Oracle® Financial Services Hedge Management and IFRS Valuations

Installation Guide

Release 8.1.2.0.0
F82140-01
August 2023

ORACLE

Oracle Financial Services Hedge Management and IFRS Valuations Installation Guide, Release 8.1.2.0.0

F82140-01

Primary Authors: (primary author), (primary author)

Contributing Authors: (contributing author), (contributing author)

Contributors: (contributor), (contributor)

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1

About This Guide

This guide provides information to complete the installation tasks of the Oracle Financial Services Hedge Management and IFRS Valuation (OFS HM).

Audience

This document is intended for users of the Oracle Financial Services Hedge Management and IFRS Valuation (OFS HM).

Documentation Accessibility

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

Access to Oracle Support

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

Related Resources

See these Oracle resources:

- Oracle Financial Services Hedge Management and IFRS Valuation (OFS HM)
- Oracle Financial Services Analytical Applications Infrastructure
- OFSAA Licensing Information User Manual Version 8.1.2.0.0
- OFS Analytical Applications Infrastructure Security Guide
- OFS Analytical Applications 8.1.x Technology Matrix

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.

2
Introduction

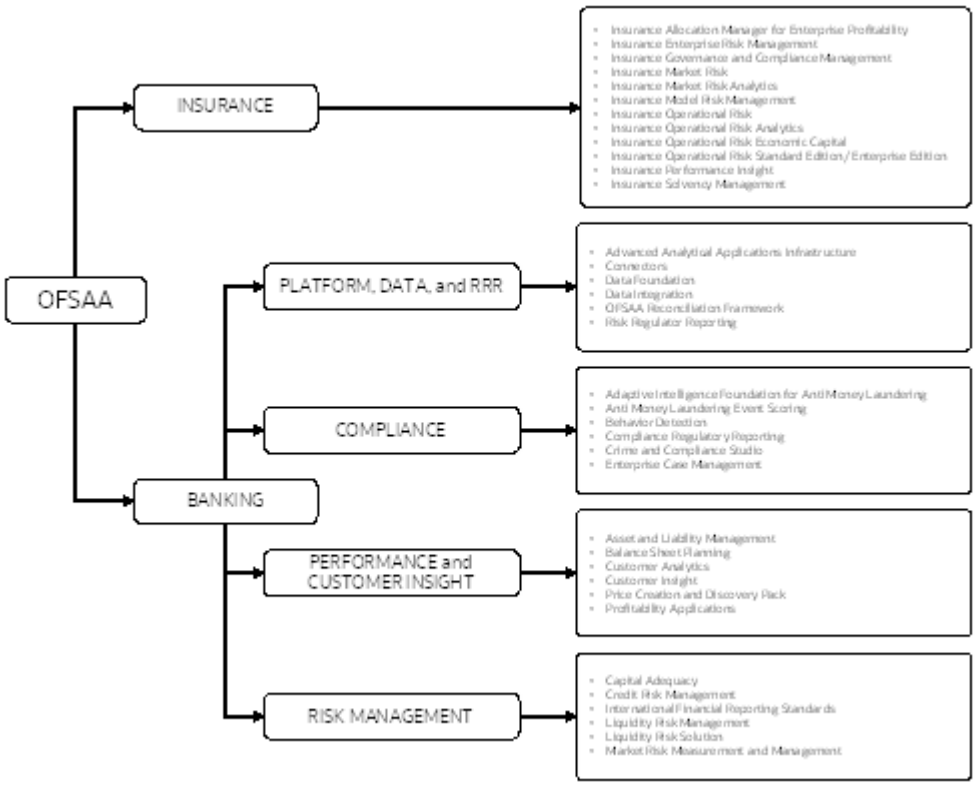
In today's turbulent markets, financial institutions require a better understanding of their risk-return, while strengthening competitive advantage and enhancing long-term customer value. Oracle Financial Services Analytical Applications (OFSAA) enable financial institutions to measure and meet risk-adjusted performance objectives, cultivate a risk management culture through transparency, lower the costs of compliance and regulation, and improve insight into customer behavior.

OFSAA uses industry-leading analytical methods, shared data models, and applications architecture to enable integrated risk management, performance management, customer insight, and compliance management. OFSAA actively incorporates risk into decision making, enables to achieve a consistent view of performance, promote a transparent risk management culture, and provide pervasive intelligence.

Oracle Financial Services Analytical Applications delivers a comprehensive, integrated suite of financial services analytical applications for both banking and insurance domains.

The following figure depicts the various application packs that are available across the OFSAA Banking and Insurance domains.

Figure 2-1 OFSAA Application Packs



2.1 Oracle Financial Services Analytical Applications Infrastructure (OFSAAI)

Oracle Financial Services Analytical Applications Infrastructure (OFSAAI) powers the Oracle Financial Services Analytical Applications family of products to perform the processing, categorizing, selection and manipulation of data and information required to analyze, understand and report on specific performance, risk, compliance and customer insight issues by providing a strong foundation for the entire family of Oracle Financial Services Analytical Applications across the domains of Risk, Performance, Compliance and Customer Insight.

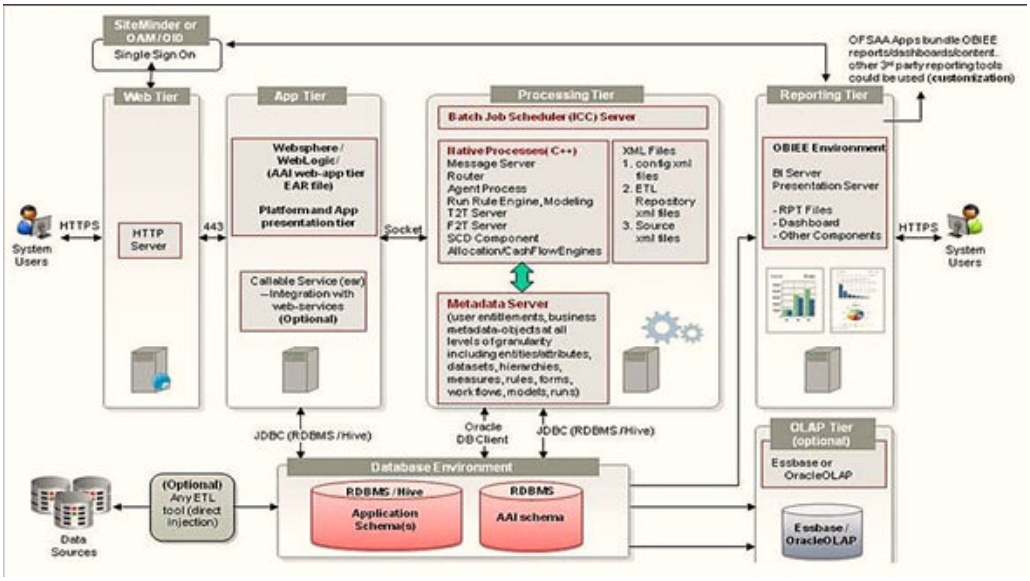
2.1.1 Components of OFSAAI

The OFSAA Infrastructure includes frameworks that operate on and with the Oracle Financial Services Analytical Applications Data Model and forms the array of components within the infrastructure.

The OFSAA Infrastructure components/frameworks are installed as two layers; primarily, the metadata server and Infrastructure services run on one layer, while the UI and presentation logic runs on the other. The UI and presentation layer is deployed on any of the supported J2EE Servers.

The following figure depicts the various frameworks and capabilities that make up the OFSAA Infrastructure.

Figure 2-2 Components of OFSAAI



2.1.2 OFSAA Infrastructure High Availability

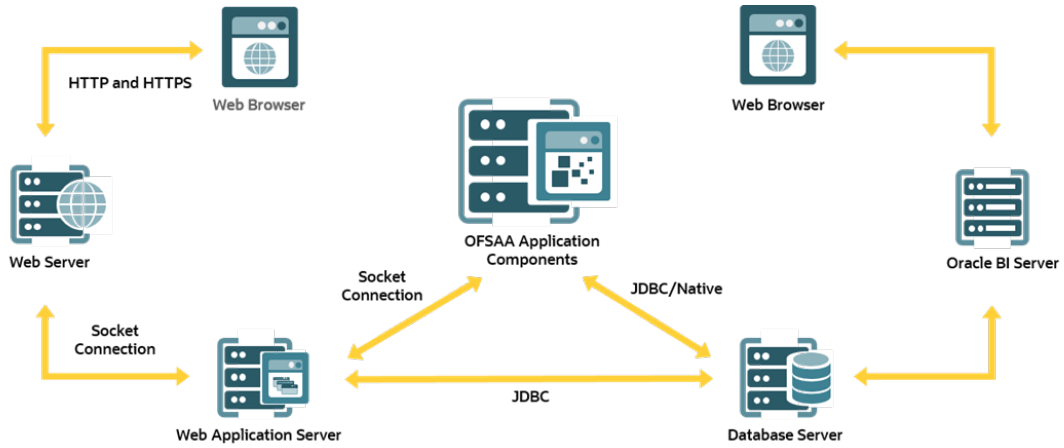
The current release of the OFSAA Infrastructure supports only the "Single Instance" installation for the Infrastructure components. However, the High Availability (HA) for

the Database Server and/ or the Web application server clustering and deployment are supported in this release.

This release supports the Active-Passive model of implementation for OFSAAI components. For more information, see Oracle Financial Services Analytical Applications Configuration for High Availability Best Practices Guide.

2.1.3 Deployment Topology

Figure 2-3 The logical architecture implemented for OFSAAAI Application Pack



2.2 About OFS Hedge Management and IFRS Valuations Application Pack

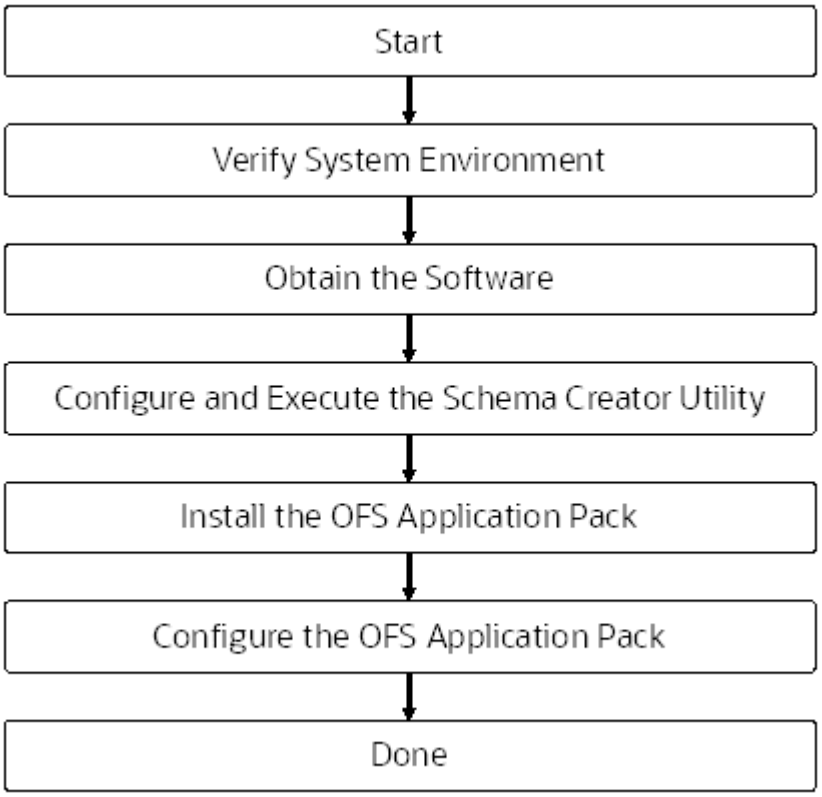
To help financial institutions grow, manage risk, and optimize shareholder value, Oracle delivers a comprehensive, integrated suite of financial services analytical applications for enterprise performance management (EPM).

More than ever, financial institutions, their regulators as well as their shareholders are focused on the need to measure and meet risk-adjusted performance objectives, price products to reflect their true risk, and better understand how their institution is impacted by threats to liquidity, capital adequacy, and exposure to market rate volatility.

2.3 Installation Overview

To install an OFS HM application pack 8.1.2.0.0 instance, users and administrators must download this installer. The following figure displays the order of procedures you will need to follow to install a new OFS HM Pack 8.1.2.0.0 instance.

Figure 2-4 Installation Flow



2.4 OFS AAI Extension Pack

The Oracle Financial Services Analytical Applications Infrastructure Extension (OFS AAIE) Pack adds a set of new advanced features for 8.1.2.0.0 Release across OFSAA applications. This pack can be installed on an OFSAA instance having one or more OFSAA application packs.

The Oracle Financial Services Analytical Applications Infrastructure Extension Pack includes the following advanced features and functionalities:

- Distributed Processing Capabilities
- Analytic Pipeline and Process models
- Attribution Analysis
- Content Management Interoperability Services

> **Note:**
>
> The pack is enabled by procurement of an additional license. For more information, see the OFS AAIE Release Notes and Installation Guide on the OHC.

2.5 Installation and Upgrade Scenarios

Release 8.1.2.0.0 of OFS HM supports various installation and upgrade scenarios. A high-level overview of the possible scenarios is provided in the following table. Detailed procedural steps are provided in the succeeding sections of this document.

Table 2-1 OFS HM Release 8.1.2.0.0 Installation and Upgrade Scenarios

Scenario	Installation and Upgrade Instructions
New Installation	
Installing Release 8.1.2.0.0 application pack for the first time (new installation).	1. Prepare for the Installation. 2. Execute the Schema Creator Utility. 3. Install the OFS HM Application Pack.
Install a new application pack on an existing OFSAA Instance You have already installed an application pack from release 8.1.x.0.0 and now you want to install another application pack from Release 8.1.2.0.0. **Example**: OFS ALM Pack is already installed and now you want to install OFS HM Pack.	1. Run the schema creator utility ONLY for the new pack. 2. Update the OFS_HM_PACK.xml file for the newly licensed pack. 3. Update the Silent.props file of the newly licensed pack. 4. Trigger the Release 8.1.2.0.0 installation.
Upgrade Installation	
Install a New Application Pack on an Existing OFSAA Instance You have already installed an application pack from Release 8.1.2.0.0 and now you want to install another application pack from Release 8.1.2.0.0. **Example**: OFS HM Pack is already installed and now you want to install OFS ALM Pack.	1. Run the schema creator utility ONLY for the new pack. 2. Update the OFS_HM_PACK.xml file for the newly licensed pack. 3. Update the Silent.props file of the newly licensed pack. 4. Trigger the Release 8.1.2.0.0 installation.
Upgrade from Release v8.0.x	1. Upgrade from Release v8.0.x to Release v8.1.1.x 2. Upgrade from Release v8.1.1x to Release v81200 For more information, refer to the upgrade steps in the Release v8.1.1.0.0 installation guide.

Table 2-1 (Cont.) OFS HM Release 8.1.2.0.0 Installation and Upgrade Scenarios

Scenario	Installation and Upgrade Instructions
Upgrade from Release v8.1.1.x to Release v8.1.2.0.0	1. Update the Silent.props file. 2. Run the Environment Check Utility tool and ensure that you have installed the hardware and software requirements as per the OFS Analytical Applications Technology Matrix. See the OFSAA Environment Check Utility Guide for detailed steps. 3. Optionally, Clone your existing environment to the 8.1.2.0.0 OFS Analytical Applications Technology Matrix. 4. Trigger the Release v8.1.2.0.0 installation.

2.6 Compatibility Matrix

This table lists the applications or app-combinations that must not be installed on a single infodom.

> **Note:**
>
> If you are upgrading the OFSAA Application Pack to release v8.1.2.0.0, you must upgrade the other packs installed in the same environment to release v8.1.2.0.0, to ensure successful deployment.

Table 2-2 HM 8.1.2 Application Compatibility Matrix

If you are installing	Do not Install the Listed Application in the Same Environment
OFS_HM_PACK	None

3
Complete Installation Checklist

For a successful installation, perform the steps listed in the Complete Installation Checklist. You can use this checklist to have a quick glance at everything that you will be doing to install this application. The link provided in each step takes you to a section either within this document or to another referenced document.

Table 3-1 Complete Installation Checklist

Sl. No.	Pre-installation Activity
1	Install all the prerequisite hardware and software given in the OFS Analytical Applications Technology Matrix.
2	Verify the System Environment using the Environment Check Utility.
3	Configure the following Operating System and File System settings: • File Descriptor • Total number of processes • Port(s) • .profile file permissions Add FTP/SFTP configuration for file transfer
4	Configure the Database Instance settings.
5	Install and configure the web application server.
6	Configure the HTTP settings on the web server.
7	Mount the FSS to Compute Virtual Machine if you are deploying on the cloud server. **Note:** This step is applicable only for deployment on the Oracle Cloud Infrastructure.
8	Open the Network Ports for OFSAA Services if you are deploying on the cloud server. **Note:** This step is applicable only for deployment on the Oracle Cloud Infrastructure.
9	Update the following Environment Settings required for the installation in the .profile file: • Java settings • Oracle Database Server and Client settings • Add TNS entries in the TNSNAMES.ORA file • Oracle Essbase settings Time Zone settings
10	Download the OFS HM installer kit and erwin data model.
11	Extract the installer kit.

Table 3-2 Installation Activity

Sl. No.	Installation Activity
1	Configure the OFS_HM_PACK.xml file.
2	Configure the OFS_HM_SCHEMA_IN.xml file.
3	Execute the Schema Creator Utility in Online, Offline, modes, and verify the log file.
4	Configure the Silent.props file.
5	Configure the OFSAAI_InstallConfig.xml file.
6	Trigger the application installation.
7	Verify the installation logs.

Table 3-3 Post Installation Activity

Sl. No.	Post-installation Activity
1	Update the Config Schema. **Note**: This step is applicable only for deployment on the Oracle Cloud Infrastructure.
2	Edit the WDSL Property File. **Note**: This step is applicable only for deployment on the Oracle Cloud Infrastructure.
3	Stop the Infrastructure services.
4	Create and deploy EAR/WAR files.
5	Start the OFSAA Infrastructure services.
6	Access the OFSAA application.
7	Configure excludeURLList.cfg file.
8	Configure the webserver.
9	Configure the Resource Reference in web application servers.
10	Configure the Work Manager in the web application servers.
11	Change the ICC batch ownership.
12	EAR/WAR File - Build Once and Deploy Across Multiple OFSAA Instances.
13	Set Data Redaction in OFS HM.
14	Implement Data Protection in OFSAA.
15	Configure Tomcat.
16	Add TNS entries in the tnsnames.ora file.
17	Update the OBIEE URL.
18	Configure Data Source.
19	Post-deployment Configuration. • OBIEE Configuration – Deploy OFS HM Analytics. • Logging as System Administrator. • Create Application Users. • Map the Application User(s) to User Groups. HM Pack User Groups.

Table 3-4 Additional Configurations

Sl. No.	Additional Configuration Activity
1	Add FTP/SFTP Configuration for File Transfer
2	Configure the Infrastructure Server Memory.
3	Change IP or Hostname, Ports, Deployed Paths of the OFSAA Instance.
4	Execute the Encryption Changer.
5	Configure the Infrastructure LDAP Configuration.
6	Configure password changes.
7	Configure Java Virtual Machine.
8	Configure Internal Service (Document Upload/ Download).

4
Hardware and Software Requirements

For a list of all the hardware and software requirements including operating systems, database, web servers, and web application server versions for which this release of the OFS HM Applications Pack is qualified see the OFS Analytical Applications Technology Matrix.

> **Note:**
>
> OFS HM Application Pack installation can be performed on both Virtual and Physical servers.

OFS HM application pack recommends the following software combinations for deployment.

Table 4-1 Recommended Software Combination

Operating System	Database	Web Application Server	Web Server
Oracle Linux	Oracle Database	Oracle WebLogic Server/ Apache Tomcat Server	Oracle HTTP Server/ Apache HTTP Server
Oracle Solaris	Oracle Database	Oracle WebLogic Server/ Apache Tomcat Server	Oracle HTTP Server/ Apache HTTP Server

4.1 Third-party Licensing Information

For details on the third-party software tools used in OFS Profitability Management (OFS PAM) Pack, see the OFSAA Licensing Information User Manual Release 8.1.2.0.0.

4.2 Verify System Environment

To verify your system environment meets the minimum requirements for the installation, a Pre-Install Check utility is available within the Install Kit archive file. This utility can also be obtained separately by contacting My Oracle Support.

Though the system environment verification is an integral and automated part of the installation of this software product, Oracle strongly recommends running this utility before beginning the installation as part of your organization's "Installation Readiness Verification Process".

For more details on download and usage of this utility, see the Oracle Financial Services Analytical Applications Infrastructure Environment Check Utility Guide.

5
Pre-installation

This chapter provides the necessary information to review before installing the OFS HM Pack 8.1.2.0.0.

> **Note:**
>
> When merging the lower version of an application with an integrated data model, retain the larger size of column length.

5.1 Pre-installation Checklist

You can use this checklist to have a glance at everything that you will be doing before installing this application. The link provided in each step takes you to a section either within this document or to another referenced document.

The Installer Environment Check utility notifies you if any requirements are not met.

Table 5-1 Pre-Installation Checklist

Sl. No.	Pre-installation Activity
1	Install all the prerequisite hardware and software given in the OFS Analytical Applications Technology Matrix.
2	Verify the System Environment using the Environment Check Utility.
3	Configure the following Operating System and File System settings: • File Descriptor • Total number of processes • Port(s) • .profile file permissions Add FTP/SFTP configuration for file transfer
4	Configure the Database Instance settings.
5	Install and configure the web application server.
6	Configure the HTTP settings on the web server.
7	Mount the FSS to Compute Virtual Machine if you are deploying on the cloud server. **Note:** This step is applicable only for deployment on the Oracle Cloud Infrastructure.
8	Open the Network Ports for OFSAA Services if you are deploying on the cloud server. **Note:** This step is applicable only for deployment on the Oracle Cloud Infrastructure.

Table 5-1 (Cont.) Pre-Installation Checklist

Sl. No.	Pre-installation Activity
9	Update the following Environment Settings required for the installation in the .profile file: • Java settings • Oracle Database Server and Client settings • Add TNS entries in the TNSNAMES.ORA file • Oracle Essbase settings Time Zone settings
10	Download the OFS HM installer kit and erwin data model.
11	Extract the installer kit.

5.2 Configure Oracle Database Instance Settings

Ensure that the following database instance settings are configured:

- NLS_CHARACTERSET to AL32UTF8
- NLS_LENGTH_SEMANTICS to BYTE
- OPEN CURSORS limit to greater than 1000

5.3 Web Application Server Settings for WebSphere

Ensure that the web application server is installed and the profile (when using WebSphere) or domain (when using WebLogic) is created.

Table 5-2 Web Application Server Settings

Description	Example Value
WebSphere	Web Application Server should be installed and the profile/domain created. You will be prompted to enter the WebSphere Profile path during OFSAAI installation. NOTE: See Configure the Web Server for WebSphere Profile and WebLogic Domain creation.

5.4 Web Application Server Settings for WebLogic

Ensure that the web application server is installed and the profile (when using WebSphere) or domain (when using WebLogic) is created.

Table 5-3 Web Application Server Settings

Description	Example Value
WebLogic	Web Application Server should be installed and the profile/domain created. You will be prompted to enter the WebLogic Domain path during OFSAAI installation. NOTE: See Configure the Web Server for WebSphere Profile and WebLogic Domain creation.

5.5 Web Application Server Settings for Tomcat

Ensure that the web application server is installed and the profile (when using WebSphere) or domain (when using WebLogic) is created.

Table 5-4 Web Application Server Settings

Description	Example Value
Tomcat	Web Application Server should be installed and the profile/domain created. You will be prompted to enter the Tomcat Deployment path during OFSAAI installation. NOTE: See Configure the Web Server for WebSphere Profile and WebLogic Domain creation.

5.6 Configure Web Server Settings

This is an optional requirement. If you have installed an HTTP Server, then configure the appropriate HTTP server settings:

Table 5-5 Web Server Settings

Description	Example Value
Apache HTTP Server/ Oracle HTTP Server/ IBM HTTP Server	Configure the HTTP Server and note down the IP/ Hostname and Port details as you will be prompted to enter these details during installation. Note: See Configure the Web Server for web server configuration.

5.7 Mounting FSS to Compute Virtual Machine

This section provides details about the required configurations for successful installation and (or) deployment on the Oracle Cloud Infrastructure. For more information, see Generic Documents.

If you are deploying on the cloud server, you must perform the steps mentioned in this section. This section enables you to mount ftpshare directory across the OFSAA Processing

Tier Compute nodes, and conditionally apply to any other nodes, for high availability or nonhigh availability deployments.

> **Note:**
>
> Ensure that the ftpshare folder is created and use the mount under which the ftpshare folder was created.

To mount the file system to compute Virtual Machine, follow these steps:

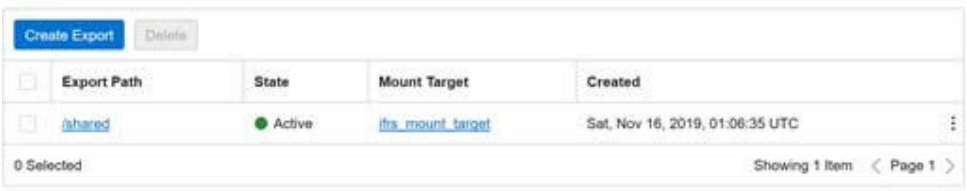
1. Log in to the Oracle Cloud Infrastructure console.
2. Navigate to **File Storage** and select **File Systems**

Figure 5-1 The File Systems Window

.

3. In the Name column, select the project-specific FSS that has been created. In this example, click shared_ifrs_storage to open the Details Screen and view the export path.

Figure 5-2 The Details Screen Displaying the Export Path



4. For the required export path, click More , and select Mount Commands.

Figure 5-3 The Details Screen after clicking the More Icon

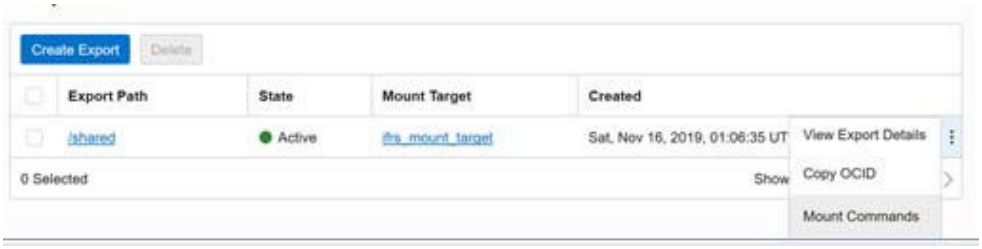
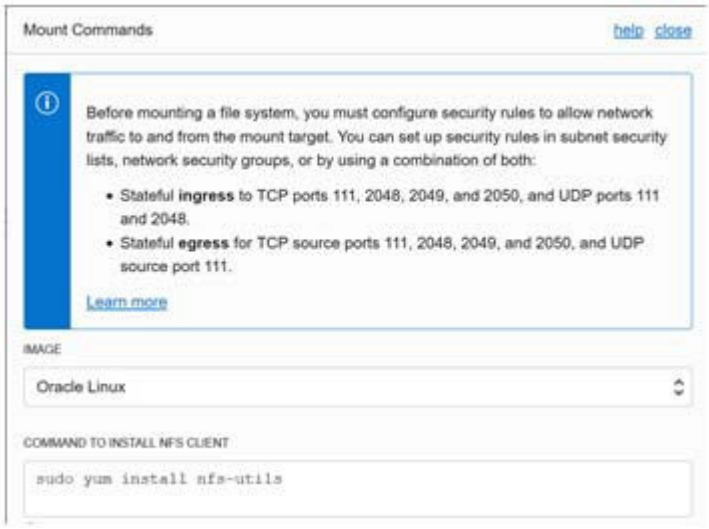


Figure 5-4 The Mount Commands Window



5. Ensure that the Oracle Cloud Infrastructure (OCI) team has opened the Ingress or Egress ports.
6. In the Mounting Commands window:
   a. In the **COMMAND TO INSTALL NFS CLIENT** field, enter the value `sudo yum install nfs-utils`.
   b. In the **COMMAND TO INSTALL NFS CLIENT** field, enter the value `sudo mkdir -p /mnt/shared`, where `/mnt/shared` must be replaced with your mount value.
   c. In the **COMMAND TO MOUNT THE FILE SYSTEM** field, enter the value `sudo mount 10.0.14.5:/shared/mnt/shared`, where `/mnt/shared` must be replaced with your mount value and `10.0.14.5` must be replaced with your storage VM IP address.
7. Click **Close**.
8. Use PuTTY tunneling session to connect to the **OFSAA Product Home1** compute virtual machine with the command, `ssh <ofsaa product_home1>`.
9. Execute the commands in the fields **COMMAND TO INSTALL NFS CLIENT**, **COMMAND TO INSTALL NFS CLIENT**, and **COMMAND TO MOUNT THE FILE SYSTEM** in sequence.
10. To verify that the execution of the mounting commands was successful, try to verify by accessing a sample text file from OFSAA product home:
    a. Verify the mount by using the command: `df -k`.
    b. Create any text file in this mount.
    c. Verify that this file is accessible when you connect to the OFSAA Product Home2 compute virtual machine.

5.8 Opening up the Network Ports for OFSAA Services

If you are deploying the OFS HM application on the Cloud servers, you must open the respective ports that will be used for the OFSAA Services across the network for the respective subnets in the deployment setup through the OCI team:

> **Note:**
>
> The ports mentioned in this section are the default ports. You must open your available ports.
>
> Open the following ports:
>
> - JAVAPORT
> - NATIVEPORT
> - AGENTPORT
> - ICCPORT
> - ICCNATIVEPORT
> - OLAPPORT
> - MSGPORT
> - ROUTERPORT
> - AMPORT
> - WEB_SERVER_PORT

5.9 Create the Installation, Download, and Metadata Repository Directories

To install, create the following directories:

- **OFSAA Download Directory (Optional)**: This is the directory where the downloaded installer/ patches can be copied. Create a download directory and copy the OFSAA Application Pack Installer File (archive). Assign 755 permission to this directory.
- **Temporary Directory**: Default temporary directory where the installation files are stored for a short time to support faster installation. Configure adequate space on the /tmp directory. It is recommended that you allocate more than 10 GB of space. Assign 755 permission to this directory with NOEXEC option disabled.

  > **Note:**
  >
  > If NOEXEC option is enabled, the extraction of files by the installer into the /tmp directory is prevented and the binaries will not execute in the directory, which will fail the installation.

- **OFSAA Installation Directory (Mandatory)**: Create an installation directory where the product binaries are installed. Set the variable FIC_HOME in the .profile file to point to the OFSAA Installation Directory. Assign 755 user permission to the installation directory.
- **OFSAA Staging/Metadata Directory (Mandatory)**: A directory to hold the application metadata artifacts and additionally act as the staging area for the flat

files. This directory is also referred to as "FTPSHARE". Create a Staging/Metadata Repository Directory to copy data files, save data extracts, and so on.
The directory must exist on the same system as the OFSAA Installation. This directory can be configured on a different mount or under a different user profile. However, the owner of the installation directory must have RWX (775) permissions to this directory.

> **Note:**
>
> Ensure the OFSAA staging directory is not set to the same path as the OFSAA installation directory and is not a subdirectory inside the OFSAA installation directory.

5.10 Configure the OS File System Settings and Environment Settings in the .profile File

This section describes the steps to configure the operating system and file system settings.

5.10.1 Configure Operating System and File System Settings

Log in as a root user and create the `.profile` file at the home directory of the logged-in user if it is not already available. The user must have 755 permission on the file to execute it. This file consists of various parameters for Environment Settings, OS, and File System Settings.

The following table displays the required settings for the operating system and file system.

Table 5-6 Configure Operating System and File System Settings

Parameter	Configuration Action
File Descriptor Settings	In the `sysctl.conf` file, to change the number of file descriptors, do the following as the root user: 1. Edit the following line in the `/etc/sysctl.conf` file: fs.file-max = <value> where `<value>` is greater than 15000 • Apply the change by running the following command: `# /sbin/ sysctl -p` **NOTE**: The value specified here is the minimum value to be set for the installation process to go forward. For other modules, this value may depend on the available resources and the number of processes executed in parallel.
Total Number of Process Settings	In the `sysctl.conf` file, set the value to greater than 4096. **NOTE**: The value specified here is the minimum value to be set for the installation process to go forward. For other modules, this value may depend on the available resources and the number of processes executed in parallel.

Table 5-6 (Cont.) Configure Operating System and File System Settings

Parameter	Configuration Action
Port Settings	Default port numbers to be enabled on the system are 6500, 6501, 6505, 6507, 6509, 6510, 6666, 9999, and 10101.
OS Locale	Linux: en_US.UTF-8 Solaris: en_US.UTF-8 To check the locale installed, execute the following command: `locale -a | grep -i en_US.utf`

If you are a non-root user, then configure the following settings:

Parameter	Configuration Action
Installation Directory	In the `.profile` file, set the variable FIC_HOME to point to the OFSAA Installation Directory.
.profile permissions	You must have 755 permission on the `.profile` file.

To set the parameters for the `.profile` file, login as a non-root user, and configure the environment settings.

> **Note:**
>
> Do not modify any other parameters other than the parameters mentioned in the following subsections.

5.10.2 Configure the Environment Settings

This section provides information to configure the environment settings before installation.

5.10.2.1 Java Settings

The following table displays the Java settings required for installation.

Table 5-7 Java Settings

Description	Example Value
In the `.profile` file, set PATH to include the Java Runtime Environment (JRE) absolute path. Ensure that SYMBOLIC links to JAVA installation are not set in the PATH variable.	`JAVA_HOME=/scratch/jdk<<version>>/jre` For example: `PATH=/usr/java/jre1.8.0_221/ bin:$ORACLE_ HOME/ bin:$PATHJAVA_HOME=/ scratch/jdk<<version>>/jre` NOTE: OFSAA does not support OpenJDK and JRE.

