select the Node Manager Type, and enter the Node Manager Credentials, then click **Next**.

Figure 4–24 Node Manager Screen



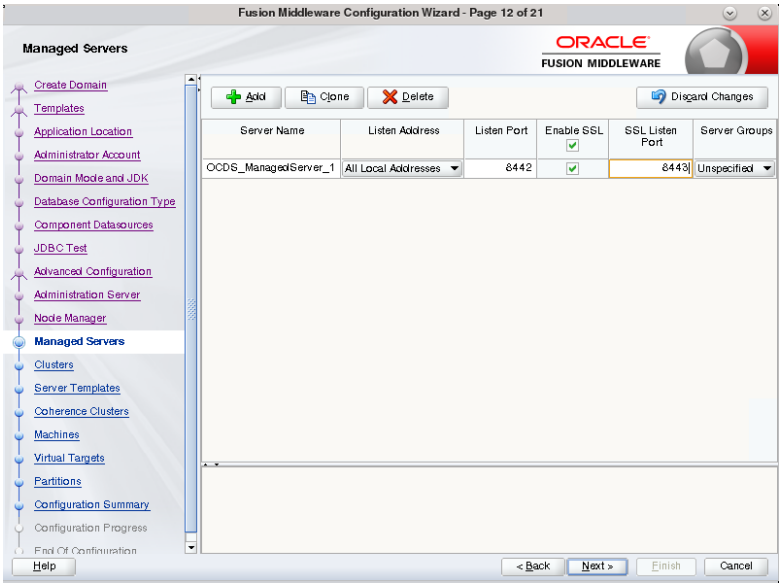
14. Click the **Add** button.

Figure 4–25 Managed Servers Screen



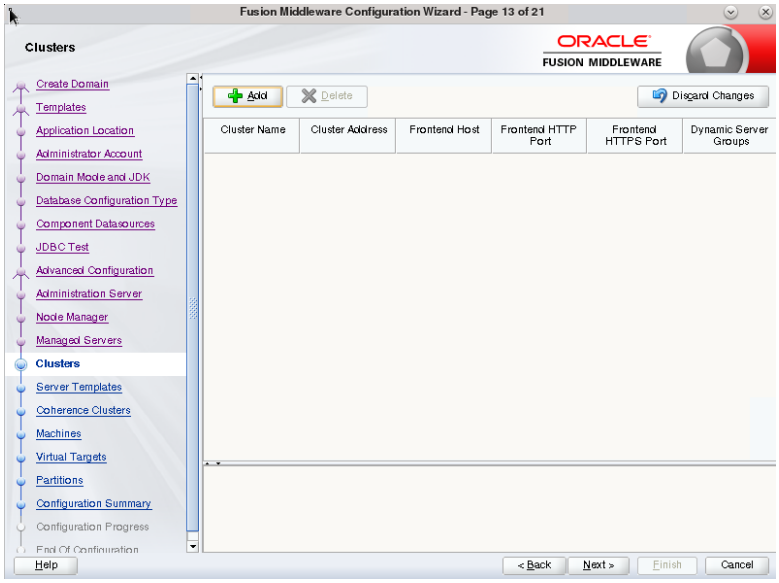
15. Enter the Managed Server name and ports, then click **Next**.

Figure 4–26 Managed Servers Screen - Displaying Server Name



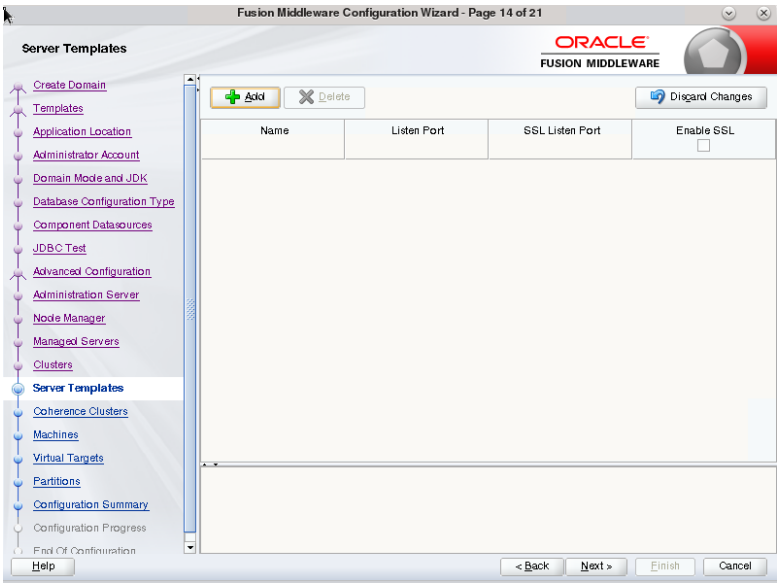
16. Click **Next** if skipping the cluster configuration, or click **Add** to enter information. Then click **Next**.

Figure 4–27 Clusters Screen



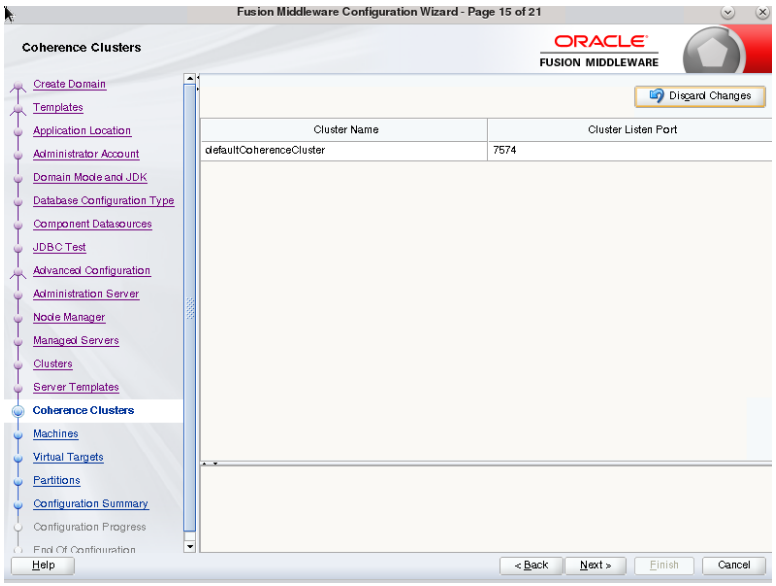
17. Click **Next** if skipping the Server Templates, or click **Add** to enter the information. Then click **Next**.

Figure 4–28 Server Templates Screen



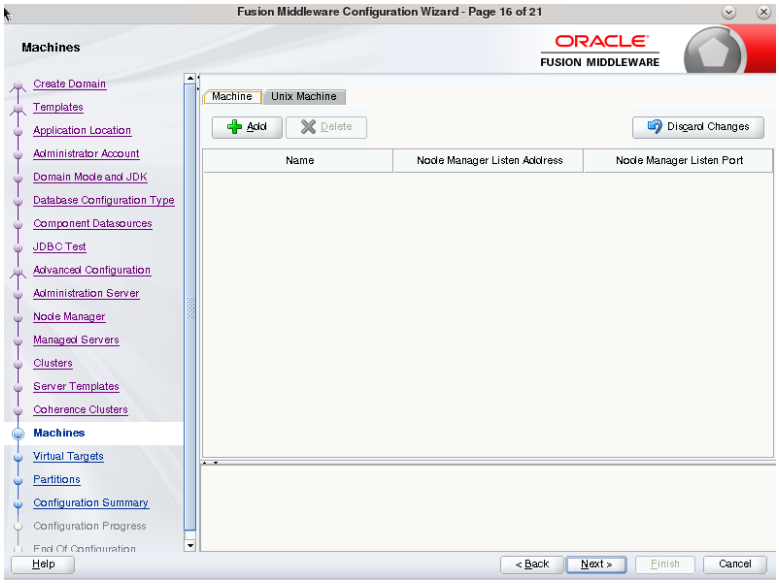
18. Click **Next** if no changes are required.

Figure 4–29 Coherence Clusters Screen



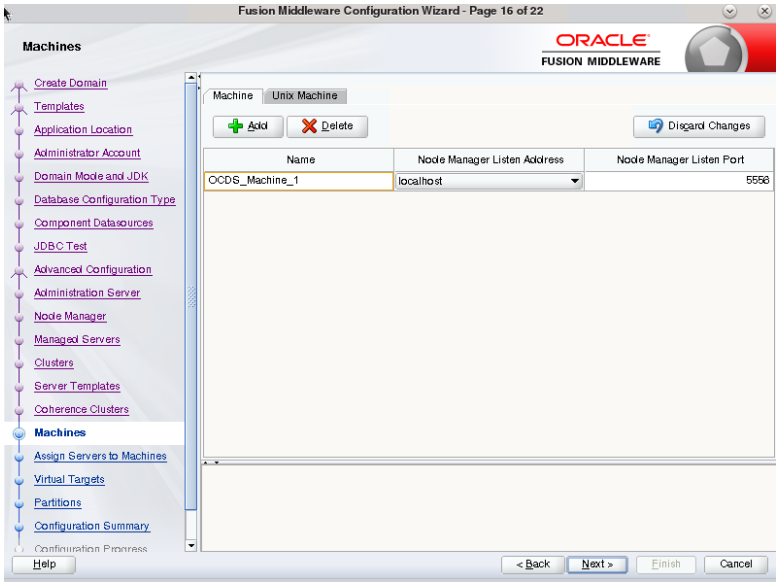
19. Click **Add** to enter the machine information.

