# Oracle® Financial Services Profitability Analytics Applications Pack Installation and Configuration Guide



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ORACLE

Oracle Financial Services Profitability Analytics Applications Pack Installation and Configuration Guide, Release 8.1.2.0.0

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## 1 Preface

This section provides information about the Oracle Financial Services Performance Analytics Pack (OFS PFT Pack) Installation and Configuration Guide.

You can find the latest copy of this document in the OHC Documentation Library which includes all the recent additions and revisions (if any) done to date.

Before you begin the installation, ensure that you have access to My Oracle Support (MOS) with the required login credentials to quickly notify us of any issues at any stage.

Topics:

- Audience
- Access to Oracle Support
- Related Documents
- Additional Documents to Read
- Conventions
- Abbreviations

## 1.1 Audience

The OFS Performance Analytics Pack (OFS PFT Pack) Installation and Configuration Guide is intended for administrators, and implementation consultants who are responsible for installing and maintaining the application pack components.

Anyone performing the installation is expected to be experienced in installing enterprise components and possess basic knowledge of the following:

- Performance Analytics Pack (OFS PFT Pack) components
- OFSAA architecture
- UNIX commands
- Database concepts
- Web server or web application server

## 1.2 Access to Oracle Support

Oracle customers have access to electronic support through My Oracle Support. For more information, visit My Oracle Support or visit Oracle Accessibility Learning and Support if you are hearing impaired.

## **1.3 Related Documents**

We strive to keep this document and all other related documents updated regularly.



Visit the OHC Documentation Library to download the latest version available. The list of related documents is provided here.

- OFS Performance Analytics Release Notes, Release 8.1.2.0.0
- OFS Performance Analytics Operational User Guide
- OFS Performance Analytics Business Administrator User Guide
- OFS Performance Analytics Business User Guide
- OFS Performance Analytics OBIEE Reports User Guide
- OFS Enterprise Financial Performance Analytics User Guide
- OFS Performance Analytics API Reference Guide

Oracle Financial Services Performance Analytics Applications Pack Security Guides:

- OFS Enterprise Financial Performance Analytics Security Guide
- OFS Institutional Performance Analytics Security Guide
- OFS Retail Performance Analytics Security Guide

Oracle Financial Services Performance Analytics Applications Pack Cloning Guides:

- OFS Enterprise Financial Performance Analytics Cloning Reference Guide
- OFS Institutional Performance Analytics Cloning Reference Guide
- OFS Retail Performance Analytics Cloning Reference Guide

## 1.4 Additional Documents to Read

Oracle Financial Services Profitability Management Applications Pack is built on the Oracle Financial Services Advanced Analytical Applications Infrastructure (OFS AAI).

See the following OFS AAI documents as no separate documents are required at the pack or application level for Oracle Financial Services Profitability Management Applications Pack:

- OFS Analytical Applications Infrastructure (OFS AAAI) Application Pack Installation and Configuration Guide Release 8.1.2.0.0
- OFS Analytical Applications Infrastructure Administration Guide Release 8.1.x
- OFS Analytical Applications Infrastructure User Guide Release 8.1.2.0.0
- OFS Analytical Applications Infrastructure Cloning Reference Guide Release 8.1.x
- OFS Analytical Applications Infrastructure Security Guide Release 8.1.x

You can access the common document from the OHC Documentation Library:

• OFS Analytical Applications 8.1.2.0.0 Technology Matrix

## 1.5 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, file names, text that appears on the screen, or text that you enter.
Hyperlink	Hyperlink type indicates the links to external websites, internal document links to sections.

 Table 1-1
 Conventions Used in this Guide

## **1.6 Abbreviations**

The following table lists the abbreviations used in this document:

Abbreviation	Meaning
BDP	Big Data Processing
DBA	Database Administrator
DDL	Data Definition Language
DEFQ	Data Entry Forms and Queries
DML	Data Manipulation Language
EAR	Enterprise Archive
EJB	Enterprise JavaBean
ERM	Enterprise Resource Management
FTP	File Transfer Protocol
HDFS	Hadoop Distributed File System
HTTPS	Hypertext Transfer Protocol Secure
J2C	J2EE Connector
J2EE	Java 2 Enterprise Edition
JCE	Java Cryptography Extension
JDBC	Java Database Connectivity
JDK	Java Development Kit
JNDI	Java Naming and Directory Interface
JRE	Java Runtime Environment
JVM	Java Virtual Machine
LDAP	Lightweight Directory Access Protocol
LHS	Left Hand Side
MFA	Multi-Factor Authentication
MOS	My Oracle Support
OFSAA	Oracle Financial Services Analytical Applications
OFSAAI	Oracle Financial Services Analytical Application Infrastructure



Abbreviation	Meaning
OFSAAAI	Oracle Financial Services Advanced Analytical Applications Infrastructure Application Pack
OHC	Oracle Help Center
OLAP	On-Line Analytical Processing
OLH	Oracle Loader for Hadoop
ORAAH	Oracle R Advanced Analytics for Hadoop
OS	Operating System
RAM	Random Access Memory
RDBMS	Relational Database Management System
RHEL	Red Hat Enterprise Linux
SFTP	Secure File Transfer Protocol
SID	System Identifier
SSL	Secure Sockets Layer
TNS	Transparent Network Substrate
URL	Uniform Resource Locator
VM	Virtual Machine
WAR	Web Archive
XML	Extensible Markup Language

## 2 About Oracle Financial Services Advanced Analytical Applications Infrastructure (OFSAAAI) Application Pack

Oracle Financial Services Advanced Analytical Applications Infrastructure (OFSAAAI) Application Pack provides integrated stress testing and modeling capabilities that you can readily apply across multiple risk areas enabling institutions to devise appropriate enterprisewide and holistic risk and economic capital strategies.

OFSAAAI enables you to comply with regulatory requirements on stress testing, enables advanced customer and portfolio analytics, utilize multiple industry-standard techniques, test and model with complete data integrity.

OFSAAAI Application Pack includes the following applications:

**Financial Services Analytical Applications Infrastructure**: This application 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.

**Financial Services Enterprise Modeling**: This application helps banking institutions to identify the business opportunities and to measure the risk prevailing in the competitive market to safeguard the regulatory and economic capital of banks.

**Financial Services Big Data Processing**: This option introduces, into the OFSAA platform (OFSAAI), the capability to run analytics on data stored in Hadoop Distributed File System (HDFS).

With the Big Data Processing (BDP) add-on option, all core data management frameworks within OFSAA such as Data Management Framework (T2T/ F2T), Data Quality Framework, and Rules framework are enhanced to operate on both Oracle RDBMS data sources as well as Apache Hive data sources. An OFSAA Run definition can contain tasks that transform data held in the Hive. OFSAA applications that use these platform frameworks for expressing application logic automatically gain the ability to manage data held in the Hive. The OFSAA platform leverages HiveQL and Map Reduce to process data directly in the Hadoop cluster without having to stage data in a relational database.

**Financial Services Inline Processing Engine**: This application provides real-time monitoring, detection and interdiction of single and complex fraud events across multiple channels and lines of business.



## 2.1 Oracle Financial Services Analytical Applications Infrastructure (OFSAAI)

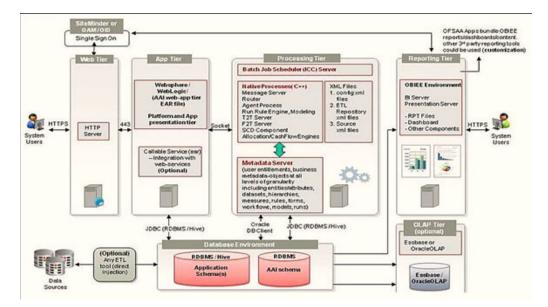
Oracle Financial Services Analytical Applications Infrastructure (OFSAAI) powers the Oracle Financial Services Analytical Applications family of products to perform the processing, categorizing, selection and manipulation of data and information required to analyze, understand and report on specific 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 2-1 Components of OFSAAI

#### 2.1.2 OFSAA Infrastructure High Availability

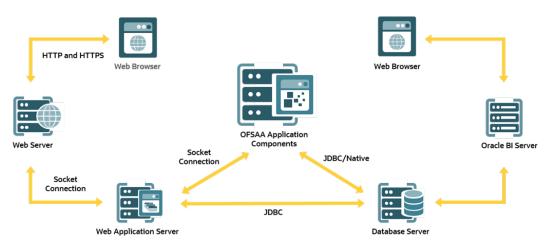
The current release of the OFSAA Infrastructure supports only the "Single Instance" installation for the Infrastructure components. However, the High Availability (HA) for



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 2-2 The logical architecture implemented for OFSAAAI Application Pack

## 2.2 About Oracle Financial Services Analytical Applications Infrastructure 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



## 2.3 OFS Performance Analytics Pack

OFS Performance Analytics Pack (OFS PFT Pack) provides integrated stress testing and modeling capabilities that you can readily apply across multiple risk areas enabling institutions to devise appropriate enterprise-wide and holistic risk and economic capital strategies.

OFS PFT Pack enables you to comply with regulatory requirements on stress testing, enables advanced customer and portfolio analytics, utilize multiple industry-standard techniques, test and model with complete data integrity.