In the `.profile` file, set PATH to include the Java Runtime Environment bin path.	`JAVA_BIN=/scratch/<<version>>/jre/bin`
	For example:
	`PATH=/usr/java/jre1.8.0_221/ bin:$ORACLE_ HOME/bin:$PATH`

Enable unlimited cryptographic policy for Java.	For more information, see the Enabling Unlimited Cryptographic Policy section from the OFS Analytical Applications Infrastructure Administration Guide.

5.10.2.2 Oracle Database Server and Client Settings

The following table displays the Oracle Database server and client settings required for installation.

Table 5-8 Oracle Database Server and Client Settings

Description	Example Value
In the `.profile` file, set TNS_ADMIN pointing to the appropriate `tnsnames.ora` file.	`TNS_ADMIN=$HOME/tns`
In the .profile file, set ORACLE_HOME pointing to the appropriate Oracle Client installation.	ORACLE_HOME=/scratch/oraofss/app_client18c/ product/ 18.0.0/client_1
In the `.profile` file, set PATH to include the appropriate $ORACLE_HOME/bin path.	`PATH=$JAVA_HOME/bin:$ORACLE_HOME/bin`
OFSAA Processing Server	ORACLE_HOME must be set in the `.profile` file and point to appropriate Oracle DB Client installation. PATH in the .profile file must be set to include the appropriate `$ORACLE_HOME/bin` path. Ensure that an entry (with SID or SERVICE NAME) is added in the `tnsnames.ora` file.

5.10.2.3 TNS Entries in the TNSNAMES.ORA File

The section includes information about the TNS entries in the TNSNAMES.ORA file for Non-TCPS and TCPS.

5.10.2.3.1 Non-TCPS

Description	Example Value
Ensure that an entry (with SID/ SERVICE NAME) is added in the `tnsnames.ora` file on the OFSAA server.	<SID_NAME> = DESCRIPTION =(ADDRESS_LIST = (ADDRESS = (PROTOCOL = TCP)(HOST = <HOST_NAME>.in.oracle.com)(PORT = 1521)))(CONNECT_DATA = (SERVICE_NAME = <SID_NAME>)))<ATOMIC_SCHEMA_NAME> = (DESCRIPTION =(ADDRESS_LIST = (ADDRESS = (PROTOCOL = TCP)(HOST = <HOST_NAME>.in.oracle.com)(PORT = 1521)))(CONNECT_DATA = (SERVICE_NAME = <SID_NAME>)))

```
<SID NAME> =

      (DESCRIPTION =

        (ADDRESS_LIST =

          (ADDRESS = (PROTOCOL = TCP)(HOST = <HOST
        NAME>)(PORT = <PORT NUMBER>))

        )

        (CONNECT_DATA =

          (SERVICE_NAME = <SID NAME>)

        )

      )

    <ATOMICSCHEMANAME> =

      (DESCRIPTION =

        (ADDRESS_LIST =

          (ADDRESS = (PROTOCOL = TCP)(HOST = <HOST
        NAME>)(PORT = <PORT NUMBER>))

        )

        (CONNECT_DATA =
```

> **Note:**
>
> The ATOMIC SCHEMA NAME must be the same as defined in the OFS_<App Pack>_SCHEMA_IN.xml file.

5.10.2.3.2 TCPS

Table 13: TNS entries in the TNSNAMES.ORA file for TCPS

Description	Example Value
Ensure that an entry (with SID/ SERVICE NAME) is added in the tnsnames.ora file on the OFSAA server.	<SID_NAME> = DESCRIPTION =(ADDRESS_LIST = (ADDRESS = (PROTOCOL = TCPS)(HOST = <HOST_NAME>.in.oracle.com) (PORT = 1521)))(CONNECT_DATA = (SERVICE_NAME = <SID_NAME>)))<ATOMIC_SCHEMA_NAME> = (DESCRIPTION =(ADDRESS_LIST = (ADDRESS = (PROTOCOL = TCPS)(HOST = <HOST_NAME>.in.oracle.com)(PORT = 1521))) (CONNECT_DATA = (SERVICE_NAME = <SID_NAME>))) (security=(ssl_server_cert_dn=CN=<HOST_NAME>))))
Ensure that an entry (with WALLET_HOME and wallet parameters) is added in the sqlnet.ora file on the OFSAA server must be same as Oracle database server running with TCPS.	NAMES.DIRECTORY_PATH= (TNSNAMES, EZCONNECT)WALLET_LOCATION = (SOURCE = (METHOD = FILE) (METHOD_DATA = (DIRECTORY = <PATH TO WALLET DIRECTORY>)))SQLNET.WALLET_OVERRIDE = TRUE SSL_CLIENT_AUTHENTICATION = FALSE SQLNET.AUTHENTICATION_SERVICES = (TCPS,NTS,BEQ) SSL_CIPHER_SUITES = (SSL_RSA_WITH_AES_256_CBC_SHA, SSL_RSA_WITH_3DES_EDE_CBC_SHA)

```
<SID NAME> =
          (DESCRIPTION =
          (ADDRESS_LIST =
           (ADDRESS = (PROTOCOL = TCPS)(HOST = <HOST NAME>)(PORT = <PORT
          NUMBER>))
          )
          (CONNECT_DATA =
           (SERVICE_NAME = <SID NAME>)
(security=(ssl_server_cert_dn=CN=<HOST NAME>))
          )
          )<ATOMICSCHEMANAME>=
           (DESCRIPTION =
             (ADDRESS_LIST =
(ADDRESS = (PROTOCOL = TCPS)(HOST = <HOST NAME>)(PORT = <PORT
          NUMBER>))
          )
          (CONNECT_DATA =
      (SERVICE_NAME = <SID NAME>)(security=(ssl_server_cert_dn=CN=<HOST
```

```
    NAME>))     )
)
```

> **Note:**
>
> The ATOMIC SCHEMA NAME must be the same as defined in the OFS_<App Pack>_SCHEMA_IN.xml file, which also includes prefix without underscore. For example, DEVOFSAAATM.

5.10.2.4 Time Zone Settings

In the `.profile` file, set the Time Zone parameter to indicate the time zone of your region/ location.

Description	Example Value
Time Zone	TZ=Asia/Calcutta

5.11 Download the OFS HM Application Pack Installer and Erwin Data Model

To download the OFS HM Installer Release v8.1.1.0.0, follow these steps: (Bug Number: **33564194)**

1. Log in to My Oracle Support and search for **33564194** under the **Patches&Updates** tab.
2. Download the installer archive and copy (in Binary mode) to the download directory that exists in the OFS HM installation setup.

> **Note:**
>
> Download the OFS HM Erwin Data Model patch **35500297** from My Oracle Support. You can search for the patch number in the Patches and Updates tab and download it.

5.12 Extract the Software

You must be logged in to the UNIX operating system as a non-root user to perform the following software extraction steps:

1. Download the unzip utility (OS-specific) `unzip_<os>.Z` and copy it in Binary mode to the directory that is included in your PATH variable.
   If you already have an unzip utility to extract the contents of the downloaded archive, skip this step.
2. Uncompress the unzip installer file using the following command:
   `uncompress unzip_<os>.Z`

> **Note:**
>
> If an error message: *uncompress: not found [No such file or directory]* is displayed, contact your UNIX administrator.

3. Assign execute (751) to the file using the following command:
   `chmod 751 unzip_<OS>`

   For example: `chmod 751 unzip_sparc`

4. Extract the contents of the OFS HM Application Pack Release 8.1.2.0.0 installer archive file in the download directory using the following command:
   `unzip OFS_HM_PACK.zip`

5. Navigate to the download directory and assign execute permission to the installer directory using the following command:`chmod -R 750 OFS_HM_Pack`

6
Installation

This section provides detailed steps to install the OFS HM Application Pack.

6.1 Installation Checklist

You can use this checklist to have a quick glance at everything that you will be doing to install this application. The link provided in each step takes you to a section either within this document or to another referenced document.

Table 6-1 Installation Activity

Sl. No.	Installation Activity
1	Configure the OFS_HM_PACK.xml file.
2	Configure the OFS_HM_SCHEMA_IN.xml file.
3	Execute the Schema Creator Utility in Online, Offline, modes, and verify the log file.
4	Configure the Silent.props file.
5	Configure the OFSAAI_InstallConfig.xml file.
6	Trigger the application installation.
7	Verify the installation logs.

6.2 Configure the OFS_HM_PACK.xml File

The OFS_HM_PACK.xml file contains details on the various products that are packaged in the OFS HM Application. This section details the various tags and parameters available in the file and the values that must be updated. Before installing the HM Application Pack, it is mandatory to update this file.

> **Note:**
>
> Enable licenses as per your Service Level Agreement (SLA).

To configure the OFS_HM_PACK.xml file, follow these steps:

1. Navigate to the `OFS_HM_PACK/conf` directory.
2. Open the `OFS_HM_PACK.xml` file in a text editor.
3. Configure the `OFS_HM_PACK.xml` file as mentioned in the following table.

Table 6-2 OFS_HM_PACK.xml File Parameters

Tag Name or Attribute Name	Description	Mandatory (Y or N)	Comments
APP_PACK_ID	Unique Application Pack Identifier	Y	Unique Seeded Value. Do not modify this value.
IS_OPT_INSTALL VALUE="TRUE"	Unique Application Entry	Y	Unique Seeded Value. Do not modify this value.
APP_PACK_NAME	Unique Application Pack Name	Y	Unique Seeded Value. Do not modify this value.
APP_PACK_DESCRIPTION	Unique Application Pack Description	Y	Unique Seeded Value. Do not modify this value.
VERSION	Unique release version	Y	Unique Seeded Value. Do not modify this value.
APP	Unique Application Entries	Y	Unique Seeded Value. Do not modify this value.
APP_ID	Unique Application Identifier	Y	Unique Seeded Value. Do not modify this value.
APP_ID/ PREREQ	Prerequisite Application or Product	Y	Unique Seeded Value. For most applications, the prerequisite that is set is OFSAAAI. For all other applications, the default Application ID is set to none. You can set it for the applications you want to install. Do not modify this value.
APP_ID/ DEF_SEL_FLAG	Default Selected Flag	Y	In all Application Packs, Infrastructure requires this value to be set to YES. Do not modify this value.

Table 6-2 (Cont.) OFS_HM_PACK.xml File Parameters

Tag Name or Attribute Name	Description	Mandatory (Y or N)	Comments
APP_ID/ ENABLE	Enable Application or Product	Y	• Default YES for Infrastructure • NO for Others Set this attribute-value to YES against every APP_ID which is licensed and must be enabled for use. NOTE: The Application or Product cannot be disabled once enabled. However, an Application or Product which is not enabled during installation can be enabled later through the Administration UI.
APP_NAME	Unique Application or Product Name	Y	Unique Seeded Value. Do not modify this value.
APP_DESCRIPTION	Unique Application or Product Name	Y	Unique Seeded Value. Do not modify this value.
VERSION	Unique release version	Y	Unique Seeded Value. Do not modify this value.

6.3 Configure the Schema Creator Utility

Creating database users/schemas (RDBMS) is one of the primary steps in the complete OFSAAAI installation process. The Schema Creator utility enables you to quickly get started with the installation by creating Database User(s)/ Schema(s) (RDBMS), assigning the necessary GRANT(s), creating the required entities in the schemas and so on.

The schema creator utility must be configured and executed before the installation of any OFSAA Application Pack.

6.3.1 Prerequisites

Ensure you have the following before configuring the Schema Creator Utility:

> **Note:**
>
> Ensure that the tablespace (or tabespaces) used for the database user (or users) is set to AUTOEXTEND ON.

- – Oracle User ID and Password with SYSDBA privileges

- JDBC Connection URL for RAC or Non-RAC database
- The HOSTNAME or IP of the server on which OFSAA is being installed.
- It is recommended to set the PGA_AGGREGATE_LIMIT database-parameter value sufficiently when Oracle 18c or 19c is installed.
- You must add a TNS entry before the installation.

6.3.2 Configure the Schema Creator Utility for RDBMS Installation

If the installation is being performed for RDBMS, provide the Pack specific schema details in the `OFS_HM_SCHEMA_IN.xml` file.

You can configure the following types of schemas:

- **CONFIG**: This schema holds the entities and other objects required for OFSAA setup configuration information. Only one CONFIG schema per OFSAA instance is permitted.
- **ATOMIC**: This schema holds the data model entities. One ATOMIC schema is attached to one Information Domain. You can have multiple ATOMIC schemas for a single OFSAA instance.

6.3.2.1 Configure the OFS_HM_SCHEMA_IN.xml File

This section describes how to create database schemas, objects within schemas, and assigning appropriate grants.

Specify the database schemas required for the installation in the OFS_HM_SCHEMA_IN.xml file. Update the values of the various tags and parameters available in this file before executing the schema creator utility.

This file must be configured only if the database is RDBMS.

To configure the `OFS_HM_SCHEMA_IN.xml` file, follow these steps:

1. Log in to the system as a non-root user.
2. Navigate to the `OFS_HM_PACK/schema_creator/conf` directory.
3. Edit the `OFS_HM_SCHEMA_IN.xml` file using a text editor.
4. Configure the values as mentioned in the following table and save the file.

> **Note:**
>
> On successful execution of the utility, the passwords entered in the `OFS_HM_SCHEMA_IN.xml` file are nullified.

Table 6-3 OFS_HM_SCHEMA_IN.xml file Parameters

Tag Name or Attribute Name	Description	Mandatory (Y or N)	Default Value or Permissible Value	Comments
<APP_PACK_ID>	Seeded unique ID for the OFSSAA Application Pack	Y	OFS_HM _PACK	Do not modify this value.
<IS_TCPS>	Enter if the TCPS configuration is required.	Y	Seeded, with FALSE as the default value.	Modify this to TRUE if you require the installer to uptake the configuration.

Table 6-3 (Cont.) OFS_HM_SCHEMA_IN.xml file Parameters

Tag Name or Attribute Name	Description	Mandatory (Y or N)	Default Value or Permissible Value	Comments
<JDBC_URL>	Enter the JDBC URL. NOTE: You can enter the following JDBC URL types: a. RAC/ NON-RAC enabled database connectivity URL. b. TCPS RAC/ NON-RAC enabled database connectivity URL provided the <IS_TCPS> tag value is TRUE. Wallet-enabled JDBC URL.	Y	**Example**: jdbc:oracle:thin:@< DBSERVER IP/ HOST/ IP>:<PORT>:<SID> or jdbc:oracle:thin:@//[HOS T][:PORT]/ SERVICE or jdbc:oracle:thin:@(DESCRIPTION=(ADDRESS_ LIST=(ADDRESS=(PROTOCOL=TCP)(HOST=[HO ST])(port=[PORT]))(ADDRESS=(PROTOCOL=TCP)(HOST=[HOST])(PORT=[PORT]))(LOAD_BALANCE=yes)(FAILOV ER=yes))(CONNECT_DATA=(SERVICE_NAME=[SERVICE]))) For example: jdbc:oracle:thin:@//dbhost.server.com:1521/service 1 or jdbc:oracle:thin:@//dbshost.server.com:1521/scan-1 or jdbc:oracle:thin:@(DESCRIPTION=(ADDRESS_ LIST=(ADDRESS=(PROTOCOL=TCP)(HOST=dbhost1.server.com)	Ensure to add an entry (with SID/ SERVICE NAME) in the tnsnames.ora file on the OFSAA server. The entry must match with the SID/ SERVICE NAME used in the JDBC URL. Ensure that you have configured: a. The correct Oracle Wallet with the credentials for stored Sys, Config, and Atomic Users. b. The JDBC URL as follows: jdbc:oracle:thin:/@ For more information on how to configure Oracle Wallets for OFSAA Installation and Data Sources, see the OFS Analytical Applications Infrastructure Administration Guide.

Table 6-3 (Cont.) OFS_HM_SCHEMA_IN.xml file Parameters

Tag Name or Attribute Name	Description	Mandatory (Y or N)	Default Value or Permissible Value	Comments
			(port=1521)) (ADDRESS=(PROTOCOL=TCP) (HOST=dbhost2.server.com) (PORT=1521)) (LOAD_BALANCE=yes)(FAILOVER=yes)) (CONNECT_DATA=(SERVICE_NAME=service1))) or <JDBC_URL>jdbc:oracle:thin:@(DESCRIPTION = (ADDRESS = (PROTOCOL=TCPS)(HOST = dbhost.server.com)(PORT = 2484)) (CONNECT_DATA=(SERVER = DEDICATED) (SERVICE_NAME=SERVICEID)) (security=(ssl_server_cert_dn=CN=dbhost))) or jdbc:oracle:thin:/@	
<JDBC_DRIVER>	This driver's name is seeded by default.	Y	**Example**: oracle.jdbc.driver.OracleDriver	Only JDBC Thin Driver is supported. Do not modify this value.
<HOST>	Enter the Hostname/ IP Address of the system on which you are installing the OFSAA components.	Y	Hostname/ IP Address	
<SETUPINFO>/ PREFIX_SCHEMA_NAME	Identifies whether the value specified in <SETUPINFO>/ NAME attribute must be prefixed to the schema name.	N	YES or NO	The default value is YES.

Table 6-3 (Cont.) OFS_HM_SCHEMA_IN.xml file Parameters

Tag Name or Attribute Name	Description	Mandatory (Y or N)	Default Value or Permissible Value	Comments
<SETUPINFO>/ NAME	Enter the acronym for the type of implementation. This information is displayed in the OFSAA Home Page. On executing the schema creator utility, this value is prefixed with each schema name. For example: dev_ofsaaconf, uat_ofsaatm.	Y	Seeded, with REG PREFIX_SCHEMA_NAME="N as the default value. Accepts strings with a minimum length of two and a maximum of four. **Example**: DEV, SIT, PROD	This name appears in the OFSAA Landing Page as "Connected To: xxxx". The schemas that are created get this prefix. For example, dev_ofsaaconf, uat_ofsaaconf, and so on.
<PASSWORD>/ DEFAULT*	Enter the password if you want to set a default password for all schemas. You also must set the APPLYSAME- FORALL attribute as Y to apply the default password for all the schemas.	N	Seeded, with oracle123 as the default value. The maximum length allowed is 30 characters. Special characters are not allowed.	On successful execution of the utility, the entered password in the OFS_<APP PACK>_SCHEMA_IN.xml file is cleared.
<PASSWORD>/ APPLYSAMEFORALL	If you have entered Y in APPLYSAME- FORALL attribute and also have specified individual passwords for all the schemas, then the specified individual passwords will take precedence.	Y	Default N Permissible: Y or N. Enter Y if you want to apply the password specified in the DEFAULT attribute for all the schemas. If you enter as N, you must provide individual passwords for all schemas.	Setting this attribute value is mandatory if the DEFAULT attribute is set.

Table 6-3 (Cont.) OFS_HM_SCHEMA_IN.xml file Parameters

Tag Name or Attribute Name	Description	Mandatory (Y or N)	Default Value or Permissible Value	Comments
<SCHEMA>/ TYPE	The different types of schemas that are supported in this release are ATOMIC and CONFIG. By default, the schemas types are seeded based on the Application Pack.	Y	ATOMIC/CONFIG	Only One CONFIG schema can exist in the file. Do not edit this attribute value. This schema identifies as the CONFIGURATIO N schema that holds the OFSAA setup detains and other Metadata information. Multiple ATOMIC schemas can exist in the file.
<SCHEMA>/ NAME	The schemas' names are seeded based on the Application Pack by default. You can edit the schema names if required. The Schema Name will have a prefix of the SETUPINFO/ NAME attribute.	Y	Seeded, with OFSCONFIG as the default value. The permissible length is 15 characters and only alphanumeric characters are allowed. No special characters allowed except underscore '_'.	SETUPOINFO/ NAME attribute value is prefixed to the schema name being created. For example, if a name is set as 'ofsaatm' and setupinfo as 'uat', then schema being created is 'uat_ofsaatm'. .
<SCHEMA>/ PASSWORD	Enter the password of the schema to be created. If this attribute is left blank, then the password specified in the <PASSWORD>/ DEFAULT attribute is applied as the Schema Password.	N	The maximum length allowed is 30 characters. Special characters are not allowed.	It is mandatory to enter the password if you have set the <PASSWORD>/ APPLYSAMEFOR ALL attribute as N.

Table 6-3 (Cont.) OFS_HM_SCHEMA_IN.xml file Parameters

Tag Name or Attribute Name	Description	Mandatory (Y or N)	Default Value or Permissible Value	Comments
<SCHEMA>/ APP_ID	The Application ID is seeded based on the Application Pack by default.	Y	Unique seeded values are: OFS_AAI OFS_HM	Identifies the Application/ Product for which the schema is being created. Do not edit this attribute value. Do not modify this value.
<SCHEMA>/ DEFAULTTABLESPACE	Enter the available default tablespace for DB User. If this attribute is left blank, then USERS is set as the default tablespace.	N	Seeded, with USERS as the default value. Permissible Any existing valid tablespace name.	Modify this value to associate any valid tablespace with the schema.
<SCHEMA>/ TEMPTABLESPACE	Enter the available temporary tablespace for DB User. If this attribute is left bank, TEMP is set as the default tablespace.	N	Seeded, with TEMP as the default value. Permissible Any existing valid temporary tablespace name.	Modify this value to associate any valid tablespace with the schema.
<SCHEMA>/ QUOTA	Enter the quota to be set on the DEFAULTTABLESPACE attribute for the schema/ user. Minimum: 500M or Unlimited on default Tablespace.	N	Permissible values are a minimum of 500M or UNLIMITED as the default value. **Example**: 600M/m 20G/g UNLIMITED/ unlimited	Modify this value to grant the specified quota on the mentioned tablespace to the user.
<SCHEMA>/ INFODOM	Enter the name of the Information Domain to associate this schema. The schema creator utility automatically derives an Information Domain Name based on the Application Pack if no value is specified for this attribute.	N	Seeded, with OFSINFDOM as the default value. Permissible length is 16 characters and only alphanumeric characters are allowed. No special characters are allowed.	

Table 6-3 (Cont.) OFS_HM_SCHEMA_IN.xml file Parameters

Tag Name or Attribute Name	Description	Mandatory (Y or N)	Default Value or Permissible Value	Comments
<ADV_SEC_OPTIONS>/	Parent tag to hold Advance Security Options.	N		Uncomment the tag and edit if you want to add security options. For example, TDE and Data Redact. For details, see the example in the comments for the <TABLESPACE>/ ENCRYPT tag.
<ADV_SEC_OPTIONS>/TDE	Tag to enable/ disable TDE.	N	The default is FALSE. To enable TDE, set this to TRUE.	Ensure this tag is not commented if you have uncommented <ADV_SEC_OPTIONS>
<ADV_SEC_OPTIONS>/ DATA_REDACT	Tag to enable/ disable the Data Redaction feature.	N	The default is FALSE. To enable DATA_REDACT, set this to TRUE	Ensure this tag is not commented if you have uncommented<ADV_SEC_OPTIONS>
<TABLESPACES>	Parent tag to hold <TABLESPACE> elements	N	NA	Uncomment the tag and edit. ONLY if tablespaces are to be created as part of the installation. For details, see the example following the table. When TDE is TRUE in ADV_SEC_OPTIONS, then the <TABLESPACES> tag must be present in the XML file.
<TABLESPACE>/ NAME	Logical Name of the tablespace to be created.	Y		Name, if specified, must be referred in the <SCHEMA DEFAULTTABLESPACE= "##NAME##"> attribute. Note the ## syntax.

Table 6-3 (Cont.) OFS_HM_SCHEMA_IN.xml file Parameters

Tag Name or Attribute Name	Description	Mandatory (Y or N)	Default Value or Permissible Value	Comments
<TABLESPACE>/VALUE	Physical Name of the tablespace to be created.	Y	NA	Value, if specified, is the actual name of the TABLESPACE.
<TABLESPACE>/DATAFILE	Specifies the location of the data file on the server.	Y	NA	Enter the absolute path of the file to be created.
<TABLESPACE>/AUTOEXTEND	Specifies if the tablespace must be extensible or have a hard limit.	Y	ON or OFF	Set to ON to ensure that the tablespace does not run out of space when full.

Table 6-3 (Cont.) OFS_HM_SCHEMA_IN.xml file Parameters

Tag Name or Attribute Name	Description	Mandatory (Y or N)	Default Value or Permissible Value	Comments
<TABLESPACE>/ ENCRYPT	Specifies if the tablespace(s) must be encrypted using TDE	Y	ON or OFF	Set to ON to ensure that the tablespaces when created are encrypted using TDE. NOTE: Encryption of tablespaces requires enabling Transparent Data Encryption (TDE) on the Database Server. Example: The following snippet shows that TDE is enabled and hence the tablespace is shown with encryption ON. <ADV_SEC_OPTIONS> <OPTION NAME="TDE" VALUE="FALSE"/> <OPTION NAME="DATA_REDACT" VALUE="FALSE" /> </ADV_SEC_OPTIONS> <TABLESPACES> <TABLESPACE NAME="OFS_AAI_TBSP_1" VALUE="TS_USERS1" DATAFILE="/ scratch/ora19c/app/oracle/oradata/OFSPQA19cDB/ts_users1.dbf" SIZE="500M" AUTOEXTEND="ON" ENCRYPT="ON" /> <TABLESPACE NAME="OFS_AAI

Table 6-3 (Cont.) OFS_HM_SCHEMA_IN.xml file Parameters

Tag Name or Attribute Name	Description	Mandatory (Y or N)	Default Value or Permissible Value	Comments
				_TBSP_2" VALUE="TS_USERS2" DATAFILE="/scratch/ora19c/app/oracle/oradata/OFSPQA19cDB/ts_users2.dbf" SIZE="500M" AUTOEXTEND="ON" ENCRYPT="ON" /> </TABLESPACES> <SCHEMAS> <SCHEMA TYPE="CONFIG" NAME="ofsaaconf" PASSWORD="" APP_ID="OFS_AAI" DEFAULTTABLESPACE="##OFS_AAI_TBSP_1##" TEMPTABLESPACE="TEMP" QUOTA="unlimited"/> <SCHEMA TYPE="ATOMIC" NAME="ofsaaatm" PASSWORD="" APP_ID="OFS_AAAI" DEFAULTTABLESPACE="##OFS_AAI_TBSP_2##" TEMPTABLESPACE="TEMP" QUOTA="unlimited" INFODOM="OFSAAAIINFO"/> </SCHEMAS>

6.4 Execute the Schema Creator Utility

Depending on the option selected, select the appropriate schema creator utility execution option.

After creating the schema, proceed to Configure the OFSAAI_InstallConfig.xml File

6.4.1 Execute the Schema Creator Utility in Offline Mode

In the Offline mode, the utility generates an SQL script with all the required DDLs for Users, Objects, and Grants. This script must be executed by the DBA on the appropriate database identified for OFSAA usage. If you do not have the SYSDBA privileges, you can execute the Schema Creator Utility in Offline mode and generate the script file that contains the Schemas, Objects, and Grants information. Subsequently, an SYSDBA user can execute the script file manually. To run the OFSAA Application Pack installer in Silent mode, it is mandatory to execute the schema creator utility with -s option.

To execute the utility in Offline mode, you must have a database user with the following GRANTS (alternatively, you can also connect as a user with SYSDBA privileges):

- SELECT ON DBA_ROLES
- SELECT ON DBA_USERS
- SELECT ON DBA_DIRECTORIES
- SELECT ON DBA_TABLESPACES
- CREATE SESSION

> **Note:**
>
> Explicit Grants to the user are required. Grants assigned through Roles are not supported.

To execute the schema creator utility in the offline mode, follow these steps:

1. Log in to the system as a non-root user.
2. Navigate to the following path: `OFS_HM_PACK/schema_creator/bin`.
3. Execute the `osc.sh` file using the following command:
   `./osc.sh -s -o`

   The following message is displayed:
   You have chosen OFFLINE mode. Triggering the utility in OFFLINE mode will generate the script. Do you wish to proceed? (Y/y or N/n).
4. Enter `Y` to proceed.
5. Enter the DB Username with SELECT privileges.
6. Enter the User Password.
7. The console runs the initial validation checks and displays the following message:
   You have chosen to install this Application Pack on <Name of the Atomic Schema> ATOMIC schema. Do you want to proceed? (Y or N).
8. Enter `Y` to start the script generation. The following message is displayed:
   You have chosen to install this Application Pack on <Name of the Infodom>. Do you want to proceed? (Y or N).

   On successful execution of the schema creator utility, the console displays the following status message:

Schema Creator executed successfully. Please execute `scratch/ofsaaapp/OFS_HM_PACK/schema_creator/sysdba_output_scripts.sql` before proceeding with the installation.

> **Note:**
>
> If there are any errors during the SQL script execution, reconfigure the `OFS_HM_SCHEMA_IN.xml`, and repeat steps in this procedure to execute the utility. This regenerates the scripts with the correct information.

9. Navigate to the `OFS_HM_PACK/schema_creator` directory.
10. Log in to SQLPLUS as a user having SYSDBA Privileges.
11. Execute the `sysdba_output_scripts.sql` file using the following command: `SQL>@sysdba_output_scripts.sql`
12. Alternatively, you can copy the `sysdba_output_scripts.sql` file and SQLScripts directory to a remote server and execute the `sysdba_output_scripts.sql` file, after providing appropriate execute permissions.
13. Make a TNS entry for the new users created. For details, see Add the TNS entries in TNSNAMES.ORA file section.

> **Note:**
>
> See the `sysdba_output_scripts.log` file for execution status. If there are any errors, contact My Oracle Support. If there are no errors in the execution, the log file is empty.

As a result of this task, the `OFS_HM_SCHEMA_OUTPUT.XML` file is generated. Do not modify this file.

After creating the schema, proceed to Configure the OFSAAI_InstallConfig.xml File section.

6.4.2 Execute the Schema Creator Utility in Online Mode

In Online mode, the utility connects to the database and executes the DDLs for Users, Objects, and Grants. If you have SYSDBA privileges you can execute the Schema Creator Utility in Online mode and thereby create the Users, Objects, and Grants during the execution process. To execute the utility in the Online mode, you must connect as <User> AS SYSDBA.

If you want to run the OFSAA Application Pack Installer in Online mode, it is mandatory to execute the schema creator utility with -s option.

To execute the utility with -s option in online mode, follow these steps:

1. Edit the file `OFS_HM_PACK/schema_creator/conf/OFS_HM_SCHEMA_IN.xml` in a text editor. See Configure the OFS_HM_SCHEMA_IN.xml File section for values to modify in the XML file.
2. Execute the utility with -s option. For Example: `./osc.sh -s`

3. Make a TNS entry for the new users created. For details, see Execute the Schema Creator Utility in TCPS Mode Add the TNS entries in TNSNAMES.ORA file.
   The following message is displayed:*You have chosen ONLINE mode. Triggering the utility in ONLINE mode will execute the DDLs directly on the Database. Do you wish to proceed? (Y/y or N/n).*
4. Enter `Y` to proceed.
   The following message is displayed:

   You have chosen to install this application pack on INFODOM "<INFODOM_NAME>". Do you wish to proceed? (Y/y or N/n).
5. Enter `Y` to proceed.
6. After Schema creation is successful, proceed to Configure the OFSAAI_InstallConfig.xml File.
   As a result of this task is the OFS_HM_SCHEMA_OUTPUT.XML file is generated. Do not modify this file.

6.4.3 Execute the Schema Creator Utility in TCPS Mode

If you intend to run the OFS Hedge Management and IFRS Valuations Installer in TCPS mode, it is mandatory to execute the schema creator utility with -s option and in online mode.

Prerequisite:

Configure the Oracle Wallet with trusted certificates between the DB Server with TCPS configured and the DBClient to enable communication through the SSL protocol.

> **Note:**
>
> You can also use Oracle Wallet to support OFSAA for storing Config and Atomic Schema credentials. To add OFSAA Config and Atomic Schema credentials to Oracle Wallet, see the OFS Analytical Applications Infrastructure Administration Guide.
>
> For example, all the database utilities such as sqlplus, tnsping, and sqlldr must work between the Client and the Server.

To execute the utility, follow these steps:

1. Edit the file `OFS_HM _PACK/schema_creator/conf/OFS_HM _SCHEMA_IN.xml` in the text editor. See the tables in the Configure the OFS_HM _SCHEMA_IN.xml File section for values to modify in the XML file.
2. Execute the utility with -s option.
   `./osc.sh-s TCPS <WALLET_HOME>`

   For example: `$./osc.sh -s TCPS /scratch/oraofss/wallet`
3. The following message is displayed:*Triggering the utility in ONLINE mode will execute the DDLS directly on the Database. Do you wish to proceed? (Y/y or N/n)*.
4. Enter `Y` to proceed.
5. The following message is displayed:
   You have chosen to install this application pack on "<ATOMIC_SCHEMA_NAME>" ATOMIC schema. Do you wish to proceed? (Y/y or N/n).

6. Enter `Y` to proceed.
   The result of this task is that the OFS_HM _SCHEMA_OUTPUT.XML file is generated. Do not modify this file.

   After Schema creation is successful, proceed toConfigure the OFSAAI_InstallConfig.xml File section.

6.4.4 Execute the Schema Creator Utility while Installing Subsequent Applications Pack

When executing the schema creator utility during the installation of a subsequent Applications Pack, you can choose to install the pack either on the same Information Domain or Atomic Schema of the existing application pack or on a new Information Domain or Atomic Schema. You can execute the schema creator utility either in Online or Offline mode.

To execute the schema creator utility while installing OFS HM Application Pack over an existing Application Pack, follow these steps:

1. Edit the file `OFS_HM_PACK/schema_creator/conf/OFS_HM_SCHEMA_IN.xml` in a text editor. See the Configure the OFS_HM_SCHEMA_IN.xml File section for values you must modify in the XML file.
2. Execute the utility with -s option. For Example: `./osc.sh -s -o`
   After successful schema creation, execute the `sysdba_output_scripts.sql` file

   > **Note:**
   >
   > You must use the same config schema user name as the previous application pack.