Figure 4–30 Machines Screen



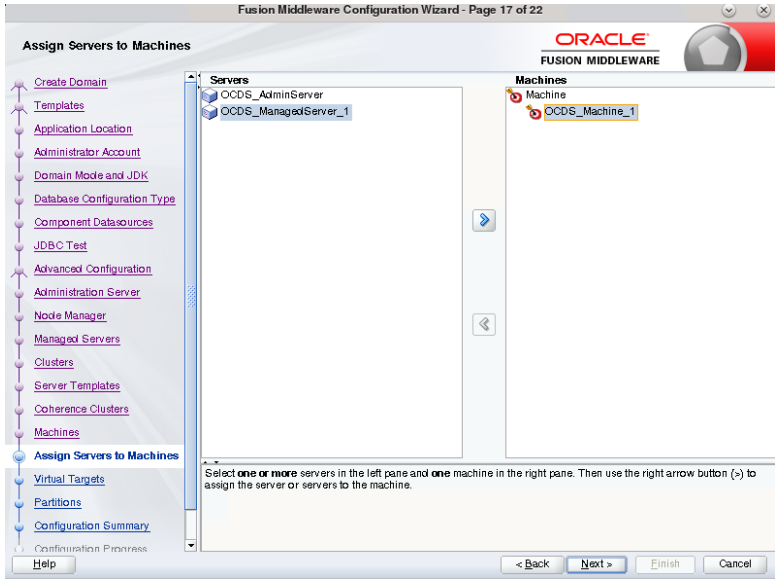
20. Enter the machine and click **Next**.

Figure 4–31 Machines Screen - Displaying Machine Name



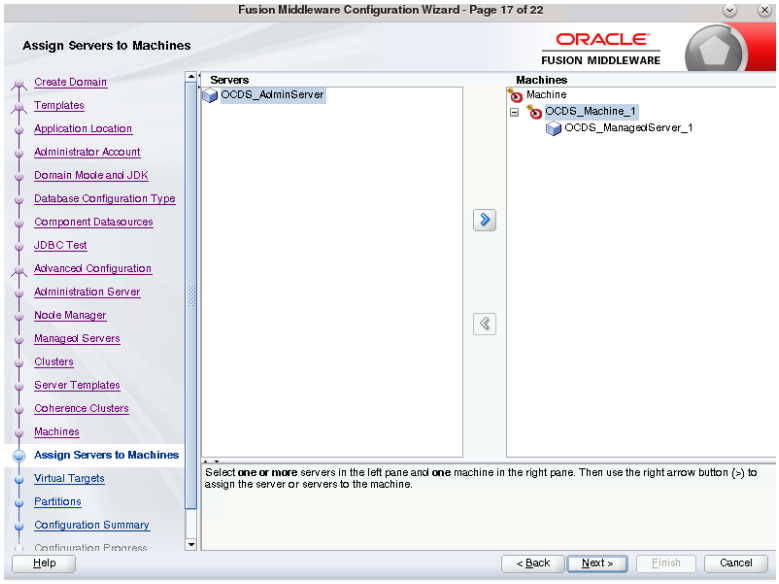
21. Assign the managed server to the machine by selecting the managed server on the left, and the machine on right, then click the right arrow.

Figure 4–32 Assign Servers to Machines Screen



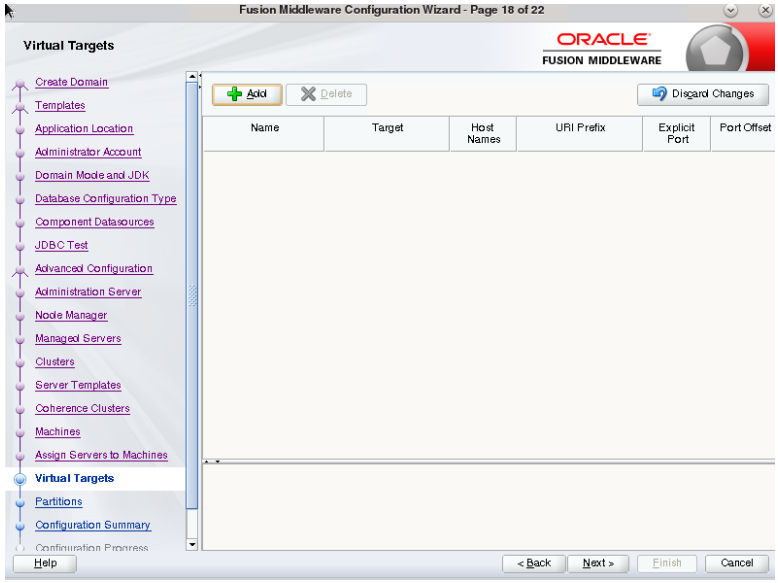
22. Click **Next**.

Figure 4–33 Assign Servers to Machines Screen - Servers Assigned



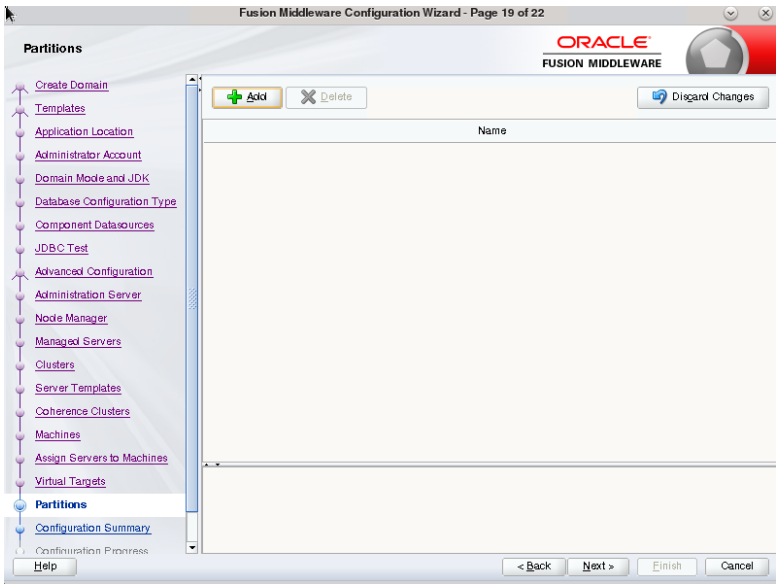
23. Click **Next** to skip virtual targets.

Figure 4–34 Virtual Targets Screen



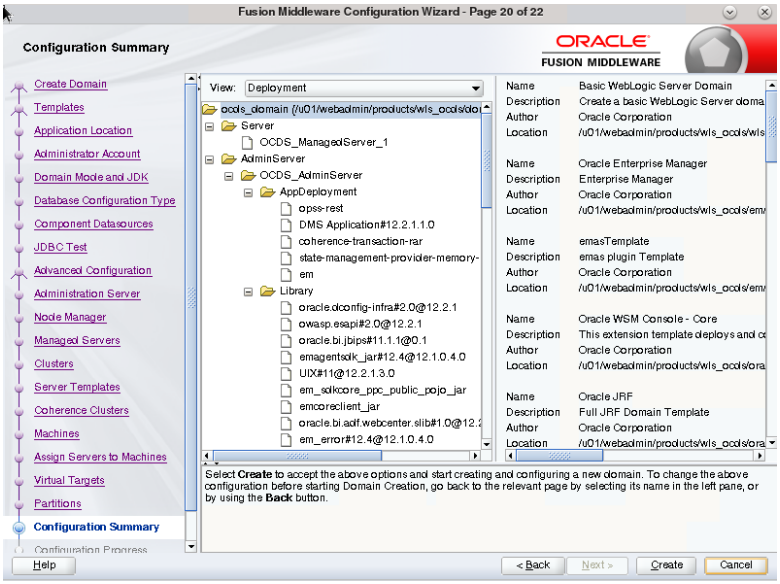
24. Click **Next** to skip partitions.