OFS PFT Pack includes the following applications:

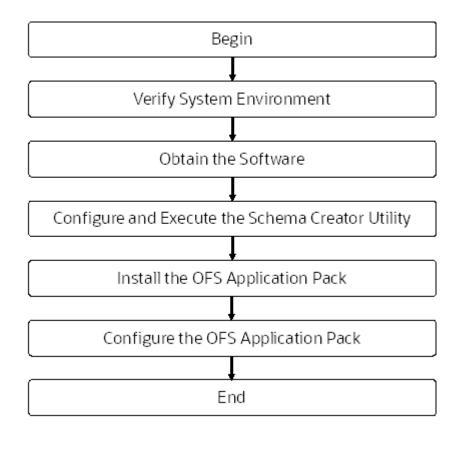
- Financial Services Analytical Applications Infrastructure: This application powers the Oracle Financial Services Analytical Applications family of products to perform the processing, categorizing, selection, and manipulation of data and information required to analyze, understand and report on specific 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.
- Oracle Financial Services Enterprise Financial Performance Analytics: This application is based upon a dedicated reporting mart built on the new Financial Services Data Model. OFSEFPA leverages several components of OBIEE technology including Dashboards and Answers. It includes various Dashboards and Reports for the user to carry out various Profitability Management based analytics.
- Oracle Financial Services Institutional Performance Analytics: This application provides strategic insights on the Profitability of the business and the underlying customers, Product holdings and Relationship depth across the organization, Behavioral and Engagement trends of its target segments exposures, commitments, line utilization, assets/liabilities, deposits, withdrawals, Fees, Income, recent transactions and so on, Efficiency of investments (like marketing, partner development), Efficiency of the sales force in terms of ongoing customer revenue generation, cross-sell and up-sell, product usage and pipeline.
- Oracle Financial Services Retail Performance Analytics: It focuses on the Summary performance of the LOBs and overall profitability, Portfolio mix, LOB specific profitability reports to be analyzed against key dimensions like customer segments, product family, region, branch, risk scores, and so on, Product holdings and Relationship depth across the LOBs, Customer Trends across performance drivers like Sales, Balances, Deposits, Product subscriptions (revenue services), Credit scores and delinquency bands, losses, and so on, Wallet Share analysis and customer lifetime value, Efficiency of investments (like marketing, branch, channel and so on) over time.

## 2.4 Installation Overview

Release 8.1.2.0.0 of OFSAA Application Packs support the fresh installation.

The following illustration shows the sequence of steps you need to follow to perform the installation.





#### Figure 2-3 Installation Flow of OFSAA Application Packs



## 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 glance at everything that you do to install this application. The link provided in each step takes you to a section either within this document or to another referenced document.

SI. No.	Pre-installation Activity
1	Install all the prerequisite hardware and software given in the Tech Stack.
2	Verify the System Environment using the Environment Check Utility.
3	Configure the Database Instance settings.
4	Install and configure the web application server.
5	Configure the HTTP settings on the webserver.
6	Create the Installation, Download, and Metadata Repository Directories:
	Installation directory
	Temporary directory
	<ul> <li>Staging Area/Metadata Repository</li> </ul>
	Download directory
7	Configure the following Operating System and File System settings:
	File Descriptor
	Total number of processes
	Port(s)
	.profile file permissions
	<ul> <li>Add FTP/SFTP configuration for file transfer</li> </ul>
8	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
9	Download the installer kit and erwin data models.
10	Perform prerequisites for installation.

#### Table 3-1 Pre-installation Checklist

#### Table 3-2 Installation Checklist

SI. No.	Installation Activity
1	Extract the installer kit.
2	Configure the OFS_PFT_PACK.xmlfile.

 Table 3-2
 (Cont.) Installation Checklist

SI. No.	Installation Activity
3	Configure the OFS_PFT_SCHEMA_IN.xml file.
4	Execute the Schema Creator Utility in Offline, Online, or TCPS modes and verify the log file.
5	Configure the OFSAAI_InstallConfig.xmlfile.
6	Configure the Silent.propsfile.
7	Trigger the application installation.

SI. No.	Post-installation Activity
1	Verify the installation logs.
2	Patch OFSAA Infrastructure Installation.
3	Back up the SCHEMA_CREATOR.xml, OFS_PM_SCHEMA_OUTPUT.xml, and Silent.props files.
4	Stop the OFSAA Infrastructure services.
5	Create and deploy EAR/WAR files.
6	Start the OFSAA Infrastructure services.
7	Configure the webserver.
8	Configure the Resource Reference in web application servers.
9	Configure the Resource Reference in web application servers.
10	Configure the Work Manager in the Web Application Servers.
11	Access the OFSAA application.
12	OFSAA Landing Page
13	Configure the excludeURLList.cfg file.
14	Change the ICC batch ownership.
15	Create Application Users.
16	Map the Application User(s) to User Groups.
17	Excel upload mapping and template.
18	Configure TDE and Data Redaction in OFSAAI.
19	Implement Data Protection in OFSAA.

Table 3-3 Post-installation Checklist

#### Table 3-4 Additional Configuration

SI. No.	Additional Configuration Activity
1	Add FTP/SFTP Configuration for File Transfer.
2	Configure the Infrastructure Server Memory.
3	Retrieve the Patch Information
4	Change IP or Hostname, Ports, Deployed Paths of the OFSAA Instance.
5	Configure the Infrastructure LDAP.

SI. No.	Additional Configuration Activity
6	Configure and deploy the OFSAAI web services.
7	Enable the parallel execution of DML statements.
8	Configure the message details in the Forms Designer.
9	Clear the application cache.
10	Configure the password changes.
11	Configure the Java Virtual Machine.
12	Configure the internal service (Document Upload/Download).

 Table 3-4
 (Cont.) Additional Configuration



# Hardware and Software Requirements

This section describes the Operating Systems, Database, Web Servers, and Web Application Server versions, and other variants on which this release of the OFS Performance Analytics Pack (OFS PFT Pack) is qualified.

See the Oracle Financial Services Analytical Applications 8.1.2.0.0 Technology Matrix for the hardware and software required for OFSAAI Release 8.1.2.0.0.

#### Note:

OFS PFT Application Pack installation can be performed on both Virtual and Physical servers.

The following software combinations are recommended.

Table 4-1 Recommended Software Combination	า
--	---

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 Performance Analytics Pack (OFS PFT Pack), see the OFSAA Licensing Information User Manual.

Also, ensure that you have the following Python licenses:

- Python 3.9.4
- numpy 1.19.4
- pandas 1.2.4
- scikit-learn 0.24.2
- scipy 1.6.3
- seaborn 0.10.1
- statsmodels 0.12.2
- matplotlib 3.2.2
- imbalanced-learn 0.7.0



- cx\_oracle 8.1.0
- sqlalchemy 1.3.18
- pmdarima 1.8.2

## 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 Oracle Support Services.

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 section contains the pre-installation requirements to install the OFS Performance Analytics Pack (OFS PFT Pack).

## 5.1 Pre-installation Checklist

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

SI. No.	Pre-installation Activity
1	Install all the prerequisite hardware and software given in the Tech Stack.
2	Verify the System Environment using the Environment Check Utility.
3	Configure the Database Instance settings.
4	Install and configure the web application server.
5	Configure the HTTP settings on the webserver.
6	Create the Installation, Download, and Metadata Repository Directories:
	<ul> <li>Installation directory</li> <li>Temporary directory</li> <li>Staging Area/Metadata Repository</li> <li>Download directory</li> </ul>
7	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
8	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
9	Download the installer kit and erwin data models.
10	Perform prerequisites for installation.

Table 5-1 Pre-installation Checklist



## 5.2 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

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

Note the path values as shown in the following table as you will be prompted to enter the WebSphere Profile path, the WebLogic Domain path, or the Tomcat Deployment path during OFSAAI installation.

	5
Description	Example Value
For WebSphere, specify the WebSphere path as <websphere directory="" profile="">/ installedApps/<nodecellname>.</nodecellname></websphere>	<pre>/data2/test//WebSphere/AppServer/ profiles/<profile_name>/ installedApps/aiximfNode01Cell, where aix-imf is the Host name.</profile_name></pre>
For WebLogic, specify the WebLogic home directory path.	<pre>/<weblogic directory="" home="" path="">/bea/ wlserver_10.3</weblogic></pre>
For Tomcat, specify the Tomcat directory path	/oradata6/ revwb7/tomcat/webapps/

Table 5-2 Web Application Server Settings

#### Note:

till /webapps.

See Configure the Web Server for WebSphere Profile and WebLogic Domain creation.

## 5.4 Web Server Settings

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

#### Table 5-3 Web Server Settings

# 5.5 Create the Installation, Download, and Metadata Repository Directories

To install OFSAAI, 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. 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.



# 5.6 Configure the OS File System Settings and Environment Settings in the .profile File

A .profile file is a start-up file of a UNIX user. 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.

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.

## 5.6.1 Configure Operating System and File System Settings

Parameter	Configuration Action
Installation Directory	In the .profile file, set the variable FIC HOME to point to the OFSAA Installation
	Directory.