3. The utility identifies the application packs that are already installed on the current OFSAA setup and displays the following on the console:
   - Atomic schema of the existing application pack
   - Information Domain Name of the existing pack
   - List of installed application packs
4. Enter `Y` or y to start the schema creation.
5. If you enter `N` or n, the list of Atomic Users is displayed.
6. Select the Atomic User on which you want to install the application pack.
7. Make a TNS entry for the new users created. For details, see Add the TNS entries in TNSNAMES.ORA file section.
   On successful execution of schema creator utility, the console displays the following status message:

   Success. Please proceed with the installation.

Note:

a. See the log file in the `OFS_HM_PACK/schema_creator/logs` directory for the execution status.

b. See the log file `sysdba_output_scripts.log` for the execution status if executed in offline mode. The log will be empty if there are no errors in the execution.

c. If there are any errors, contact My Oracle Support.

6.5 Configure the OFSAAI_InstallConfig.xml File

To configure the `OFS_InstallConfig.xml` file, follow these steps:

1. Navigate to the `OFS_HM_PACK/OFS_AAI/conf/` directory.
2. Open the `OFSAAI_InstallConfig.xml` file in a text editor.
3. Configure the `OFSAAI_InstallConfig.xml` file as mentioned in the following table. You must manually set the InteractionVariable parameter values as mentioned in the table. If a value is not applicable, enter NA. Ensure that the value is not entered as NULL.

Table 6-4 OFSAAI_InstallConfig.xml file Parameters

InteractionVariable Name	Significance and Expected Value	Mandatory
<Layer name="GENERAL">		
InteractionGroup name="WebServerType"		
WEBAPPSERVERTYPE	Identifies the web application server on which the OFSAA Infrastructure web components are deployed. Set the following numeric value depending on the type of web application server: • Apache Tomcat = 1 • IBM WebSphere Application Server = 2 • Oracle WebLogic Server = 3 For example, `<InteractionVariable name="WEBAPPSERVERTYPE">3</InteractionVari able>`	Yes
InteractionGroup name="OFSAA Infrastructure Server Details"		

Table 6-4 (Cont.) OFSAAI_InstallConfig.xml file Parameters

InteractionVariable Name	Significance and Expected Value	Mandatory
DBSERVER_IP	Identifies the hostname or IP address of the system on which the Database Engine is hosted. **NOTE**: For RAC Database, the value must be NA. For example, `<InteractionVariable name="DBSERVER_IP">14.15.16.17</InteractionVariable>` or `<InteractionVariable name="DBSERVER_IP">dbhost.server.com</InteractionVariable>`	Yes
InteractionGroup name="Database Details"		
ORACLE_SID/ SERVICE_NAME	Identifies the Oracle DB Instance SID or SERVICE_NAME **NOTE**: The Oracle_SID value must be the same as it is mentioned in JDBC_URL. For example, `<InteractionVariable name="ORACLE_SID/SERVICE_NAME">ofsaser</InteractionVariable>`	Yes
ABS_DRIVER_PATH	Identifies the directory where the JDBC driver (ojdbc<version>.jar) exists. This is typically the `$ORACLE_HOME/jdbc/lib` directory. For example, `<InteractionVariable name="ABS_DRIVER_PATH">">/oradata6/revwb7/ oracle </InteractionVariable>` NOTE: See Hardware and Software Requirements to identify the correct `ojdbc<version>.jar` file version to be copied.	Yes
InteractionGroup name="OLAP Detail"		

Table 6-4 (Cont.) OFSAAI_InstallConfig.xml file Parameters

InteractionVariable Name	Significance and Expected Value	Mandatory
OLAP_SERVER_ IMPLEMENTATION	Identifies whether the OFSAA Infrastructure OLAP component must be configured. It depends on whether you intend to use the OLAP feature. The following numeric value must be set depending on your choice: • YES: 1 • NO: 0 NOTE: If the value for `OLAP_SERVER_IMPLEMENTATION` is set to 1, the installer checks if the following environment variables are set in the `.profile` file: • ARBORPATH • HYPERION_HOME • ESSBASEPATH	No
InteractionGroup name="SFTP Details"		
SFTP_ENABLE	Identifies if the SFTP (Secure File Transfer Protocol) feature is to be enabled. The following numeric value must be set depending on your choice: • SFTP: 1 • FTP: 0	Yes
NOTE: The default value for SFTP_ENABLE is 1, which signifies that SFTP is used. Oracle recommends using SFTP instead of FTP because SFTP is more secure. However, you can ignore this recommendation and use FTP by setting SFTP_ENABLE to 0. You can change this selection later from the OFSAAI administration interface. Set SFTP_ENABLE to -1 to configure ftpshare and weblocal path as a local path mounted for the OFSAAI server.		
FILE_TRANSFER_PORT	Identifies the port used for the file transfer service. The default value specified is **22** (SFTP). Specify a value as **21** or any other PORT value if the value for `SFTP_ENABLE` is **0**. For example, `<InteractionVariable name="FILE_TRANSFER_PORT">21</InteractionVariable>`	Yes
InteractionGroup name="Locale Detail"		

Table 6-4 (Cont.) OFSAAI_InstallConfig.xml file Parameters

InteractionVariable Name	Significance and Expected Value	Mandatory
LOCALE	Identifies the locale information to be used during the installation. This release of the OFSAA Infrastructure supports only US English. For example, `<InteractionVariable name="LOCALE">en_US</ InteractionVariable>`	Yes
InteractionGroup name=”OFSAA Infrastructure Communicating ports" NOTE: The following ports are used internally by the various OFSAA Infrastructure services. The default values mentioned are set in the installation. If you intend to specify a different value, update the parameter value accordingly, ensure that the port value is in the range 1025 to 65535, and the respective port is enabled.		
JAVAPORT	9999	Yes
NATIVEPORT	6666	Yes
AGENTPORT	6510	Yes
ICCPORT	6507	Yes
ICCNATIVEPORT	6509	Yes
OLAPPORT	10101	Yes
MSGPORT	6501	Yes
ROUTERPORT	6500	Yes
AMPORT	6505	Yes
InteractionGroup name="Web Details" NOTE: If the value for HTTPS_ENABLE is set to 1, ensure that you have a valid certificate available from a trusted CA and it is configured on your web application server.		
HTTPS_ENABLE	Identifies whether the UI must be accessed using HTTP or HTTPS scheme. The default value is set to 0. The numeric value must be set depending on the following options: • YES: 1 • NO: 0 For example, `<InteractionVariable name="HTTPS_ENABLE">0</ InteractionVariable>`	Yes

Table 6-4 (Cont.) OFSAAI_InstallConfig.xml file Parameters

InteractionVariable Name	Significance and Expected Value	Mandatory

WEB_SERVER_IP	Identifies the HTTP server IP or Hostname or web application server IP or Hostname, to be used to access the UI. This IP is typically the HTTP server IP.
	If a separate HTTP server is not available, then the value must be Web application server IP or Hostname.
	For example,
	`<InteractionVariable name="WEB_SERVER_IP">10.11.12.13</InteractionVariable>`
	or
	`<InteractionVariable name="WEB_SERVER_IP">myweb.server.com</InteractionVariable>`
		No

WEB_SERVER_PORT	Identifies the web server port, which is typically 80 for non-SSL and 443 for SSL. If a separate HTTP server exists, the port value must be the value configured for the web server. WARNING: The installer will not accept the port value as: • 80, if the `HTTPS_ENABLE` variable is 1 • 443, if the `HTTPS_ENABLE` variable is 0 For example, `<InteractionVariable name="WEB_SERVER_PORT">80</InteractionVariable>`	No

Table 6-4 (Cont.) OFSAAI_InstallConfig.xml file Parameters

InteractionVariable Name	Significance and Expected Value	Mandatory
CONTEXT_NAME	Identifies the web application context name which is used to build the URL to access the OFSAA application. You can identify the context name from the following URL format: `<scheme>://<host>:<port>/<context-name>/ login.jsp` For example: https://myweb:443/ofsaadev/login.jsp For example, `<InteractionVariable name="CONTEXT_NAME">ofsaadev</InteractionVariable>`	Yes
WEBAPP_CONTEXT_PATH	Identifies the absolute path of the exploded EAR file on the web application server. • For Tomcat, specify the Tomcat directory path till `/webapps`. For example, `/oradata6/ revwb7/tomcat/webapps/`. • For WebSphere, specify the WebSphere path as `<WebSphere profile directory>/installedApps/<NodeCellName>`. For example, `/ data2/test//WebSphere/AppServer/profiles/<Profile_Name>/installedApps/aiximfNode01Cell`, where aix-imf is the Hostname. • For WebLogic, specify the WebLogic home directory path. For example, `/ <WebLogic home directory path>/bea/wlserver_10.3` **NOTE**: For WebLogic, the value specified for this attribute is ignored and the value provided against the attribute `WEBLOGIC_DOMAIN_HOME` is considered.	Yes

Table 6-4 (Cont.) OFSAAI_InstallConfig.xml file Parameters

InteractionVariable Name	Significance and Expected Value	Mandatory
WEB_LOCAL_PATH	Identifies the absolute path to any directory on the web application server that can hold temporary files, which are uploaded as part of the usage of the application. Set this in the FTPSHARE location. **NOTE**: During a clustered deployment, ensure that this path and the directory are the same on all the nodes.	Yes
InteractionGroup name="Weblogic Setup Details"		
WEBLOGIC_DOMAIN_HOME	Identifies the WebLogic Domain Home. For example, `<InteractionVariable name="WEBLOGIC_DOMAIN_HOME">/home/weblogic/bea/user_ projects/ domains/mydomain</InteractionVariable>`	Yes. Specify the value only if WEBAPPSERVERTYPE is set as 3 (WebLogic)
InteractionGroup name="OFSAAI FTP Details"		
OFSAAI_FTPSHARE_PATH	Identifies the absolute path of the directory that is identified as the file system stage area. NOTE: The directory must exist on the same system on which the OFSAA Infrastructure is being installed (can be on a separate mount). The user mentioned in the APP_SFTP_USER_ID parameter in the following example must have RWX permission on the directory. For example, `<InteractionVariable name="APP_FTPSHARE_PATH">">/oradata6/revwb7/ftpshare</InteractionVariable>`	Yes
OFSAAI_SFTP_USER_ID	Identifies the user who has RWX permissions on the directory identified for the parameter APP_FTPSHARE_PATH.	Yes

Table 6-4 (Cont.) OFSAAI_InstallConfig.xml file Parameters

InteractionVariable Name	Significance and Expected Value	Mandatory
OFSAAI_SFTP_PRIVATE_KEY	Identifies the SFTP private key for OFSAAI. For example, `<InteractionVariable name="OFSAAI_SFTP_PRIVATE_KEY">/home/ofsaapp/.ssh/id_rsa</InteractionVariable>` By default, the value is NA, which indicates that, for authentication, you are prompted to enter the password for the user `<OFSAAI_SFTP_USER_ ID>`. For more information on how to generate an SFTP Private key, see the Set Up SFTP Private Key section.	No
OFSAAI_SFTP_PASSPHRASE	Identifies the passphrase for the SFTP private key for OFSAAI. For example, `InteractionVariable name="OFSAAI_SFTP_PASSPHRASE">enter a pass phrase here</InteractionVariable>` By default, the value is NA. If the `OFSAAI_SFTP_PRIVATE_KEY` value is given and the `OFSAAI_SFTP_PASSPHRASE` value is NA, then the passphrase is identified as empty.	No

6.5.1 Set Up the SFTP Private Key

Log in to OFSAA UNIX user using the Putty tool, where you plan for installation and generate a pair of authentication keys using the ssh-keygen command. If required, set passphrase. Otherwise, the OFSAAI_SFTP_PASSPHRASE tag must be set to NA.

To generate a private key, enter the commands as shown:

```
ssh-keygen -t rsa
Generating public/private rsa key pair.
Enter file in which to save the key (/home/ofsaapp/.ssh/id_rsa):
Created directory '/home/ofsaapp/.ssh'.
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
```

```
Your identification has been saved in /home/ofsaapp/.ssh/id_rsa.
Your public key has been saved in /home/ofsaapp/.ssh/id_rsa.pub.
The key fingerprint is:
3e:4f:05:79:3a:9f:96:7c:3b:ad:e9:58:37:bc:37:e4
ofsaapp@OFSASERVER:~> cat /home/ofsaapp/.ssh/id_rsa.pub >> /home/
ofsaapp/.ssh/authorized_keys
```

Ensure the following permissions exist for the given directories:

- permissions of .ssh must be 700
- permissions of .ssh/authorized_keys must be 640
- permission of .ssh/id_rsa must be 400
- Permission of UNIX User created must be 755

6.6 Install the OFS HM Application Pack

> **Note:**
>
> Before you begin the installation, configure and execute the following files:
>
> 1. Configure the OS File System Settings and Environment Settings in the .profile File
> 2. Configure OFS_HM_PACK.xml File
> 3. Configure OFS_HM_SCHEMA_IN.xml
> 4. Execute the Schema Creator Utility
>
> For enabling the Right to be Forgotten, see Right to be Forgotten.
>
> For enabling Data Redaction, see the Data Redaction section. For more details, see the Data Redaction section, under Data Security and Data Privacy chapter in the OFS Analytical Applications Infrastructure Administration Guide.

6.6.1 Installation

To install the OFS HM Application Pack, follow these steps:

1. Log in to the system as a non-root user.
2. Identify a directory for installation and set the same in the user `.profile` file as follows:
   `FIC_HOME=<OFSAA Installation Directory>`

   `export FIC_HOME`
3. Execute the user `.profile` file.
4. Navigate to the `OFS_HM_PACK` directory.
5. Execute the schema creator utility with `-s` option.
6. Navigate to the path `OFS_HM_PACK/conf/OFS_HM_PACK.xml`, and enter YES in the enable tag for OFS_AAI and OFS_AAAI.

7. Installation is achieved through the properties file (`Silent.props`) that must be updated with proper values, before attempting to install using silent mode. Edit the parameters in the `Silent.props` file and specify the parameters as per the requirements.
The following table lists all the properties that must be specified:

Table 6-5 Parameters for the Silent.props File

Property Name	Description of Property	Permissible values	Comments
LOG_MODE	Specify Log Mode	1 = Debug Mode 0 = General Mode [Passwords will not be printed in the log file]	Password will be printed in the log file. The default value is 0.
APPFTP_LOG_PATH	Specify the Infodom Maintenance log path (to be created) for the new Infodom. Ignore if you are doing the installation on an existing information domain.	User Input	
DBFTP_LOG_PATH	Specify the Infodom Maintenance log path (to be created) for the new Infodom. Ignore if you are doing the installation on an existing information domain.	User Input	
UPLOAD_MODEL	Specify whether you want to perform Model Upload.	0 = If you have already performed Model Upload and want to skip the model upload process. 1 = If you want to perform Model Upload.	The default value is 1.
MODEL_TYPE	Specify whether you want to use the released datamodel or customized datamodel for the model upload process.	0 = If you want to upload the released datamodel. 1 = If you want to upload the customized datamodel.	The default value is 0.

Table 6-5 (Cont.) Parameters for the Silent.props File

Property Name	Description of Property	Permissible values	Comments
DATAMODEL DM_DIRECTORY	Specify the path (DM_DIRECTORY) and file (DATAMODEL) name for the customized datamodel. Mandatory only if you want to upload the customized datamodel, that is you have specified MODEL_TYPE=1.	User Input	
SEGMENT_1_CODE	Specify the HM Segment Code.	User Input	
OBI_HOST	Specify the Host Name of the OBIEE Server	User Input	This field should NOT be left blank. If OBIEE is not configured at the moment, ensure that you provide dummy value in this field
OBI_PORT	Specify the Port Number of the OBIEE Server	User Input	This field should NOT be left blank. If OBIEE is not configured at the moment, ensure that you provide dummy value in this field.
OBI_CONTEXT	Specify the Context Name of the OBIEE Server	User Input	This field should NOT be left blank. If OBIEE is not configured at the moment, ensure that you provide dummy value in this field.
ETL_APPSRC_TYPE	Specify if you want to create a new ETL App or Src pair or use an existing one.	0 = If you want to create a new ETL App or Src pair. 1 = If you want to use an existing pair.	If HM is being installed on an existing application value to be set as 1. And if HM is being newly installed the value to be set at 0.
ETL_SRC_1_DESC	ETL Staging source description.	Describe the ETL Src. Mandatory if you want to create new ETL Src if you have specified ETL_APPSRC_TYPE= 1.	

Table 6-5 (Cont.) Parameters for the Silent.props File

Property Name	Description of Property	Permissible values	Comments
ETL_SRC_2_DESC	ETL Processing source description.	Describe the ETL Src. Mandatory if you want to create new ETL Src if you have specified ETL_APPSRC_TYPE= 1.	
ETL_SRC_1_NAME	ETL Staging source name.	User Input	Specify the ETL Source Name into ETL Area Definitions to be deployed.
ETL_SRC_2_NAME	ETL Processing source name.	User Input	Specify the ETL Source Name into ETL Area Definitions to be deployed.

8. Enter the following command in the console to execute the application pack installer with the Silent option.
   `./setup.sh SILENT`
9. The installer proceeds with Pre-Installation Checks.
10. Enter the OFSAA Processing Tier FTP or SFTP password value and proceed, when prompted in the command prompt.

Table 6-6 Console Prompt: Enter the OFSAA Processing Tier FTP/SFTP Password

Console Prompts	User Inputs
Please enter OFSAA Processing Tier FTP or SFTP password	Enter the password to access the processing tier in the application server.

11. The process displays the OFSAA License. Enter Y and proceed.
12. The installer installs the AAI application.
13. After the platform is installed, the OFS HM installation begins.
14. After Data Model Upload is complete, verify the installation logs in the log directories mentioned in the Verify the Log File Information section.
15. After successful HM pack installation, the WAR file is generated and all the servers are verified and the installation complete message is displayed.
16. The OFSAA Infrastructure installation performs a post-install health check automatically on the successful installation of the product.
17. On completion of the installation, verify the installation log files mentioned in the Verify the Log File Information section.

> **Note:**
>
> Perform steps mentioned in the Post-Installation section.

6.6.2 Verify the Log File Information

See the following logs files for more information:

- See the log file (or files) in the `OFS_HM_PACK/OFS_AAI/logs/` directory for Infrastructure installation log.
- See the `OFSAAInfrastucture_Install.log` file located at the `$FIC_HOME` directory for the Infrastructure installation log.
- You can ignore the ORA-02291 error in the log file. For any other errors, contact My Oracle Support.
- See the `pack.install` log file in the `OFS_HM_PACK/logs` directory.

7
Post-installation

On successful installation of the Oracle Financial Services HM application pack, follow the post-installation procedures mentioned in Post-installation Checklist.

7.1 Post-Installation Checklist

You can use this checklist to have a quick glance at everything that you will be doing post installing this application. The link provided in each step takes you to a section either within this document or to another referenced document.

> **Note:**
>
> See the Post-Installation section in the OFS AAI Release 8.1.2.0.0 Installation and Configuration Guide to complete the following checklist procedures.

Table 7-1 Post Installation Activity

Sl. No.	Post-installation Activity
1	Update the Config Schema. **Note**: This step is applicable only for deployment on the Oracle Cloud Infrastructure.
2	Edit the WDSL Property File. **Note**: This step is applicable only for deployment on the Oracle Cloud Infrastructure.
3	Stop the Infrastructure services.
4	Create and deploy EAR/WAR files.
5	Start the OFSAA Infrastructure services.
6	Access the OFSAA application.
7	Configure excludeURLList.cfg file.
8	Configure the webserver.
9	Configure the Resource Reference in web application servers.
10	Configure the Work Manager in the web application servers.
11	Change the ICC batch ownership.
12	EAR/WAR File - Build Once and Deploy Across Multiple OFSAA Instances.
13	Set Data Redaction in OFS HM.
14	Implement Data Protection in OFSAA.
15	Configure Tomcat.
16	Add TNS entries in the tnsnames.ora file.
17	Update the OBIEE URL.

Table 7-1 (Cont.) Post Installation Activity

Sl. No.	Post-installation Activity
18	Configure Data Source.
19	Post-deployment Configuration. • OBIEE Configuration – Deploy OFS HM Analytics. • Logging as System Administrator. • Create Application Users. • Map the Application User(s) to User Groups. HM Pack User Groups.

7.2 Patch OFS HM Installation

Oracle strongly recommends installing the latest available patch set to be up-to-date with the various releases of the OFSAA product. Contact My Oracle Support. for more information on the latest release.

7.3 Updating the Config Schema

Update the configuration set paramvalue to Y in the Config Schema:

Log in to the Config Schema and execute the following query:

```
update configuration set paramvalue='Y' where
paramname='IS_CLOUD_INSTALL'; commit;
```

7.4 Editing the WDSL Property File

To edit the WDSL property file, follow these steps:

1. Connect to the Compute virtual machine on which the OFSAA product is installed.
2. Navigate to the `$FIC_HOME/ficdb/conf/` directory.
3. Edit the `subLedgerRun.properties` file.
4. Change the parameter in the WDSL property file to point to the WebLogic server (any of the nodes) and the listener port that is corresponding to that node.

7.5 Backup the OFS_HM_SCHEMA_IN.xml, OFS_HM_SCHEMA_OUTPUT.xml, and Silent.props Files

Backup the `OFS_HM_SCHEMA_IN.xml`, `OFS_HM_SCHEMA_OUTPUT.xml`, and Silent.props files as they can be reused when upgrading existing applications or installing new applications.

Table 7-2 Directory of Files to Backup

File Name	Directory
OFS_HM_SCHEMA_IN.xml	OFS_HM_PACK/schema_creator/conf
OFS_HM_SCHEMA_OUTPUT.xml	OFS_HM_PACK/schema_creator/
Silent.props	OFS_HM_PACK/appsLibConfig/conf

7.6 Configuring Tomcat for User Group Authorization, Data Mapping, and Disabling WADL for the Web Service

Users with system authorization roles can access User Group Authorization. However, to make it available on Tomcat web server, you have to perform the following configuration steps:

1. Navigate to the `$FIC_WEB_HOME/webroot/WEB-INF/` folder and open web.xml file.
2. Enter the following in the `web.xml` file.
```
<init-param>

<param-name>mappedfile</param-name>

<param-value>false</param-value>

</init-param>
```
3. To disable the WADL for the Web Service, navigate to the following snippet in the `web.xml` file.
```
<servlet>

<servlet-name>CommonRESTServlet</servlet-name>

<servlet-class>org.glassfish.jersey.servlet.ServletContainer</servlet-class>

<init-param>

<param-name>javax.ws.rs.Application</param-name>

<param-value>com.ofs.fsapps.commonapps.util.ApplicationResourceConfig</
param-value>

</init-param>

<load-on-startup>1</load-on-startup>

</servlet>
```
4. Add the following snippet before the `<load-on-startup>1</load-on-startup>` attribute.
```
<init-param>

<param-name>jersey.config.server.wadl.disableWadl</param-name>

<param-value>true</param-value>

</init-param>
```
5. Save and close the file.

7.7 Stop the Infrastructure Services

To stop Infrastructure services, follow these steps:

1. On the machine where the Infrastructure Application components are installed, navigate to the $FIC_APP_HOME/common/FICServer/bin directory, and execute the following command:
   `./stopofsaai.sh`
2. To stop the ICC server on the machine where the Infrastructure Default Application components are installed, navigate to the $FIC_HOME/ficapp/icc/bin directory, and execute the following command:
   `./iccservershutdown.sh`

   > **Note:**
   >
   > Only the Infrastructure Default Application Server will hold the ICC component.

3. To stop the Back-end server on the machine where the Infrastructure database components are installed, navigate to the $FIC_DB_HOME/bin directory, and execute the following command:
   `./agentshutdown.sh`

7.8 Start the Infrastructure Services

Start the infrastructure servers after the installation and the post-installation steps are completed. Log on to each machine and execute the .profile file. Start all the servers mentioned from the same shell encoding.

> **Note:**
>
> The servers mentioned in this section are dependent on each other. It is mandatory to maintain the order in which the servers are started. Allow each of the servers to initialize completely before starting the next server.

1. On the machine where the Infrastructure Application components are installed, navigate to the `$FIC_APP_HOME/common/FICServer/bin` directory, and execute the following command to start the Infrastructure Server:
   `./startofsaai.sh`

> **Note:**
>
> a. You can also start the Infrastructure Server by executing the command "nohup ./ startofsaai.sh &". Starting the process using "nohup" and "&" returns the command prompt without having to wait until the process completes. However, this command cannot be used when you are starting the server for the first time or starting after changing the user password in the configuration database schema.
>
> b. When you start the server, the following error is displayed:
> `java.io.FileNotFoundException:`
>
> `/ftpshare/<INFODOM>/erwin/fipxml/<INFODOM>_DATABASE.XML (No such file or directory)`
>
> Ignore this error.

2. Start the ICC server.
On the machine where the Infrastructure Default Application components are installed, navigate to the $FIC_HOME/ficapp/icc/bin directory, and execute the following command to start the "ICC server":

```
./iccserver.sh
```

> **Note:**
>
> Only the Infrastructure Default Application Server holds the ICC component.

3. Start the Backend Services using one of the following options:
   - On the machine where Infrastructure Database components are installed, navigate to the `$FIC_DB_HOME/bin` directory, and execute the following command to start the "Agent server":
     `./agentstartup.sh`
   - Using nohup execute the following command:
     `nohup ./agentstartup.sh &`

> **Note:**
>
> This agent internally starts the Router, Message Server, OLAP Data Server, and AM Services.

7.9 Configure the Web Server

If a web server is already installed, skip this section, and proceed to the next step.

The prerequistes section provides information about the web servers supported.

Depending on the web server you choose to install, use its product documentation to install and configure the web server.

Note:

- See the Oracle Financial Services Analytical Applications Infrastructure Security Guide for configurations to secure your web server.
- You must enable a sticky session/affinity session configuration on the web server. See the respective product-specific Configuration Guide for more details. Additionally, you also must enable the sticky session/ affinity session configuration at the Load Balancer level if you have configured a Load Balancer in front of the web server.

- Configure WebSphere Application Server for Application Deployment
- Configure WebLogic for Application Deployment
- Configure Apache Tomcat Server for Application Deployment
- Additional Configurations for Web Servers

Note:

- Make a note of the IP Address/ Hostname and Port of the webapplication server. This information is required during the installation process (required if the web server is not configured).
- Add umask 0027 in the .profile of the UNIX account which manages the WEB server to ensure restricted access permissions.
- See the OFSAA Secure Configuration Guide/ Security Guide mentioned in the Related Documents section for additional information on securely configuring your web server.

7.9.1 Create New Profile in WebSphere

The Profile is created in WebSphere through the command line using the manageprofiles.sh that resides in the `<WebSphere Install directory>/AppServer/bin` directory.

Use the following command to create a profile without admin security through the command line:

```
"manageprofiles.sh -create -profileName <profile> -profilePath
<profile_ path> -templatePath <template_path> -nodeName <node_name> -
cellName
<cell_ name> -hostName <host_name>"
```

Example:

```
$usr/home>./manageprofiles.sh -create -profileName mockaix
-profilePath/websphere/webs64/Appserver/profiles/mockaix
-templatePath/websphere/webs64/Appserver/profileTemplates/default
```

```
-nodeName ipa020dorNode04 cellName ipa020dorNode04Cell -hostName ipa020dor
```

The command to create a profile with admin security through command line is as follows:

```
"manageprofiles.sh -create -profileName <profile> -profilePath <profile_
path> -templatePath <template_path> -nodeName <node_name> -cellName
<cell_name> -hostName <host_name> -enableAdminSecurity true -
adminUserName<Admin User Name> -adminPassword < Admin User Password> -
samplespassword<sample User Password>"
```

Example:

```
$usr/home>./manageprofiles.sh -create -profileName mockaix
-profilePath/websphere/webs64/Appserver/profiles/mockaix
-templatePath/websphere/webs64/Appserver/profileTemplates/default
-nodeName ipa020dorNode04 -cellName ipa020dorNode04Cell -hostName ipa020dor -
enableAdminSecurity true -adminUserName ofsaai -adminPassword ofsaai -
samplespassword ofsaai"
```

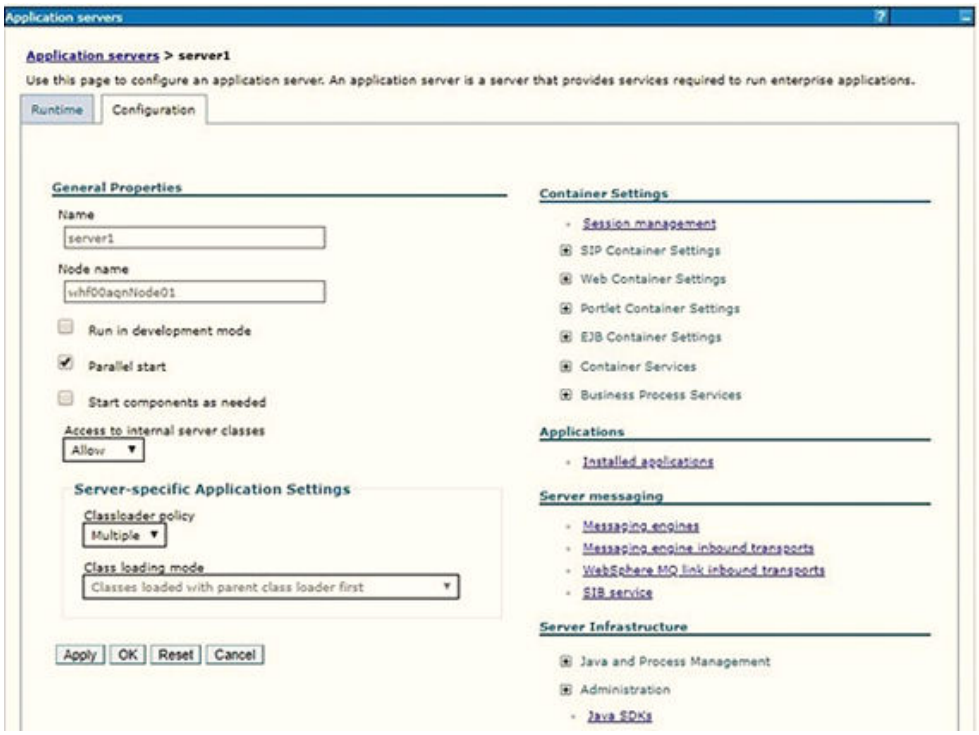
> **Note:**
>
> While using the manageprofiles.sh command to create a New Profilein WebSphere, you can also use "-validatePorts"to validate if the specified ports are not reserved or in use. Additionally, you can specify new ports with "-startingPort <baseport>" which specifies the starting port number to generate and assign allports for the profile. For more information on using these ports, refer to WebSphere manageprofilescommand.

7.9.2 Set Java Version

Follow these steps to check the Java version and set it to JAVA 8.X SDK:

1. Enter the WebSphere URL in the format http://HOST_NAME:PORT_ NUMBER/ibm/console (use https if SSL is enabled.). For example, http://192.168.1.0:9000/ibm/console.
2. Log in with your administrator user ID and password.
3. From the LHS menu, click **Servers** to expand and view the menu.
4. Click **Server Types** to expand the menu further and then click **WebSphere Enterprise Application Servers** to view the Application servers window.
5. On the **Application servers** window, click the required Application Server link. For example, server1 in the following figure:

Figure 7-1 Application Server Java SDKs



6. Click the Java SDKs link from the Server Infrastructure section to view the list of Java SDKs.

Figure 7-2 Application Server List of Java SDKs

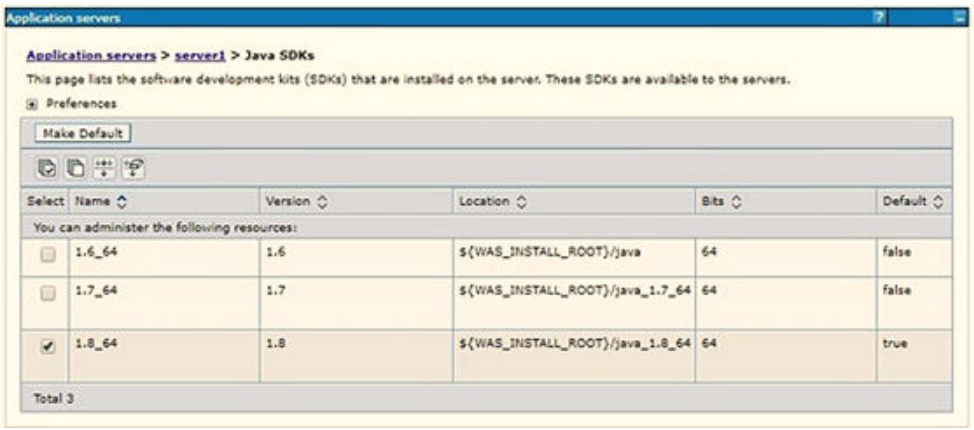
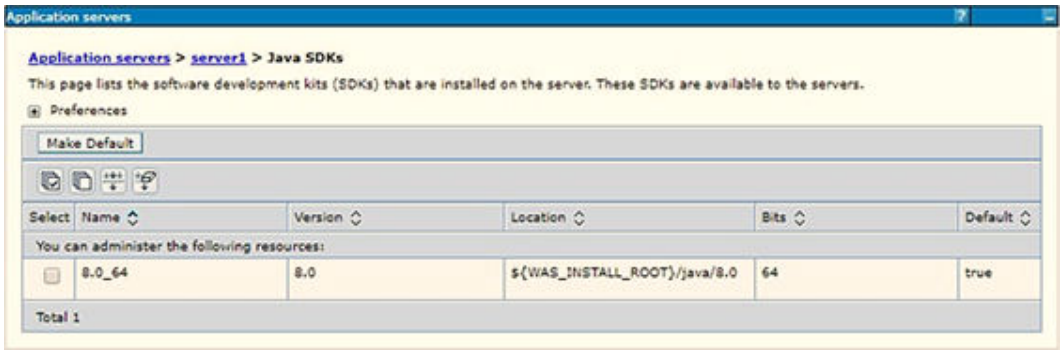


Figure 7-3 Application Server List of Java SDKs



7. Select 8.0_64.
8. Click **Make Default** and save to master repository.
9. Restart the WebSphere Application Server to apply the changes to the IBM application profile.