Figure 4–35 Partitions Screen



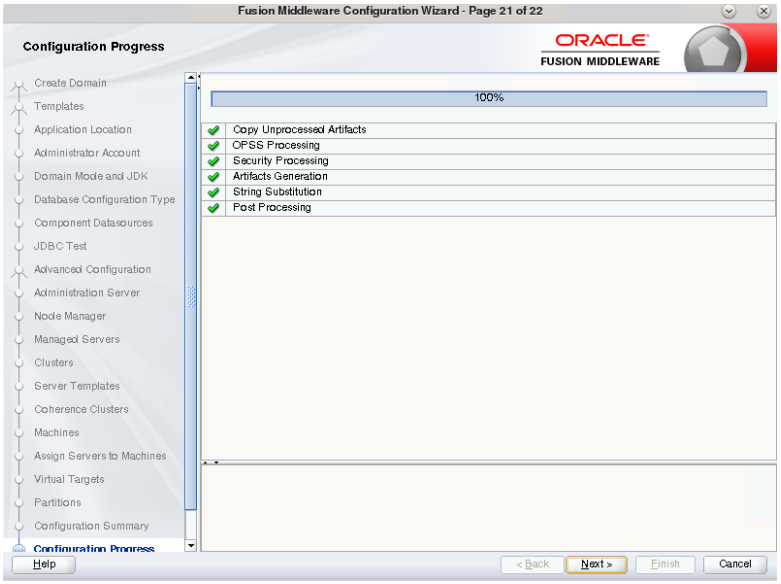
25. Review the domain configuration, then click **Create**.

Figure 4–36 Configuration Summary Screen



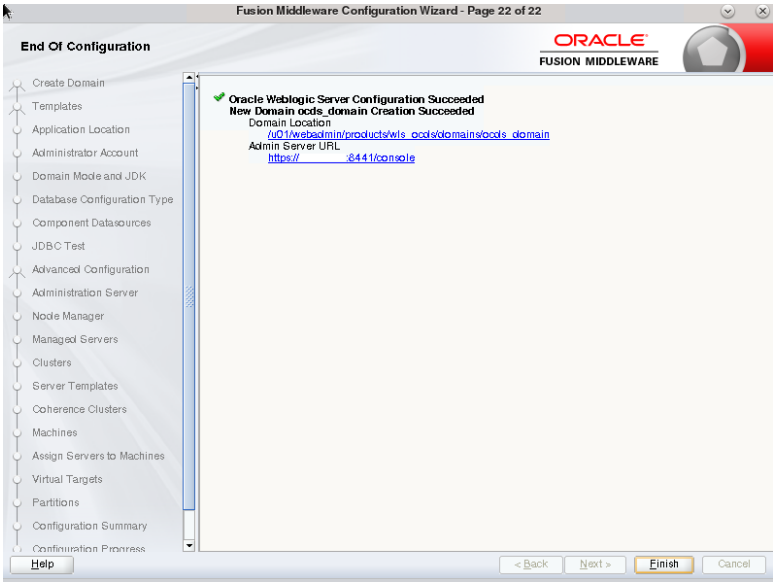
26. Click **Next**. The Configuration Progress is displayed.

Figure 4–37 Configuration Progress Screen



27. Click **Finish** at the confirmation page.

Figure 4–38 End Of Configuration Screen



Note: At this point the new node manager will have SecureListener enabled by default.

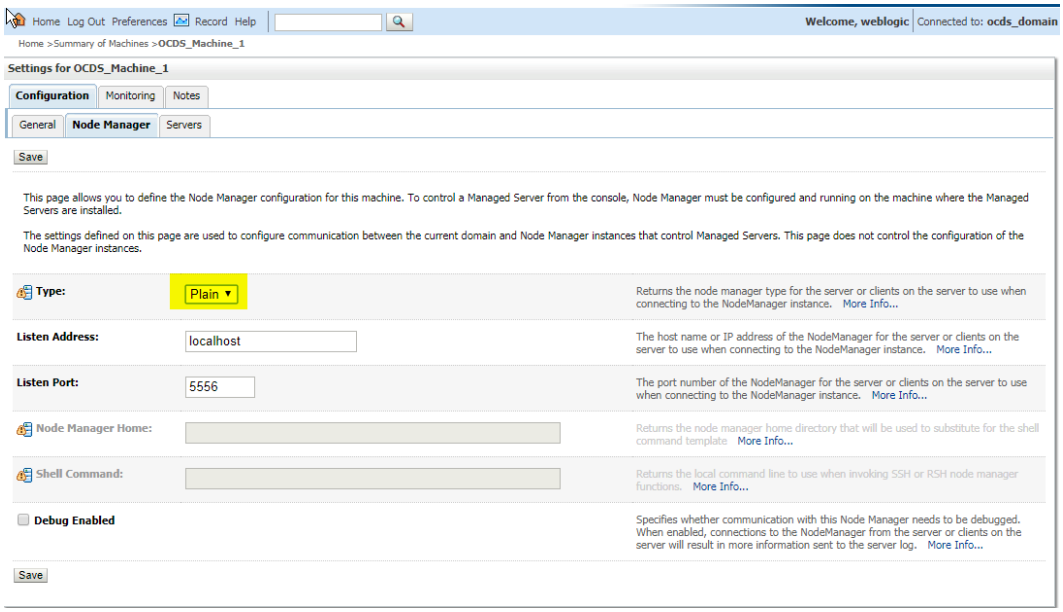
- QA systems may prefer to disable this feature. If so, edit `<DOMAIN_HOME>/nodemanager/nodemanager.properties` and set `SecureListener=false`.

Figure 4–39 Example - SecureListener Property

```
PropertiesVersion=12.2.1
AuthenticationEnabled=true
NodeManagerHome=/u01/webadmin/products/wls_ocds/domains/ocds_domain/nodemanager
JavaHome=/u01/webadmin/software/jdk1.8.0_73
LogLevel=INFO
DomainsFileEnabled=true
ListenAddress=localhost
NativeVersionEnabled=true
ListenPort=5556
LogToStderr=true
weblogic.StartScriptName=startWebLogic.sh
SecureListener=false
LogCount=1
QuitEnabled=false
LogAppend=true
weblogic.StopScriptEnabled=false
StateCheckInterval=500
CrashRecoveryEnabled=false
weblogic.StartScriptEnabled=true
LogFile=/u01/webadmin/products/wls_ocds/domains/ocds_domain/nodemanager/nodemana
ger.log
LogFormatter=weblogic.nodemanager.server.LogFormatter
ListenBacklog=50
```

- In this case, after starting the Node Manager and WebLogic, set the Node Manager's Type to Plain on the machine, by navigating to Home - Machines - [machine] - Node Manager. Then click **Save**.

Figure 4–40 Node Manager Screen with Type Setting Plain



- Finally, bounce node manager, and then WebLogic.

28. Start the Node Manager (`$DOMAIN_HOME/bin/startNodeManager.sh`).
29. Start the Domain (`$DOMAIN_HOME/bin/startWebLogic .cmd`).

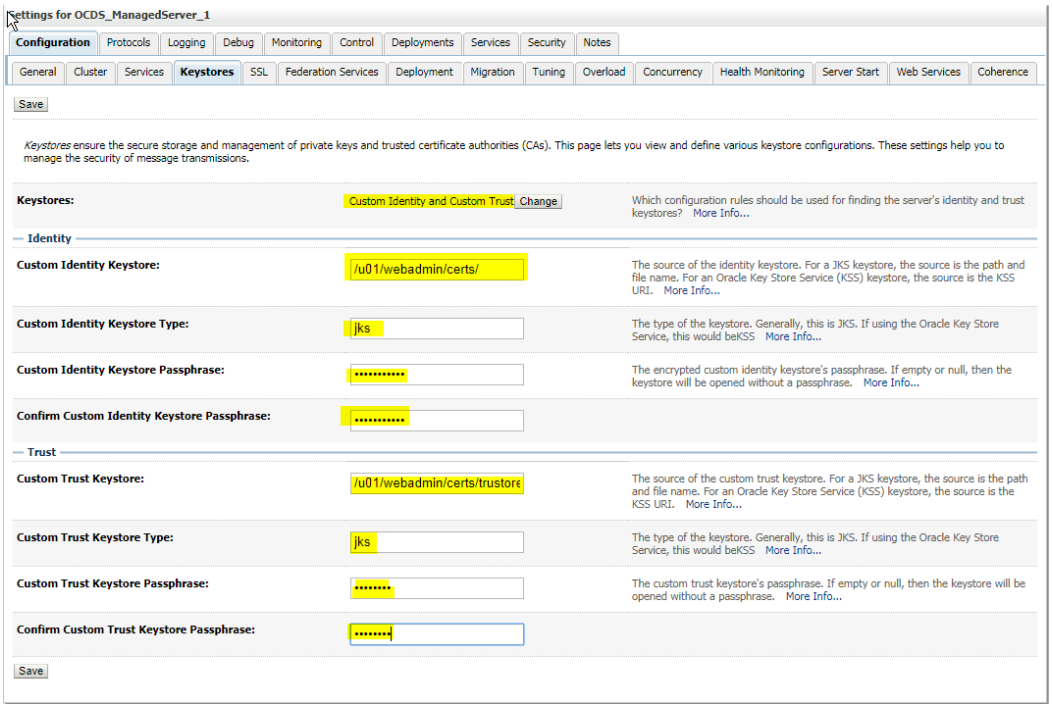
Note: Once the console is up you can start the managed server and configure SSL (if needed)