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:		
	<ol> <li>Edit the following line in the /etc/ sysctl.conf file: fs.file-max = <value> where <value> is greater than 15000</value></value></li> </ol>		
	<ol> <li>Apply the change by running the following command:</li> <li># /sbin/ sysctl -p</li> </ol>		
	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.		



Parameter	Configuration Action
Total Number of Process Settings	In the sysctl.conf File set the value to greater than 15000.
	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.
Port Settings	Default port numbers to be enabled on the system are 6500, 6501, 6505, 6507, 6509, 6510, 6666, 9999, and 10101.

## 5.7 Preparing for Installation

This section describes how to download the installer and the mandatory prerequisites you must ensure installing the OFS Performance Analytics Pack (OFS PFT Pack).

# 5.7.1 Download the OFS OFS Performance Analytics Pack (OFS PFT Pack) Pack Installer and Erwin Data Models

To download the OFS Performance Analytics Pack (OFS PFT Pack) Installer Release v8.1.2.0.0, follow these steps:

- 1. Log in to My Oracle Support, and search for Patch ID **32677808** under the Patches and Updates tab.
- 2. Download the installer archive and copy (in Binary mode) to the download directory in the setup identified for OFS Performance Analytics Pack (OFS PFT Pack) installation.
- 3. Download the following Erwin Data Models from My Oracle Support:
  - OFS Enterprise Financial Performance Analytics (OFS EFPA) erwin data model: Patch ID **33762686**
  - OFS Institutional Performance Analytics (OFS IPA) Erwin data model Patch ID
     **33688756**



OFS Retail Performance Analytics (OFS RPA) erwin data model: Patch ID 33688768

You can search for the patch number in the Patches and Updates tab and download it.

#### Note:

Data model patches are now released at the granularity of each application. This is in contrast to the strategy followed for OFS PFT Applications Pack 8.0.x releases, where data model patches were only released at the pack level. Customers must download the data models as per the application licenses they hold and merge with the custom data model.

- The installer will only upload the data model of the selected applications. Data models of the unselected or unlicensed applications will not be uploaded, that is data model upload is skipped for the unselected or unlicensed applications.
- The installer will only execute the installer scripts of the selected applications. Scripts of the unselected or unlicensed applications will not be executed and are skipped.
- If all applications in the pack are selected, then the installer handles both the data model upload and the installation scripts execution.

#### 5.7.2 Prerequisites for Installation

Before beginning the installation, ensure that:

- You have executed the .profile file.
- Apex 21.1 and ORDS 21.1.3.153.1102 Software Installation to Database.
- Ensure that you have installed Python 3.9.4 and the libraries required as per the Tech Matrix.

#### 5.7.2.1 Apex 21.1 and ORDS 21.1.3.153.1102 Software Installation to Database

To install Apex 21.1 and ORDS 21.1.3.153.1102 software, follow these steps:

- **1.** Ensure that Apex 21.1 is installed.
  - a. Download the APEX 21.1 software from the following link: Oracle APEX

b. Installation Guide from the following link: Oracle APEX Installation Guide

- 2. Install ORDS.
  - a. Download the ORDS 21.1.3.153.1102 software from the following link: Oracle REST Data Services

b. Installation Guide Oracle REST Data Services Installation Guide

#### 5.7.2.1.1 Mandatory Steps during ORDS Installation

The following are the mandatory steps to follow while installing the ORDS:



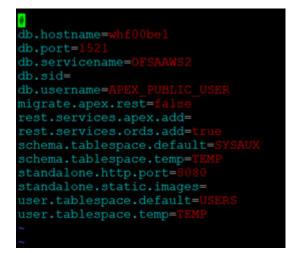
Unzip the ORDS distribution as follows:

cd /scratch/<user>/ORDS

unzip ords-21.1.3.153.1102.zip

- 1. Make a directory to hold the configuration under the ORDS zip kit path. mkdir -p /scratch/<user>/ORDS/conf
- 2. Edit the following details in the ords/params/ords\_params.properties file provided with the ORDS software such as hostname, port, and servicename.

Figure 5-1 ords\_params.properties File



**3.** Use the ords.war file to specify the configuration directory using the following command.

java -jar ords.war configdir /scratch/<user>/ORDS/conf

- 4. Configure ORDS using the following command. java -jar ords.war
- Database connection and URL mapping ORDS commands. Ensure that ofsaa is the database connection name. Run the following command.

java -jar ords.war setup --database ofsaa

Create a URL mapping to the new database connection by running the following command.
 STAVA HOME (bin (igua giar orde war man-ur) geture base-path (offee)

```
$JAVA_HOME/bin/java -jar ords.war map-url --type base-path /ofsaa
ofsaa
```

7. Copy the Apex images from its Apex installer Kit extract to webapps path(deployment location in server): mkdir \$CATALINA HOME/webapps/i/

```
cp -R /scratch/<user>/Apex/apex/images/* $CATALINA_HOME/webapps/i/
```

- 8. Deploy ORDS on server like Tomcat or WebLogic.
  - If it is Tomcat configure server.xml with ords context\_name.
  - In WebLogic deploy and create the datasource for ords as well.

For deploying on WebLogic server, follow these steps:



a. In the setup where apex images are present run below command which will generate i.war.

jar -cvf i.war -C apex/images

- b. Move the configuration folder of ORDS setup to the WebLogic host location.
- c. Create a folder at the deployed location ords.ear.
- d. Create ords.war folder in the ords.ear folder and place ords.war in it.
- e. Inflate the ords.war file using the command: jar -xvf ords.war
- f. Update the web.xml file in ords.war/WEBINF/ to give config.dir path.
- g. Delete the ords.war file in ords.war folder.
- h. Create a folder at the deployed location i.ear.
- i. Create i.war folder in the i.ear folder and place i.war in it.
- j. Inflate the i.war file using command: jar -xvf i.war
- k. Delete the i.war file in the i.war folder.
- I. Navigate to the WebLogic console and then deploy i.war and ords.war.
- 9. Check the conf path (/scratch/<user>/ORDS/conf) in the web.xml file of ords if it is correctly configured. This path holds the configurations for ords. <deployed path>/ords/WEB-INF/web.xml

#### Note:

CORS filter needs to be enabled in ords to avoid CORS-related vulnerabilities.

- 10. This filter to be added to the web.xml file at <deployed path>/ords/WEB-INF/web.xml.
- **11**. Start the Servers.

#### 5.7.2.1.2 ORDS Limitation for Web Sphere

ORDS has a limitation if the Web Server used is WebSphere.

If you are using the WebSphere, then follow these steps:

- 1. Deploy the Apex images and ORDS in Tomcat.
- Navigate to \$FIC\_HOME/ficweb/webroot/dashboard, edit the file launchUIApp.html. Make changes in the variable var host with the servername and port number where the ORDS is deployed. For example: var host =" whf00pkx:9080"; See the following code snippet:

You will be redirected to the page in a new window. Click to <a id="link" target="\_blank" href="abc">launch the page</a>.

<script>

```
var app id=getUrlParameter('uiAppId');
```

```
var user id=getUrlParameter('userId');
```

```
var infodom=getUrlParameter('dsn');
```



```
var locale=getUrlParameter('locale');
```

var host ="EDIT THIS PART";

- 3. Take a backup of the ear and war file from <code>\$FIC\_HOME/ficweb</code>.
- 4. After making changes run the ant.sh file to generate the ear and war file.
- 5. Deploy the ear file on the WebSphere and run the application.

### 5.7.3 Compatibility Matrix

The following table lists the applications or app-combinations that must not be installed on a single infodom (pack-on-pack scenario).

#### Table 5-4 Compatibility Matrix

| If you are installing | Do not install                   |
|-----------------------|----------------------------------|
| OFS_PFT_PACK          | OFS_PFT_INS_PACK and OFS_BD_PACK |

#### 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.

For example, If you are upgrading the OFS Profitability Applications Pack (OFS PFT Pack) to release v8.1.2.0.0, you must upgrade the other packs (ALM, IFRS, and so on) installed in the same environment to release v8.1.2.0.0, to ensure successful deployment.

### 5.7.4 Pre-installation Steps for OFS EFPA Application

Before installing the applications pack, do the following:

- **1.** Take Backup of the table FCT\_MGMT\_REPORTING.
- 2. Update the FCT MGMT REPORTING.N COUNTRY SKEY parameter to NULL.



## 6 Installation

This section provides detailed steps to install the OFS Performance Analaytics Pack (OFS PFT Pack) Pack.