7.9.3 Manage Installed Applications

To manage the installed applications in WebSphere, follow these steps:

1. Open the administrator console using the following URL:

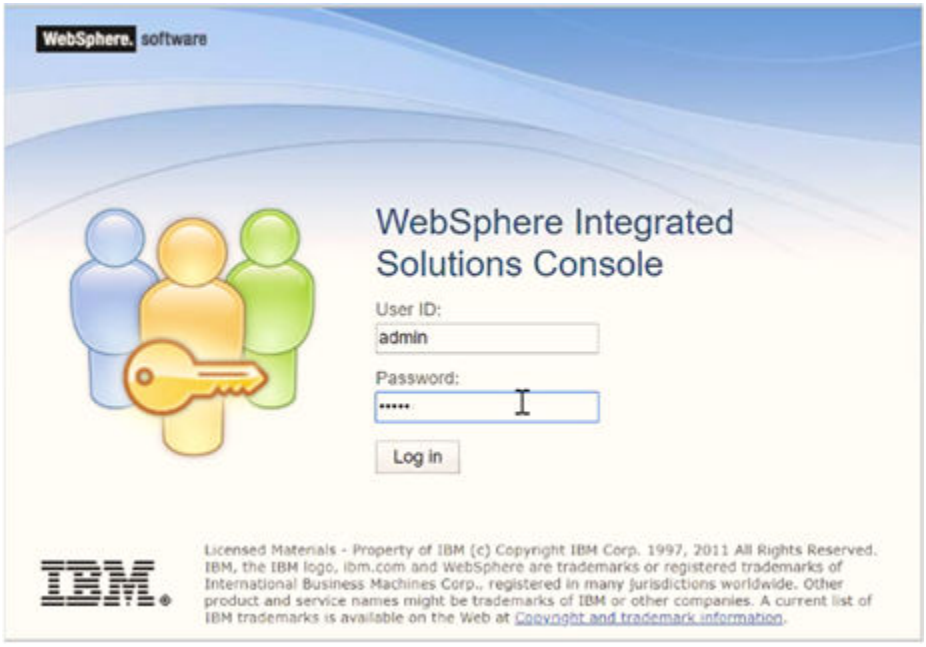
   `http://<ipaddress>:<Administrative Console Port>/ibm/console`

   For example: `http://10.111.222.333:9003/ibm/console` (https if SSL is enabled.)

> **Note:**
>
> Administrative Console Port value is available in the serverindex.xml file within the <WebSphere Profile Directory>/config/cells/<Node Cell>/nodes/<Node Name> directory.

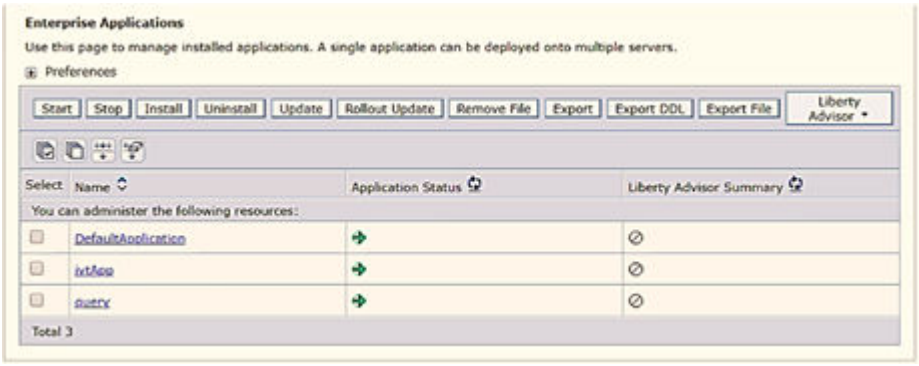
The Integrated Solutions Console Login window is displayed.

Figure 7-4 Integrated Solutions Console Login



2. Log in with the User ID provided with admin rights.
3. From the LHS menu, expand the **Applications > Application Type> WebSphere Enterprise Applications** to display the Enterprise Applications window.

Figure 7-5 Enterprise Applications



This Enterprise Applications window helps you to:

- Install new application
- Uninstall existing applications
- Start or Stop the installed applications

7.9.4 Initialize Filters

The custom configuration information in this section initializes the filters before initializing load-onstartup servlets and allows empty servlet maps when you start an application.

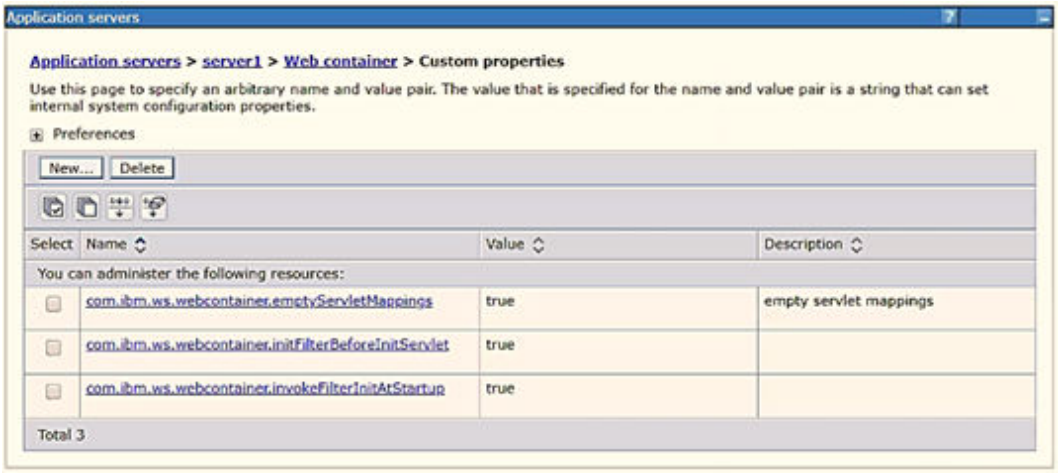
To configure custom properties for filters, follow these steps:

This is a mandatory configuration for OFSAA with WebSphere for both fresh and upgrade installation.

1. Enter the WebSphere URL in the format http://HOST_NAME:PORT_ NUMBER/ibm/console (use https if SSL is enabled.). For example, http://192.168.1.0:9000/ibm/console.
2. Log in with your administrator user ID and password.
3. From the left menu, click Servers to expand the menu.
4. Click Server Types to expand the menu further and then click WebSphere Enterprise Application Servers to view the Application servers window.
5. On the Application servers window, click the required Application Server link.
6. Click **Web Container Settings** and then **Custom Properties** to view the Custom Properties window.

   Web Container Initialize Filters Before Servlet

Figure 7-6 Web Container Initialize Filters Before Servlet



7. Click **New** and enter the following properties:
   - `com.ibm.ws.webcontainer.initFilterBeforeInitServlet` to true.
   - `com.ibm.ws.webcontainer.invokeFilterInitAtStartup` to true.
   - `com.ibm.ws.webcontainer.emptyServletMappings` to true.
8. Click **OK** and then click **Save** on the Console to save the customized configurations.
9. Restart the WebSphere Application Server to apply the changes.

7.9.5 Server Persistence

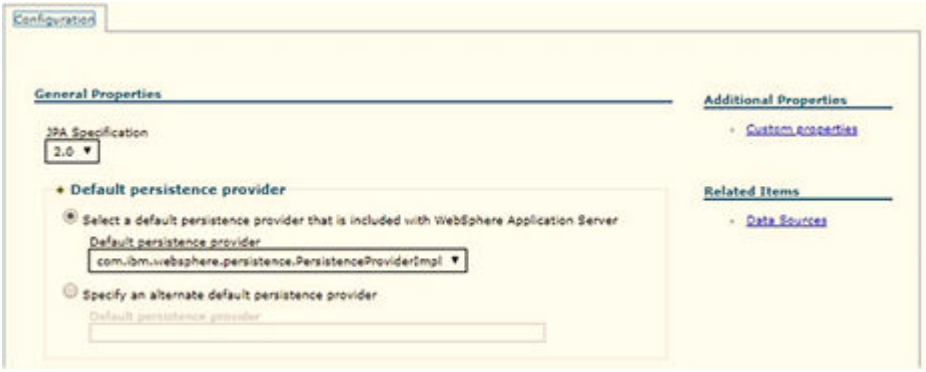
The persistence configuration information in this section sets JPA 2.0 specification in WebSphere over the default JPA 2.1 specification.

This is a mandatory configuration for OFSAA with WebSphere for both fresh and upgrade installation.

To set the JPA 2.0 as the default persistence provider, follow these steps:

1. Enter the WebSphere URL in the format http://HOST_NAME:PORT_NUMBER/ibm/console (use https if SSL is enabled.). For example, http://192.168.1.0:9000/ibm/console.
2. Log in with your administrator user ID and password.
3. From the LHS menu, click **Servers** to expand the menu.
4. Click **Server Types** to expand the menu further and then click WebSphere Enterprise Application Servers to view the Application servers window.
5. On the Application servers window, click the required Application Server link.
6. Click **Container Services** and then click **Default Java Persistence API settings** to display the Configuration window:

Figure 7-7 Default Java Persistence Settings JPA Specification 2.0



7. From the **JPA Specification** drop-down, select **2.0** to change the default JPA Specification from 2.1 to 2.0.
8. Click **OK** and then click **Save** on the Console to save the customized configurations.
9. Restart the WebSphere Application Server to apply the changes.

7.9.6 Delete WebSphere Profiles

To delete a WebSphere profile, follow these steps:

1. Select the check box adjacent to the required application and click **Stop**.
2. **Stop** the WebSphere profile to be deleted.
3. Navigate to WebSphere directory:

   ```
   <WebSphere_Installation_Directory>/AppServer/bin/
   ```

4. Execute the command:

   ```
   manageprofiles.sh -delete -profileName <profile_name>
   ```

5. Delete the profile directory.

   Example: `<WebSphere_Installation_ Directory>/AppServer/profiles/<profile_name>`

6. Execute the command:

   ```
   manageprofiles.sh -validateAndUpdateRegistry
   ```

7.9.7 Configure HTTPS

To configure an HTTPS Transport on WebSphere, follow these steps:

1. Create a profile using the Profile Creation Wizard in WebSphere.

   > **Note:**
   >
   > Record the https port specified during this process and use it as a servlet port or web server port during OFSAAI installation.

2. To enable https configuration on Infrastructure, assign value 1 to "`HTTPS_ ENABLE`" in `OFSAAI_InstallConfig.xml` for Silent mode OFSAAI installation.

7.9.8 Configure Memory Settings

To configure the WebSphere Memory Settings, follow these steps:

1. Navigate to **WebSphere applications server > Application servers > server1 > Process definition > Java Virtual Machine**.
2. Change the memory setting for Java Heap:
   - Initial heap size = 512
   - Maximum heap size = 3072

7.9.9 Configure WebLogic for Application Deployment

You can deploy multiple Infrastructure applications on different domains of a stand-alone WebLogic application server. To create multiple WebLogic "Domains" in a stand-alone server, you can use the Domain Creation wizard. A domain is the set of files that define the runtime environment. At least one domain must exist to run the WebLogic Application Server.

This section covers the following topics:

- Create Domain in WebLogic Server
- Delete Domain in WebLogic
- Configure WebLogic Memory Settings

7.9.9.1 Create Domain in WebLogic Server

To create a new domain using Configuration Wizard in WebLogic, follow these steps:

1. Navigate to the directory `<WLS_HOME>/wlserver/common/bin` and execute the command:

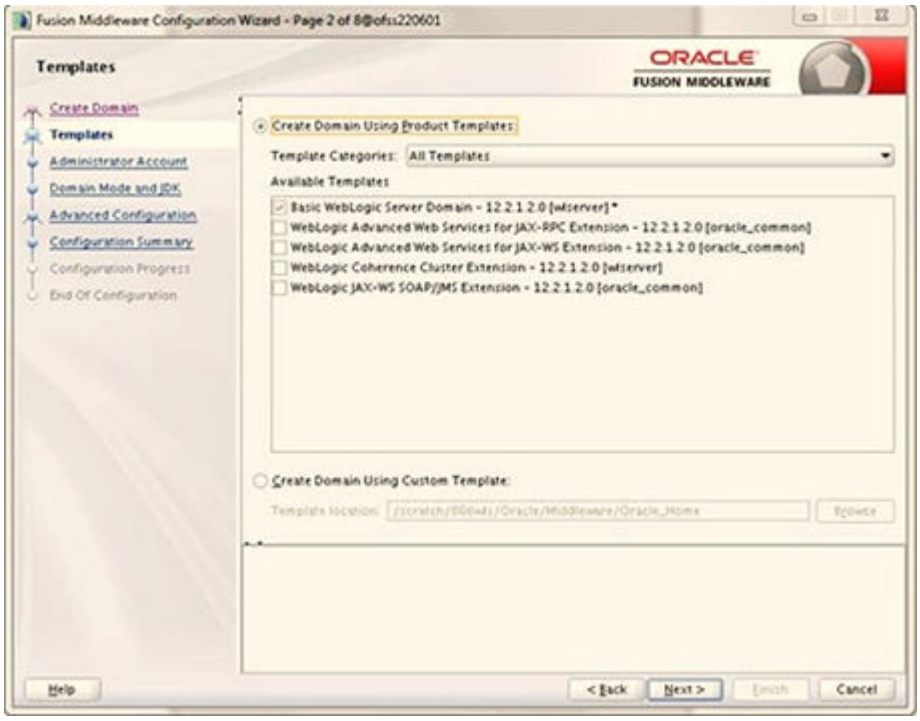
   ```
   ./config.sh
   ```

   The **Welcome** window of the Configuration Wizard is displayed.

Figure 7-8 Configuration Type

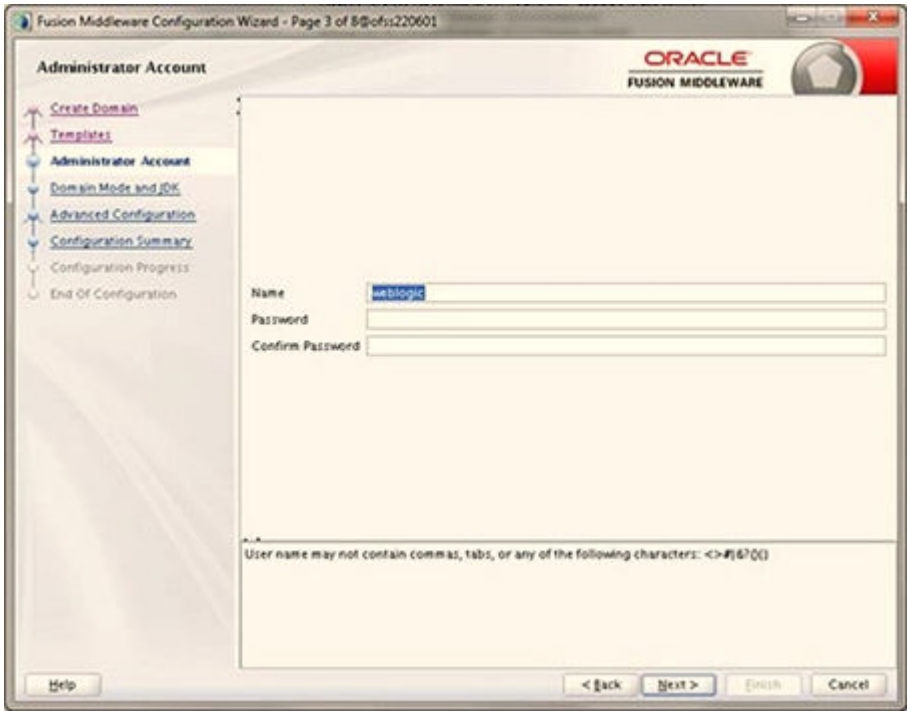
2. Select **Create a new domain** option and click **Next** to the **Templates** window.

Figure 7-9 Templates



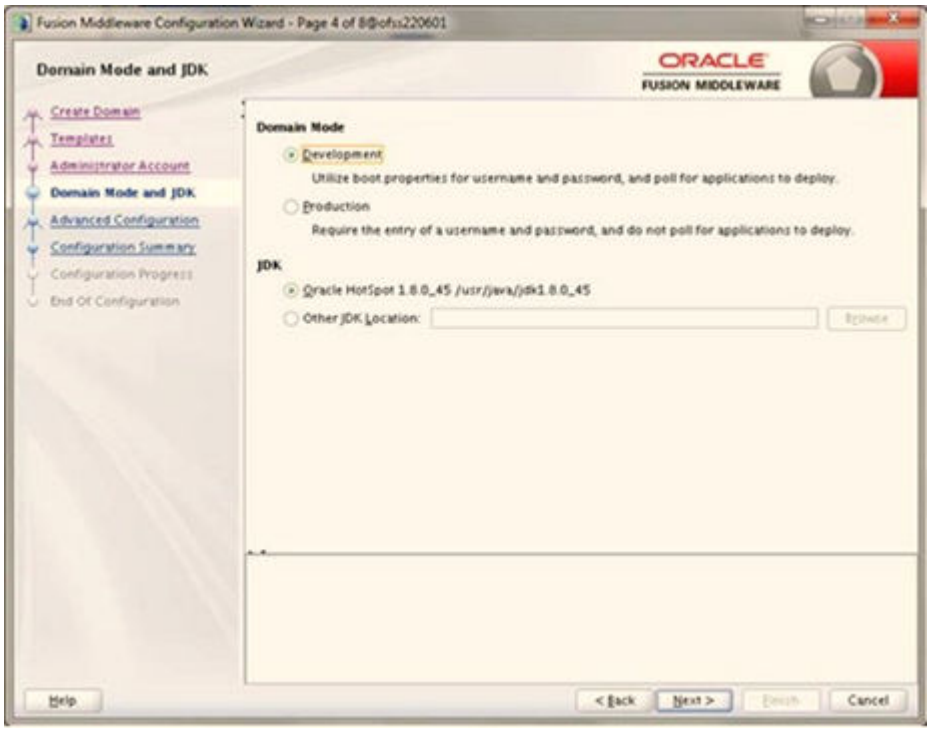
3. Select the **Create Domain Using Product Templates** option and click **Next** to display the **Administrator Account** window.

Figure 7-10 Administrator Account



4. Enter the user name to be assigned to the administrator, the password, and confirm the password. Click **Next** to the Domain Mode and JDK window.

Figure 7-11 Domain Mode and JDK



5. Select from the following options:

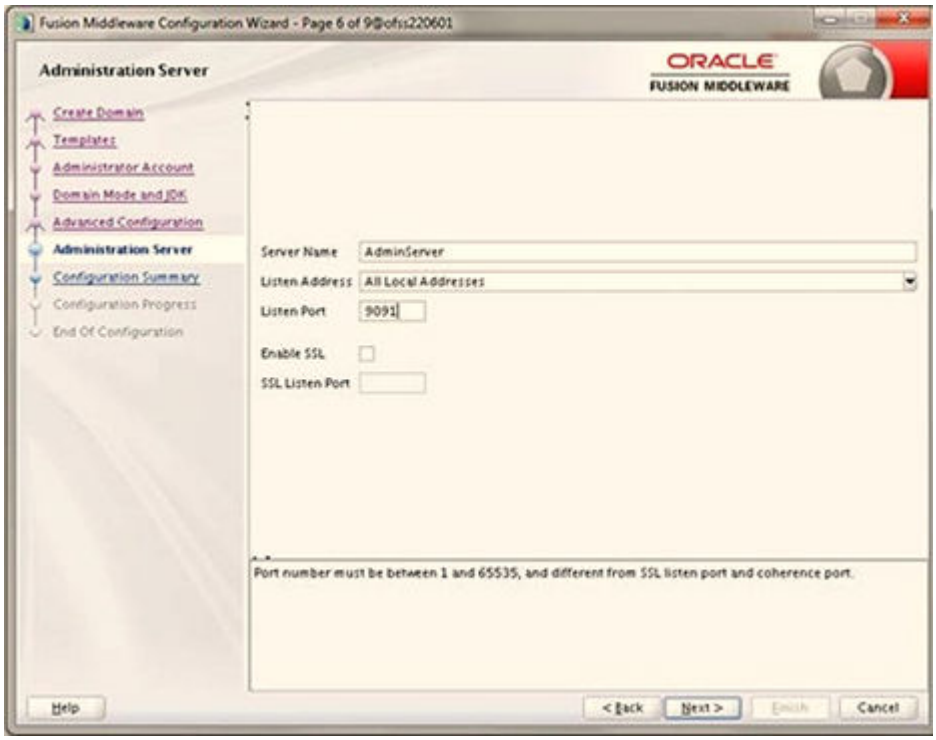
   a. In the Domain Mode section, select the required mode (Development or Production).

   b. In the JDK section, select the required option. If you select **Other JDK Location**, click **Browse**, navigate to the JDK location, and select. Click **Next** to display the Advanced Configuration window.

Figure 7-12 Advanced Configuration

6. Select the **Administration Server**. A WebLogic Server domain must have an Administration Server. You can also select **Manages Servers, Clusters and Machines**, and **RDBMS Security Store** if required. Click **Next** to display the **Administration Server** window.

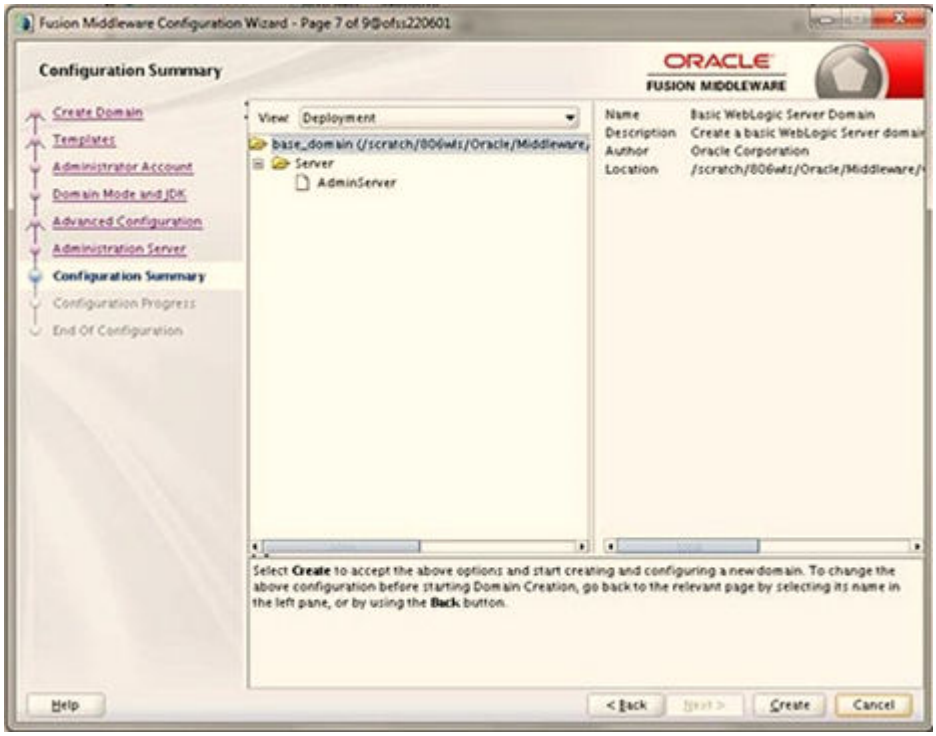
Figure 7-13 Administration Server



7. Enter Administration Server details such as the **Server Name, Listen address, Listen Port, Enable SSL** (for secure login using https, select this check box), and **SSL Listen Port**. Click **Next** to display the **Configuration Summary** window.

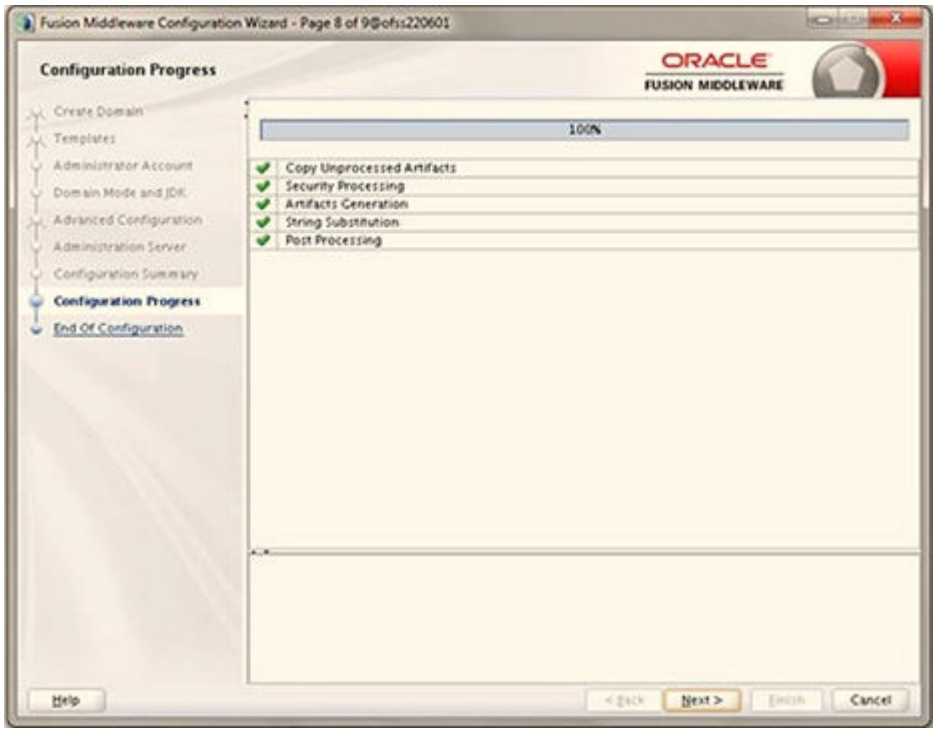
> **Note:**
>
> Make a note of the Listen Port or SSL Listen Port value (for example: 7007) since the same has to be re-entered in the Servlet port field during Infrastructure installation.

Figure 7-14 Configuration Summary



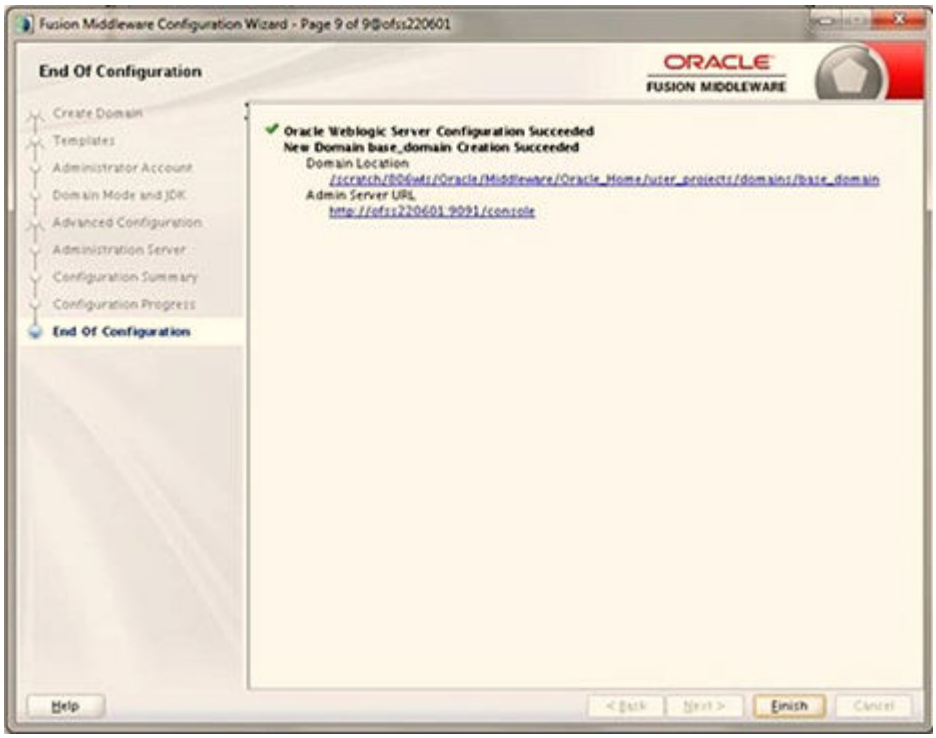
8. Verify the configuration details of the WebLogic domain and click **Create** to display the **Configuration Progress** window with the status indication of the domain creation process.

Figure 7-15 Creating Domain



9. Click **Next** when 100% of the activity is complete. The **End of Configuration** window is displayed.

Figure 7-16 End of Configuration



10. Click **Finish**. The domain server is created enabling the deployment of multiple Infrastructure applications on a single WebLogic.

> **Note:**
>
> - Record the HTTPS port specified during this process and use it as a servlet port or web server port during OFSAAI Installation.
> - To enable https configuration on Infrastructure, assign value 1 to "HTTPS_ENABLE" in `OFSAAI_InstallConfig.xml` for silent mode OFSAAI installation.

11. Add a java option entry `-DUseSunHttpHandler=true` in the `WLS_HOME/bin/"setDomainEnv.sh"` file (Required only if a self-signed certificate is used).

7.9.9.2 Delete Domain in WebLogic

To delete a domain in WebLogic, follow these steps:

1. Navigate to the following directory:

   ```
   <WebLogic Installation directory>/user_projects/domains/<domain name>/bin
   ```

2. Execute `stopWebLogic.sh` to stop the Weblogic domain.
3. Delete the Weblogic domain.

7.9.9.3 Configure WebLogic Memory Settings

To configure the WebLogic Memory Settings, follow these steps:

1. Change the memory setting for Java Heap to `-Xms512m -Xmx3072m` in the setDomainEnv.sh file, which resides in the `<DOMAIN_HOME>/bin` directory and the `CommEnv.sh` file which resides in the `common/bin` directory
2. Edit this file for customizing memory settings and garbage collector settings depending on the available hardware configuration.

   Example 1:

   ```
   if [ "${JAVA_VENDOR}" = "Sun" ] ; then WLS_MEM_ARGS_64BIT="-Xms512m
   -
   Xmx1024m"
   export WLS_MEM_ARGS_64BIT WLS_MEM_ARGS_32BIT="-Xms512m -Xmx1024m"
   export WLS_MEM_ARGS_32BIT else WLS_MEM_ARGS_64BIT="-Xms512m -
   Xmx1024m"
   export WLS_MEM_ARGS_64BIT WLS_MEM_ARGS_32BIT="-Xms512m -Xmx1024m"
   export WLS_MEM_ARGS_32BIT
   ```

   Example 2:

   ```
   JAVA_VM=
   MEM_ARGS="-Xms256m -Xmx1024m"
   ```

7.9.10 Configure Apache Tomcat Server for Application Deployment

This section is applicable only when the Web application server type is Tomcat. This section includes the following topics:

- Tomcat User Administration
- Configure Servlet Port
- Configure SSL Port
- Configure Apache Tomcat Memory Settings
- Configure Tomcat for User Group Authorization
- Uninstall WAR Files in Tomcat

7.9.10.1 Tomcat User Administration

The Tomcat administration and manager application does not provide a default login. You are required to edit "`$CATALINA_HOME/conf/tomcat-users.xml`" as follows:

This file contains an XML <user> for each user that will display the username and password used by the admin to log in to Tomcat and the role names to which the admin user is associated with.

For example, <user name="admin" password="admin" roles="standard,manager" />

- Add the manager role to any one of the existing username/password combinations as shown in the preceding example.
- Use the same username/password to which the manager role is assigned to access the Tomcat Application Manager.
- If the Tomcat server is already running, it requires a re-start after the preceding configuration is done.

7.9.10.2 Configure Servlet Port

The default servlet port configured for the Tomcat installation is 8080. Ignore this section if you must use the default port.

If you must use a different port number, you must first configure the port in the server.xml file in the conf directory of the Tomcat Installation directory. To configure the Servlet Port, follow these steps:

1. Navigate to `$CATALINA_HOME/conf. Open server.xml` and locate the tag: "`Define a non-SSL HTTP/1.1 Connector on port 8080 `"

   Against this tag, a parameter is specified 'Connector port = "8080"'. Edit this value to the new port number that was used during the Infrastructure installation process.
2. Save your changes in the `server.xml` file.

> **Note:**
>
> Make a note of the servlet port configured. This information is required during the installation of the OFSAA Application Pack.

7.9.10.3 Configure SSL Port

If you must configure and access your OFSAA setup for HTTPS access, ensure that the following connect tag under Define a SSL HTTP/1/1 Connector on port 8443 in the `<Tomcat_installation_directory>/conf/server.xml` file is uncommented for SSL Configuration. (By default, it is commented).

<Connector port="8443" protocol="HTTP/1.1" SSLEnabled="true" maxThreads="150" scheme="https" secure="true" clientAuth="false" sslProtocol="TLS"

> **Note:**
>
> - Make a note of the servlet port configured. This information is required during the installation of the OFSAA Application Pack.
> - To enable https configuration on Infrastructure, assign value 1 to "HTTPS_ENABLE" in the `OFSAAI_InstallConfig.xml` file for SILENT mode OFSAAI installation.

For more information related to SSL Configuration on Tomcat, see http://tomcat.apache.org/.