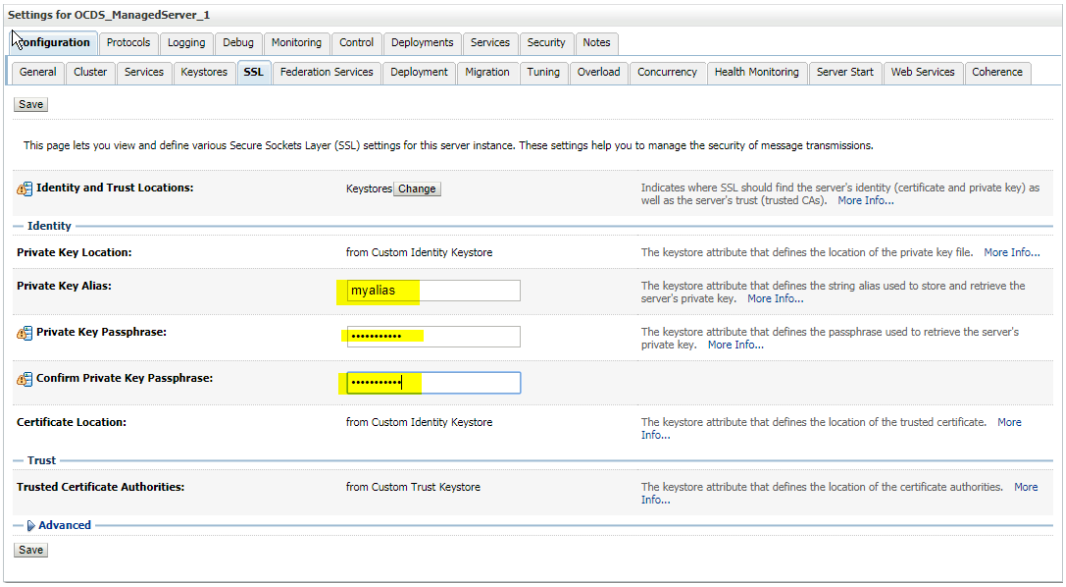
---

30. Start the Managed Server. If you are using the Admin Console, navigate to Home - {Domain} - Summary of Servers - Control (tab), then select managed server and click **Start**.

31. Configure SSL on Managed Server.

Figure 4–41 OCDS Managed Server





32. Add the following security policy to `$ORACLE_HOME/wlserver/server/lib/weblogic.policy` file.

```
grant codeBase "file://-" { 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"; };
```

33. Set JTA timeout to 43200.
    a. Log in to Admin console.
    b. Click on the domain name.
    c. Select the JTA tab and change the timeout value to 43200.

Note: The last two steps are part of the requirements for jobadmin deployment, see the *Oracle Retail Bulk Data Integration Installation Guide* for additional information.

5

OCDS (BDI) Job Admin

This chapter describes the procedure to install and deploy the OCDS (BDI) Job Admin application on a WebLogic domain. The OCDS (BDI) Job Admin is an Oracle Retail Bulk Data Integration component. Additional information can be found about the Installation of a BDI Job Admin in the *Oracle Retail Bulk Data Integration Installation Guide*.

Prerequisites

The installation of OCDS Job Admin component requires 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) described in the previous section, and the steps outlined in the OCDS Schemas chapter of this document.

The target WebLogic Admin Server and Managed Server should be running.

The `JAVA_HOME` environment variable must be set.

Preparation

Perform the following procedure to install the OCDS (BDI) Job Admin Application:

1. Unzip `ocds-jobadmin-deployment.zip`.
2. Configure the `conf/bdi-job-admin-deployment-env-info.json` file with the database and WebLogic domain details. This file is used by the deployment script.
   a. Edit the Datasource definitions for JobAdminDatasource:
      – `jdbcUrl`: Configure the jdbcUrl for all DataSources definitions in DataSourceDef.

        `BatchInfraDataSource` references a schema created using the WebLogic RCU (<prefix>_WLS).

        All other datasources reference the OCDS interface (`ocds_ifc`) schema created during the prerequisite step: OCDS Database Creation.

Figure 5–1 Datasource Definitions

```
"BdiJobAdminDeploymentEnvInfo": {

    "DataSourceDef":{
        "JobAdminDataSource":{
            "dataSourceName":"OcdsJobAdminDataSource",
            "dataSourceClass":"oracle.jdbc.pool.OracleDataSource",
            "dataSourceJndiName":"jdbc/OcdsJobAdminDataSource",
            "jdbcUrl":"jdbc:oracle:thin:@//        :1521/ocdspdb",
            "jdbcUserAlias":"ocdsJobAdminDataSourceUserAlias",
            "jdbcUser":"GET_FROM_WALLET",
            "jdbcPassword":"GET_FROM_WALLET",
            "dataSourceProperties":{
                  "connectionPool_MaxCapacity":"300"
             }
        },
         "ReceiverServiceDataSource":{
            "dataSourceName":"OcdsReceiverServiceDataSource",
            "dataSourceClass":"oracle.jdbc.pool.OracleDataSource",
            "dataSourceJndiName":"jdbc/OcdsReceiverServiceDataSource",
            "jdbcUrl":"jdbc:oracle:thin:@//        :1521/ocdspdb",
            "jdbcUserAlias":"ocdsReceiverServiceDataSourceUserAlias",
            "jdbcUser":"GET_FROM_WALLET",
            "jdbcPassword":"GET_FROM_WALLET",
            "dataSourceProperties":{
                  "connectionPool_MaxCapacity":"300"
             }
        },
        "BatchInfraDataSource":{
            "dataSourceName":"BatchInfraDataSource",
            "dataSourceClass":"oracle.jdbc.xa.client.OracleXADataSource",
            "dataSourceJndiName":"jdbc/BatchInfraDataSource",
            "jdbcUrl":"jdbc:oracle:thin:@//        :1521/ocdspdb",
            "jdbcUserAlias":"batchInfraDataSourceUserAlias",
            "jdbcUser":"GET_FROM_WALLET",
            "jdbcPassword":"GET_FROM_WALLET",
            "dataSourceProperties":{
                  "connectionPool_MaxCapacity":"300"
             }
        },
        "JobXmlDataSource":{
            "dataSourceName":"JobXmlDataSource",
            "dataSourceClass":"oracle.jdbc.xa.client.OracleXADataSource",
            "dataSourceJndiName":"jdbc/JobXmlDataSource",
            "jdbcUrl":"jdbc:oracle:thin:@//        :1521/ocdspdb",
            "jdbcUserAlias":"jobXmlDataSourceUserAlias",
            "jdbcUser":"GET_FROM_WALLET",
            "jdbcPassword":"GET_FROM_WALLET",
            "dataSourceProperties":{
                  "connectionPool_MaxCapacity":"300"
             }
        }
    },
```

b. Edit the Middleware Server definitions for JobAdminAppServer

- `webLogicDomainName`: WebLogic domain name.
- `webLogicDomainHome`: WebLogic domain home directory.
- `webLogicDomainAdminServerUrl`: Server URL information.
- `webLogicDomainAdminServerHost`: Server host.
- `webLogicDomainAdminServerPort`: Admin Server port.
- `webLogicDomainTargetManagedServerName`: Managed Server name.
- `jobAdminUiUrl`: Host and managed server port where Job Admin application will be deployed. This can be setup with the HTTPS port.

Figure 5–2 OCDS Setup HTTPS Port

```
"MiddlewareServerDef":{
    "JobAdminAppServer": {
        "weblogicDomainName": "ocds_domain",
        "weblogicDomainHome": "/u01/webadmin/products/wls_ocds/domains/ocds_domain",
        "weblogicDomainAdminServerUrl": "t3://localhost:8440",
        "weblogicDomainAdminServerProtocol": "t3",
        "weblogicDomainAdminServerHost": "localhost",
        "weblogicDomainAdminServerPort": "8440",
        "weblogicDomainAdminServerUserAlias": "OcdsAppServerAdminServerUserAlias",
        "weblogicDomainTargetManagedServerName": "OCDS_ManagedServer_1",

        "jobAdminUiUrl":"http://localhost:8442/ocds-batch-job-admin",
        "jobAdminUiUserGroup":"BdiEdgeOcdsJobAdminGroup",
        "jobAdminUiUserAlias":"ocdsJobAdminUiUserAlias",
        "jobAdminUiUser":"GET_FROM_WALLET",
        "jobAdminUiPassword":"GET_FROM_WALLET",

        "jobOperatorUiUserGroup":"BdiEdgeOcdsJobOperatorGroup",
        "jobOperatorUiUserAlias":"ocdsJobOperatorUiUserAlias",
        "jobOperatorUiUser":"GET_FROM_WALLET",
        "jobOperatorUiPassword":"GET_FROM_WALLET",

        "jobMonitorUiUserGroup":"BdiEdgeOcdsJobMonitorGroup",
        "jobMonitorUiUserAlias":"ocdsJobMonitorUiUserAlias",
        "jobMonitorUiUser":"GET_FROM_WALLET",
        "jobMonitorUiPassword":"GET_FROM_WALLET"
    }
},
"JobAdminApplication":{
    "appName":"ocds",
    "JobAdminAppUses":[
        "JobAdminDataSource",
        "JobAdminAppServer",
        {
            "RemoteJobAdminAppServers":[]
        }
    ]
}
```

c. Edit RMS JobAdmin Server.