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

| SI. No. | Installation Activity  |
|---------|--|
| 1       | Extract the installer kit.   |
| 2       | Configure the OFS_PFT_PACK.xmlfile.  |
| 3       | Configure the OFS_PFT_SCHEMA_IN.xml file.  |
| 4       | Execute the Schema Creator Utility in Offline,<br>Online, or TCPS modes and verify the log file. |
| 5       | Configure the OFSAAI_InstallConfig.xmlfile.  |
| 6       | Configure the Silent.propsfile.  |
| 7       | Trigger the application installation.  |

Table 6-1 Installation Checklist

## 6.1 Extract the Software

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

 If you already have an unzip utility to extract the contents of the downloaded archive, skip this step. 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. Uncompress the unzip installer file with the command:

```
uncompress unzip_<os>.Z
```

#### Note:

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

 Assign 751 permission to the file using the following command: chmod 751 unzip <OS>

For example: chmod 751 unzip sparc

 Extract the contents of the OFS Performance Analaytics Pack (OFS PFT Pack) Release 8.1.2.0.0 installer archive file in the download directory using the following command: unzip OFS PFT PACK.zip



 Navigate to the download directory and assign 750 permission to the installer directory using the following command: chmod -R 750 OFS PFT Pack

## 6.2 Configure the OFS\_PFT\_PACK.xml File

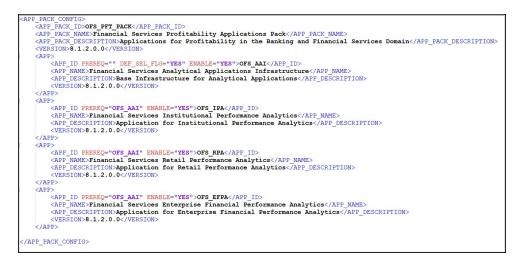
The OFS\_PFT\_PACK.xml file contains details on the various products that are packaged in the OFS Performance Analytics Pack (OFS PFT Pack).

The OFS\_PFT\_PACK.xml file has details of the products that are packaged in the OFS Performance Analytics Pack (OFS PFT Pack). This section provides information about the tags and parameters available in this file and the values you must update before installing the OFS Performance Analytics Pack (OFS PFT Pack). Enable licenses as per your Service Level Agreement (SLA).

To configure the OFS PFT PACK.xml file, follow these steps:

- 1. Navigate to the OFS PFT PACK/conf directory.
- 2. Open the OFS PFT PACK.xml file in a text editor.





3. Configure the OFS PFT PACK.xml file as mentioned in the following table.

| Table 6-2 | OFT_ | PFT_ | PACK.xml | File | Parameters |
|-----------|------|------|----------|------|------------|
|-----------|------|------|----------|------|------------|

| Tag Name and<br>Attribute Name | Description                           | Mandatory (Y or N) | Comments   |
|--------------------------------|---------------------------------------|--------------------|--|
| APP_PACK_ID                    | Unique Application<br>Pack Identifier | Y                  | Unique Seeded<br>Value. Do not modify<br>this value. |
| IS_OPT_INSTALL<br>VALUE="TRUE" | Unique Application<br>Entry           | Y                  | Unique Seeded<br>Value. Do not modify<br>this value. |
| APP_PACK_NAME                  | Unique Application<br>Pack Name       | Y                  | Unique Seeded<br>Value. Do not modify<br>this value. |



| APP_PACK_DESCRI<br>PTION | Unique Application<br>Pack Description | Y   | Unique Seeded<br>Value. Do not modify<br>this value.   |
|--------------------------|--|-----|--|
| VERSION                  | Unique release<br>version              | Y   | Unique Seeded<br>Value. Do not modify<br>this value.   |
| APP                      | Unique Application<br>Entries          | Y   | Unique Seeded<br>Value. Do not modify<br>this value.   |
| APP_ID                   | Unique Application<br>Identifier       | Y   | Unique Seeded<br>Value. Do not modify<br>this value.   |
| APP_ID/ PREREQ           | Prerequisite<br>Application or         | Υ   | Unique Seeded<br>Value.  |
|                          | Product                                |     | For most<br>applications, the<br>prerequisite that is<br>set is OFS AAAI. For<br>all other applications,<br>the default<br>Application ID is set<br>to none. |
|                          |  |     | You can set it for the<br>applications you want<br>to install.   |
|                          |  |     | Do not modify this value.  |
| APP_ID/<br>DEF_SEL_FLAG  | Default Selected Flag                  | ] Y | In all Application<br>Packs, Infrastructure<br>would have this value<br>set to YES.  |
|                          |  |     | Do not modify this value.  |

#### Table 6-2 (Cont.) OFT\_PFT\_PACK.xml File Parameters



| APP_ID/ ENABLE  | Enable Application or<br>Product      | Υ | <ul> <li>Default YES<br/>forInfrastructure</li> <li>NO forothers</li> <li>Set this attribute</li> <li>value to YES agains</li> <li>every APP_ID which<br/>is licensed and mustic be enabled for use.</li> <li>NOTE: The<br/>Application/Product<br/>cannot be disabled<br/>once enabled.</li> <li>Only Applications/<br/>Products which are<br/>enabled are installe<br/>in order to enable<br/>other licensed<br/>Applications/<br/>Products, you need<br/>to reinstall by making<br/>the flag as Y for the<br/>App_ID. However, in<br/>case of reinstallation<br/>to enable the other<br/>Applications/<br/>Products, execution</li> </ul> |
|-----------------|---------------------------------------|---|--|
|                 |                                       |   | of the schema<br>creation utility must<br>be skipped if it does<br>not include any<br>additional sandboxe<br>to be created.  |
| APP_NAME        | Unique Application or<br>Product Name | Y | Unique Seeded<br>Value. Do not modit<br>this value.  |
| APP_DESCRIPTION | Unique Application or<br>Product Name | Y | Unique Seeded<br>Value. Do not modit<br>this value.  |
| VERSION         | Unique release<br>version             | Y | Unique Seeded<br>Value. Do not modif<br>this value.  |

#### Table 6-2 (Cont.) OFT\_PFT\_PACK.xml File Parameters

4. Save and close the file.

## 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

To configure the Schema Creator Utility, ensure that you obtain the following details:

- Oracle User ID and Password with SYSDBA privileges.
- JDBC Connection URL for RAC or Non-RAC database.
- The HOSTNAME and IP of the server on which OFSAA is being installed.

#### 6.3.1.1 Configure the OFS\_PFT\_SCHEMA\_IN.xml File

This section describes how to create database schemas, objects within schemas, and assign appropriate grants. Specify the database schemas required for the installation in the OFS\_PFT\_SCHEMA\_IN.xml. Update the required values in this file before executing the Schema Creator Utility.

To configure the OFS PFT SCHEMA IN.xml file, follow these steps:

- 1. Log in to the system as a non-root user.
- 2. Navigate to the OFS PFT PACK/schema creator/conf directory.
- 3. Edit the OFS\_PFT\_SCHEMA\_IN.xml file using a text editor and configure the values as mentioned in the following table.

#### Figure 6-2 Sample OFS\_PFT\_SCHEMA\_IN.xml File





| Tag Name and<br>Attribute Name        | Description   | Mandatory (Y<br>or N) | Default Value<br>or Permissible<br>Value       | Comments   |
|---------------------------------------|---|-----------------------|--|--|
| <app_pack_id<br>&gt;</app_pack_id<br> | Seeded unique<br>ID for the OFS<br>Application<br>Pack. | Y                     | Seeded   | Do not modify<br>this value.   |
| <is_tcps></is_tcps>                   | Enter if the<br>TCPS<br>configuration is<br>required.   | Y                     | Seeded, with<br>FALSE as the<br>default value. | Modify this to<br>TRUE if you<br>require the<br>installer to<br>uptake the<br>configuration. |

### Table 6-3 OFS\_PFT\_SCHEMA\_IN.xml file (APPPACKSCHEMA Parameters)



| Tag Name and<br>Attribute Name | Description  | Mandatory (Y<br>or N) | Default Value<br>or Permissible<br>Value  | Comments   |
|--------------------------------|--|-----------------------|---|--|
| <jdbc_url></jdbc_url>          | Enter the JDBC<br>URL.<br>You can enter<br>the RAC/ NON-<br>RAC<br>enabled<br>database<br>connectivity<br>URL. | Y                     | Example:<br>jdbc:oracle:thin:<br>@ < DBSERVER<br>IP/ HOST/<br>IP>: <port>:<si<br>D&gt;<br/>or<br/>jdbc:oracle:thin:<br/>@/[HOS T]<br/>[:PORT]/<br/>SERVICE<br/>or<br/>jdbc:oracle:thin:<br/>@ (DESCRI<br/>PTION=(ADDRES<br/>S=(PROT<br/>OCOL=TCP)<br/>(HOST=[HO<br/>ST])<br/>(port=[PORT]))<br/>(ADD<br/>RESS=(PROTO<br/>COL=TCP)<br/>(HOST=[HOST])<br/>(PORT=[PORT]))<br/>(ADD<br/>RESS=(PROTO<br/>COL=TCP)<br/>(HOST=[HOST])<br/>(PORT=[PORT])<br/>))(LOAD_<br/>BALANCE=yes)<br/>(CONNECT_<br/>DATA=(SERVIC<br/>E_<br/>NAME=[SERVIC<br/>E])))<br/>For example:<br/>jdbc:oracle:thin:<br/>@//<br/>dbshost.server.co<br/>m:1521/scan-1<br/>or<br/>jdbc:oracle:thin:<br/>@//<br/>dbshost.server.co<br/>m:1521/scan-1<br/>or<br/>jdbc:oracle:thin:<br/>@//</si<br></port> | Ensure that you<br>add an entry<br>(with SID/<br>SERVICE<br>NAME) in the<br>thsnames.ora<br>file on the<br>OFSAA server.<br>The entry must<br>match the SID/<br>SERVICE NAM<br>used in the<br>JDBC URL.<br>Ensure that you<br>have configured<br>a. The correct<br>Oracle<br>Wallet with<br>the<br>credentials<br>for stored<br>Sys, Config<br>and Atomic<br>Users.<br>b. The JDBC<br>URL<br>asfollows:<br>jdbc:oracle:thin:<br>@<br>For more<br>information on<br>how to configured<br>Oracle Wallets<br>for OFSAA<br>Installation and<br>Data Sources,<br>see the OFS<br>Analytical<br>ApplicationsInfr<br>structure<br>Administration<br>Guide. |