7.9.10.4 Configure Apache Tomcat Memory Settings

To configure the Apache Tomcat Memory Settings, follow these steps:

1. Locate the `catalina.sh` file that resides in the `<CATALINA_HOME>/bin` directory.
2. Edit this file for customizing the memory settings and garbage collector settings depending on the available hardware configuration.
3. Add the memory setting for Java Heap to -Xms512m -Xmx1024m. For example:

```
if [ -z "$LOGGING_MANAGER" ]; then JAVA_OPTS="$JAVA_OPTS -Xms512m -
Xmx1024m
-Djava.util.logging.manager=org.apache.juli.ClassLoaderLogManager"
else
JAVA_OPTS="$JAVA_OPTS -Xms512m -Xmx1024m $LOGGING_MANAGER"
fi
```

7.9.10.5 Configure Tomcat for User Group Authorization

Users with system authorization roles can access User Group Authorization. However, to make it available on the Tomcat web server, you must follow these configuration steps:

1. Navigate to the `$CATALINA_HOME/conf` directory and open the web.xml file.
2. Enter the following in the web.xml file.

```
<init-param>
<param-name>mappedfile</param-name>
```

```
<param-value>false</param-value>
</init-param>
```

3. Save and close the file.

7.9.10.6 Uninstall WAR Files in Tomcat

To remove the OFSAAI setup completely, unistall the WAR files in Tomcat server.

To uninstall the WAR files in Tomcat, refer to Uninstall WAR Files in Tomcat.

7.10 Configure Application Security in WebSphere

This is a mandatory security procedure for WebSphere to restrict the unauthorized access of configuration files in directories. For detailed information, see the Oracle Financial Services Analytical Applications Infrastructure Security Guide.

Topics:

- Configure Resource Reference in WebSphere Application Server
- Configure Resource Reference in WebLogic Application Server
- Configure Resource Reference in Tomcat Application Server

7.10.1 Configure Resource Reference in WebSphere Application Server

This section is applicable only when the Web application server type is WebSphere.

Topics:

- Create a JDBC Provider
- Create Data Source
- Create J2C Authentication Details
- Define JDBC Connection Pooling

7.10.1.1 Create a JDBC Provider

To create the JDBC Provider in WebSphere Application Server, follow these steps:

1. Open the WebSphere admin console in the browser window:

   http://<ipaddress>:<administrative console port>/ibm/console (https, if SSL is enabled). The Login window is displayed.
2. Log in with the user ID that has admin rights.
3. Expand the Resources option in the LHS menu and click **JDBC > JDBC Providers** to access the JDBC Providers window.
4. Select the **Scope** from the drop-down list. The Scope specifies the level at which the resource definition is visible.
5. Click **New** to add the new JDBC Provider under the Preferences section. The Create new JDBC Provider window is displayed.
6. Enter the following details:
   a. **Database Type**: Oracle

b. **Provider Type**: Oracle JDBC Driver

c. **Implementation Type**: Connection pool data source

d. **Name**: The required display name for the resource.

e. **Description**: The optional description for the resource.

7. Click **Next**.

8. Specify the directory location for the ojdbc<version>.jar file. Do not use the trailing slash file separators.

   The Oracle JDBC driver can be downloaded from the following Oracle Download site:

   - Oracle Database 18cg Release 3 JDBC Drivers
   - Oracle Database 19c Release 3 JDBC Drivers

   After downloading, you must copy the file in the required directory on the server.

   > **Note:**
   >
   > See Hardware and Software Requirements to identify the correct ojdbc<version>.jar file version to be copied.

9. Click **Next** to display the **Summary** window.

10. Verify the details and click **Finish** to create the JDBC Provider.

11. The options to Save and Review are displayed. Click **Save**.

7.10.1.2 Create Data Source

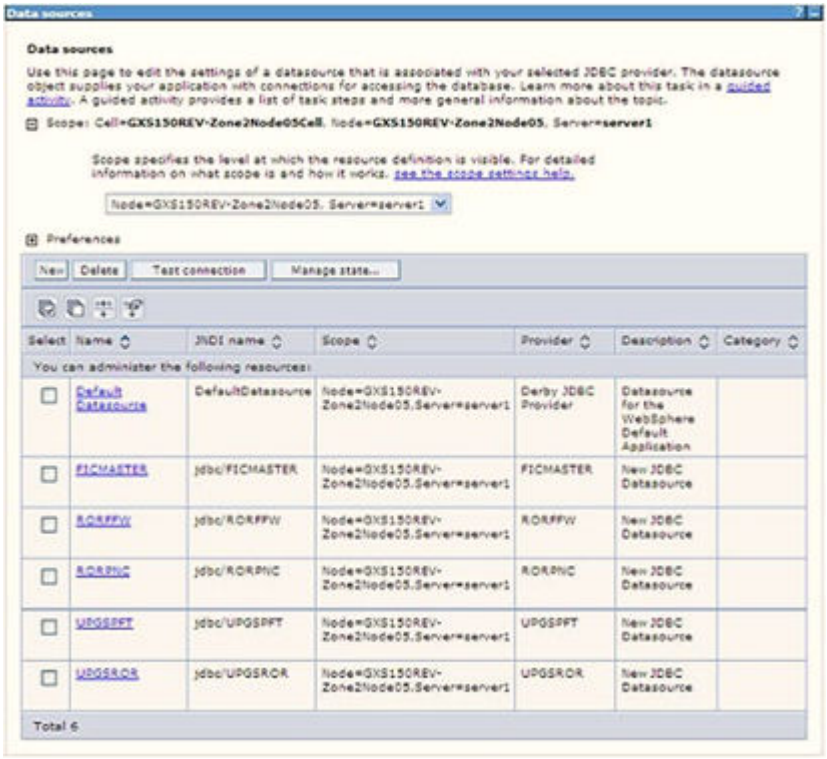
The following steps apply to both config and atomic data source creation. To create the data source, follow these steps:

1. Open the following URL in the browser window: http://<ipaddress>:<administrative console port>/ibm/console (https if SSL is enabled). The Login window is displayed.

2. Log in with the user ID that has admin rights.

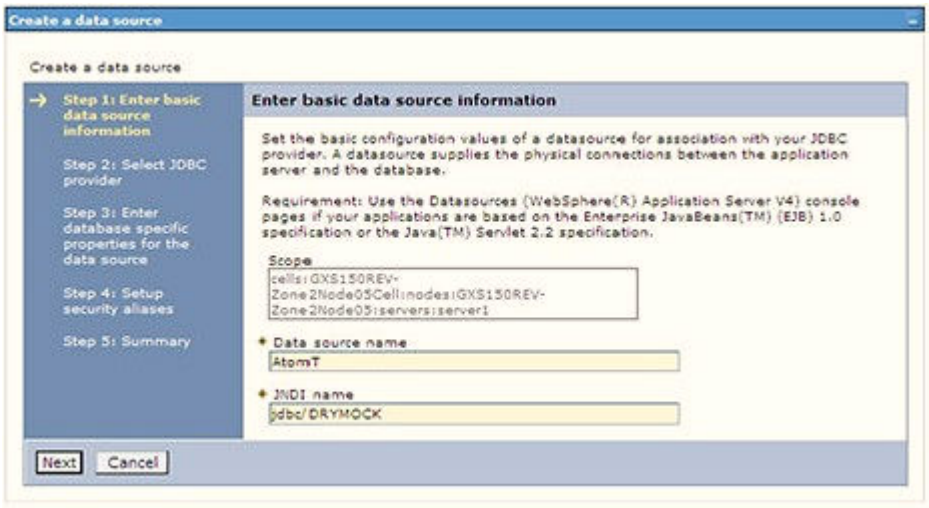
3. Expand the **Resources** option in the LHS menu and click **JDBC > Data sources** to display the Data sources window.

Figure 7-17 Data Sources



4. Select the **Scope** from the drop-down list. The scope specifies the level at which the resource definition is visible.
5. Click **New** to display the Create a Data Source window.

Figure 7-18 Create Data Source



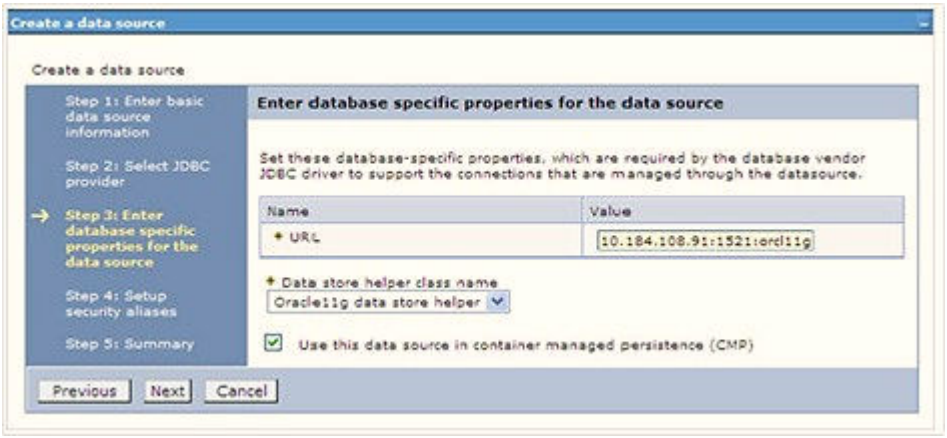
6. Specify the **Data source name** and **JNDI name** for the new "Data Source".
7. The **JNDI name** and **Data source name** are case sensitive and ensure that JNDI name is the same as the "Information Domain" name.

8. Click **Next** to display the Select JDBC provider window.

Figure 7-19 Select JDBC provider

9. Select the option **Select an Existing JDBC Provider** and select the required JDBC provider from the drop-down list. Click **Next**.

Figure 7-20 Enter database specific properties



10. Specify the database connection URL.

    For example: `jdbc:oracle:thin:@<DB_SEREVER_IP>:<DB_SERVER_PORT>:<SID>`

11. Select **Data Store Helper Class Name** from the drop-down list and ensure that the **Use this data source in container managed persistence (CMP)** check box is selected.

> **Note:**
>
> For RAC configuration, provide the RAC URL specified during installation.

Example: `jdbc:oracle:thin:@(DESCRIPTION=(ADDRESS_LIST=(ADDRESS=(PROTOCOL=TCP)(HOST=10.11.12.13)(port=1521))`

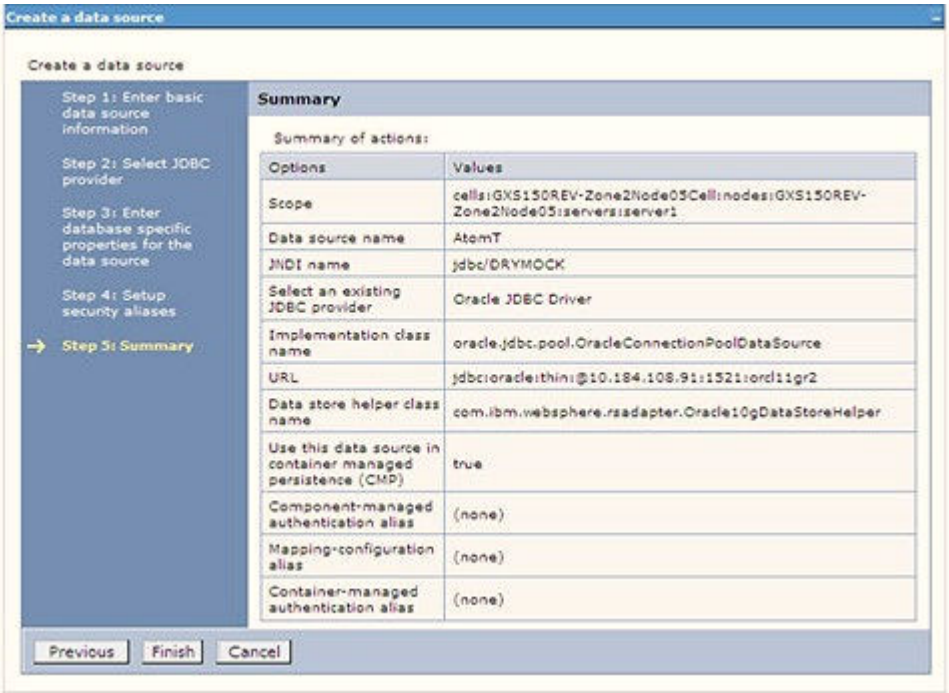
```
(ADDRESS=(PRO TOCOL=TCP)(HOST=10.11.12.14)(PORT=1521))(LOAD_ BALANCE=no)
(FAILOVER=yes))(CONNECT_DATA=(SERVICE_NAME=pqadb))
```

12. Click **Next**.

Figure 7-21 Enter Database specific properties

13. Map the J2C authentication alias, if already created. If not, you can create a new J2C authentication alias by accessing the link given (**Global J2C authentication alias**) or you can continue with the data source creation by clicking **Next** and then **Finish**.

Figure 7-22 Summary



You can also create and map J2C authentication alias after creating the data source.

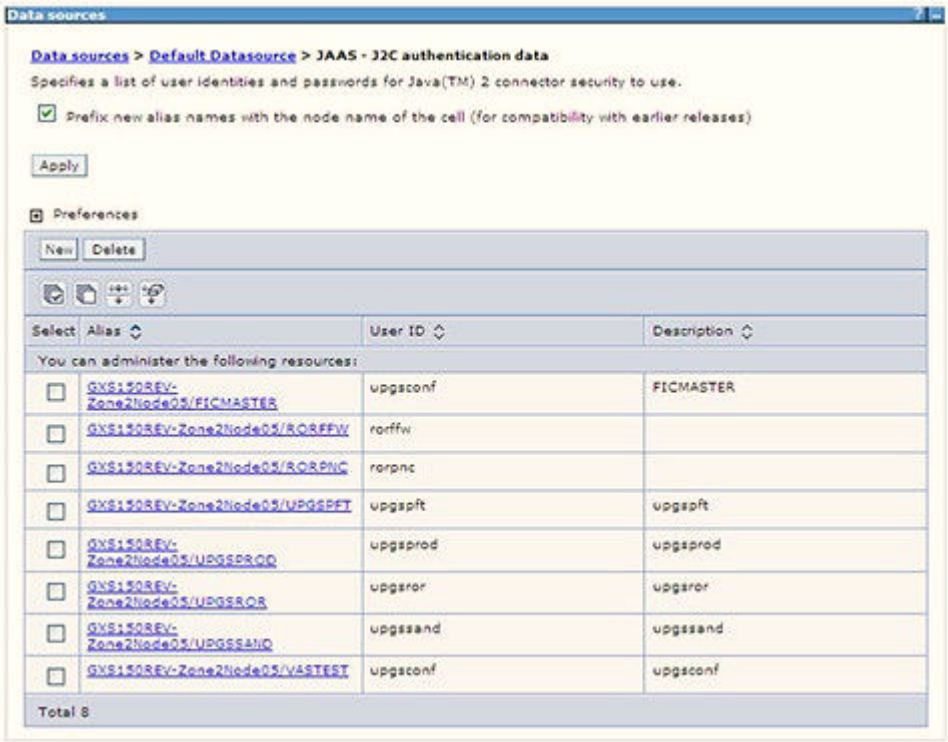
14. You must create another Data source by following the same procedure with jdbc/FICMASTER as JNDI name pointing to the "configuration schema" of Infrastructure.

7.10.1.3 Create J2C Authentication Details

The following steps apply to create both config and atomic J2C Authentication. To create J2C Authentication details, follow these steps:

1. Select the newly created Data Source and click **JAAS J2C authentication data** link under **Related** Items.

Figure 7-23 JAASJ2C authentication data



2. Click **New** under the **Preferences** section.

Figure 7-24 JAASJ2C authentication data New

3. Enter the Alias, User ID, Password, and Description. Verify that the user ID is the Oracle user ID created for the respective Config and Atomic Schema for the "Information Domain".

   Specify the Config database user ID and password information for the jdbc/FICMASTER data source, and the Atomic database user ID and password information for the Atomic schema data source that you created earlier.

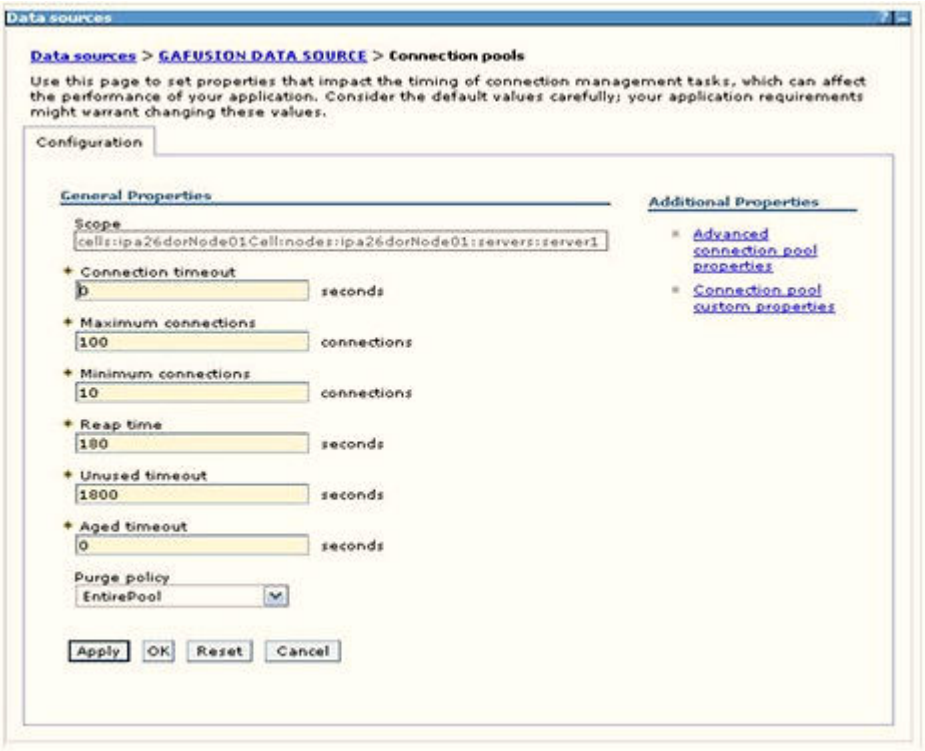
4. Click **Apply** and save the details.

7.10.1.4 Define JDBC Connection Pooling

To define the JDBC connection pooling, ensure that you have created JDBC Provider and Data source to access the data from the database.

1. Expand the **Resources** option in the LHS menu and click **JDBC > Data sources** option to display the Data sources window.
2. Click the newly created Data Source `$DATA_SOURCE$` and navigate to the path **Data sources > GAFUSION DATA_SOURCE > Connection pools**.

Figure 7-25 Connection Pools



3. Set the following values:
   a. **Connection timeout**: 0
   b. **Maximum connections**: 100
   c. **Minimum connections**: 10

   You can also define **Reap time**, **Unused timeout**, and **Aged timeout** as required.

7.10.2 Configure Resource Reference in WebLogic Application Server

This section applies only when the Web application server type is WebLogic. This section includes the following topics:

- Create Data Source
- Create GridLink Data Source
- Configure Multi Data Sources
- Configure Advanced Settings for Data Source
- Configure JDBC Connection Pooling
- Create WorkManager

In the WebLogic server, you can create a "Data Source" in the following ways:

- For a non-RAC Database instance, a Generic Data Source must be created. See Create Data Source.
- For a RAC Database instance, a Gridlink Data Source must be created. See Create GridLink Data Source.

- When Load Balancing/Fail over is required, a Multi Data Source must be created. See Configure Multi Data Sources.

7.10.2.1 Create Data Source

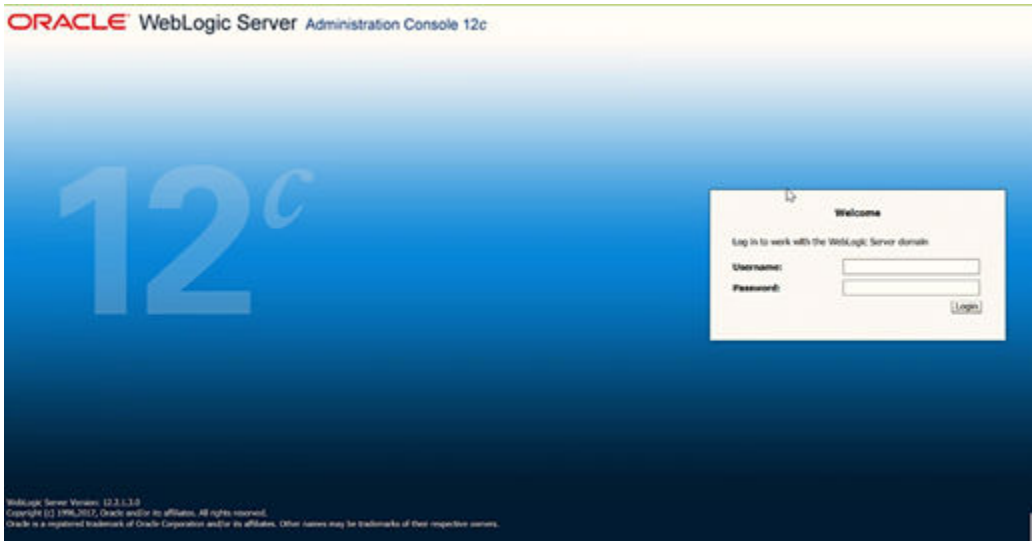
The following steps apply to both config and atomic data source creation.

1. Open the following URL in the browser window:

   http://<ipaddress>:<administrative console port>/console. (https, if SSL is enabled). The Welcome window is displayed.

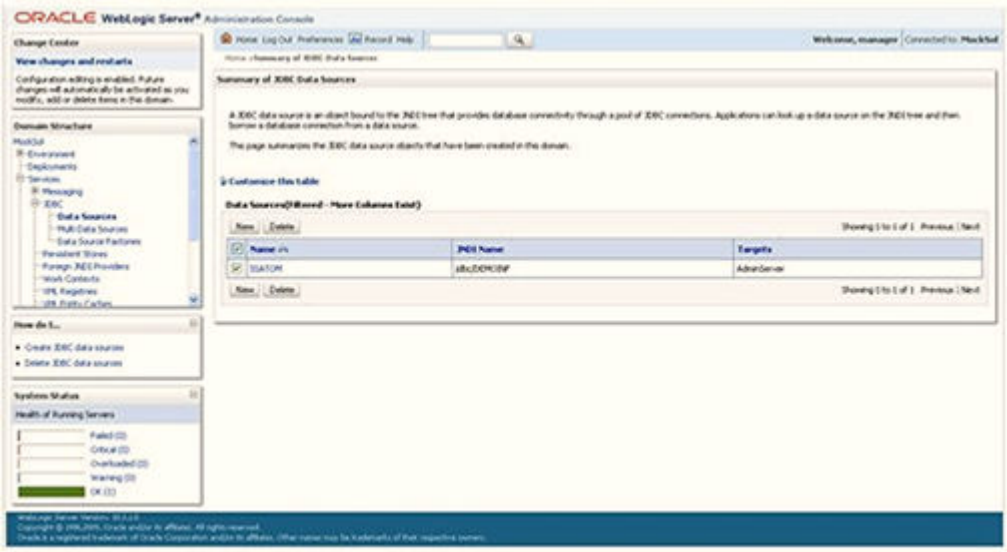
2. Log in with the Administrator **Username** and **Password**.

Figure 7-26 Welcome



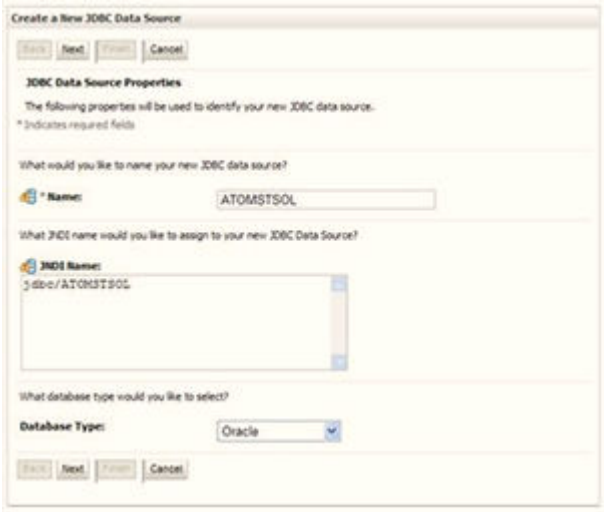
3. From the LHS menu (Domain Structure), click **Services** > **Data Sources** to display the Summary of JDBC Data Sources window.

Figure 7-27 Summary of JDBC Data Sources



4. Click **New** and select **Generic Data Source** to display the Create a New JDBC Data Source window.

Figure 7-28 Create a New JDBC Data Source



You can also select **GridLink Data Source** or **Multi Data Source** while creating a Data Source. For more information, see Create Data Source or Configure Multi Data Sources.

Figure 7-29 JDBC Data Source Properties

5. Enter JDBC data source Name, JNDI Name, and select the Database Type from the drop-down list.
6. Ensure the following:
   a. The JNDI Name field must be in the format jdbc/informationdomain
   b. The same steps must be followed to create a mandatory data source pointing to the "configuration schema" of infrastructure with jdbc/FICMASTER as JNDI name.
   c. JNDI Name is the same as mentioned in the web.xml file of OFSAAI Application.
   d. Required "Database Type" and "Database Driver" must be selected.

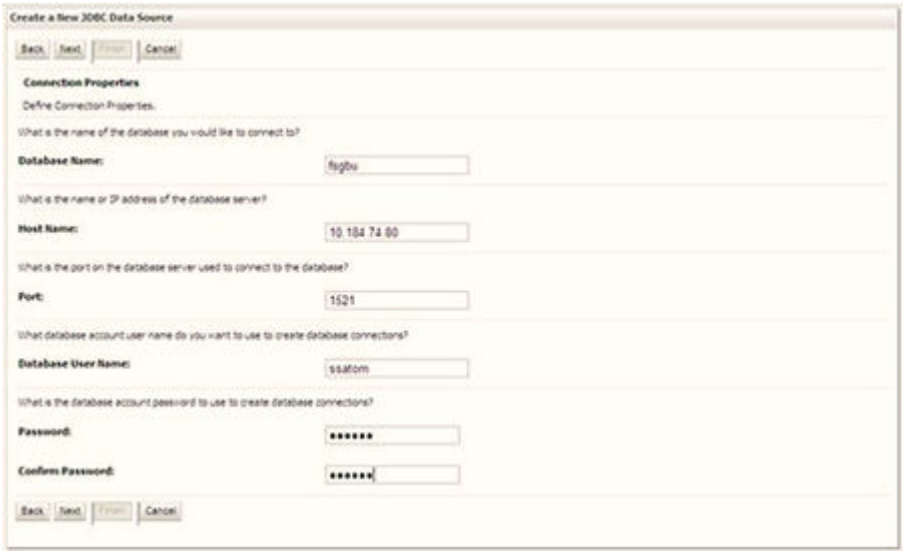
Data sources must be created for atomic and atomiccnf schemas following the same steps.

7. Click **Next**.

Figure 7-30 Transaction Options

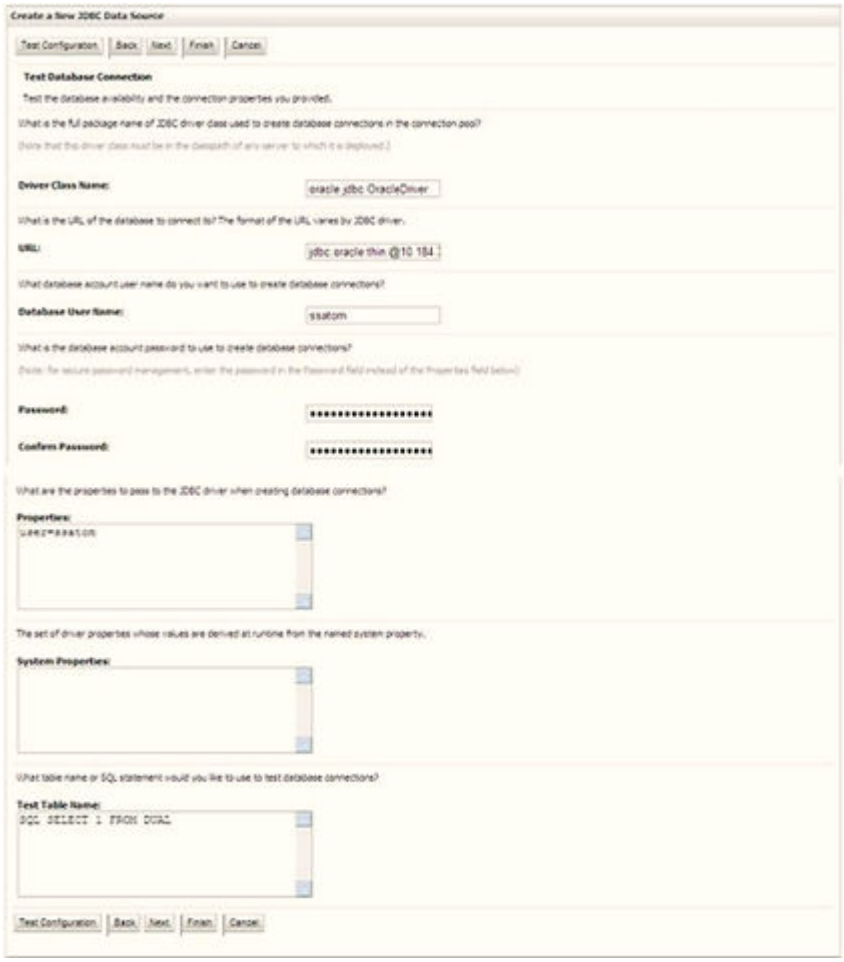
8. Select the **Database Driver** from the drop-down list. You must select the Database Driver depending on database setup, that is, with or without RAC. Click **Next**.

Figure 7-31 Database Name



9. Select the **Supports Global Transactions** check box and the **One-Phase Commit** option.
10. Click **Next** to display the Connection Properties window.

Figure 7-32 Database Details



11. Enter the required details such as the **Database Name**, **Host Name**, **Port**, **Oracle User Name**, **Password**, and **Confirm Password**.
12. Click **Next** to display the Test Database Connection window.

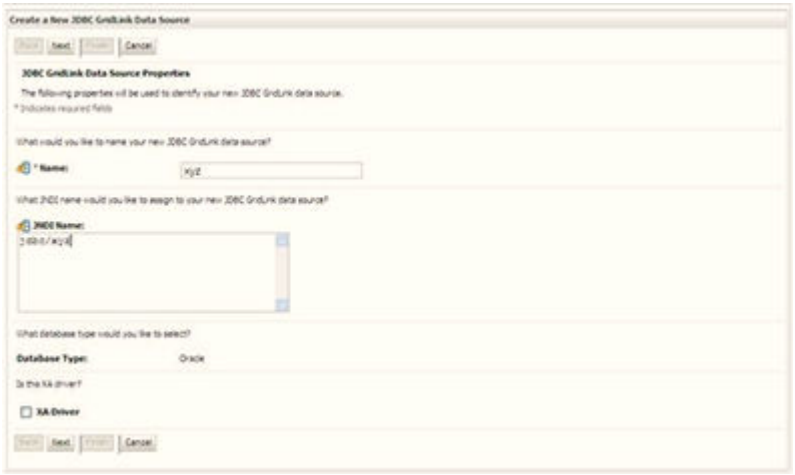
Figure 7-33 Select Targets

13. Verify the details and click **Test Configuration** and test the configuration settings. A confirmation message is displayed stating "Connection test succeeded."
14. Click **Finish**. The created "Data Source" is displayed in the list of Data Sources.

> **Note:**
>
> - "User ID" is the Oracle user ID that is created for the respective "Information Domain".
> - "User ID" specified for a data source with "FICMASTER" as "JNDI" name must be the Oracle user ID created for the "configuration schema".

15. Select the new **Data Source** and click the **Targets** tab.

Figure 7-34 Data Source

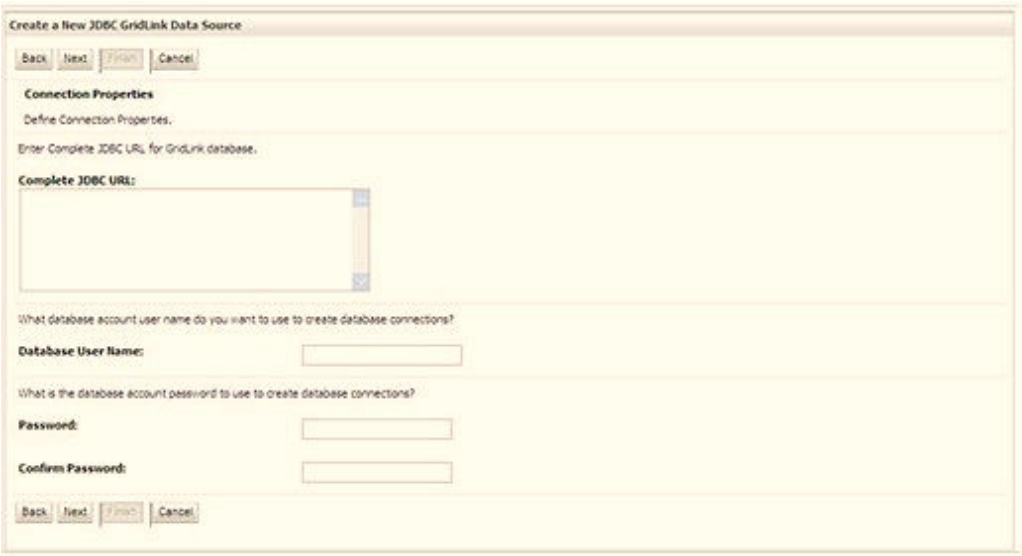


16. Select the **AdminServer** option and click **Finish**.

7.10.2.2 Create GridLink Data Source

If you have selected the option, **New** > **GridLink Data Source** while creating the "Data Source", you can directly specify the JDBC URL as indicated.