– - jobAdminUiUrl: Host and managed server port where Job Admin application will be deployed. This can be setup with the HTTPS port.

Figure 5–3 RMS JobAdmin Server Setup

```
"RmsJobAdminAppServer": {
   "jobAdminUiUrl":"http://localhost:7001/rms-batch-job-admin",
   "jobAdminUiUserAlias":"rmsJobAdminBaseUrlUserAlias",
   "jobAdminUiUser":"GET_FROM_WALLET",
   "jobAdminUiPassword":"GET_FROM_WALLET",
}
```

Job Admin Installation

Perform the following procedure to install and deploy the Job Admin Application.

1. Change to the `ocds-jobadmin-deployment/bin` folder and execute the version `bdi-job-admin-deployer script` for the o/s using the switches:

`-setup-credentials -deploy-job-admin-app`

On Linux:

```
./bdi-job-admin-deployer.sh -setup-credentials -deploy-job-admin-app
```

On Windows:

```
bdi-job-admin-deployer.cmd -setup-credentials -deploy-job-admin-app
```

a. There will be one prompt for a WebLogic user credential:

– Enter username for alias (`OcdsAppServerAdminServerUserAlias`):

Enter the WebLogic Admin Server credentials.

Figure 5–4 OCDS App Servers Admin Server User Alias

```
bash-4.2$ ./bdi-job-admin-deployer.sh -setup-credentials -deploy-job-admin-app
log4j:WARN No appenders could be found for logger (com.oracle.retail.integration.common.security.credential.CredentialStoreMa
nager).
log4j:WARN Please initialize the log4j system properly.

Credential required for weblogicDomainAdminServerHost(localhost) weblogicDomainAdminServerPort(8440):
Enter username for alias (OcdsAppServerAdminServerUserAlias):weblogic
Enter Password:
```

b. There will be three prompts to create JobAdmin user credentials:

- Enter username for alias (`ocdsJobAdminUiUserAlias`):

  Enter credentials to be used to create the *Admin* user.

- Enter username for alias (`ocdsJobOperatorUiUserAlias`):

  Enter credentials to be used to create the *Operator* user.

- Enter username for alias (`ocdsJobMonitorUiUserAlias`):

  Enter credentials to be used to create the *Monitor* user.

Figure 5–5 Prompts to Create JobAdmin User Credentials

```
Credential required for jobAdminUiUrl(http://localhost:8442/ocds-batch-job-admin):
Enter username for alias (ocdsJobAdminUiUserAlias):ocdsadmin
Enter Password:
Prepare to use DB store for runtime credentials
Preparing to store Runtime credentials on the DB store with appTag (ocds-batch-job-admin.war)
Persisting runtime credentials to DB store

Credential required for jobOperatorUiUrl(http://localhost:8442/ocds-batch-job-admin):
Enter username for alias (ocdsJobOperatorUiUserAlias):ocdsoperator
Enter Password:
Persisting runtime credentials to DB store

Credential required for jobMonitorUiUrl(http://localhost:8442/ocds-batch-job-admin):
Enter username for alias (ocdsJobMonitorUiUserAlias):ocdsmonitor
Enter Password:
```

c. There will be four prompts for database user credentials. Three of the four credentials are for the OCDS Interface User named `ocds_ifc`.

- Enter username for alias (`ocdsJobAdminDataSourceUserAlias`):

  Enter the credentials for the OCDS Interface schema user. The username must be `ocds_ifc`. The password was defined as a prerequisite in the Chapter 3, "OCDS Schemas".

- Enter username for alias (`ocdsReceiverServiceDataSourceUserAlias`):

  Enter the credentials for the OCDS Interface schema user. The username must be `ocds_ifc`. The password was defined as a prerequisite in the Chapter 3, "OCDS Schemas".

- Enter username for alias (`batchInfraDataSourceUserAlias`):

  Enter the credentials for the <prefix>_WLS schema created during the Repository Creation Utility (RCU) step.

Figure 5–6 Prompts for Database User Credentials

```
Credential required for dataSource(jdbc/OcdsJobAdminDataSource) jdbcUrl(jdbc:oracle:thin:@//        :1521/ocdspdb):
Enter username for alias (ocdsJobAdminDataSourceUserAlias):ocds_ifc
Enter Password:

Credential required for ReceiverService dataSource(jdbc/OcdsReceiverServiceDataSource) jdbcUrl(jdbc:oracle:thin:@//        :1
521/ocdspdb):
Enter username for alias (ocdsReceiverServiceDataSourceUserAlias):ocds_ifc
Enter Password:

Credential required for BatchInfraDataSource dataSource(jdbc/BatchInfraDataSource) jdbcUrl(jdbc:oracle:thin:@//        :1521/
ocdspdb):
Enter username for alias (batchInfraDataSourceUserAlias):OCDS_WLS
Enter Password:

Credential required for JobXmlDataSource dataSource(jdbc/JobXmlDataSource) jdbcUrl(jdbc:oracle:thin:@//       :1521/ocdspdb):
Enter username for alias (jobXmlDataSourceUserAlias):ocds_ifc
Enter Password:
```

Verify Installation

After the OCDS (BDI) Job Admin application has been successfully deployed you should be able to access and log into the application's user interface.

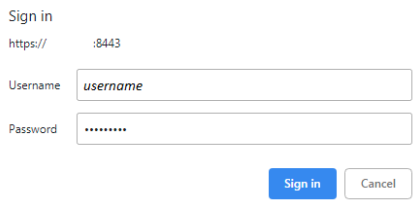
1. Verify that the BDI Job Admin has been deployed.

   a. Go to `http[s]://<host>:<port>/ocds-batch-job-admin/`

      Example: `https://example:8443/ocds-batch-job-admin/`

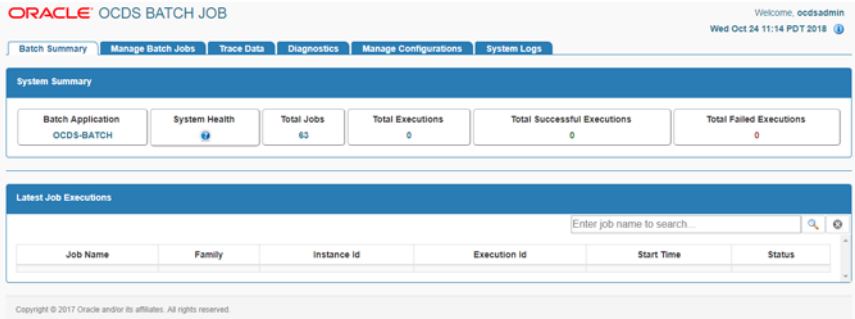
   b. At the prompt enter one of the Job Admin User credentials created during the installation.

Figure 5–7 Job Admin User Credentials



   c. The OCDS Job Admin UI displays.

Figure 5–8 OCDS Job Admin UI



6

OCDS (RIB) Injector

This chapter describes the procedure to install and deploy the OCDS (RIB) Injector application on a WebLogic domain.

Prerequisites

The target WebLogic Admin Server and Managed Server should be running.

The `JAVA_HOME` environment variable must be set.

Preparation

Perform the following procedure to install the OCDS (RIB) Injector Application:

1. Configure the `conf/bdi-job-admin-deployment-env-info.json` file with the database and WebLogic domain details. This file is used by the deployment script.

   a. Edit the Datasource definitions for InjectorDataSource.

      – `jdbcUrl`: This is the jdbc URL needed to connect to the OCDS Transactional schema. The OCDS Transactional (`ocds_txn`) schema was created during the prerequisite step: OCDS Database: Database Creation.

Figure 6–1 jdbc URL

```
"InjectorDeploymentEnvInfo": {

    "DataSourceDef":{
        "InjectorDataSource":{
            "dataSourceName":"InjectorDataSource",
            "dataSourceClass":"oracle.jdbc.pool.OracleDataSource",
            "dataSourceJndiName":"jdbc/InjectorDataSource",
            "jdbcUrl":"jdbc:oracle:thin:@/        :1521/ocdspdb",
            "jdbcUserAlias":"InjectorDataSourceUserAlias",
            "jdbcUser":"GET_FROM_WALLET",
            "jdbcPassword":"GET_FROM_WALLET"
        }
    },
```

   b. Edit the Middleware Server definitions for InjectorAppServer.

      – `webLogicDomainName`: WebLogic domain name.

      – `webLogicDomainHome`: WebLogic domain home directory.

      – `webLogicDomainAdminServerUrl`: Server URL information.

      – `webLogicDomainAdminServerHost`: Server host.

      – `webLogicDomainAdminServerPort`: Admin Server port.

      – `webLogicDomainTargetManagedServerName`: Managed Server name.