# Table 6-3 (Cont.) OFS\_PFT\_SCHEMA\_IN.xml file (APPPACKSCHEMA Parameters)



| Tag Name and<br>Attribute Name                       | Description   | Mandatory (Y<br>or N) | Default Value<br>or Permissible<br>Value  | Comments  |
|--|---|-----------------------|---|---|
|  |   |                       | LIST=(ADDRES<br>S=(PROT<br>OCOL=TCP)<br>(HOST=dbho  |   |
|  |   |                       | st1.server.com)<br>(port=1521)  |   |
|  |   |                       | )<br>(ADDRESS=(PR<br>OTOCO  |   |
|  |   |                       | L=TCP)<br>(HOST=dbhost2.<br>s erver.com)<br>(PORT=1521))<br>(LOAD_<br>BALANCE=yes)<br>(FAILOVER=yes)<br>(FAILOVER=yes)))(CONNECT_<br>DATA=(SERVIC<br>E_<br>NAME=service1)<br>)) |   |
| <jdbc_driver<br>&gt;</jdbc_driver<br>                | The name of the driver is seeded.   | Y                     | Example:<br>oracle.jdbc.driver<br>.OracleDriver   | Only JDBC Thin<br>Driver is<br>supported. Do<br>not modify this<br>value. |
| <host></host>  | Enter the<br>Hostname/ IP<br>Address of the<br>system on which<br>you are installing<br>the OFSAA<br>components.                                    | Y                     | Host Name/IP<br>Address   |   |
| <setupinfo>/<br/>PREFIX_S<br/>CHEMA_NAME</setupinfo> | Identifies<br>whether the<br>value specifiedin<br><setupinfo>/<br/>NAM<br/>E attribute must<br/>be prefixed to<br/>the schema<br/>name.</setupinfo> | Ν                     | YES or NO   | The default value is YES.   |

Table 6-3 (Cont.) OFS\_PFT\_SCHEMA\_IN.xml file (APPPACKSCHEMA Parameters)



| Tag Name and<br>Attribute Name                  | Description   | Mandatory (Y<br>or N) | Default Value<br>or Permissible<br>Value   | Comments   |
|---|---|-----------------------|--|--|
| <setupinfo>/<br/>NAME</setupinfo>               | Enter the<br>acronym for the<br>type of<br>implementation.<br>This information<br>is displayed in<br>the OFSAA<br>Home Page.<br>On executing the<br>schema creator<br>utility, this value<br>is prefixed with<br>each schema<br>name. For<br>example:<br>dev_ofsaaconf,<br>uat_ofsaatm. | Υ                     | Accepts strings<br>with a minimum<br>length of two<br>and a maximum<br>of four.<br>Example: DEV,<br>SIT, PROD  | This message<br>appears in the<br>OFSAA Landing<br>Page as,<br>"Connected To:<br>DEV".<br>The schemas<br>being created<br>get this prefix.<br>For example,<br>dev_nameconf,<br>uat_nameconf,<br>and so on. |
| <password>/<br/>DEFAULT*</password>             | Enter the<br>password if you<br>want to set a<br>default password<br>for all schemas.<br>You also must<br>set the<br>APPLYSAMEFO<br>RALL<br>attribute as Y to<br>apply the default<br>password for all<br>the schemas.  | Ν                     | The maximum<br>length allowed is<br>30 characters.<br>Special<br>characters are<br>not allowed.  | On successful<br>execution of the<br>utility, the<br>entered<br>password in the<br>OFS_PFT_SCH<br>EMA_IN.xml file<br>is nullified.   |
| <password>/<br/>APPLYSAMEFO<br/>RALL</password> | If you have<br>entered Y in the<br>APPLYSAMEFO<br>RALL<br>attribute and<br>also have<br>specified<br>individual<br>passwords for all<br>the schemas,<br>then the<br>specified<br>individual<br>passwords will<br>take<br>precedence.  | Υ                     | Default value: N<br>Permissible<br>value: Y or N<br>Enter Y if you<br>want to apply the<br>password<br>specified in the<br>DEFAULT<br>attribute for all<br>the schemas.<br>If you enter N,<br>provide<br>individual<br>passwords for all<br>schemas. | Setting this<br>attribute value is<br>mandatory if the<br>DEFAULT<br>attribute is set.   |

Table 6-3 (Cont.) OFS\_PFT\_SCHEMA\_IN.xml file (APPPACKSCHEMA Parameters)



| Tag Name and<br>Attribute Name | Description  | Mandatory (Y<br>or N) | Default Value<br>or Permissible<br>Value   | Comments   |  |
|--------------------------------|--|-----------------------|--|--|--|
| <schema>/<br/>TYPE</schema>    | The types of<br>schemas<br>supported in this<br>release are:   | Y                     | ATOMIC/<br>CONFIG/<br>SANDBOX/<br>ADDON  | Only one<br>CONFIG<br>schema can<br>exist in the file.   |  |
|                                | ATOMIC,<br>CONFIG,<br>SANDBOX, and<br>ADDON.<br>By default, the<br>schema types<br>are seeded<br>based on the<br>Application<br>Pack.    |                       | SANDBOX and<br>ADDON<br>schemas do not<br>apply to<br>OFS_PFT_PAC<br>K.                                    | Do not edit this<br>attribute value.<br>This schema<br>identifies as the<br>CONFIGURATIO<br>N schema that<br>holds the<br>OFSAA setup<br>details and other<br>Metadata<br>information. |  |
|                                |  |                       |  | Multiple<br>ATOMIC/<br>SANDBOX/<br>ADDON<br>schemas can<br>exist in the file.  |  |
| <schema>/<br/>NAME</schema>    | The schemas'<br>names are<br>seeded based<br>on the<br>Application Pack<br>by default.<br>You can edit the                               | Y                     | The permissible<br>length is 15<br>characters and<br>only<br>alphanumeric<br>characters are<br>allowed. No | The<br>SETUPOINFO/<br>NAME attribute<br>value is prefixed<br>to the schema<br>name being<br>created.   |  |
|                                | schema names,<br>if required.<br>The Schema<br>Name will have a<br>prefix of the<br>SETUPINFO/<br>NAME attribute.<br>SCHEMA NAME<br>must |                       | ired.<br>chema<br>will have a<br>of the<br>PINFO/<br>attribute.  | special<br>characters are<br>allowed except<br>underscore  | For example, if a<br>name is set as<br>'ofsaatm' and<br>setupinfo as<br>'uat', then the<br>schema created<br>is 'uat_ofsaatm'.<br>NAME must be<br>the same where |
|                                | be the same for<br>all the ATOMIC<br>Schemas of the<br>applications<br>within an<br>Application<br>Pack.                                 |                       |  | APP_GRP=1 for<br>all SCHEMA<br>tags (not<br>applicable for<br>this Application).   |  |

Table 6-3 (Cont.) OFS\_PFT\_SCHEMA\_IN.xml file (APPPACKSCHEMA Parameters)



| Tag Name and<br>Attribute Name                | Description  | Mandatory (Y<br>or N) | Default Value<br>or Permissible<br>Value  | Comments  |
|---|--|-----------------------|---|---|
| <schema>/<br/>PASSWORD</schema>               | Enter the<br>password of the<br>schema to be<br>created.<br>If this attribute is<br>left blank, then<br>the password<br>specified in the<br><password>/<br/>DEFA<br/>ULT attribute is<br/>taken as the<br/>Schema<br/>Password.</password> | Ν                     | The maximum<br>length allowed is<br>30 characters.<br>Special<br>characters are<br>not allowed.           | It is mandatory<br>to enter the<br>password if you<br>have set the<br><password>/<br/>APPLYSAMEFO<br/>RALL attribute<br/>as N.</password> |
| <schema>/<br/>APP_ID</schema>                 | The Application<br>ID is seeded<br>based on the<br>Application.  | Y                     | Unique Seeded<br>Value  | Identifies the<br>Application/<br>Product for<br>which the<br>schema is being<br>created. Do not<br>modify this<br>attribute value.       |
| <schema>/<br/>DEFAULTTA<br/>BLESPACE</schema> | Enter the<br>available default<br>tablespace for<br>DB User.<br>If this attribute is<br>left blank, then<br>USERS is set as<br>the default<br>tablespace.  | Ν                     | Default value:<br>USERS<br>Permissible<br>value: Any<br>existing valid<br>tablespace<br>name.             | Modify this value<br>to associate any<br>valid tablespace<br>with the schema.   |
| <schema>/<br/>TEMPTABLE<br/>SPACE</schema>    | Enter the<br>available<br>temporary<br>tablespace for<br>DB User.<br>If this attribute is<br>left bank, TEMP<br>is set as the<br>default<br>tablespace.  | Ν                     | Default value:<br>TEMP<br>Permissible<br>value: Any<br>existing valid<br>temporary<br>tablespace<br>name. | Modify this value<br>to associate any<br>valid tablespace<br>with the schema.   |