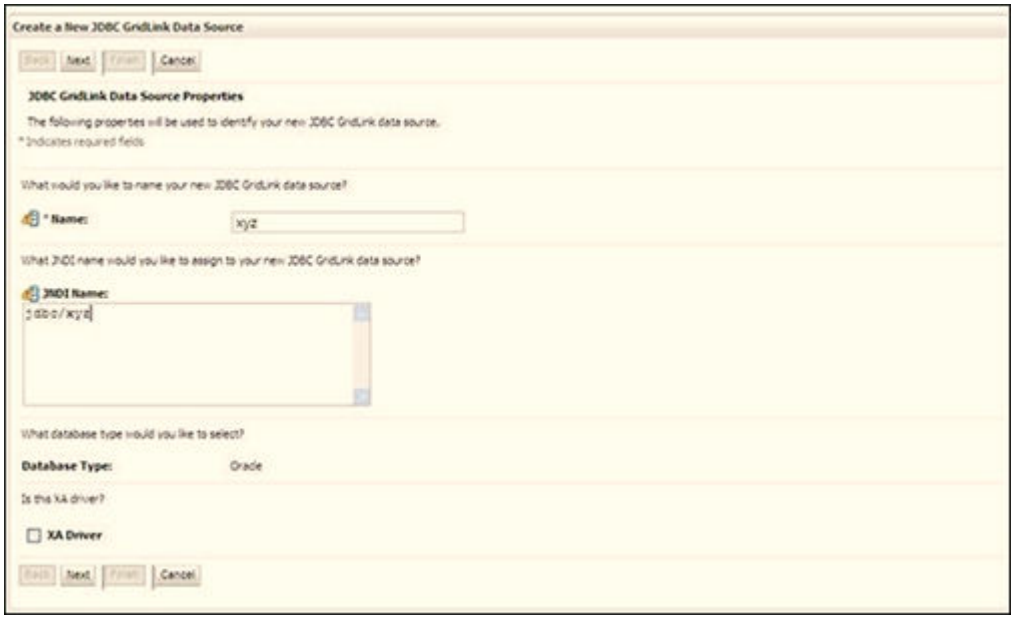
Figure 7-35 GridLink Data Source



1. Enter the Data Source **Name** and **JNDI Name**.

   Ensure that the "JNDI Name" field is specified in the format "jdbc/infodomname" and the XA Driver check box is not selected. Click Next.

   Figure 7-36 JNDI Name



2. Specify **Complete JDBC URL**, **Database User Name**, and **Password**. Click **Finish**. The created "Data Source" is displayed in the list of Data Sources.

7.10.2.3 Configure Multi-data Sources

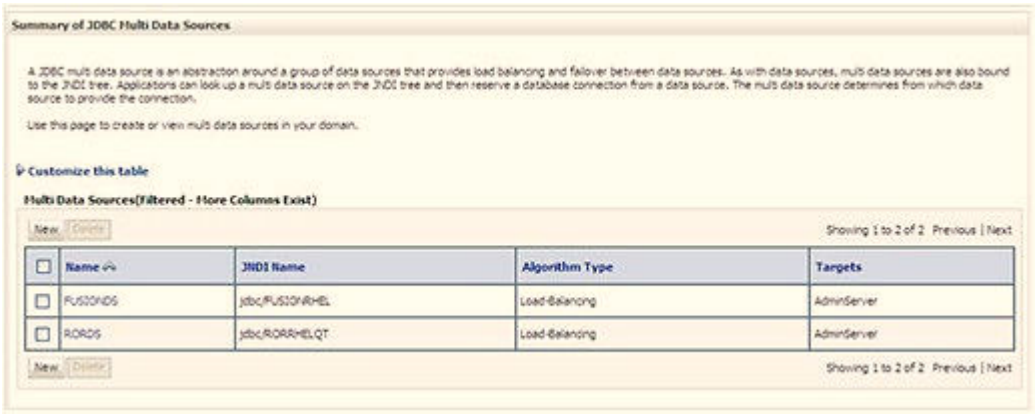
A JDBC multi-data source is an abstraction around a group of data sources that provides load balancing and failover between data sources. As with data sources,

multi-data sources are also bound to the JNDI tree. Applications can look up a multi-data source on the JNDI tree and then reserve a database connection from a data source. The multi-data source determines from which data source to provide the connection.

When the database used is Oracle RAC (Real Application Clusters), which allows Oracle Database to run across a set of clustered servers, then a group of data sources can be created for instances running on a set of clustered servers and a JDBC multi-data source can be created so that applications can look up a multi-data source on the JNDI tree to reserve database connection. If a clustered server fails, Oracle continues running on the remaining servers.

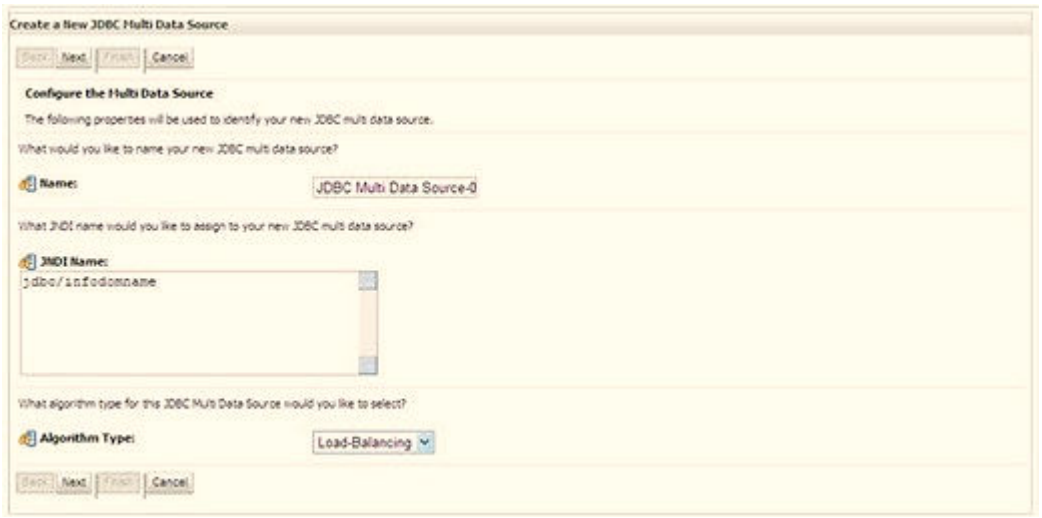
1. Open the WebLogic Admin Console in the browser window: http://<ipaddress>:<administrative console port>/console. (https if SSL is enabled). The Login window is displayed.
2. Login with the **User ID** that has admin rights.
3. In the LHS menu (Domain Structure), select **Services > JDBC > Multi Data Sources** to display the Summary of JDBC Multi Data Sources window.

Figure 7-37 Multi Data Sources



4. Click **New** to display the New JDBC **Multi Data Source** window.

Figure 7-38 Configure Multi Data Source

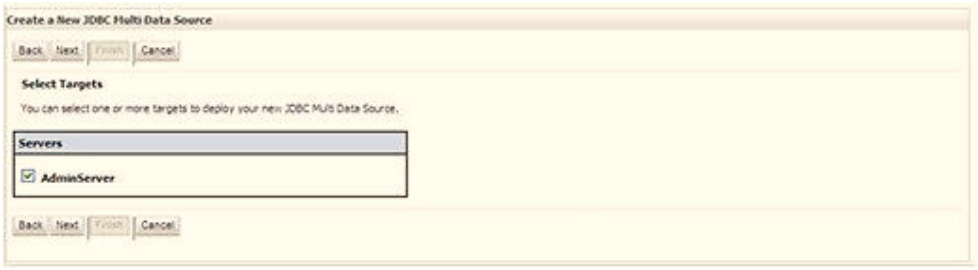


Ensure that the Data Sources which must be added to the new JDBC Multi Data Source are created.

5. Enter the **JDBC Source Name**, **JNDI name**, and select the **Algorithm Type** from the drop-down list. Click **Next**.

> **Note:**
>
> - The JNDI Name must be specified in the format jdbc/ infodomname.
> - The JNDI Name of the Data Sources that is added to the new JDBC Multi data source must be different from the JNDI name specified during Multi Data Source.
> - The same steps must be followed to create a mandatory data source pointing to the "configuration schema" of infrastructure with jdbc/ FICMASTER as JNDI name for Data Source.
> - The JNDI Name provided in the multi-data source must be the same name that is mentioned in the web.xml file of OFSAAI Application.
> - You can select the **Algorithm Type** as **Load-Balancing**.

Figure 7-39 Select Targets



6. Select the **AdminServer** check box and click **Next**.

Figure 7-40 Select Data Source Type

7. Select the type of data source to add to the new JDBC Multi Data Source. Click **Next**.

Figure 7-41 Add Data Sources

8. Map the required Data Source from the Available Data Sources. Click Finish. The New JDBC Multi Data Source is created with added data sources.

7.10.2.4 Configure Advanced Settings for Data Source

To configure the advanced setting for the data source, follow these steps:

1. Click the new Data Source from the Summary of JDBC Data Sources window to display the Settings for **Data Source Name** window.
2. Select the Connection Pooling tab given under Configuration.
3. Navigate to the Advanced option at the bottom of the window, and check the Test Connection of Reserve check box (enables WebLogic Server to test a connection before giving it to a client).

   To verify if the data source is valid, select "Data Source Name". For example, FICMASTER.
4. Select the server and click Test Data Source. A message is displayed indicating that the test was successful.

   After the "Data Source" is created successfully, the following messages are displayed: All changes are activated. No restart is necessary.

   Settings updated successfully.

If not, follow these same steps to recreate the data source.

7.10.2.5 Configure JDBC Connection Pooling

To define the JDBC connection pooling, ensure that you have created the **JDBC Provider** and **Data Source** to access the data from the database.

1. Click the newly created Data Source $DATA_SOURCE$ and navigate to the path **Home >Summary of Services: JDBC >Summary of JDBC Data Sources >JDBC Data Source-<INFODDOM_NAME>**.
2. Set the following values:
   a. **Initial Capacity**: 10
   b. **Maximum Capacity**: 100
   c. **Capacity Increment**: 1

d. **Statement Cache Type**: LRU

e. **Statement Cache Size**: 10

3. Click **Save**.

7.10.2.6 Create Workmanager

A Workmanager is used to re-trigger failed messages. To create a Workmanager, follow these steps:

- The **Name** field must have the value wm/WorkManager-TFLT
- The **Type** field must have the value Work Manager.
- The **Targets** field must have the value AdminServer
- The **Scope** field must have the value Global
- The **Stuck Thread Action** field must have the value Ignore stuck threads Click **Save**.

Figure 7-42 WorkManager Screen 1

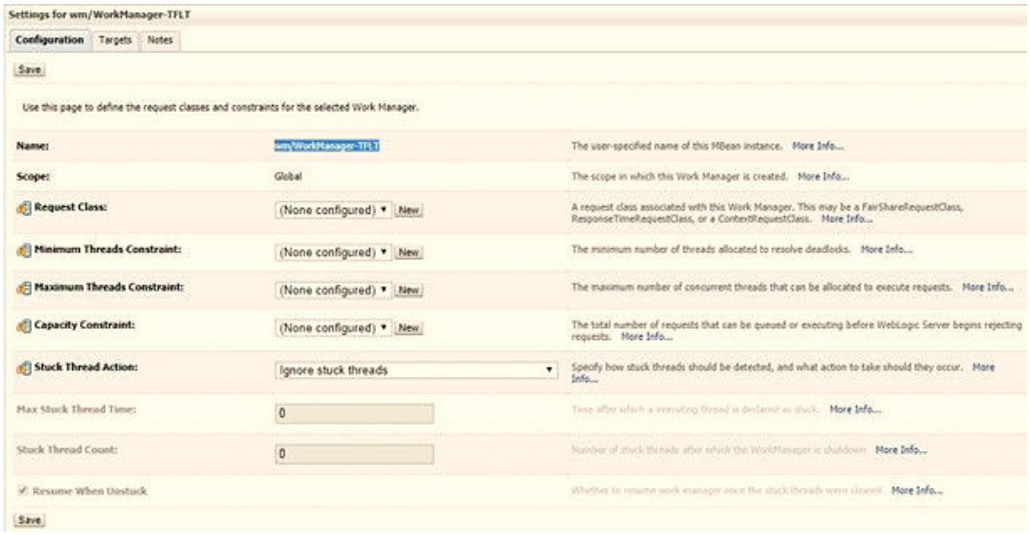
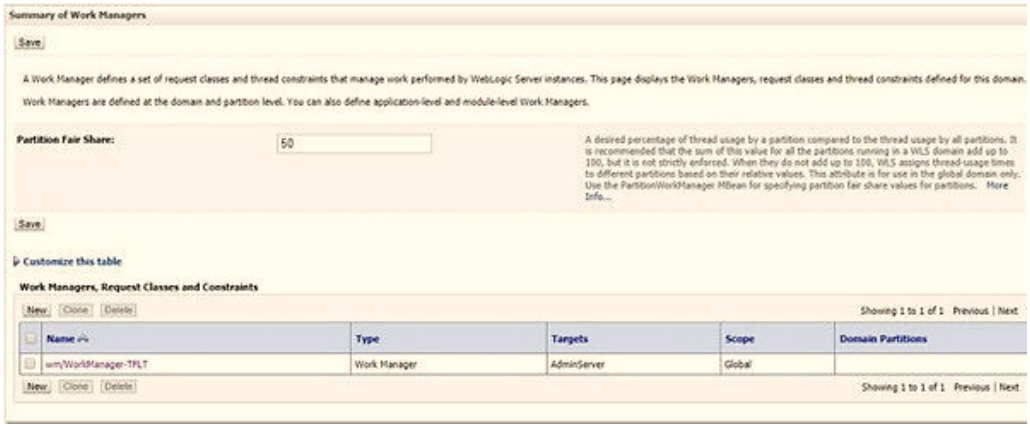


Figure 7-43 Workmanager Screen 2



7.10.3 Configure Resource Reference in Tomcat Application Server

This section is applicable only when the Web application server type is Tomcat and includes the following topics:

- Create Data Source
- Define JDBC Connection Pooling
- Configure ClassLoader for Apache Tomcat

Copy the Oracle JDBC driver file, `ojdbc<version>.jar` from `<Oracle Home>/jdbc/lib` and place it in `<Tomcat Home>/lib`.

See Hardware and Software Requirements to identify the correct `ojdbc<version>.jar` file version to be copied.

7.10.3.1 Create Data Source

To create a "data source" for Infrastructure application, navigate to `<Tomcat Home>/conf` directory and edit the following block of text by replacing the actual values in the `server.xml` file.

> **Note:**
>
> The User-IDs for configuration/ atomic schemas have the prefix of setup info depending on the value set for PREFIX_SCHEMA_NAME in the `<<APP Pack>>_SCHEMA_IN.XML` file of the Schema Creator Utility.
>
> For example: If the value set for PREFIX_SCHEMA_NAME is DEV and the schema name is mentioned as ofsaaconf, then the actual schema created in the database is DEV_ofsaaconf.

```
<Context path ="/<context name>" docBase="<Tomcat Installation Directory>/
webapps/<context name>" debug="0" reloadable="true" crossContext="true">

<Resource auth="Container" name="jdbc/FICMASTER" type="javax.sql.DataSource"
driverClassName="oracle.jdbc.driver.OracleDriver" username="<user id for the
configuration schema>" password="<password for the above user id>"
url="jdbc:oracle:thin:@<DB engine IP address>:<DB Port>:<SID>" maxActive="100"
maxIdle="30" maxWait="10000"/>

<Resource auth="Container"

name="jdbc/< INFORMATION DOMAIN NAME >"

type="javax.sql.DataSource" driverClassName="oracle.jdbc.driver.OracleDriver"
username="<user id for the atomic schema>" password="<password for the above
user id>"

url="jdbc:oracle:thin:@<DB engine IP address>:<DB Port>:<SID>" maxActive="100"
maxIdle="30" maxWait="10000"/>

</Context>
```

> **Note:**
>
> - The <Resource> tag must be repeated for each Information Domain created.
> - After the configuration, the "WAR" file must be created and deployed in Tomcat.

7.10.3.2 Define JDBC Connection Pooling

To define the JDBC connection pooling, follow these steps:

1. Copy the $ORACLE_HOME/jdbc/lib/ojdbc<version>.jar file to the path $TOMCAT_DIRECTORY/lib/ directory.

   See Hardware and Software Requirements to identify the correct ojdbc<version>.jar file version to be copied.

2. Edit the server.xml file present under the $TOMCAT_DIRECTORY/conf/ directory with the following changes, which is required for connection pooling.

```
<Context path="/ $CONTEXTNAME$" docBase=" $APP_DEPLOYED_PATH$ "
debug="0" reloadable="true" crossContext="true">

<Resource auth="Container" name="jdbc/ $INFODOM_NAME$"
type="javax.sql.DataSource"

driverClassName="oracle.jdbc.driver.OracleDriver"
username=" $ATOMICSCHEMA_USERNAME$" password="$ATOMICSCHEMA_PASSWORD$"
url="$JDBC_CONNECTION_URL"

maxTotal="300" maxIdle="30" maxWaitMillis="10000"
removeAbandonedOnBorrow="true" removeAbandonedTimeout="60"
logAbandoned="true"/>

</Context>
```

Note:

- $APP_DEPLOYED_PATH$ must be replaced by the OFSAAI application deployed path.
- $INFODOM_NAME$ must be replaced by Infodom Name.
- $ATOMICSCHEMA_USERNAME$ must be replaced by an Atomic schema database user name.
- $ATOMICSCHEMA_PASSWORD$ must be replaced by an Atomic schema database password.
- $JDBC_CONNECTION_URL must be replaced by JDBC connection string jdbc:Oracle:thin:<IP>:<PORT>:<SID>.

  For example,

  – jdbc:oracle:thin

  – 192.168.0.1:1521:soluint

The User-IDs for configuration/ atomic schemas have the prefix of setupinfo depending on the value set for PREFIX_SCHEMA_NAME in the <<APP Pack>>_ SCHEMA_IN.XML file of Schema Creator Utility.
For example: if the value set for PREFIX_SCHEMA_NAME is DEV and the schema name is mentioned as ofsaaconf, then the actual schema created in the database is DEV_ofsaaconf.

7.10.3.3 Configure ClassLoader for Apache Tomcat

To configure the ClassLoader for Apache Tomcat, follow these steps:

1. Edit the `server.xml` file available in `$TOMCAT_HOME/conf/` directory.
2. Add the tag <Loader delegate="true" /> within the <Context> tag, above before the <Resource> tag. This is applicable only when the web application server is Apache Tomcat 8.

7.11 Clear the Application Cache

Ensure to clear the application cache before the deployment of Applications Pack Web Archive. This applies to all Web Servers (WebSphere, WebLogic, and Tomcat).

Before the deployment of the Infrastructure, Application Service Packs, or one-off patches, navigate to the following path depending on the WebServer configured and clear the cache:

- Tomcat
  `<Tomcat installation directory>/work/Catalina/localhost/<Application name>/org/apache/jsp`
- WebLogic
  `<Weblogic installation location>/domains/<Domain name>/servers/<Server name>/tmp/_WL_user/<Application name>/qaelce/jsp_servlet`
- WebSphere
  `<Websphere installation directory>/AppServer/profiles/<Profile name>/temp/<Node name>/server1/<Application name>/<.war file name>`

7.12 Configure Work Manager in Web Application Servers

The process Modelling framework requires creating a Work Manager and mapping it to the OFSAA instance. This configuration is required for WebSphere and WebLogic Web application server types.

Topics:

- Configure Work Manager in WebSphere Application Server
- Configure Work Manager in WebLogic Application Server

7.13 Create and Deploy the EAR or WAR Files

See Create and Deploy the EAR or WAR Files in OFS AAI Release 8.1.2.0.0 Installation and Configuration Guide for details.

7.14 EAR or WAR File - Build Once and Deploy Across Multiple OFSAA Instances

See EAR or WAR File - Build Once and Deploy Across Multiple OFSAA Instances in OFS AAI Release 8.1.2.0.0 Installation and Configuration Guide for details.

7.15 Access the OFSAA Application

Before accessing the OFSAA application ensure that your internet settings are configured.

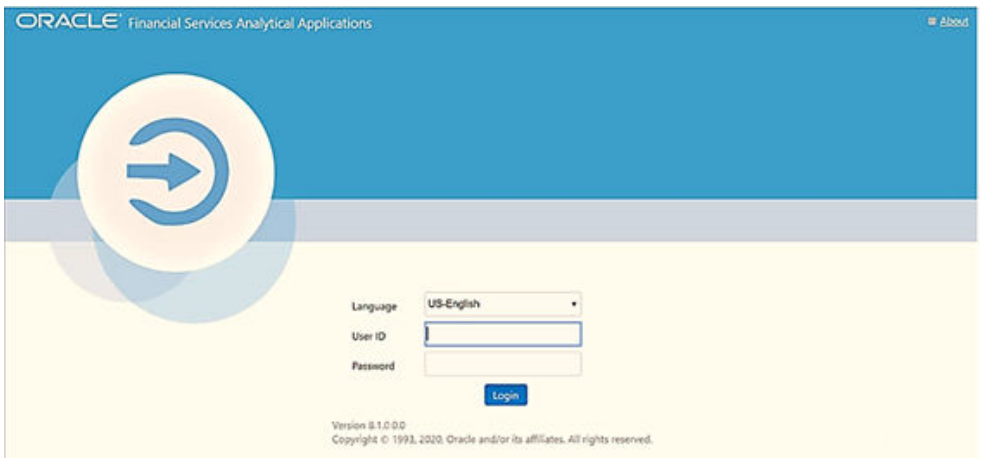
To access the OFSAA application, follow these steps:

1. Open a browser and enter the URL in the following format:
   `<scheme>://<IP address/ hostname>:<port>/<context-name>/login.jsp`

   For example, `https://192.0.2.2/ofsaa/login.jsp`

   The OFSAA Login window is displayed.

Figure 7-44 OFSAA Login Window



With the installation of every OFSAA Application Pack, there are two seeded user profiles configured in the system:

- SYSADMN System Administrator
- SYSAUTH System Authorizer
- The SYSADMN and SYSAUTH users are configured with a default password, which you will require to login for the first time. See the MOS Doc ID: 2691681.1 for the password.

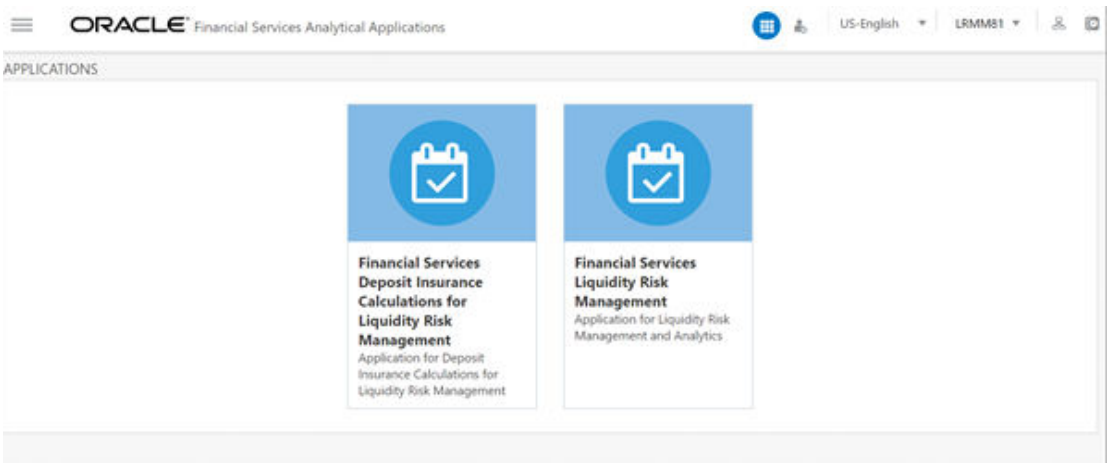
2. Log in to the application using the "SYSADMN" User ID and the default password. After the first login, you are prompted to change the password.

> **Note:**
>
> The password change is required only for a new installation scenario and not for upgrade scenarios.

7.15.1 OFSAA Landing Page

On successful login, the OFSAA Landing screen is displayed.

Figure 7-45 OFSAA Landing screen

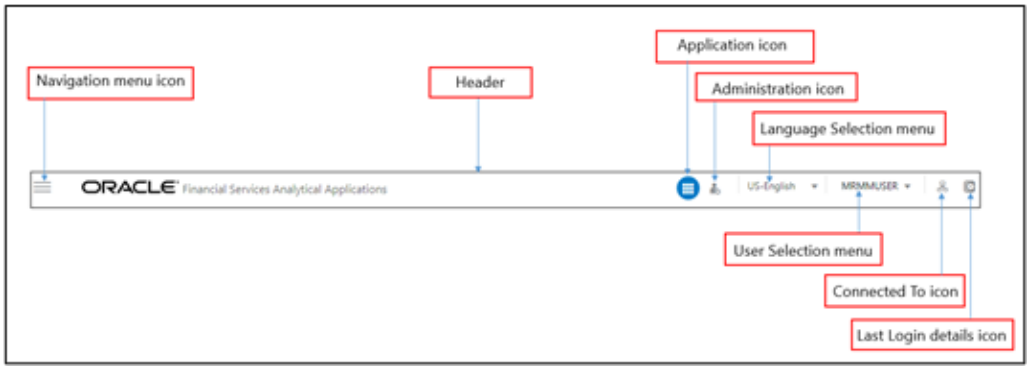


OFSAA Landing screen shows the available Applications as tiles, for which a user has access to. Clicking the respective Application tile launches that particular application. You can change the landing page based on your preference.

7.15.2 Masthead

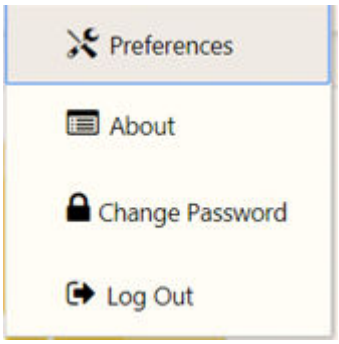
This section describes the user interface components in the OFSAA Landing page.

Figure 7-46 User Interface Components



- **Navigation Menu:** This icon is used to trigger the Application Navigation Drawer.
- **Application Icon:** This icon is used to show the available Applications installed in your environment at any time.
- **Administration Icon:** This icon is used to go to the Administration window. The Administration window displays modules like System Configuration, Identity Management, Database Details, manage OFSAA Product Licenses, Create New Application, Information Domain, Translation Tools, and process Modelling Framework as Tiles.
- **Reports Icon**: This icon is used to launch various User Reports such as user Status Report, User Attribute Report, User Admin Activity Report, User Access Report, and Audit Trial Report.
- **Language Menu**: It displays the language you selected in the OFSAA Login Screen. The language options displayed in the Language Menu are based on the language packs installed in your OFSAA instance. Using this menu, you can change the language at any point in time.
- **User Menu**: Clicking this icon displays the following menu:

Figure 7-47 User Menu



  - **Preferences**: To set the OFSAA Landing Page.
  - **Change Password:** To change your password. For more information, see the Change Password section in the OFS AAI User Guide. This option is available only if SMS Authorization is configured.

- **Log Out:** To log out from OFSAA applications.
- **Last Login Details:** This displays the last login details as shown.

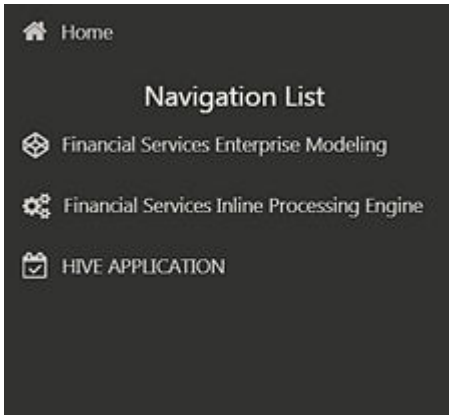
Figure 7-48 Last Login Details

7.15.3 Navigation Drawer

To launch the navigation drawer, follow these steps:

1. Click the **Navigation** menu to launch the Navigation Drawer as shown.

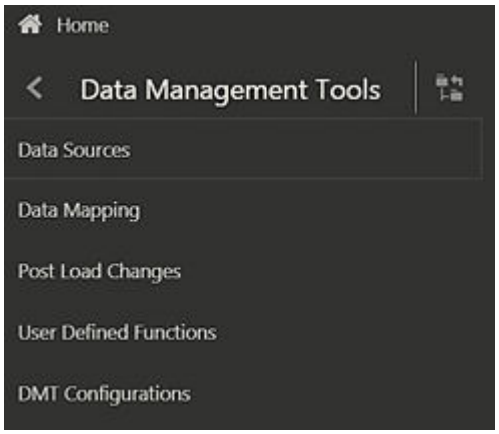
Figure 7-49 Navigation Drawer



Here the navigation items appear as a list. The First Level menu shows the installed applications. Clicking an application displays the second-level menu with the application name and Common tasks menu. The arrangement of the menu depends on your installed application.

2. Clicking an item in the menu displays the next level sub-menu and so on. For example, to display Data Sources, click **Financial Services Enterprise Modeling** select **Data Management** select **Data Management Framework**, select **Data Management Tools**, and then select **Data Sources**.

Figure 7-50 Navigation Drawer Menus and Submenus



3. Click **Hierarchical** Menu to display the navigation path of the current submenu as shown.

Figure 7-51 Navigation Submenu

4. The RHS Content Area shows the Summary page of Data Sources. Click anywhere in the Content Area to hide the Navigation Drawer. To launch it back, click the Navigation menu .
5. Click Home to display the OFSAA Landing Screen.

7.15.4 System Configuration

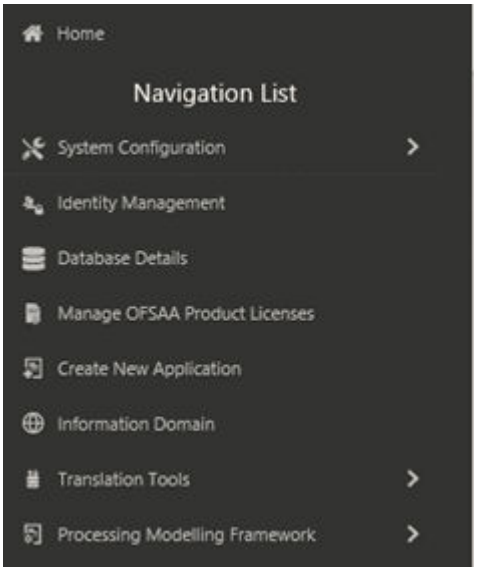
The Administration and Configuration section allows the System Administrators to configure the Server details, Database details, OLAP details, and Information Domain along with the other Configuration process such as segment and metadata mapping, and mapping segment to security. System Configuration is mostly an onetime activity which helps the System administrator to make the Infrastructure system operational for usage.

7.15.4.1 Navigate to System Configuration

Click the **Administration** Icon from the header to display the Administration tools in the Tiles menu. Click **System Configuration** from the Tiles menu to view a submenu list.

> **Note:**
>
> After you have accessed a tool from the submenu, the options are also available in the **Navigation List** to the left. Click the **Navigation** menu to access the **Navigation** List.

Figure 7-52 System Configuration Submenu



You (System Administrator) must have full access rights to ftpshare directory with appropriate User ID and password to add and modify the server details.

7.15.5 Components of System Configuration

System Configuration consists of the following sections.

- Database Server
- Application Server
- Web Server
- Database Details
- OLAP Details
- Information Domain
- Configuration
- Create Application

7.16 View OFSAA Product Licenses after Installation of Application Pack

In an integrated environment, where you have multiple applications installed on the same domain or infrastructure, OFSAAI allows you to see the other licensed applications through the UI. For more information, see the View OFSAA Product Licenses after Installation of Application Pack in the OFS Analytical Applications Infrastructure User Guide Release 8.1.2.0.0

7.17 Configure the excludeURLList.cfg File

See Configure the excludeURLList.cfg File in OFS AAI Installation Guide for details.

7.18 Configure Tomcat

To stop generating static content with one print statement per input line, you must configure the `web.xml` file.

To configure the `web.xml` file, perform the following steps:

1. Navigate to the `tomcat/conf` directory.
2. Edit the `web.xml` file as follows:

```
<servlet-name>jsp</servlet-name>.

<init-param>

<param-name>mappedfile</param-name>

<param-value>false</param-value>

</init-param>
```

7.19 Change the ICC Batch Ownership

All the seeded batches in the OFS Profitability Management application are automatically assigned to the SYSADMN user during installation.

To see the batches in the Batch Maintenance menu, execute the following query in the Config Schema of the database:

```
begin
AAI_OBJECT_ADMIN.TRANSFER_BATCH_OWNERSHIP
('fromUser','toUser','infodom'); end;
```

OR

```
begin
AAI_OBJECT_ADMIN.TRANSFER_BATCH_OWNERSHIP ('fromUser','toUser'); end;
```

Where:

- `fromUser` indicates the user who currently owns the batch.
- `toUser` indicates the user to whom the ownership to be transferred.
- `infodom` is an optional parameter. If specified, the ownership of the batches pertaining to that infodom will be changed.

7.20 Add TNS entries in the TNSNAMES.ORA File

Add TNS entries in the `tnsnames.ora` file for every schema created for the Application Pack.

To find the tnsname for the entries, follow these steps:

1. Log in to the application using System Administrator privileges.
2. Navigate to System Configuration & Identity Management tab.
3. Click Administration and Configuration, select System Configuration, and click Database Details.
4. Expand Name to get the list of TNS entry names.

   Alternatively, you can connect to the CONFIG schema and execute the following query:

   ```
   select dbname from db_master where dbname !='CONFIG'
   ```

7.21 Update OBIEE URL

To access the respective Business Intelligence Analytics Application, you must update the OBIEE URL in the AAI_MENU_B table after the OBIEE environment is up and running. Use the following command:

```
UPDATE AAI_MENU_B

SET V_MENU_URL = '&obieeURL'

WHERE V_MENU_ID IN ('OFS_HM_BI')

/

COMMIT
```

7.22 Configure Data Source

This section details the configurations required for Data Sources in the OFSAA applications.