Figure 6–2 Middleware Server Definitions

```
"MiddlewareServerDef":{
    "InjectorAppServer": {
        "weblogicDomainName": "ocds_domain",
        "weblogicDomainHome": "/u01/                                                    ",
        "weblogicDomainAdminServerUrl": "t3://localhost:8440",
        "weblogicDomainAdminServerProtocol": "t3",
        "weblogicDomainAdminServerHost": "localhost",
        "weblogicDomainAdminServerPort": "8440",
        "weblogicDomainAdminServerUserAlias": "OcdsAppServerAdminServerUserAlias",
        "weblogicDomainTargetManagedServerName": "OCDS_ManagedServer_1",

        "injectorIntegrationUserGroup":"IntegrationGroup",
        "injectorIntegrationUserAlias":"IntegrationUserAlias",
        "injectorIntegrationUser":"GET_FROM_WALLET",
        "injectorIntegrationPassword":"GET_FROM_WALLET",

    }
},
```

Injector Installation

Perform the following procedures to install and deploy the Injector application.

1. Change to the `ocds-injector-deployment/bin` folder and execute the version of injector-deployer script for the o/s using the switches:

   `-setup-credentials -deploy-injector-app`

   On Linux:

   `./injector-deployer.sh -setup-credentials -deploy-injector-app`

   On Windows:

   `injector-deployer.cmd -setup-credentials -deploy-injector-app`

   a. There will be one prompt for WebLogic user credentials:

   – Enter username for alias (`OcdsAppServerAdminServerUserAlias`):

     Enter the WebLogic Admin Server credentials.

Figure 6–3 WebLogic User Credentials

```
bash-4.2$ ./injector-deployer.sh -setup-credentials -deploy-injector-app
Extracting jars from jps-wallet-all.
log4j:WARN No appenders could be found for logger (com.oracle.retail.integration.common.security.credential.CredentialStoreMa
nager).
log4j:WARN Please initialize the log4j system properly.

Credential required for weblogicDomainAdminServerHost(localhost) weblogicDomainAdminServerPort(8440):
Enter username for alias (OcdsAppServerAdminServerUserAlias):weblogic
Enter Password:
```

   b. There will be one prompt to create the Integration User:

   – Enter username for alias (`IntegrationUserAlias`):

     Enter credentials for the integration user. These credentials will enable RIB to communicate with OCDS.

Note: Password must not start with a number.

Figure 6–4 Integration User

```
Credential required for Integration User:
Enter username for alias (IntegrationUserAlias):integrationUser
Enter Password:
```

   c. There will be one prompt for database user credentials.

– Enter username for alias (`InjectorDataSourceUserAlias`):

  Enter the credentials for the OCDS Transactional schema user. The username must be `ocds_txn`. The password was defined as a prerequisite in Chapter 3, "OCDS Schemas".

Figure 6–5 Prompt Database User Credentials

```
Credential required for dataSource(jdbc/InjectorDataSource) jdbcUrl(jdbc:oracle:thin:@/        :1521/ocdspdb):
Enter username for alias (InjectorDataSourceUserAlias):ocds_txn
Enter Password:
```

Verify Installation

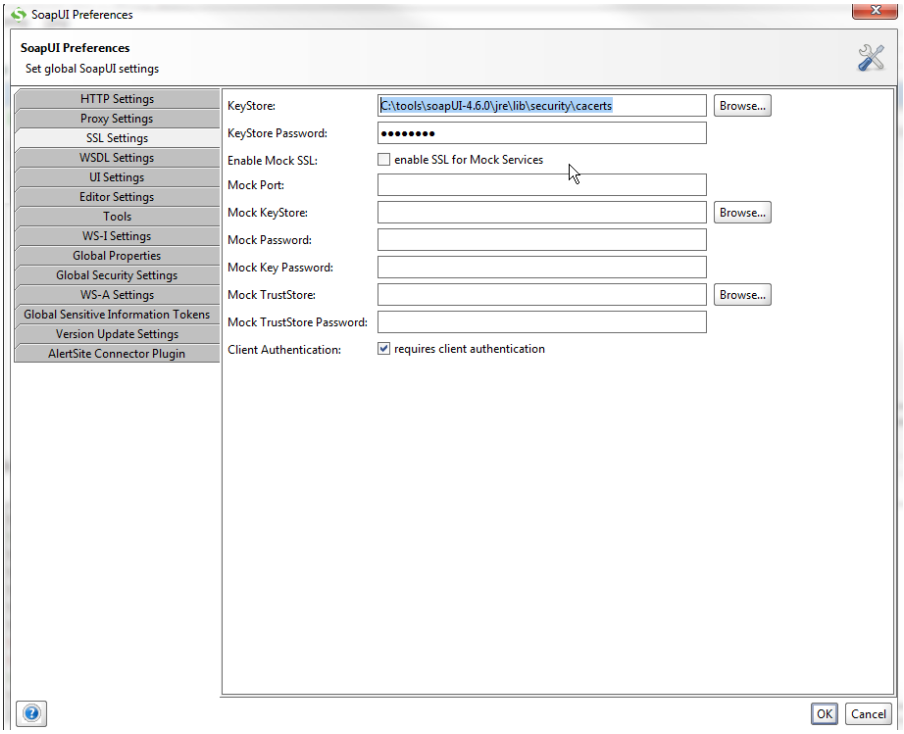
If the OCDS (RIB) Injector application has been successfully deployed then you should be able to verify the application is reported with an OK health status, and invoke a SOAP Web Service call from a tool like SOAP UI.

1. Verify the OCDS Injector Application (`injector.war`) is deployed and has a status of Active on the WLS Console.
2. The injector deployment can be more thoroughly verified by using the SOAP UI (`http://www.soapui.org`). Out of the box, the Injector is secured with RGBU PolicyA.

   To configure SOAP UI to make SOAP requests:

   a. Add trusted SSL certificate to SOAPUI truststore. See SOAPUI preferences for location of truststore.

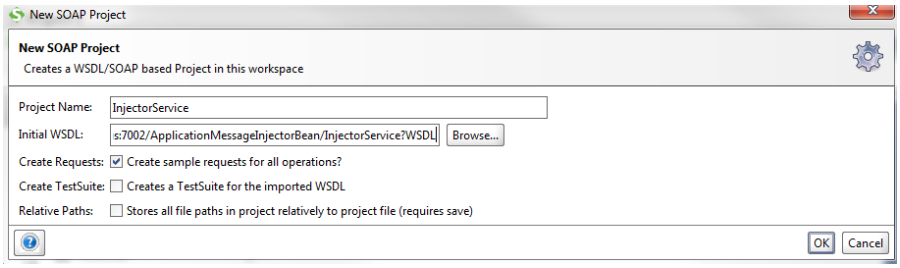
Figure 6–6 SOAP UI Preferences



   b. Create a new SOAP Project.

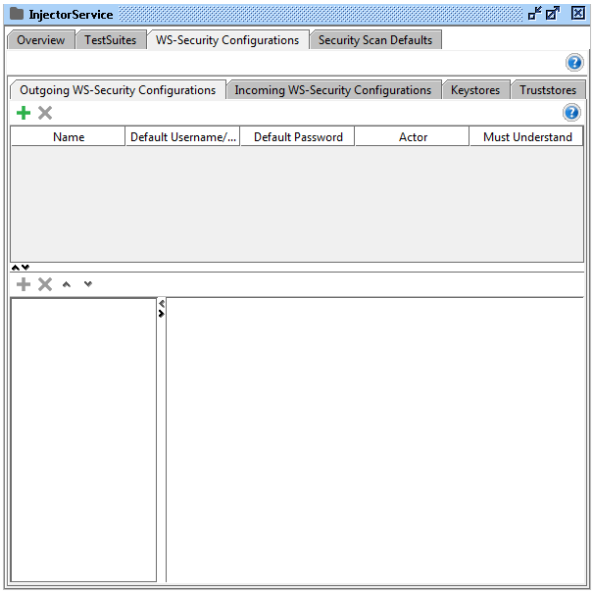
The WSDL location is `https://<host>:<port>/ /ApplicationMessageInjectorBean/InjectorService?WSDL`.

Figure 6–7 SOAP Project



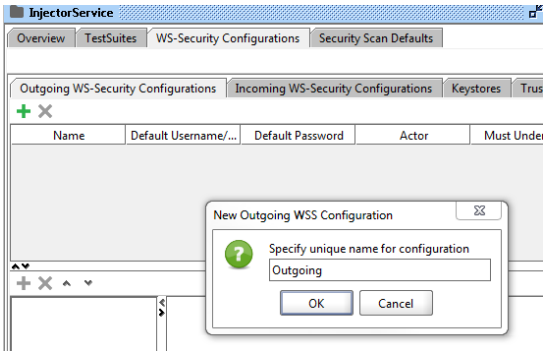
c. Create an outgoing WS-Security Configuration (from Show Project View).