Table 6-3 (Cont.) OFS\_PFT\_SCHEMA\_IN.xml file (APPPACKSCHEMA Parameters)



| Tag Name and<br>Attribute Name                | Description   | Mandatory (Y<br>or N) | Default Value<br>or Permissible<br>Value  | Comments  |
|---|---|-----------------------|---|---|
| <schema>/<br/>QUOTA</schema>                  | Enter the quota<br>to be set on the<br>DEFAULTTABLE<br>SPA<br>CE attribute for<br>the schema/<br>user. By default,<br>the quota size is<br>set to 500M.<br>Minimum: 500M<br>or Unlimited on | Ν                     | Example:<br>600M or 600m<br>20G or 20g<br>UNLIMITED or<br>unlimited                         | Modify this value<br>to grant the<br>specified quota<br>on the<br>mentioned<br>tablespace to<br>the user.           |
|   | default<br>Tablespace.  |                       |   |   |
| <schema>/<br/>INFODOM</schema>                | Enter the name<br>of the<br>Information<br>Domain to<br>associate this<br>schema.   | Ν                     | The permissible<br>length is 16<br>characters and<br>only<br>alphanumeric<br>characters are |   |
|   | The schema<br>creator utility<br>automatically<br>derives an<br>Information<br>Domain Name<br>based on the<br>Application Pack<br>if no value is<br>specified for this<br>attribute.        |                       | allowed. No<br>special<br>characters are<br>allowed.  |   |
| <adv_sec_op<br>TIONS&gt;/</adv_sec_op<br>     | Parent tag to<br>hold Advance<br>Security<br>Options.   | Ν                     | NA  | Uncomment the<br>tag and edit if<br>you want to add<br>security options.<br>For example,<br>TDE and Data<br>Redact. |
|   |   |                       |   | For details, see<br>the example<br>following the<br>rows.   |
| <adv_sec_op<br>TIONS&gt;/T DE</adv_sec_op<br> | Tag to enable/<br>disable TDE<br>feature.   | Ν                     | The default<br>value is FALSE.<br>To enable TDE,<br>set this value to<br>TRUE.              | Ensure this tag<br>is not<br>commented if<br>you have<br>uncommented<br><adv_sec_op<br>TIONS&gt;.</adv_sec_op<br>   |

# Table 6-3 (Cont.) OFS\_PFT\_SCHEMA\_IN.xml file (APPPACKSCHEMA Parameters)



| Tag Name and<br>Attribute Name  | Description  | Mandatory (Y<br>or N) | Default Value<br>or Permissible<br>Value  | Comments   |
|---|--|-----------------------|---|--|
| <adv_sec_op<br>TIONS&gt;/D<br/>ATA_REDACT</adv_sec_op<br>   | Tag to enable/<br>disable the Data<br>Redaction<br>feature.          | N                     | The default<br>value is FALSE.<br>To enable<br>DATA_REDACT,<br>set this value to<br>TRUE. | Ensure this tag<br>is not<br>commented if<br>you have<br>uncommented<<br>ADV_SEC_OPTI<br>ONS>.   |
| <tablespaces< td=""><td>Parent tag to<br/>hold<br/><tablespace><br/>elements</tablespace></td><td>Ν</td><td>NA</td><td>Uncomment the<br/>tag and edit only<br/>if tablespaces<br/>are to be created<br/>as part of the<br/>installation.<br/>For details, see<br/>the example that<br/>follows the table.<br/>When TDE is<br/>TRUE in<br/>ADV_SEC_OPTI<br/>ONS,</td></tablespaces<> | Parent tag to<br>hold<br><tablespace><br/>elements</tablespace>      | Ν                     | NA  | Uncomment the<br>tag and edit only<br>if tablespaces<br>are to be created<br>as part of the<br>installation.<br>For details, see<br>the example that<br>follows the table.<br>When TDE is<br>TRUE in<br>ADV_SEC_OPTI<br>ONS, |
|   |  |                       |   | it is mandatory<br>for the<br><tablespaces<br>&gt; tag to be<br/>present in the<br/>XML file.</tablespaces<br>   |
| <tablespace><br/>/NAME</tablespace>   | Logical Name of<br>the tablespace<br>to be created.                  | Y                     | OFSAA_CONF_<br>TBSP<br>OFSAA_DATA_T<br>BSP  | specified, must  |
|   |  |                       |   | "##NAME##"><br>attribute.<br>Note the ##<br>syntax.  |
| <tablespace><br/>/value</tablespace>  | Physical Name<br>of the<br>tablespace to be<br>created.              | Y                     | NA  | Value, if<br>specified, is the<br>actual name of<br>the<br>TABLESPACE.   |
| <tablespace><br/>/datafile</tablespace>   | Specifies the location of the data file on the server.               | Y                     | NA  | Enter the<br>absolute path of<br>the file to be<br>created.  |
| <tablespace><br/>/AUTOE XTEND</tablespace>  | Specifies if the tablespace must be extensible or have a hard limit. | Y                     | ON or OFF   | Set to ON to<br>ensure that the<br>tablespace does<br>not run out of<br>space when full.   |

# Table 6-3 (Cont.) OFS\_PFT\_SCHEMA\_IN.xml file (APPPACKSCHEMA Parameters)



| Tag Name and<br>Attribute Name          | Description  | Mandatory (Y<br>or N) | Default Value<br>or Permissible<br>Value | Comments   |
|---|--|-----------------------|--|--|
| <tablespace><br/>/ENCRYP T</tablespace> | Specifies if the<br>tablespace (or<br>tablespaces)<br>must be<br>encrypted using<br>TDE. | Y                     | ON or OFF                                | Set to ON to<br>ensure that the<br>tablespaces<br>when created<br>are encrypted<br>using TDE.<br><b>NOTE:</b><br>Encryption of<br>tablespaces<br>requires<br>enabling<br>Transparent<br>Data Encryption<br>(TDE) on the<br>Database<br>Server. |

Table 6-3 (Cont.) OFS\_PFT\_SCHEMA\_IN.xml file (APPPACKSCHEMA Parameters)