- Create a connection pool in the Information Domain. For more information, see the OFS AAI Release 8.1.2.0.0 Installation and Configuration GuideOFS AAI Release 8.1.2.0.0 Installation and Configuration Guide.
- JNDI name of the connection pool must be <res-ref-name> as mentioned in the web.xml file. For example: jdbc/OFSINFDOM
- Create and deploy the web components into the web server. For more information on deploying the web components, see the OFS AAI Release 8.1.2.0.0 Installation and Configuration Guide.
- The following tag must be added manually in web.xml if not already present in the web.xml file.
  `<resource-ref>`

```
<!-- description>DB Connection INFODOM</description -->
<res-ref-name>jdbc/ INFODOM</res-ref-name>
<res-type>javax.sql.DataSource</res-type>
<res-auth>Container</res-auth>
</resource-ref>
```

7.23 Configure Data Redaction in OFSAA

This section details the configurations required in case you want to enable Data Redaction in the OFSAA applications.

7.23.1 Prerequisites

Ensure the required Oracle Database Server versions are installed:

- Oracle Database Server Enterprise Edition 18c Release 3 - 64 bit RAC/Non-RAC with/without partitioning option, Advanced Security Option.
- Oracle Database Server Enterprise Edition 19c Release 3 - 64 bit RAC/Non-RAC with/without partitioning option, Advanced Security Option.

7.23.2 Data Redaction

OFSAA is enhanced to enable masking of sensitive data and Personal Identification Information (PII) to adhere to Regulations and Privacy Policies. Oracle Data Redaction provides selective, on-the-fly redaction of sensitive data in database query results before display by applications so that unauthorized users cannot view the sensitive data. The stored data remains unaltered, while displayed data is transformed into a pattern that does not contain any identifiable information.

To enable Data Redaction, perform the following steps:

1. Log in as SYSDBA into the database.
2. Execute the `$FIC_HOME/utility/data_security/scripts/create_data_sec_roles.sql` file only once per database (PDB in case of 18c/19c).
3. Execute the following SQL statement to find out the list of atomic users from the table:
   ```
   select v_schema_name from aai_db_detail where V_DB_NAME <> 'CONFIG'
   AND V_DB_ TYPE = 'ORACLE'
   ```
4. Execute the `$FIC_HOME/utility/data_security/scripts/grant_data_sec_roles.sql` file for all atomic users found in the previous step.
5. From the Configuration window in the System Configuration module, select the Allow Data Redaction checkbox.
6. Run the Data Redaction utility.
   For more details on enabling Data Redaction, see the Data Redaction section in the Data Security and Data Privacy topic in the OFS Analytical Applications Infrastructure Administration and Configuration Guide.

7.23.3 Enable Data Redaction in case of Upgrade

This section details the configurations required in case you want to enable Data Redaction in OFSAA applications after upgrade to OFSAA 8.1.2.0.0 version from a previous version. Additionally, these configurations are required in case you did not enable TDE during OFS HM 8.1.2.0.0 installation and want to enable at a later point of time.

Perform the following steps:

1. From the Configuration window in the System Configuration module, select the **Allow Data Redaction** checkbox.
2. Run the Data Redaction utility.
   For more details on enabling Data Redaction, see the Data Redaction section in the Data Security and Data Privacy topic in the OFS Analytical Applications Infrastructure Administration Guide.

7.24 Data Protection Implementation in OFSAA

Data Protection implementation in OFSAA applications includes the following:

- Right to be Forgotten
- Data Portability
- Pseudonymization
- Notice and Consent
- Data Archival
- Data Redaction

See the OFSDF Data Protection Implementation Guide for details.

7.24.1 Right to be Forgotten

Right to be Forgotten is the task of removing Personally Identifiable Information (PII) of a Data Subject for the given Party. The financial institution can delete PII for those Data Subjects who have requested this Right to be Forgotten functionality.

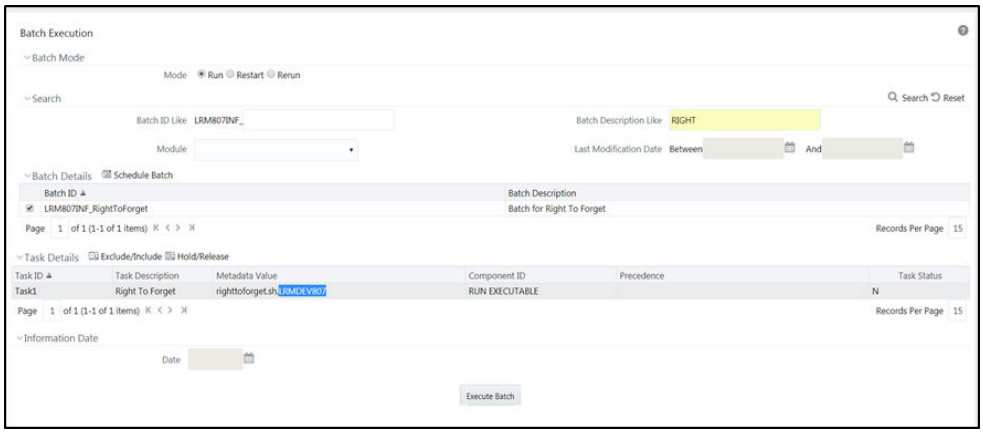
The Data Subjects may have made significant financial transactions, and/or financial information may be required for regulatory or compliance reporting. Deleting the complete record that consists of PII may lead to issues in data reconciliation. In OFSAA, the PII data will be replaced with randomized values and therefore, the complete Data Subject record is retained. As a result, financial information is retained; however, the associated Party PII is removed permanently.

7.24.1.1 Configuring Right to be Forgotten During OFS HM Installation

To configure Right to be Forgotten, follow these steps:

1. Ensure that you assign the role Data Controller to the HM user.
2. Edit the task of the batch `<Infodom_name>_RightToForget`. By default the parameter is SYSADMN. Modify the user ID in the Metadata Value field to the HM Data Controller user ID from Step 1.

Figure 7-53 Configure Right to be Forgotten for OFS HM



3. Add the party IDs entries for the Right to Forget in the FSI_PARTY_RIGHT_TO_FORGET table.
4. Execute the batch `<Infodom_name>_RightToForget`, for the specific FIC MIS date mentioned in the FSI_PARTY_RIGHT_TO_FORGET table.

7.25 Post-deployment Configurations

This section includes the post-deployment configuration steps.

7.25.1 OBIEE Configuration - Deploy OFS HM Analytics

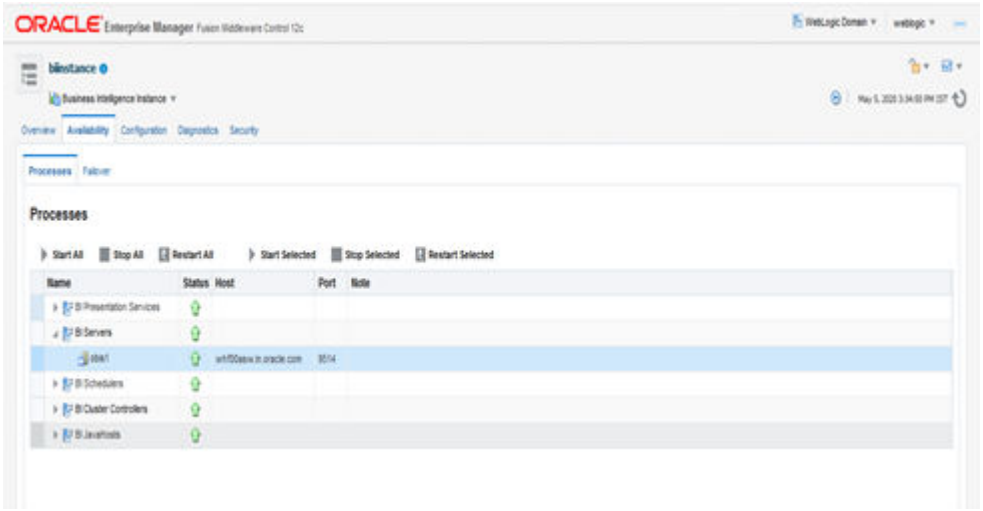
The OFS HM release 8.1.1.0.0 is based upon a dedicated reporting mart built from the new Fusion Financial Services Data Model. OFS HM Analytics 8.1.1.0.0 leverages several components of Oracle Business Intelligence Enterprise Edition (OBIEE) or Oracle Analytics Server (OAS) technology including Dashboards and Answers. It also includes various Dashboards and Reports for the user to carry out various Hedge Management and IFRS Valuations based analytics.

Follow these steps to configure the OFS HM Analytics:

1. Make sure Oracle Business Intelligence 12.2.1.4.0 or OAS 5.5.0 installation is completed and available. See Installing and Configuring Oracle Business Intelligence 12c (12.2.1.4) (E91876-03) or Installing and Configuring Oracle Analytics Server 5.5.0 (F27232-03) for more details.
2. Configure the ODBC data source to connect to the Oracle BI Server:
   a. Navigate to **Control Panel**, select **Administrative Tools**, and then select **Data Sources (ODBC)**.
   b. Select the **System DSN** tab and click **Add**.
   c. Select a driver-specific to **Oracle BI Server 2.2.1.4.0** or **OAS 5.5** and click Finish.
   d. Enter the **Name** and **Server** details (specify the Hostname or IP Address of the BI Server) and click **Next**.
   e. Enter the Oracle BI Server login ID and password (Enter the User Name and Password created at the time of OBIEE or OAS installation). Update the port

with the port number available for the BI Server in the **Availability** tab of Business Intelligence in the Enterprise Manager.
For example: In the following figure, the port number is 9514.

Figure 7-54 Update Port Number in the BI Server



f. Click **Next**.

g. Navigate to the RPD and Catalog folders available in the following directories. Copy the RPD and required Catalog files (as per the license agreement) in the server where the BI client tools are installed:
`$FIC_HOME/DASHBOARDS/HM_12.2.1.4.0.rpd` directory containing the `HM.rpd` in the data model folder and archived.

h. Click **Finish**.

3. Modify the connection pool and set the properties.

a. Open the OBI Administration tool.

b. Select **Start**, select **Programs**, select **Oracle Business Intelligence** and then select **BI Administration**.

c. Select **File**, select **Open**, select **Offline**, and then select the `HM.rpd` file.

d. In the **Open** dialog box, select and open the `HM.rpd` file.

e. Enter the Repository password as **Administrator1**.

f. In the **Physical** layer, double-click the **Connect Pool**: *HMBI* to open its properties.

g. In the **General** tab, edit and check the following entries:

i. **Call Interface:** (OCI 10g/11g).

ii. **Data source name**: `<TNS Entry connecting to OFSAA atomic schema>`
For example: `(DESCRIPTION=(ADDRESS_LIST=(ADDRESS=(PROTOCOL=TCP)(HOST=<Database IP address>)(PORT=1521)))(CONNECT_DATA=(SERVICE_NAME=<Database Name>)))`

iii. **User name:** <enter atomic db user name>.

iv. **Password:** <enter atomic db user password>.

v. Confirm the password and click **OK** to close the window.

vi. Similarly, configure the connection pools for *HMBITRANS* and *HMBI_INIT_BLOCK* and *HMBI*.

- Check **Global Consistency**, that is, press *Ctrl+k*.
- Double-click on the warning (if you are using OAS).
- Click **Reset** to defaults and click **OK**.

vii. Click **Save**.

h. Click Yes for the Global Consistency Message. No warnings should be generated at this stage.

i. Close the RPD file (close the file and exit).

4. Log in to the OFS HM Analytics application using the URL: http:// <ipaddress>:<port>/analytics (replace the port number based on your setup).

5. Follow these steps to configure the BI publisher Data Source:

a. Log in to the OFS HM application.

b. Navigate to **Administration**, select **BI Publisher**, and then select **Manage BI Publisher**.

c. Click **JDBC Connection** from Data Sources.

d. Click **Add Data Source**.

e. Enter the Data Source name as HM.

f. Add Database details in the Connection string, that is the hostname (IP address), port number, and SID.

g. Enter the username (schema name) and password.

h. Click **Test Connection**.

i. Ensure that the connection successfully established. Click **Apply**.

6. Follow these steps to implement the Writeback feature:

a. Add the tag <LightWriteback>true</LightWriteback> in between <ServerInstance></ServerInstance> in the instanceconfig.xml file.
For example:

```
<ServerInstance>

<LightWriteback>true</LightWriteback>

……..

……

</ServerInstance>
```

b. Copy the `writeback.xml` file available in the `$FIC_HOME/OFS_HM_DASHBOARDS/12.2.1.4.0/content/msgdb/` directory to the following OBIEE server directories. If the customMessages directory is not present, create the directory manually.
Path1: `<BI Domain Home>/bidata/components/OBIPS/custommessages`

For example: `/scratch/oraobiee/Oracle/Middleware/Oracle_Home/user_projects/domains/bi/bidata/components/OBIPS/custommessages`

Path2: `<BI Domain Home>/bidata/service_instances/ssi/metadata/content/msgdb/l_en/customMessages`

For example: `/scratch/oraobiee/Oracle/Middleware/Oracle_Home/user_projects/domains/bi/bidata/service_instances/ssi/metadata/content/msgdb/l_en/customMessages`

c. Restart the **BI Services**.

d. Login to **OBIEE Analytics** and navigate to the **Administration** section on the right top corner.

e. Click **Manage Privileges** and scroll down to Writeback.

f. Grant **Writeback to Database** privilege to Authenticated User and BI Administrator roles.

7. Perform the following OBIEE presentation server configuration steps:

a. Navigate to the `<<Oracle BI Instance Home>/config/fmwconfig/biconfig/OBIPS` directory.

b. Edit the `instanceconfig.xml` file.

c. Insert the following code within the XML tag <Views> </Views>.

```
<Charts>
<MaxVisibleColumns>50000</MaxVisibleColumns>
<MaxVisiblePages>25000</MaxVisiblePages>
<MaxVisibleRows>10000000</MaxVisibleRows>
<MaxVisibleSections>50000</MaxVisibleSections>
<JavaHostReadLimitInKB>10240</JavaHostReadLimitInKB>
</Charts>
```

d. Insert the following code within the XML tag `<Views> </Views>`.

```
<Table>
<DefaultRowsDisplayedInDelivery>75</DefaultRowsDisplayedInDelivery>
<DefaultRowsDisplayedInDownload>6500</DefaultRowsDisplayedInDownload>
<MaxCells>4000000</MaxCells>
<MaxVisibleRows>140000</MaxVisibleRows>
</Table>
<Narrative>
<MaxRecords>500000</MaxRecords>
<DefaultRowsDisplayed>25</DefaultRowsDisplayed>
</Narrative>
```

e. Save the file, and restart the BI services.

> **Note:**
>
> Take a backup of the instanceconfig.xml file before making any changes.

7.25.1.1 RPD and Catalog Deployment

This section includes steps for the RPD and Catalog deployment.

7.25.1.1.1 Deploying the RPD

For RPD deployment, follow these steps:

1. Connect to the OBIEE server.
2. Create a folder. For example, tmp in the following directory:
   `<Oracle_Home>/user_projects/domains/domain_name`
3. Copy the HM.rpd from the local directory (where you have saved the RPD) to the folder created in the preceding step.
4. Open the command prompt, and navigate to the following directory:
   `/scratch/<mount_name>/Middleware/Oracle_Home/user_projects/domains/bi/bitools/bin`
5. Execute the following command:
   `./datamodel.sh uploadrpd -I <RPDfilepath> -W <RPDpassword> -SI ssi -U <username> -P <password>`

   For example:

   ```
   ./datamodel.sh uploadrpd -I /scratch/obiee12c/Middleware/Oracle_Home/user_projects/domains/bi/tmp/HM.rpd -W Administrator1 -SI ssi -U weblogic -P weblogic123
   ```

7.25.1.1.2 Deploying the Web Catalog

For web catalog deployment, follow these steps:

1. Open the catalog manager, navigate to the File menu and open the catalog online by giving the necessary credentials based on your setup:
   - **Type**: Online
   - **URL**: http://<ipaddress>:<port>/analytics-ws
2. After the catalog is opened, it will display a directory structure on the left-hand side. Select the Catalog Root and select Shared Folders in the LHS tree structure.
   a. Go to the **File** menu and select **Unarchive**. It will ask for the path for a file.
   b. Browse the path of the archived catalog file saved in your local directory using the **Browse** button and click **OK**.
   c. The catalog must be extracted in the Shared Folders directory for the reports to display. A successful operation message is displayed.
   d. Restart the presentation services once again.
   e. Open the analytics OBIEE URL (http://<ipaddress>:<port>/analytics).
   f. Login with credentials based on your setup, and verify that the catalog is available.
      i. Click on catalog in the OBIEE application right top menu list.
      ii. In the LHS menu, navigate to shared directories and verify all the directories are available.

iii. Navigate to **Administration**, then **MaintenanceandTroubleshooting**, select **ReloadFiles**, and then click **MetaData**.

> **Note:**
>
> If you need to clear the cache in OAS, click **Issue SQL** and run the *Call SAPurgeAllcache()* method.

7.25.1.1.3 Starting and Stopping Services in OBIEE

Follow the below steps to start and stop OBIEE services:

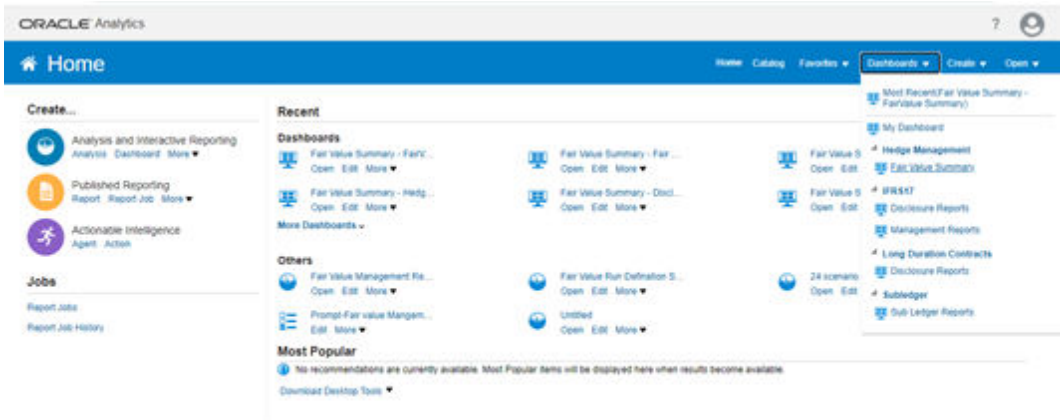
1. Connect to the OBIEE or OAS server.
2. Navigate to the `/scratch/<mount_name>/Middleware/Oracle_Home/user_projects/domains/bi/bitools/bin` directory.
3. Execute the following commands:
   - Command to stop service: `./stop.sh`
   - Command to start service: `./start.sh`

7.25.1.1.4 Editing Global Variables for OBIEE or OAS

To edit the global variables for OBIEE, in this release of the OFS HM application, follow these steps:

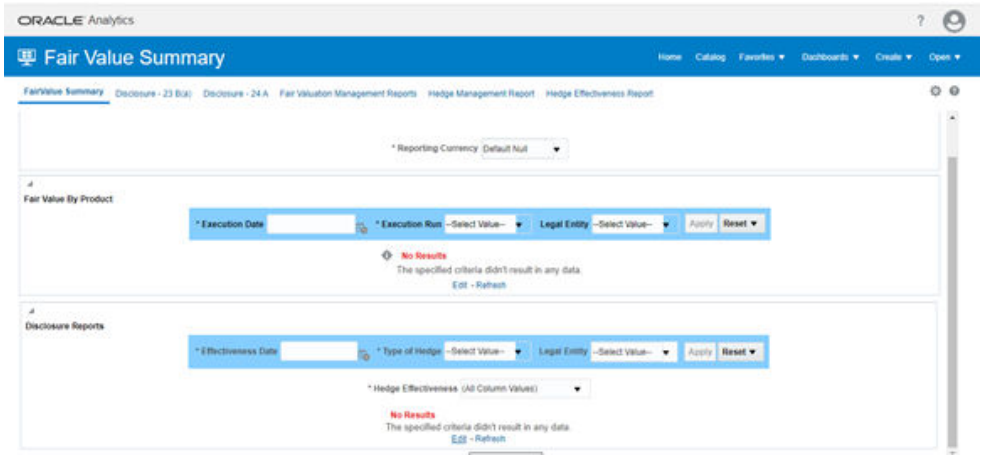
1. Host the RPD in the server where you have configured OBIEE or OAS and Catalog for the OFS HM application as part of this release.
2. Log in to OBIEE or OAS by using the URL format (http://<ipaddress>:<port>/analytics) to open the home page.

Figure 7-55 The Analytics Home Page



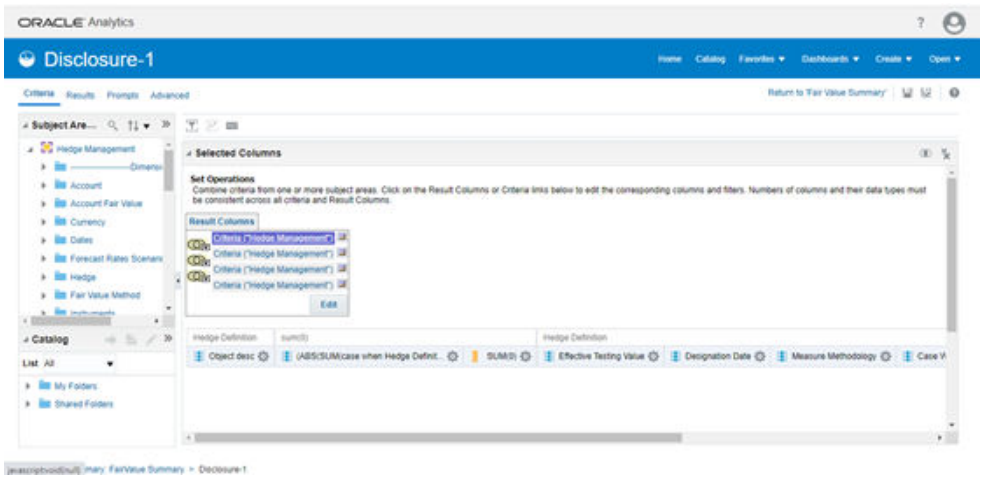
3. In the **Dashboards** drop-down list, and then click Fair Value Summary to open the Fair Value Summary Dashboard.

Figure 7-56 The Fair Value Summary Dashboard.



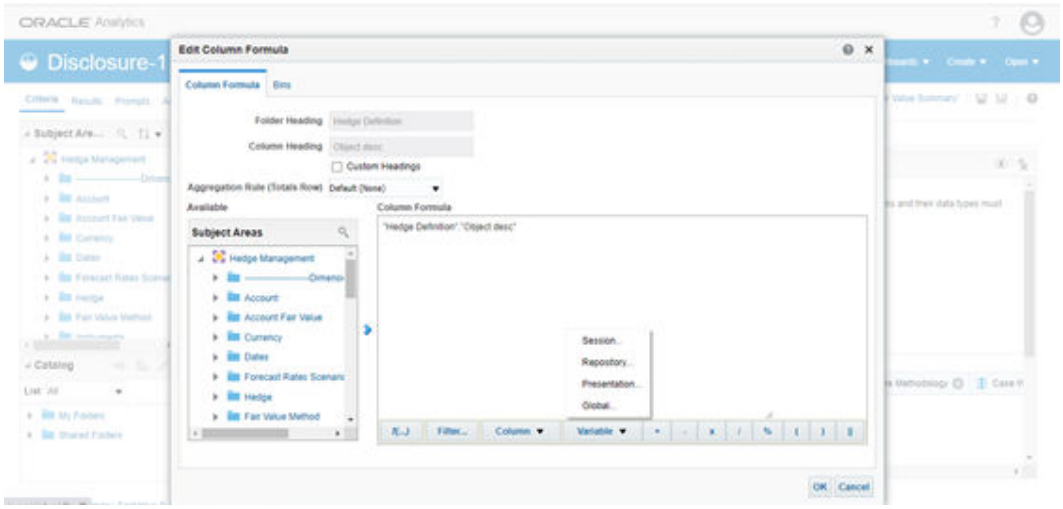
4. Click **Edit** on any of the reports to open the **Settings** window.

Figure 7-57 The Settings Window



5. In the **Criteria** tab, in the **SelectedColumns** pane, click CriteriaHedgeManagement.
6. Click **Settings**
7. Click Edit formula to open the Edit Column Formula window.

Figure 7-58 The Edit Column Formula Window

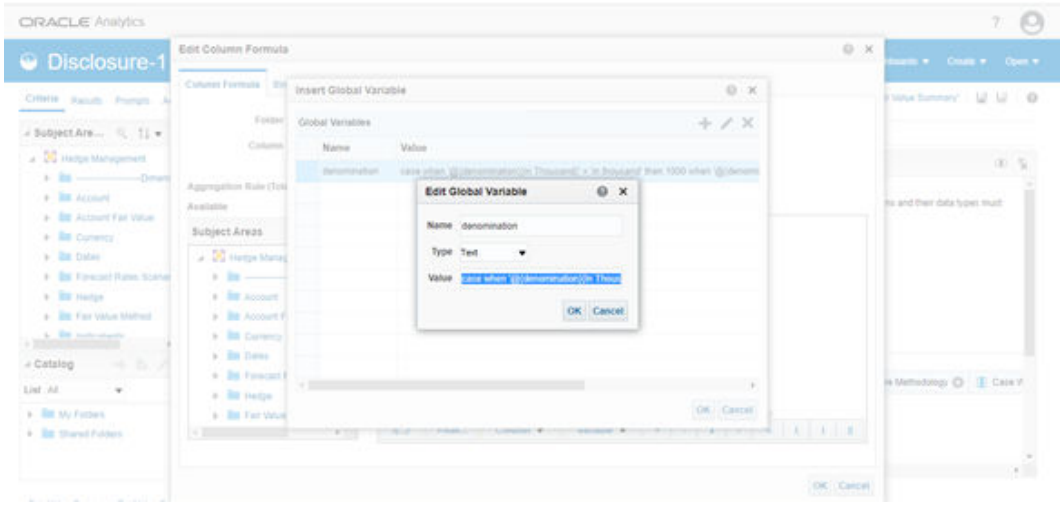


8. In the Variables drop-down list, select **Global…** to open the **Insert Global Variable** window.
9. Select the Global Variable that you want to edit, and then click **Edit Global Variable**.
10. Edit a global variable with the following details:

Table 7-3 Required Values for the Global Variable

Field	Value to be added
Name	denomination
Type	Text
Value	case when '@{denomination}{In Thousand}' = 'in thousand' then 1000 when '@{denomination}{In Thousand}' = 'in million' then 1000000 else 1 end

Figure 7-59 The Edit Global Variable Window



11. Click **OK**, and then click **OK** again to save.

7.25.2 Logging as System Administrator

This section includes provides information about the system administrator roles and privileges.

7.25.2.1 Role of an Administrator

There are two types of Administrators as defined by the OFS Analytical Applications Infrastructure: A User Administrator and System Administrator.

- **System Administration:** refers to a process of managing, configuring, and maintaining confidential data in a multi-user computing environment. A System Administrator creates functions, roles, and mapping functions to specific roles. A System Administrator also maintains segment information, holiday list, and restricted passwords to ensure security within the application. The following are the activities of a System Administrator:
  - Function Maintenance
  - Role Maintenance
  - Function-Role Mapping
- **User Administration:** is one of the core functions of Security Management which involves administrators to create user definitions, user groups, maintain profiles, authorize users and user groups, and map users to groups, domains, and roles. A User Administrator controls the user privileges in accessing the application and is based on business requirements to provide access to view, create, edit, or delete confidential data.

A User Administrator grants permissions based on user roles and requirements.

The respective roles must be mapped to administrative user SYSADMN.

7.25.2.2 Function Maintenance

For details, see the *System Administrator* section in the OFS AAI Release 8.1.2.0.0 Installation and Configuration Guide

7.25.2.3 Role Maintenance

For details, see the *System Administrator* section in the OFS AAI Release 8.1.2.0.0 Installation and Configuration Guide

7.25.2.4 Function - Role Mapping

For details, see the *System Administrator* section in the OFS AAI Release 8.1.2.0.0 Installation and Configuration Guide

7.25.2.5 User Group Role Map

For details, see the *System Administrator* section in the OFS AAI Release 8.1.2.0.0 Installation and Configuration Guide

7.25.3 Creating Application Users

Create the application users in the OFSAA setup before use.

For details, see the *User Administrator* section in the Oracle Financial Services Analytical Applications Infrastructure User Guide.

7.25.4 Mapping Application User(s) to User Group

For details, see the *User Administrator*section in theOracle Financial Services Analytical Applications Infrastructure User Guide.

Starting the OFSAA 8.1.2 release, with the installation of the HM application pack, preconfigured Application user groups are seeded. These user groups are unique to every OFSAA Application Pack and have application roles preconfigured.

For more information on seeded User Groups, see HM Pack User Group Names.

Map the application user (or users) to the respective Application User Group (or users) and subsequently authorize the entitlements by logging in as SYSAUTH (System Authorizer) user.

For details, see the *Mapping or Unmapping Users*section in theOracle Financial Services Analytical Applications Infrastructure User Guide.

7.25.5 HM Pack User Group Names

The section provides information about the User Group names seeded as part of the OFS HM application pack.

To access the HM application, you can map the created users to the following user groups:

- **HMADMINGRP** - HM Admin Group
- **HMANALYSTGRP** - HM Analyst Group
- **HMAPPROVERGRP** - HM Approver Group

8
Remove OFSAA Infrastructure

See the Remove OFSAA Infrastructure section in the OFS AAI Release 8.1.2.0.0 Installation and Configuration Guide to complete these procedures:

- Uninstall the OFSAA Infrastructure
  - Uninstall the EAR Files in WebSphere
  - Uninstall the EAR Files in WebLogic
  - Uninstall the EAR Files in Tomcat
- Uninstall the EAR Files
- Clean Up the Environment

9
Upgrade

This section includes the procedures for the various upgrade scenarios supported by OFS HM Release 8.1.2.0.0.

9.1 Upgrade Scenarios

> **Note:**
>
> Always ensure to run the upgrade installer only on the cloned environment.

Table 9-1 Upgrade Scenarios

Scenario	Upgrade Instructions
Install a New Application Pack on an Existing OFSAA Instance You have already installed an application pack from Release 8.1.2.0.0 and now you want to install another application pack from Release 8.1.2.0.0. **Example**: OFS HM Pack is already installed and now you want to install OFS ALM Pack.	1. Run the schema creator utility ONLY for the new pack. 2. Update the OFS_HM_PACK.xml file for the newly licensed pack. 3. Update the Silent.props file of the newly licensed pack. 4. Trigger the Release 8.1.2.0.0 installation.
Upgrade from Release v8.0.x	1. Upgrade from Release v8.0.x to Release v8.1.1.x 2. Upgrade from Release v8.1.1x to Release v81200 For more information, refer to the upgrade steps in the Release v8.1.1.0.0 installation guide.

> **Note:**
>
> If you are adding an additional application, you must run the schema creator utility.

9.2 Prepare for Upgrade

Before you plan to install or upgrade any of your application packs to Release 8.1.2.0.0, ensure that all the application packs in your current OFSAA instance are available in the Release 8.1.2.0.0 version. For more information about the release version details, contact My Oracle Support.

> **Note:**
>
> Ensure to revert any customized data model changes done without performing data model upload before upgrading.
> The minimum supported version is 8.0.6.1.0. If upgrading from a release before 8.0.6.1.0, then first upgrade to 8.0.6.1.0 or later. After this step, you can upgrade to 8.1.2.0.0 or later.

1. Backup the following environment files from their respective directories:
   - Database schema
   - OFS_HM_PACK.xml
   - OFS_HM_SCHEMA_IN.xml
   - OFSAAI_InstallConfig.xml
2. See the OFS Analytical Applications Technology Matrix for the hardware and software required to upgrade to OFS HM Release 8.1.2.0.0.
3. Enable unlimited cryptographic policy for Java. For more information, see the Enabling Unlimited Cryptographic Policy section in the OFS Analytical Applications Infrastructure Administration Guide.
4. Clone your environment. There is a consistent need for a faster and effective approach of replicating an existing OFSAA instance for further project developments, that is, setting up OFSAA instances that are exact copies of the current OFSAA instance. For more information, see the Clone your Existing Environment section.
5. Execute the following SQL query on the Atomic Schema:
   ```
   update rev_tables_b set version=0 where version is null; commit;
   ```
6. You must apply the OFS AAI patch 32530173 in case of Pack-on-Pack v8.1.2.0.0 installation. Do not apply this patch, if you have already applied it as part of another application pack's installation.

9.2.1 Upgrade from OFS HM Release v8.0.x Solaris x86 Operating System

Release v8.1.2.0.0 of OFS **HM** is not certified for Solaris x86 Operating Systems. If you are currently running OFSAA v8.0.x on Solaris x86 Operating Systems and plan to upgrade to Release v8.1.2.0.0, then you must migrate from Solaris x86 to Solaris SPARC. See the OFSAA 8.0.x.x.x Migration Guide for details.

9.2.2 Clone Your Existing Environment

Clone your existing environment to the OFS Analytical Applications Technology Matrix.

For more information about the cloning procedure, see the OFSAA Cloning reference Guide Release 8.1.x.

9.2.3 Initializing the Upgrade

To initialize the upgrade, follow these steps:

1. Log in to My Oracle Support and search for **33564194** under the **Patches&Updates** tab.
2. Copy the archive file to your OFSAA server in Binary mode.

> **Note:**
>
> The archive files are different for every operating system such as Solaris, and RHEL or Oracle Linux.

3. Log in to the OFSAA Server with user credentials that were used to install OFSAA.
4. Shut down all the OFSAAI Services. See the Stop the Infrastructure Services and Start the Infrastructure Services section in the OFS AAI Release 8.1.2.0.0 Installation and Configuration Guide for details.
5. Execute the command:
   ```
   chmod -R 750 $FIC_HOME
   ```
6. If you have Unzip utility, skip to the next step. Download the Unzip utility (OS-specific) and copy it in Binary mode to the directory that is included in your PATH variable, typically $HOME path or directory in which you have copied the 8.1.2.0.0 installer. Uncompress the unzip installer file using the command:
   ```
   uncompress unzip_<os>.Z
   ```

> **Note:**
>
> If you receive an error message: uncompress: not found [No such file or directory] when the package is not installed, contact your UNIX administrator.