Figure 6–8 WS-Security Configuration



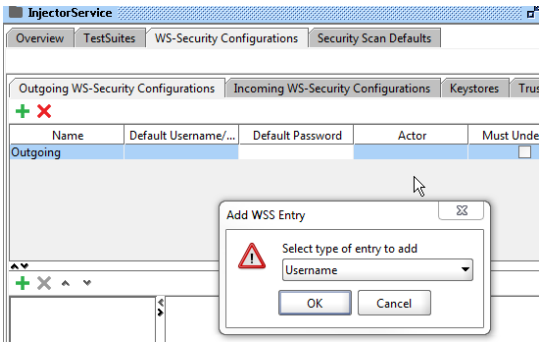
d. Click the Plus sign to specify a unique name.

Figure 6–9 Name for Configuration



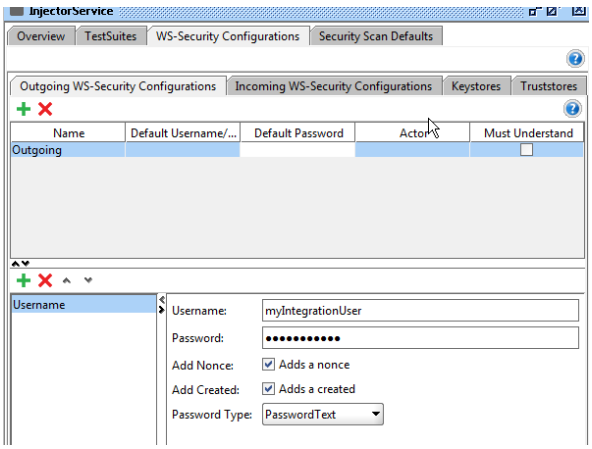
e. Click the Plus sign in lower section to add user name WSS Entry.

Figure 6–10 Add User Name to WSS Entry



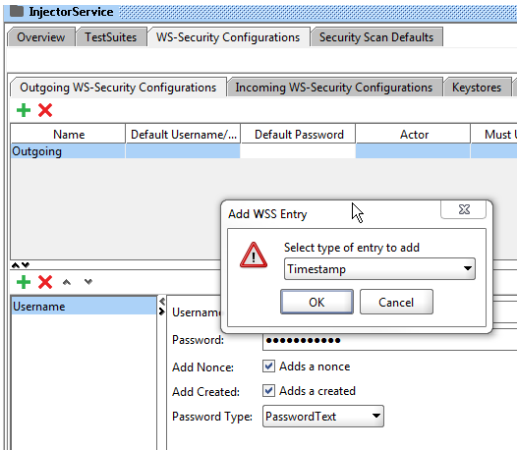
f. Enter the Integration user's username and password for the integration user and set the Password Type to PasswordText. (The user was defined when deploying the Injector.)

Figure 6–11 Set Password Type



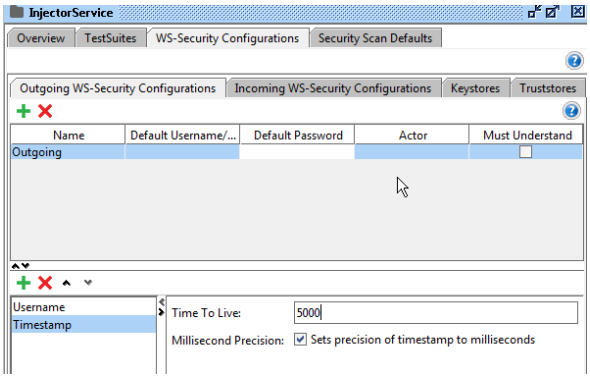
g. Click the Plus sign in the lower section to create a timestamp WSS entry.

Figure 6–12 Create Timestamp WSS Entry



h. Set the time to live to a large enough number to account for any network latency.

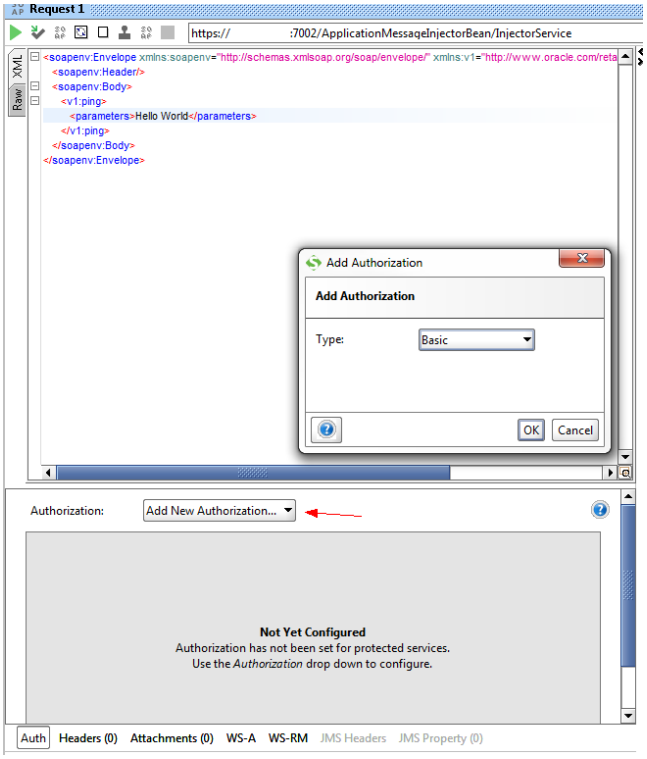
Figure 6–13 Set Time to Live Entry



i. The Inject Service has two operations. For each Operations' Request.

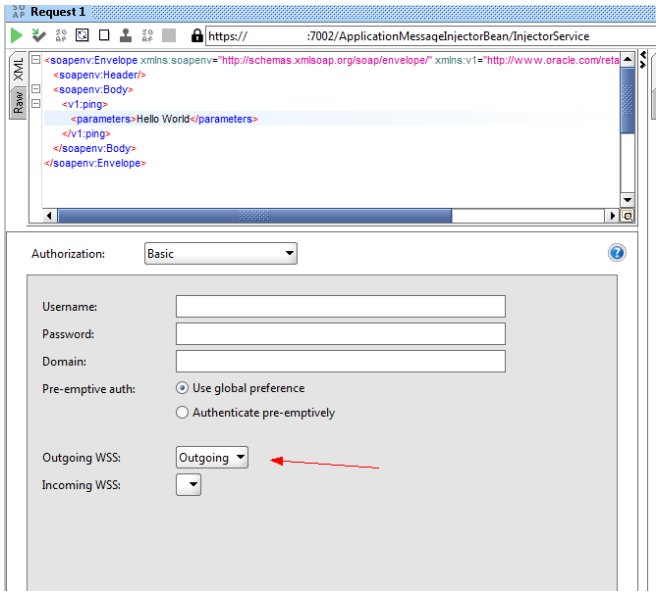
– Add a New Authorization: Basic

Figure 6–14 Add New Authorization



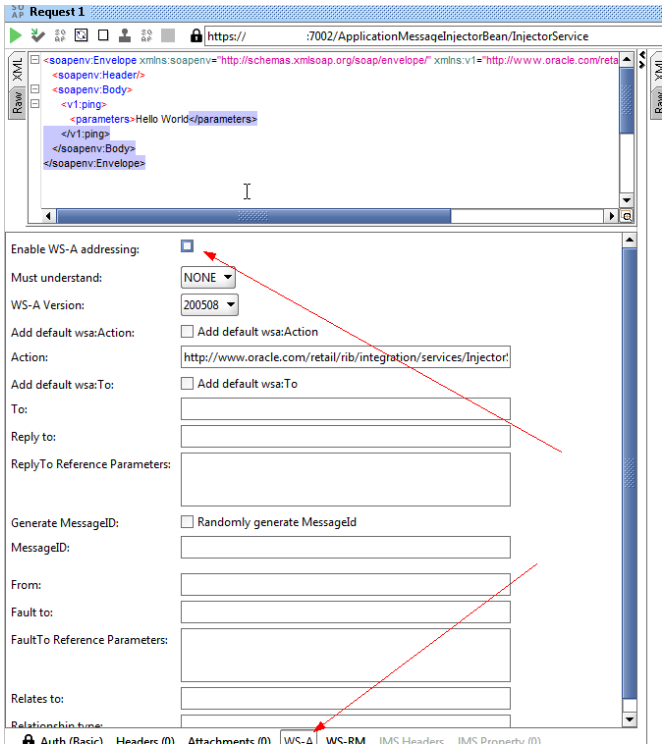
– Select the name you used for the Outgoing WSS.