4. Save and close the file.

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="TRUE"/>
<OPTION NAME="DATA_REDACT" VALUE="FALSE"/>
</ADV_SEC_OPTIONS>
<TABLESPACE NAME="OFS_AAI_TBSP_1" VALUE="TS_USERS1" DATAFILE="/
scratch/oral2c/app/oracle/oradata/OFSPQA12CDB/ts_users1.dbf"
SIZE="500M" AUTOEXTEND="ON" ENCRYPT="ON" />
<TABLESPACE NAME="OFS_AAI_TBSP_2" VALUE="TS_USERS2" DATAFILE="/
scratch/oral2c/app/oracle/oradata/OFSPQA12CDB/ts_users2.dbf"
SIZE="500M" AUTOEXTEND="ON" ENCRYPT="ON" />
</TABLESPACE NAME="OFS_AAI_TBSP_2" VALUE="TS_USERS2" DATAFILE="/
scratch/oral2c/app/oracle/oradata/OFSPQA12CDB/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>
```



# 6.3.2 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\_PFT\_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. There can be only one CONFIG schema per OFSAA instance
- **ATOMIC**: This schema holds the data model entities. One ATOMIC schema is attached to one Information Domain. There can be multiple ATOMIC schemas per OFSAA Instance.

# 6.4 Execute the Schema Creator Utility

Depending on requirement, you must select the appropriate schema creator utility execution option from the following options:

- Execute the Schema Creator Utility in Offline Mode
- Execute the Schema Creator Utility in Online Mode
- Execute the Schema Creator Utility in TCPS Mode
- Execute the Schema Creator Utility while Installing Subsequent Applications Pack

## 6.4.1 Execute the Schema Creator Utility in Offline Mode

Choose the Offline Mode option if you do not have login credentials to the database with SYSDBA privileges. In this mode, the utility generates an SQL script with all the required DDLs for Users, Objects, and Grants. That script must be executed by the DBA on the appropriate database identified for OFSAA usage.

To execute the schema creator utility in the offline mode, you must have the following 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 OFS\_PFT\_PACK/schema\_creator/bin directory.



3. Execute the osc.sh file using the following command: ./osc.sh -o -s

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).

Enter Y to proceed.

- 4. Enter the DB Username with SELECT privileges.
- 5. Enter the User Password.

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/N).

6. 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/N). Enter Y to proceed.

#### Figure 6-3 Schema Creation in Offline Mode – Script Generation

|   | Generating Schema Creation Scripts Started  |
|---|---|
|   |   |
| Validating the dat fi<br>Successfully validated<br>Parming /acratch/ofea<br>Successfully connects | ion at /scratch/ofsaadb/0F3AA1<br>le OF5_AAA1_CF0.dat started<br>OF5_AAA1_CF0.dat file<br>adb/OF1AA2/cont/DynamicServices.am1<br>d to User - dev_conf1_URL - jdbc:oracle:thin:#ofsa220433:1531:SEDEADB<br>XX5_file/scratch/ofsaadb/OF3_AAA1_FXCK/schema_creator/cont/OF5_AAA1_SCHEMA_10.am1 |
| Successfully connec<br>NEDIADS  | on URLjdbo:orecle:thin:#ofss220423:1521:MEDIAD8<br>ted to User - sample URL - jdbc:orecle:thin:#ofss220423:1521:<br>essfully validated  |
| fou have chosen to<br>sa. Do you want to<br>/   | install this Application Pack on "ust_atm_anurag" ATOMIC sche<br>proceed? (Y/F)   |
| You have chosen to<br>ou want to proceed?<br>y  | install this Application Pack on INFODOM "of sessiinfol". Do $\gamma$ $(\gamma/N)$  |
|   |   |

 On successful execution of the schema creator utility, the console displays the following status message: Schema Creator executed successfully.

**Execute the file** scratch/ofsaaapp/OFS\_PFT\_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  $OFS\_PFT\_SCHEMA\_IN.xml$  file and repeat steps in this procedure to execute the utility. This regenerates the script with the correct information.



- 8. Navigate to the OFS PFT PACK/schema creator directory.
- 9. Log in to the database using credentials with SYSDBA privileges.
- 10. Execute the sysdba\_output\_scripts.sql file using the following command: @sysdba\_output\_scripts.sql

Alternatively, you can copy the sysdba\_output\_scripts.sql file and SQLScripts folder to
a remote server, and execute the sysdba\_output\_scripts.sql file after providing
appropriate execute permissions.

## 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 procedure, the OFS\_PFT\_SCHEMA\_OUTPUT.XML file is generated. Do not modify this file.

# 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".

To execute the utility in Online mode, follow these steps:

- 1. Log in to the system as a non-root user.
- 2. Execute the utility with -s option. For Example: ./osc.sh -s

The OFS PFT SCHEMA OUTPUT.xml file is successfully generated. Do not modify this file.

# 6.4.3 Execute the Schema Creator Utility in TCPS Mode

If you intend to run the OFS Performance Analytics Pack (OFS PFT Pack) Installer in TCPS mode, it is mandatory to execute the schema creator utility with -s option and in online mode.

## 6.4.3.1 Prerequisites

The following are the prerequisites for this configuration:

- 1. UNIX user credentials with which OFSAA was installed.
- UNIX user credentials with which Web Application Server (Oracle WebLogic (WLS)/ Apache Tomcat/ IBM WebSphere) was installed.
- 3. OFSAAI version should be 8.1.2.0.0 and later.
- Ensure OFSAA installed and deployed is having JAVA 8 (Java version must support Java unlimited cryptographic policy. Java version 1.8.0\_161+ supports unlimited cryptographic policy.)
- 5. Create Oracle Wallet on the OFSAA processing tier.



For information on Creating and Managing Oracle Wallet, see https:// blogs.oracle.com/dev2dev/ssl-connection-to-oracle-db-using-jdbc,-tlsv12,-jks-ororacle-wallets and https://blogs.oracle.com/weblogicserver/weblogic-jdbc-use-oforacle-wallet-for-ssl.

6. Configure the Oracle Wallet with trusted certificates between the database server with TCPS configured and the database client to enable communication through the SSL protocol.For example, all the database utils such as sqlplus, thsping, and sqlldr must work between the Client and the Server.

# 6.4.3.1.1 Configure OFSAA to Store Config Schema, Atomic Schema, and SysDBA Credentials with Oracle Wallet

To configure the OFSAA to store the Config and Atomic schema credentials with Oracle Wallet, follow these steps:

- 1. Log in as a UNIX user with the permission to modify the Oracle Wallet.
- 2. Execute the following command to configure Config Schema credentials. Enter the password to store the credentials in the Wallet when prompted.

\$ORACLE\_HOME/bin/mkstore -wrl <WALLET\_HOME> -createCredential -nologo CONFIG <CONFIG DATABASE USERNAME> <CONFIG DATABASE PASSWORD>

**3.** Execute the following command to configure the Atomic Schema credentials, Enter the password to store the credentials in the Wallet when prompted.

```
$ORACLE_HOME/bin/mkstore -wrl <WALLET_HOME> -createCredential -nologo
<ATOMICALIASNAME> <ATOMIC_DATABASE_USERNAME>
<ATOMIC DATABASE PASSWORD>
```

4. Configure SysDBA credentials. Execute the following command to configure SysDBA Schema credentials. Enter the password to store the credentials in the Wallet when prompted.

\$ORACLE\_HOME/bin/mkstore -wrl <WALLET\_HOME> -createCredential -nologo
SYS <SYS DATABASE USERNAME> <SYS DATABASE PASSWORD>

## Note:

ATOMICALIASNAME value is a TNS alias for Atomic Schema and must not contain underscores.

For example, if the Atomic Schema Name is PROD\_OFSAAATM, then the value for ATOMICALIASNAME must be entered as PRODOFSAAATM.

For more detailed information about configuring Wallet with OFSAA, see the Configuring OFSAA and various Web Application Servers with Oracle Wallet section in the OFS Analytical Applications Infrastructure Application Pack Administration and Configuration Guide Release 8.1.x.



# 6.4.4 Execute the Schema Creator Utility when Installing the Subsequent Applications Pack

When executing the Schema Creator Utility during the installation of a subsequent application pack, you can choose to install the pack either on the same Information Domain/Atomic Schema of the existing application pack or on a new Information Domain/Atomic Schema. You can execute the Schema Creator Utility either in the Online or Offline modes.

To execute the Schema Creator Utility while creating the schemas for a subsequent application pack, follow these steps:

- 1. Edit the OFS\_PFT\_PACK/schema\_creator/conf/OFS\_PFT\_SCHEMA\_IN.xml file in a text editor. See the Configure the OFS\_PFT\_SCHEMA\_IN.xml File section for values you must modify in the XML file.
- 2. Execute the utility. For Example: ./osc.sh -s



#### Figure 6-4 Schema Creator Utility