7. Give execute permission to the file using the command:
   ```
   chmod 751 OFS_HM_81000_<OperatingSystem>.zip
   ```
8. Extract the contents of the Oracle Financial Services Hedge Management and IFRS Valuations Application Pack 8.1.2.0.0 in the Download Directory installer archive file using the command:
   ```
   Unzip <name of the file to be unzipped>
   ```

> **Note:**
>
> For Solaris OS, download, extract, and apply the one-off patch **31509494** from My Oracle Support. See the Readme packaged with the patch for further instructions on how to install the patch.

9. Log in to OFSAA Infrastructure Config Schema and execute the following SQL query:
   ```
   ALTER TABLE CONFIGURATION MODIFY PARAMNAME VARCHAR2 (100 CHAR);
   ```
10. Give execute permission to the archive file. Navigate to the path where the directory OFS_HM_PACK exists and execute the command:
    ```
    chmod -R 755 OFS_HM_PACK
    ```

11. Execute the user .profile file.

9.2.4 Update the OFS_HM_PACK.xml File

Update the `OFS_HM_PACK.xml` file. Enable only the existing installed applications.

The `OFS_HM_PACK.xml` file contains details on the various products that are packaged in the OFS HM application pack. This section provides information about the various tags and parameters available in the file and the values that you must update. Before installing OFS HM, it is mandatory to update this file.

To configure the `OFS_HM_PACK.xml` file, follow these steps:

1. Navigate to the `OFS_HM_PACK/conf` directory.
2. Open the `OFS_HM_PACK.xml` file in a text editor.
3. Configure the `OFS_HM_PACK.xml` file as mentioned in the following table.

Table 9-2 OFS_HM_PACK.xml File Parameters

Tag Name	Attribute Name	Value you must enter	Comments
APP_ID	ENABLE	YES for existing applications that you want to upgrade. For example: ENABLE as YES for the required APP_IDs - OFS_AAI, OFS_AAAI, OFS_HM_LCR, and OFS_HM_DIC, based on the licensing.	Set this attribute-value to YES for every APP_ID which you want to install or upgrade.

9.2.5 Update the Silent.props File in Release 8.1.2.0.0 Pack

Update the `Silent.props` file present in the Release 8.1.2.0.0 pack. Most parameters in the `Silent.props` file for 8.1.2.0.0 have default values. Before triggering the installation, ensure that you review them thoroughly and update as required.

1. Navigate to the `OFS_HM_PACK/appsLibConfig/conf` directory.
2. Edit the `Silent.props` file and specify the parameters as per the requirements. SILENT installation is achieved through a properties file (`Silent.props`) that must be updated with proper values, before attempting to install using the silent mode. The following table lists all the properties that need to be specified.
3. Configure the `Silent.props` file as mentioned in the following table. Open the `Silent.props` file and edit only the following parameters.

Table 9-3 Parameters for the Silent.props File

Property Name	Description of Property	Permissible values	Comments
UPLOAD_MODEL	Specify whether you want to perform Model Upload.	0 = If you have already performed Model Upload and want to skip the model upload process. 1 = If you want to perform Model Upload.	The default value is 1.
MODEL_TYPE	Specify whether you want to use the released datamodel or customized datamodel for the model upload process.	0 = If you want to upload the released datamodel. 1 = If you want to upload the customized datamodel.	The default value is 0.
DATAMODEL	The path for the customized data model.	Not Applicable	Mandatory only if you want to upload the customized data model.
DM_DIRECTORY	The file name for the customized data model.	Not Applicable	Mandatory only if you want to upload the customized data model.

9.2.6 Trigger the Upgrade Installation

To trigger the installation, follow these steps:

1. Navigate to the path `OFS_HM_PACK/bin`, and enter the following command in the console to execute the application pack installer with the Silent option.
   `./setup.sh SILENT`
2. The installer proceeds with the pre-installation checks and starts the upgrade installation process.
3. The OFS HM installation or upgrade begins. After the installation is complete, an Installation Successful message is displayed.
4. Verify the log files. See section Verify the Log File Information for Upgrade for details.

9.2.7 Verify the Log File Information for Upgrade

See the following logs paths for more information:

- Verify if the release is applied successfully by checking the log file generated in the locations mentioned in section Verify the Log File Information.
- Verify if the release is applied successfully by checking the log file generated in the `OFS_HM _PACK/OFS_HM /logs` installation directory.
- You can also verify the OFSAAI log files from the `OFS_HM_PACK/OFS_AAAI_PACK/logs` directory.
- Verify the Model Upload log file available in the `ftpshare/<INFODOM>/logs` directory.

- You can ignore ORA-00001, ORA-00955, ORA-02260, ORA-01430, ORA-02298 errors in the log file. For any other errors, contact My Oracle Support.
  You can ignore the ORA-00001 error in the log file available in the path `OFS_HM_PACK/schema_creator/logs`.

  > **Note:**
  >
  > Ignore all the warnings in the installation log. For any issues contact My Oracle Support.

- The following ORA error messages can be ignored:
  - *name already used by an existing constraint*
  - *unique constraint violated*
- Verify if the Data Model is uploaded successfully by checking the log file generated as per the directory or path mentioned in the `Silent.props` file.
- Verify the `Update.log` file located at `$FIC_HOME/utility/UpdateConstraints/logs` directory which is created by Update Constraint utility.
  - Execution status information of the utility is available against each Information domain. For success, *Update successful* message is displayed. If it is successful, verify the following references for new constraint names:
  - `ftpshare/<INFODOM>/erwin/fipxml/<INFODOM>_DATABASE.xml`
  - Constraint scripts under `ftpshare/<INFODOM>/erwin/scripts/table`
  - Constraint scripts under `ftpshare/<INFODOM>/scripts`
- Object registration tables for constraints, REV_TAB_CONSTRAINTS, REV_TAB_REF_CONSTRAINTS, REV_TAB_CONSTRAINT_COLUMNS.
- Oracle Data Dictionary in the respective Atomic Schemas for each Infodom.
- If you encounter errors in the Update.log file, identify and troubleshoot the failed Infodoms. Once you have completed the troubleshooting, execute the standalone utility for the failed Infodoms. For more information on executing the update constraints utility, see the Update Constraints Utility section, in the OFS AAAI Applications Pack Installation Guide, Release 8.1.2.

9.2.8 Post-installation Steps for Upgrade

Perform the following post-installation steps:

1. Secure your OFSAA Infrastructure. For more information, see the OFSAA Security Guide in the OHC Documentation Library.
2. After successful installation, follow these steps:
   a. Clear the application cache. Navigate to the following path depending on the configured web application server and delete the files.
      - **Tomcat**:

        `<Tomcat installation directory>/work/Catalina/localhost/<Application name>/org/apache/jsp`

      - **WebLogic**:

```
<WebLogic installation location>/domains/<Domain name>/servers/
<Server name>/tmp/_WL_user/<Application name>/<auto generated
directory>/jsp_servlet
```

For WebLogic version 12.2.x.x, delete the directory named .WL_internal present in the `<WebLogic installation location>/user_projects/domains/< Domain name >/applications/<context_name>.ear/META-INF/` directory, if it exists.

- **WebSphere**:

```
<WebSphere installation directory>/AppServer/profiles/<Profile name>/
temp/<Node name>/server1/<Application name>/<.war file name>
```

b. Deploy the RPD and catalog file(s):

> **Note:**
>
> Ensure that OBIEE 12.2.1.4.0 or OAS 5.5.0 is up and running.

Take a backup of the deployed HM.rpd and HM.catalog files from the OBIEE environment.

i. Navigate to the following RPD and catalog folders. Copy the RPD and required Catalog files (as per the license agreement) in the server where the BI client tools are installed:
`$FIC_HOME/OFS_HM_DASHBOARDS/12.2.1.4.0/datamodel` directory containing the HM.rpd in the datamodel directory and archived.

ii. Modify the connection pool and set the properties.

iii. Any customizations performed on the older rpd and web catalog files must be manually carried over to the newer ones post-deployment.

iv. Clear OBIEE cache, if enabled.

v. For more information on deploying RPD and webcat files, see the Deploying RPD and Webcatalog Files section.

3. Add umask 0027 in the .profile of the UNIX account which manages the web server to ensure restricted access permissions.

4. Follow these steps to remove `ContextDocLoader` from the `web.xml` file:

a. Navigate to `$FIC_WEB_HOME/webroot/WEB-INF` folder.

b. Open the `web.xml` file in a text editor.

c. Search for `ContextDocLoader` parameter and remove the following servlet entry:

```
<servlet>

<servlet-name>context</servlet-name>

<servlet-
class>com.ofs.fsapps.commonapps.core.summary.common.ContextDocLoade

r</servlet-class>

<load-on-startup>1</load-on-startup>

</servlet>
```

5. Generate the application EAR or WAR file and redeploy the application onto your configured web application server. See Create and Deploy the EAR or WAR Files, for more information on generating and deploying the EAR/WAR files.
6. Restart all the OFSAAI services. See the Stop the Infrastructure Services and Start the Infrastructure Services sections in the OFS AAI Release 8.1.2.0.0 Installation and Configuration Guide for details.
7. Verify the log files in the locations mentioned in section Verifying the Log Files. You can also verify the OFSAAI log files from OFS_HM _PACK/OFS_AAAI_PACK/logs directory.
8. Follow the steps mentioned in the Post Installation Steps section.
9. To configure OBIEE or OAS, follow the steps mentioned in the BI Analytics - OBIEE Server Configuration Steps section.

9.2.8.1 Remove the Entries from the web.xml file

Before you run the `ant.sh` utility to create the `.war` or `.ear` file, you must remove the following entry in the `web.xml` file:

1. Navigate to the `$FIC_HOME/ficweb/webroot/WEB-INF` directory.
2. Edit the `web.xml` file.
3. Delete the following entries:
   a. •
   ```
   <servlet>
   <servlet-name>context</servlet-name>
   <servlet-
   class>com.ofs.fsapps.commonapps.core.summary .common.ContextDoc
   Loader</servlet-class>
   <load-on-startup>1</load-on-startup>
   </servlet>
   ```
   b.
   ```
   <servlet>
   <servlet-name>llfp</servlet-name>
   ```
   <servlet-class>com.ofs.fsapps.llfp.servlet.LoanForecastingDispatcherServlet</servlet-class> </servlet>
   c.
   ```
   <servlet-mapping>
   <servlet-name>llfp</servlet-name>
   <url-pattern>/llfp/*</url-pattern>
   </servlet-mapping>
   ```
4.
   ```
   <servlet>
   <servlet-name>RunManagementServlet</servlet-name>
   <servlet-class>com.ofs.run.RunManagementServlet</servlet-class>
   </servlet>
   ```
5. <servlet-mapping>
   <servlet-name>RunManagementServlet</servlet-name>
   <url-pattern>/runexecution/runServlet</url-pattern>
   </servlet-mapping>

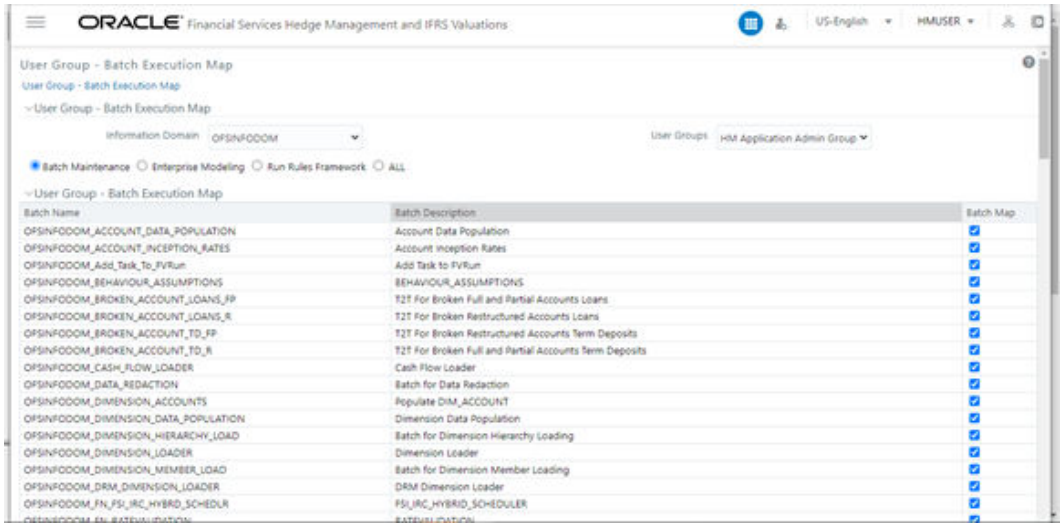
After you complete the above steps you must Create and deploy EAR/WAR files and Start the OFSAA Infrastructure services.

9.2.8.2 Batch Execution Rights for the HM Application Admin Group

Perform the following steps to give the batch execution rights to the HM Application Admin Group.

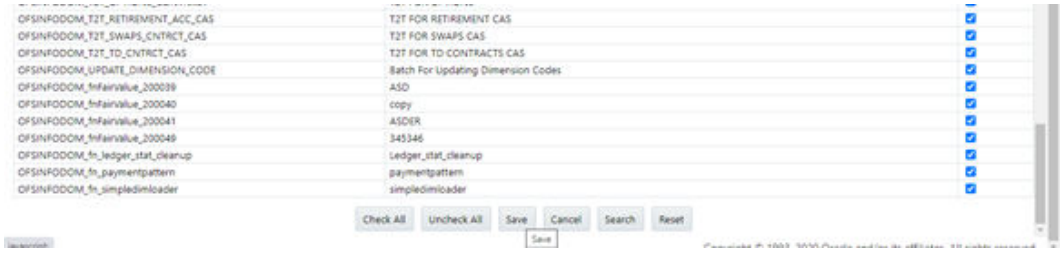
1. Log in to the OFS HM application.
2. Navigate to **Common Object Maintenance**, and then **ObjectAdministration**, then **Object Security**, and then **Batch Execution Rights**.
3. n the **User Group- Batch Execution Map** pane, in the **User Groups** field, select **HM Application Admin Group**.

Figure 9-1 The Batch Execution Rights Window with the HM Application Admin Group Selected in the User Groups Field



4. At the bottom of the page, click **Check All**, and then click **Save**.

Figure 9-2 The Batch Execution Rights Window with the Check All and Save Options



9.2.8.3 OBIEE Server Configuration for Upgrade

Perform the following OBIEE server configuration steps. You can ignore the steps if OBIEE is already configured in your setup.

1. Execute the following steps to implement the Writeback feature:
   a. Add the tag <LightWriteback>true</LightWriteback> in between <ServerInstance></ServerInstance> in the instanceconfig.xml file.
   For example:

   ```
   <ServerInstance>

   <LightWriteback>true</LightWriteback>

   ……..

   ……

   </ServerInstance>
   ```

   b. Copy the `writeback.xml` file available in the `$FIC_HOME/OFS_HM_DASHBOARDS/12.2.1.4.0/content/msgdb/ directory` to the following OBIEE server directories. If customMessages directory is not present, create the directory manually.
   Path1: `<BI Domain Home>/bidata/components/OBIPS/custommessages`

   For example: `/scratch/oraobiee/Oracle/Middleware/Oracle_Home/user_projects/domains/bi/bidata/components/OBIPS/custommessages`

   Path2: `<BI Domain Home>/bidata/service_instances/ssi/metadata/content/msgdb/l_en/customMessages`

   For example:

   `/scratch/oraobiee/Oracle/Middleware/Oracle_Home/user_projects/domains/bi/bidata/service_instances/ssi/metadata/content/msgdb/l_en/customMessages`

   c. Restart BI Services.
   d. Login to **OBIEE Analytics** and navigate to **Administration** section on the right top corner.
   e. Click **Manage Privileges** and scroll down to **Writeback**.
   f. Grant **Writeback to Database** privilege to Authenticated User and BI Administrator roles.
2. Perform the following OBIEE presentation server configuration steps:
   a. Navigate to the `<<Oracle BI Instance Home>/config/fmwconfig/biconfig/OBIPS` directory.
   b. Edit the file `instanceconfig.xml`.
   c. Insert the following code within the XML tag `<Views> </Views>`.

   ```
   <Charts>

   <MaxVisibleColumns>50000</MaxVisibleColumns>

   <MaxVisiblePages>25000</MaxVisiblePages>

   <MaxVisibleRows>10000000</MaxVisibleRows>

   <MaxVisibleSections>50000</MaxVisibleSections>

   <JavaHostReadLimitInKB>10240</JavaHostReadLimitInKB>

   </Charts>
   ```

   d. Insert the following code within the XML tag `<Views> </Views>`.

```
<Table>
<DefaultRowsDisplayedInDelivery>75</DefaultRowsDisplayedInDelivery>
<DefaultRowsDisplayedInDownload>6500</DefaultRowsDisplayedInDownload>
<MaxCells>4000000</MaxCells>
<MaxVisibleRows>140000</MaxVisibleRows>
</Table>
<Narrative>
<MaxRecords>500000</MaxRecords>
<DefaultRowsDisplayed>25</DefaultRowsDisplayed>
</Narrative>
```

e. Save the file and restart the BI services.

> **Note:**
>
> Take a backup of the instanceconfig.xml file before making any changes.

3. Perform the following RPD changes, to set the Early Warning Indicators 1 and 2:
   a. Open the **Repository** in Online or Offline mode.
   b. Select Manage and then select Variables.
   c. Navigate to hierarchy Repository, select Variables, and then select Static.
   d. Modify EARLYWARNIND1 and EARLYWARNIND2 variable values as required.
   e. Save and commit the changes to RPD.

> **Note:**
>
> You must redeploy the RPD on the BI server if you have made changes in the offline mode.

4. For OBIEE reporting, configure the following:
   a. Navigate to the `<<obiee <<Oracle BI Instance Home>/config/fmwconfig/biconfig/OBIJH` directory.
   b. Modify the config.xml file.
   c. Increase the parameter value for the following tag:

```
<XMLP>
<InputStreamLimitInKB>40000</InputStreamLimitInKB>
<ReadRequestBeforeProcessing>true</ReadRequestBeforeProcessing>
</XMLP>
<DVT>
<InputStreamLimitInKB>40000</InputStreamLimitInKB>
</DVT>
```

d. Save the `config.xml` file.

e. Navigate to the `<<obiee <<Oracle BI Instance Home>/config/fmwconfig/biconfig/OBIPS` directory.

f. Modify the instanceconfig.xml file.

g. Increase the parameter value for tag if already exists or add the following code:

```
<Charts>
<MaxVisibleColumns>50000</MaxVisibleColumns>
<MaxVisiblePages>25000</MaxVisiblePages>
<MaxVisibleRows>100000</MaxVisibleRows>
<MaxVisibleSections>50000</MaxVisibleSections>
<JavaHostReadLimitInKB>10240</JavaHostReadLimitInKB>
</Charts>
and
<Pivot>
<MaxCells>1920000</MaxCells>
<MaxPagesToRollOutInDelivery>10000</MaxPagesToRollOutInDelivery>
<MaxVisibleColumns>50000</MaxVisibleColumns>
<MaxVisiblePages>100000</MaxVisiblePages>
<MaxVisibleRows>10000000</MaxVisibleRows>
<MaxVisibleSections>50000</MaxVisibleSections>
<DefaultRowsDisplayed>100000</DefaultRowsDisplayed>
</Pivot>
under <Views> tag
```

h. Save the `instanceconfig.xml` file.

i. Restart the BI Services.

9.3 Install a Application Pack v8.1.2.0.0 on an Existing OFSAA Instance

You have already installed an application pack from Release 8.1.2.0.0 and now you want to install another application pack from Release 8.1.2.0.0.

For example: OFS HM Pack is already installed and now you want to install OFS ALM Pack.

> **Note:**
>
> You must check the Compatibility Matrix to see if the new application to be installed is compatible with the installed applications.

9.3.1 Execute the Schema Creator Utility only for the New Pack

To execute the schema creator utility, follow these steps:

> **Note:**
>
> While defining the schema details for the applications, provide the same schema details given in the previous installation. The output file (`OFS_HM_SCHEMA_OUTPUT.xml`) is generated as a result of the schema creation process.

1. Edit the `OFS_HM_PACK/schema_creator/conf/OFS_HM_SCHEMA_IN.xml` file in a text editor. See the Configure OFS_HM_SCHEMA_IN.xml file for values to modify in the XML file.
2. Execute the utility with -s option.
   For example: `./osc.sh -s`
3. Follow the steps given in the If the schema creator output file (OFS_HM_SCHEMA_OUTPUT.xml) EXISTS section.
4. Configuring the `OFSAAI_InstallConfig.xml` file is not required.

9.3.2 If the Schema Creator Output file (OFS_HM_SCHEMA_OUTPUT.xml) EXISTS

If the Schema Creator Output file (OFS_HM_SCHEMA_OUTPUT.xml) is available, follow the steps mentioned in the following sections.

9.3.2.1 Update the OFS_HM_PACK.xml File

Update the `OFS_HM_PACK.xml` file. Enable only the existing installed applications.

The `OFS_HM_PACK.xml` file contains details on the various products that are packaged in the OFS HM application pack. This section provides information about the various tags and parameters available in the file and the values that you must update. Before installing OFS HM, it is mandatory to update this file.

To configure the `OFS_HM_PACK.xml` file, follow these steps:

1. Navigate to the `OFS_HM_PACK/conf` directory.
2. Open the `OFS_HM_PACK.xml` file in a text editor.
3. Configure the `OFS_HM_PACK.xml` file as mentioned in the following table.

Table 9-4 OFS_HM_PACK.xml File Parameters

Tag Name	Attribute Name	Value you must enter	Comments
APP_ID	ENABLE	YES for existing applications that you want to upgrade. For example: ENABLE as YES for the required APP_IDs - OFS_AAI, OFS_AAAI, OFS_HM_LCR, and OFS_HM_DIC, based on the licensing.	Set this attribute-value to YES for every APP_ID which you want to install or upgrade.

9.3.3 Update the OFS_HM_PACK.xml File of the Newly Licensed Pack

The `OFS_HM_PACK.xml` file holds details on the various products that are packaged together in the OFS HM application pack.

Update the `OFS_HM_PACK.xml` file. Enable only the existing installed applications.

The `OFS_HM_PACK.xml` file contains details on the various products that are packaged in the OFS HM application pack. This section provides information about the various tags and parameters available in the file and the values that you must update. Before installing OFS HM, it is mandatory to update this file.

To configure the `OFS_HM_PACK.xml` file, follow these steps:

1. Navigate to the `OFS_HM_PACK/conf` directory.
2. Open the OFS_`HM_PACK.xml` file in a text editor.
3. Configure the `OFS_HM_PACK.xml` file as mentioned in the following table.

Table 9-5 OFS_HM_PACK.xml File Parameters

Tag Name	Attribute Name	Value you must enter	Comments
APP_ID	ENABLE	• YES for applications you want to install. For example, OFS_HM in the preceding illustration. • NO for applications that are already installed.	Set this attribute-value to YES for every APP_ID which you want to install or upgrade.

9.3.4 Update the Silent.Props File of the Newly Licensed Pack

Update the Silent.props file in the Release 8.1.x pack ONLY for the newly licensed applications.

Most parameters in the Silent.props file for 8.1.2.0.0 have default values. Before triggering the installation, ensure that you review them thoroughly and update as required.

1. Navigate to the `OFS_HM_PACK/appsLibConfig/conf` directory.
2. Ensure to modify the template in the directory. Create a copy of this file and rename the copy as `Silent.props`.
3. Edit the `Silent.props` file and specify the parameters as per the requirements. SILENT installation is achieved through a properties file (`Silent.props`) that must be updated with proper values, before attempting to install using the silent mode. The following table lists all the properties that need to be specified.
4. Configure the `Silent.props` file as mentioned in the following table. Open the `Silent.props` file and edit only the following parameters:

Table 9-6 Parameters for the Silent.props File

Property Name	Description of Property	Permissible values	Comments
UPLOAD_MODEL	Whether you want to perform the Model Upload.	0: No 1: Yes	Mandatory
MODEL_TYPE	The released data model or a customized data model.	0: Released 1: Customized	Mandatory only if you want to upload the data model.
DATAMODEL	The path for the customized data model.	Not Applicable	Mandatory only if you want to upload the customized data model.
DM_DIRECTORY	The file name for the customized data model.	Not Applicable	Mandatory only if you want to upload the customized data model.

9.3.5 Trigger the Installation

To trigger the installation, follow these steps:

1. Navigate to the path OFS_HM_PACK/bin, and enter the following command in the console to execute the application pack installer with the Silent option.
   ./setup.sh SILENT
2. The installer proceeds with the pre-installation checks and starts the upgrade installation process.
3. The OFS HM installation or upgrade begins. After the installation is complete, an Installation Successful message is displayed.
4. Verify the log files.

9.3.6 Verify the Log File Information

Verify the log files in the locations mentioned in section Verify the Log File Information for Upgrade.

9.3.7 Post Installation Steps

Follow the steps mentioned in the Post Installation Steps section.

9.4 View OFSAA Product Licenses after Installation of Application Pack

In an integrated environment, where you have multiple applications installed on the same domain or infrastructure, OFSAAI allows you to see the other licensed applications through the UI. For more information, see the View OFSAA Product Licenses after Installation of Application Pack in the OFS Analytical Applications Infrastructure User Guide Release 8.1.2.0.0

10

Additional Configurations

This section provides information for additional configurations required for the OFSAA application packs.

To complete the configuration process, you may require to perform the following steps listed in the Additional Configuration Checklist. Use this checklist to verify whether these steps are completed or not. See the Additional Information section in the OFS AAAI Release 8.1.2.0.0 Installation and Configuration Guide to complete these procedures.

Table 10-1 Additional Configurations

Sl. No.	Additional Configuration Activity
1	Add FTP/SFTP Configuration for File Transfer
2	Configure the Infrastructure Server Memory.
3	Change IP or Hostname, Ports, Deployed Paths of the OFSAA Instance.
4	Execute the Encryption Changer.
5	Configure the Infrastructure LDAP Configuration.
6	Configure password changes.
7	Configure Java Virtual Machine.
8	Configure Internal Service (Document Upload/ Download).

11
Migrate Excel Upload Functionality

See the Migrate Excel Upload Functionality section in the OFS AAAI Release 8.1.1.0.0 Installation and Configuration Guide to complete the procedures.

12

Frequently Asked Questions (FAQs) and Error Dictionary

For FAQs and installation error-related information, see the section Frequently Asked Questions (FAQs) and Error Dictionary in the OFS AAAI Release 8.1.2.0.0 Installation and Configuration Guide.

12.1 Application Pack FAQs

You can see the Frequently Asked Questions which is developed with the interest to help you resolve some of the OFS HM Installation and configuration issues. This intends to share the knowledge of problem resolution to a few of the known issues. This is not an official support document and just attempts to share the knowledge of problem resolution to a few of the known issues.

1. **What is an Application pack?**
   An Application Pack is a suite of products.
2. **Can I get a standalone installer for OFSAAI 8.1?**
   No. AAI is part of every application pack and installs automatically.
3. **Where can I download OFS HM 8.1.2.0.0 Application Pack?**
   You can download the OFSAAI 8.1.2.0.0 Application Pack from My Oracle Support (MOS).
4. **What are the minimum system and software requirements for the OFS HM 8.1 Application Pack?**
   See the Hardware and Software Requirements for more information.
5. **Is my environment compatible with OFS HM 8.1.1.0.0 Application Pack?**
   Environment Check utility performs the task. It is part of the install and can also be run separately.
6. **Does the OFS HM 8.1.2.0.0 Application Pack support all Operating systems?**
   See the Hardware and Software Requirements section.
7. **How can I install the OFS AAI 8.1.2.0.0 Application Pack?**
   See the OFS AAAI Release 8.1.2.0.0 Installation and Configuration Guide.
8. **Does this installation require any Third-party Software?**
   For details on the third-party software tools used, see the OFSAA Licensing Information user Manual Release 8.1.2.0.0.
9. **What languages are supported during the OFSAA 8.1.2.0.0 Application Pack installation?**
   US English is the language supported.
10. **What mode of installations OFSAA Application Pack supports [that is., Silent, GUI]?**
    OFSAA Application Packs support only Silent Mode.
11. **Does OFSAA 8.1.2.0.0 Application Pack support Multi-tier Installations?**

OFSAA 8.1.2.0.0 supports only a single-tier installation. For more information, see the Frequently Asked Questions (FAQs) and Error Dictionarysection.

12. **Does this Application Pack validate all prerequisites required for this installation like Memory, Disk Space, and so on?**
    Yes. The pre-requisite checks are done by the respective application pack installer.
13. **What happens if it aborts during the installation of any application or products within an Application pack?**
    You must restore the system and retrigger the installation
14. **Does this Application pack 'Roll Back' if any application installation fails due to errors?**
    The rollback of installation is not supported.
15. **Does the Application pack install all applications bundled?**
    All application pack system files are installed but there is an option to enable the licensed products.
16. **Can I re-install any of the Application Packs?**
    You can retrigger in case of failure.
17. **Does this Application pack allow enabling or disabling any of the applications installed?**
    Yes, you can enable but you cannot disable once the product is enabled in an environment.
18. **I have installed one application in an Application pack, can I install any of the new applications within the Application pack later?**
    No, the installation of additional applications is not required. If you wish to add an application later, you can enable the application at that time.
19. **How many OFSAA Infrastructures can be installed in a single server?**
    There is no issue in installing separate OFSAAI installations, each with their own PFT/FTP installations and separate associated database instances and separate web server installations on the same server as long as adequate memory is allocated for each instance and as long as each OFSAAI installation is installed using a separate UNIX user and profile. Care must be taken when running multiple OFSAAI installations on a single server. Adequate memory is required for each installation as several OFSAAI processes (model upload, DEFQ services, and so on) take significant amounts of memory. So it depends on your server's memory.
20. **Is it possible to install OFSAA 8.1.2.0.0 Application pack on an existing 'Infodom' where another OFSAA 8.1.2.0.0 application is installed?**
    Yes. However, the Behavioral Detection Application Pack and Compliance Regulatory Reporting Application pack are the exceptions. They must be installed in a different Infodom.
21. **Can I select an Infodom for the Application pack during installation?**
    Yes. You can select or change the required infodom.
22. **Can I install all Application Packs in a Single Infodom?**
    Yes. But, the Behavioral Detection Application Pack and Compliance Regulatory Reporting Application Pack are the exceptions. They must be installed in a different Infodom.
23. **Is it possible to install applications on different Infodom within the Application pack (for example, I want to install HM and MR in two infodoms)?**
    Applications within the application pack have to be installed in the same information domain in the same environment.

24. **How many Infodoms can be created over a single OFSAA Infrastructure of 8.1.2.0.0?**
    You can install only one infodom during installation. But after installation, you can create multiple infodoms.
25. **Is the 'Data Model' bundled specifically to an Application pack or an individual application?**
    A merged data model for all applications within the application pack is bundled and uploaded.
26. **Is it possible to install OFS Enterprise Modeling later?**
    OFS Enterprise Modeling is a separate product and can be enabled as an option later from any application pack that bundles Enterprise Modeling. For more information, see Enable Financial Services Enterprise Modeling on Another Application Pack section in the OFS AAAI Release 8.1.2.0.0 Installation and Configuration Guide.
27. **Does the Application pack create a sandbox automatically for the required applications?**
    Yes, Sandbox creation is part of the application install process.
28. **Are upgrade Kits available for individual applications or the complete Application Pack?**
    Maintenance Level (ML) Release and Minor Release upgrades are available across all applications.
29. **Can I upgrade AAI only?**
    Yes, you can upgrade AAI alone.
30. **Is it possible to uninstall any Application from the Application pack?**
    No, it is not possible to uninstall any Application from the Application Pack.
31. **Can I uninstall the entire Application Pack?**
    No, you cannot uninstall the Application Pack.
32. **Is it possible to uninstall only the application and retain AAI in the installed environment?**
    No, you cannot uninstall only the application and retain AAI in the installed environment.
33. **Does Application Pack contain all Language Packs supported?**
    Language Packs must be installed on the application packs.
34. **Can I install an Application Pack over another Application Pack (that is the same infodom or different infodom)?**
    Yes, you can install an Application Pack over another Application Pack in the same information domain or different information domain. But Behavioral Detection Application Pack and Compliance Regulatory Reporting Application Pack, Asset Liability Management Application Pack, and Profitability Application Pack are the exceptions. They must be installed in a different Infodom.
35. **What should I do if I get the error message: *HostName in the input XML file is not matching with the local hostname* while running the schema creator utility?**
    One possible reason can be the machine is configured for zonal partitioning. Ensure all the known IP Addresses of the machine are present in the /etc/hosts file.
36. **What are the Java versions supported in OFS HM Application Pack version 8.1.2.0.0?**
    See the Hardware and Software Requirements section.
37. **Is OFSAAAI Application Pack version 8.1.2.0.0 supported on Java 9 and Java 11?**
    For information about supported Java versions, see the Hardware and Software Requirements section

38. **What should I do when I get the message: "*[ERROR] - Error: APP Setup bin file failed.*" during OFS_Application_PACK installation?**
This is a generic error message that appears during application installation failure. You must check the installation log files for more information about what failed the installation.

However, if the message is displayed and the log files are not generated, this can be a temp directory issue. The resolution is that your UNIX administrator has to disable the NOEXEC option. The installers extract the installation files into the /tmp directory, and if NOEXEC is enabled, the execution of binaries will not happen in the directory and the installation fails. Re-run the installer after the configuration is changed. For detailed information, see the support note at https://support.oracle.com/epmos/faces/DocumentDisplay?id=2340045.1.