Figure 6–15 Outgoing WSS



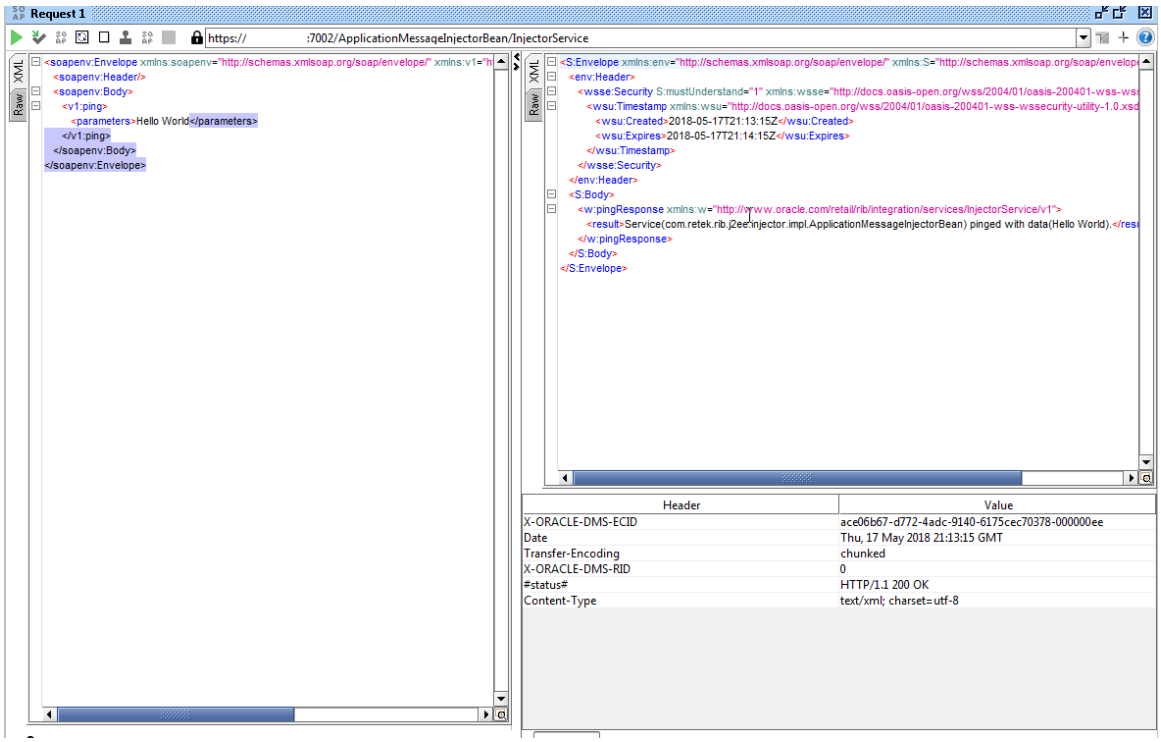
j. On the WS-A tab make sure Enable WS-A addressing is not selected.

Figure 6–16 WS-A Tab



k. Create a valid request and send it. The request is now using policy A.

Figure 6–17 Create Valid Request



7

OCDS (ORDS) Web Services

This chapter describes the process to deploy the configured 19.2 ords.war file onto the OCDS domain.

Prerequisites

The prerequisites and steps outlined in the OCDS Schemas chapter have been completed.

The target WebLogic Admin Server and Managed Server should be running.

The `JAVA_HOME` environment variable must be set.

Preparation

The OCDS Web Services leverage Oracle REST Data Services (ORDS). Perform the following procedure to prepare for the installation of ORDS.

1. Unzip `ocds-ords-deployment.zip`.
2. Copy the configured 19.2 ords.war file into the /dist folder.

   Note: This ords.war file should have the config dir set to the correct /config folder. Otherwise set the location of the ORDS configuration files using:

   ```
   java -jar ords.war configdir </path/to/ords/config>
   ```

3. Copy /config folder that was used when setting up ORDS in the database itself (see "Configured ORDS 19.2 for the OCDS database"). It should contain /config/ords that has url-mapping.xml, <pdb_name>_pu.xml and other config files created when setting up the database.

Deploy ORDS

Perform the following procedure to deploy the ORDS web application onto a WebLogic Domain:

1. Configure `conf/ords-deployment-env-info.json` file with the database and WebLogic domain details. This file is used by the deployment script.
   a. Edit the Middleware Server definitions for `OrdsAppServer`.
      – `webLogicDomainName`: WebLogic domain name.

- `webLogicDomainHome`: WebLogic domain home directory.
- `webLogicDomainAdminServerUrl`: Server URL information.
- `webLogicDomainAdminServerHost`: Server host.
- `webLogicDomainAdminServerPort`: Admin Server port.
- `webLogicDomainTargetManagedServerName`: Managed Server name.

Figure 7–1 Middleware Server Definitions for OrdsAppServer

```
"OrdsDeploymentEnvInfo": {

    "MiddlewareServerDef":{
        "OrdsAppServer": {
            "weblogicDomainName": "ocds_domain",
            "weblogicDomainHome": "/u01/webadmin/products/wls_ocds/domains/ocds_domain",
            "weblogicDomainAdminServerUrl": "t3://localhost:8440",
            "weblogicDomainAdminServerProtocol": "t3",
            "weblogicDomainAdminServerHost": "localhost",
            "weblogicDomainAdminServerPort": "8440",
            "weblogicDomainAdminServerUserAlias": "OcdsAppServerAdminServerUserAlias",
            "weblogicDomainTargetManagedServerName": "OCDS_ManagedServer_1",

            "ordsIntegrationUserGroup":"OcdsMonitorGroup",
            "ordsIntegrationUserAlias":"IntegrationUserAlias",
            "ordsIntegrationUser":"GET_FROM_WALLET",
            "ordsIntegrationPassword":"GET_FROM_WALLET",

        }
    },
    "OrdsApplication":{
        "appName":"ords",
        "OrdsAppUses":[
            "OrdsAppServer"
        ]
    }
}
```

2. Stop and restart the Managed Server and the Admin Server.
3. With the WebLogic Admin Server and the Managed Server running, change to the `ocds-ords-deployment/bin` folder and execute the version ords-deployer script for the o/s using the switches:

   `-setup-credentials -deploy-ords-app`

   On Linux:

   `./ords-deployer.sh -setup-credentials -deploy-ords-app`

   On Windows:

   `ords-deployer.cmd -setup-credentials -deploy-ords-app`

   a. There will be one prompt for WebLogic user credentials:

      - Enter username for alias (`OcdsAppServerAdminServerUserAlias`):

        Enter the WebLogic Admin Server credentials.

Figure 7–2 WebLogic User Credentials

```
bash-4.2$ ./ords-deployer.sh -setup-credentials -deploy-ords-app
Extracting jars from jps-wallet-all.
log4j:WARN No appenders could be found for logger (com.oracle.retail.integration.common.security.credential.CredentialStoreMa
nager).
log4j:WARN Please initialize the log4j system properly.

Credential required for weblogicDomainAdminServerHost(localhost) weblogicDomainAdminServerPort(8440):
Enter username for alias (OcdsAppServerAdminServerUserAlias):weblogic
Enter Password:
```

   b. There will be one prompt to create the OCDS Integration User:

Enter the credentials for the OCDS Integration user. These credentials will enable an Omnichannel application, such as the Xstore Suite, to communicate with OCDS.

Note: Password must not start with a number.

Figure 7–3 OCDS Integration User

```
Credential required for OCDS Web Service Integration User:
Enter username for alias (IntegrationUserAlias):ocdsXstoreUser
Enter Password:
```

Verify Installation

If the OCDS web services have been successfully installed then you should be able to request a JSON response from one of the OCDS REST resources.

1. Test by invoking a REST endpoint using a tool like curl (or SOAPUI, and so on). Curl is used for demonstration purposes.

   URL
   `http[s]://host[:port]/ords/<path-prefix>/omnichannel/metadata-catalog/`

   where

   - `<path-prefix>` is the prefix (defined in a previous step) that must occur at the start of the request path

     ```
     curl -i -k --user ocdsXstoreUser:ocdsXstoreUser1
     https://example:8443/ords/ocds/omnichannel/metadata-catalog/
     ```

Figure 7–4 Request Path

```
Command Prompt

C:\>curl -i -k --user ocdsXstoreUser:ocdsXstoreUser1 https://        :8443/ords/ocds/omnichannel/metadata-catalog/
HTTP/1.1 200 OK
Date: Wed, 24 Oct 2018 21:37:03 GMT
Transfer-Encoding: chunked
Content-Type: application/json
X-ORACLE-DMS-ECID: 5a553784-b55e-4ef0-9b81-2aa1b5f14a6c-00000038
X-Frame-Options: SAMEORIGIN
Set-Cookie: JSESSIONID=jfuoAmyxr5wikFR00KFjUDcGbB0rbkkR1l6XCMFaCNynmiSMQKdx!-388803290; path=/; HttpOnly
Set-Cookie: _WL_AUTHCOOKIE_JSESSIONID=lMwMsYkLQHklU6uEhHNL; path=/; secure; HttpOnly
X-ORACLE-DMS-RID: 0

<"items":[<"name":"v1","links":[<"rel":"describes","href":"https://        :8443/ords/ocds/omnichannel/v1/item"},<"rel":"can
nichannel/metadata-catalog/v1/item/promotion","mediaType":"application/json"},<"rel":"alternate","href":"https://atx01447:84
,"mediaType":"application/openapi+json"}],<"name":"v1","links":[<"rel":"describes","href":"https://        :8443/ords/ocds/
C:\>
```