```
Validating Connection URL ... jdbc:oracle:thin:@ofss220623:1521:MEDIADB
Successfully connected to User - sample URL - jdbc:cracle:thin:@ofss220623:1521:
MEDIADB
Connection URL successfully validated ...
You have chosen to install this Application Pack on "uat atm anurag" ATCMIC sche
ma. Do you want to proceed? (Y/N)
You have chosen to install this Application Pack on INFODOM "ofsaaaiinfol". Do y
ou want to proceed? (Y/N)
Generating TableSpace creation Scripts started...
Generating TableSpace creation Scripts completed...
Generating Schema creation scripts started ...
CONFIG User uat conf anurag creation script generated successfully on Default Ta
bleSpace : USERS on Temp TableSpace : TEMP
Generation of grants creation scripts started ...
Generation of grants creation scripts completed...
Scripts Generation for CONFIG schema started ...
Scripts Generation for CONFIG schema completed ...
User uat_conf_anurag details updated into the dbmaster table
User uat atm anurag details updated into the dbmaster table
User uat atm anurag creation script generated successfully on Default TableSpace
: USERS on Temp TableSpace : TEMP
User uat_atm_anurag creation is skipping as the user is already created.
Generating Schema creation scripts completed...
Generating Roles creation Scripts started ...
Generating Roles creation Scripts completed ...
Generating Grants creation scripts started...
Generating Grants creation scripts completed...
                          Generating Schema Creation Scripts Completed
Schema Creator executed Successfully.Please execute /scratch/cfsaaapp/OFS AAAI P
ACK/schema_creator/sysdba_output_scripts.sql before proceeding with the installa
ion.
```

## 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. Select the Atomic User on which you want to install the application pack.



#### Figure 6-5 Select the Atomic User

| Validating the dat file OFS FFT_CFG.dat started<br>The path is:/scratch/bcuser/kit/OFS_FFT_PACK/schema_creator/conf<br>Sucessfully validated OFS_FFT_CFG.dat file<br>Validating the input XML file/scratch/bcuser/kit/OFS_FFT_PACK/schema_creator/conf/OFS_FFT_SCHEMA_IN.xml<br>Input XML file validated successfully. |
|--|
| Validating Connection URLjdbc:oracle:thin:@whf00atu.in.oracle.com:1521/ORCLPDB1  |
| Connection jdbc:oracle:thin:@whf00atu.in.oracle.com:1521/ORCLPDB1  |
| Successfully connected to User - sys as sysdba URL - jdbc:oracle:thin:@whf00atu.in.oracle.com:1521/ORCLPDB1  |
| Connection URL successfully validated  |
| localhost name - whf00ots IPAddress - 10.40.158.56   |
| INT LB HOST not there in schema  |
| IS HYBRID not there in schema  |
| ADV SEC TAG not there in schema  |
| Parsing file: /scratch/bcuser/kit/OFS FFT PACK/schema creator//conf/OFS FFT PACK.xml   |
| Checking: app: OFS AAI schema name: TZ BCCONFIG81T schema type: CONFIG   |
| Checking: app: OFS FFT schema name: T2 BCATOMIC81T schema type: ATOMIC   |
| You have chosen to install this Application Pack on "t2 bcatomic81t" ATOMIC schema. Do you want to proceed? (Y/N)  |
| Y  |
| You have chosen to install this Application Pack on INFODOM "bcinfo". Do you want to proceed? (Y/N) Y  |

On successful execution of the 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\_PFT\_PACK/schema\_creator/logs directory for the execution status.
- **b.** See the sysdba\_output\_scripts.log file for execution status if executed in offline mode. This 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:

- Navigate to the OFS\_AAAI\_PACK/OFS\_AAI/conf/ directory.
- Open the OFSAAI\_InstallConfig.xml file in a text editor.
- 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 Table 19: OFSAA Infrastructure Installation Tasks and Descriptions

| InteractionVariable Name       | Significance and Expected Value | Mandatory |
|--------------------------------|---------------------------------|-----------|
| <layer name="GENERAL"></layer> |                                 |           |

InteractionGroup name="WebServerType"



| InteractionVariable Name | Significance and Expected Value  | Mandatory |
|--------------------------|--|-----------|
| WEBAPPSERVERTYPE         | Identifies the web application<br>server on which the OFSAA<br>Infrastructure web components<br>are deployed.              | Yes       |
|                          | Set the following numeric value<br>depending on the type of web<br>application server:                                     |           |
|                          | <ul> <li>Apache Tomcat = 1</li> <li>IBM WebSphere Application<br/>Server = 2</li> </ul>                                    |           |
|                          | Oracle WebLogic Server = 3   |           |
|                          | <pre>For example,<br/><interactionvariablename=<br>"WEBAPPSERVERTYPE"&gt;3<!--</pre--></interactionvariablename=<br></pre> |           |
|                          | InteractionVari able>  |           |

InteractionGroup name="OFSAA Infrastructure Server Details"



InteractionVariable Name DBSERVER_IP	Significance and Expe Value	ected	Mandatory
	Identifies the host name address of the system o the Database Engine is	n which	Yes
		No No	
		te:	
		For RA	
		С	
		Dat aba	
		se,	
		the	
		val ue	
		mu	
		st	
		be NA.	
		For	
		exa	
		mpl e,	
		€, <i< td=""><td></td></i<>	
		nt	
		er	
		ac ti	
		on	
		Va	
		ri ab	
		le	
		na	
		me	
		=" DB	
		SE	
		RV	
		ER	
		_ IP	
		">	
		14	
		.1 5.	
		16	
		.1	



InteractionVariable Name	Significance and Expected Value	Mandatory
	7<	
	/	
	In	
	te	
	ra	
	ct	
	io	
	nV	
	ar	
	ia	
	bl	
	e>	
	or	

<InteractionVariable name="DBSERVER\_ IP">dbhost.server.com</ InteractionVariable>

InteractionGroup name="Database Details"



InteractionVariable Name	Significance and Expected Value	Mandatory
ORACLE_SID/SERVICE_NAME	Identifies the Oracle DB Instance SID or SERVICE_NAME No te: Th e	Yes
	Ora cle _SI D val ue mu st be exa ctly the sa me as	
	it is me ntio ned in JD BC U RL.	
	For example,	

Table 6-4 (Cont.) Table 19: OFSAA Infrastructure Installation Tasks and Descriptio
--

For example, <InteractionVariable name="ORACLE\_SID/ SERVICE\_NAME">ofsaser</ InteractionVariable>

Significance and Expected Value	Yes
<pre>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"&gt;"&gt;/oradata6/revwb7/ oracle <!--<br-->InteractionVariable&gt;</interactionvariable </version></pre>	
No te: Se e Har dw are and Sof twa re Re quir em ent s to ide ntif y the cor rect ojd bc< ver sio n>.j ar file ver sio	
	exists. This is typically the \$ORACLE_HOME/jdbc/lib directory. For example, <interactionvariable name="ABS_DRIVER_ PATH"&gt;"&gt;/oradata6/revwb7/ oracle <!--<br-->InteractionVariable&gt; NO te: Se e Har dw are and Sof twa re Re quir em ent s to ide ntif y the cor rect ojd bc&lt; ver sio n&gt;.j ar file ver</interactionvariable 

Table 6-4 (C	Cont.) Table 19: OFSAA lı	nfrastructure Installation	Tasks and Descriptions
--------------	---------------------------	----------------------------	------------------------

InteractionGroup name="OLAP Detail



InteractionVariable Name	onVariable Name Significance and Expected Value		Mandatory	
OLAP_SERVER_ IMPLEMENTATION	Identifies whether th Infrastructure OLAP must be configured. on whether you inter OLAP feature. The f numeric value must depending on the ch • YES: 1 • NO: 0	component It depends nd to use the ollowing be set	No	
		No 💦		
		te:		
		lf the		
		val		
		ue		
		for		
		OL		
		AP		
		_S ER		
		VE		
		R_		
		IM		
		PL		
		EM		
		EN		
		TA TI		
		I I ON		
		is		
		set		
		to		
		1, tho		
		the inst		
		alle		
		r		
		che		
		cks if		
		the		
		foll		
		owi		
		ng		
		env iron		
		me		
		nt		



InteractionVariable Name	Significance and Expected Value	Mandatory
	vari abl es are set in the .p ro fi le file:	
InteractionGroup name="S SFTP_ENABLE	<ul> <li>ARBORPATH</li> <li>HYPERION_HOME</li> <li>ESSBASEPATH</li> </ul> FTP Details" <ul> <li>Identifies if the SFTP (Secure File Transfer Protocol) feature is to be enabled. The following numeric value must be set depending on the choice:</li> <li>SFTP: 1</li> <li>FTP: 0</li> </ul>	Yes
Tr us mi FT	ote: e default value for SFTP_ENABLE is 1 ed. Oracle recommends using SFTP pre secure. However, you can ignore 'P by setting SFTP_ENABLE to 0. You im the OFSAAI administration interfa	instead of FTP because SFTP is this recommendation and use can change this selection later
Set SFTP_ENABLE to -1 to co OFSAAI server.	nfigure ftpshare and weblocal path as	a local path mounted for the
FILE_TRANSFER_PORT	Identifies the port used for the	Yes

file transfer service. The default value specified is 22 (SFTP). Specify the value as 21 or any

other PORT value if the value for  $\texttt{SFTP\_ENABLE} \text{ is } \boldsymbol{0}.$ 

For example, <InteractionVariable name="FILE TRANSFER PORT">21</ InteractionVariable>

InteractionVariable Name	Significance and Expected Value	Mandatory
InteractionGroup name="Loca	ale Detail"	
LOCALE	Identifies the locale information to be used during the installation. This release of the OFSAA Infrastructure supports only US English.	Yes
	For example, <interactionvariable name="LOCALE"&gt;en_US<!--<br-->InteractionVariable&gt;</interactionvariable 	

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 Yes 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>



InteractionVariable Name	Significance and Expected Value	Mandatory
WEB_SERVER_IP	Identifies the HTTP Server IP/ Host name or Web application server IP/ Host name, to be used to access the UI. This IP is typically the HTTP Server IP.	No
	If a separate HTTP Server is not available, then the value must be Web application server IP/Host name.	
	For example, <interactionvariable name="WEB_SERVER_ IP"&gt;10.11.12.13<!--<br-->InteractionVariable&gt;</interactionvariable 	
	<pre>or <interactionvariable name="WEB_SERVER_ IP">myweb.server.com<!-- InteractionVariable--></interactionvariable></pre>	
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.	No
	Warning: The installer will not accept the port value as:	
	<ul> <li>80, if the HTTPS_ENABLE variable is 1</li> <li>443, if the HTTPS_ENABLE</li> </ul>	
	variable is 0 For example, <interactionvariable< td=""><td></td></interactionvariable<>	
	name="WEB_ SERVER_PORT">80 <br InteractionVariable>	



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:	Yes
	<scheme>://<host>:<port>/ <context-name>/ login.jsp</context-name></port></host></scheme>	
	The following is an example:	
	https://myweb:443/ ofsaadev/login.jsp	
	For example, <interactionvariable name="CONTEXT_ NAME"&gt;ofsaadev<!--<br-->InteractionVariable&gt;</interactionvariable 	



InteractionVariable Name	Significance and Expected Value	Yes
WEBAPP_CONTEXT_PATH		
	For We bLo gic, the val ue spe cifi ed for this attri but e is ign ore d	

InteractionVariable Name	Significance and Expected Value	Mandatory	
	and the val ue pro vid ed aga inst the attri but e WE BL OG IC M BL OG IC IC M ME is con sid ere d.		



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.	Yes
	No te:	
	Le: Dur ing a clu ster ed dep loy me nt, ens ure that this pat h and the dire ctor y are the sa me on all the nod es.	

InteractionGroup name="Weblogic Setup Details"

InteractionVariable Name	Significance and Expected Value	Mandatory	
WEBLOGIC_DOMAIN_HOME	Identifies the WebLogic Domain	Yes.	
	Home.	Specify the value only if	
	<pre>For example,</pre>	WEBAPPSERVERTYPE is set as 3 (WebLogic)	

InteractionGroup name="OFSAAI FTP Details"



InteractionVariable Name	Significance and Expected Value	Mandatory
OFSAAI_FTPSHARE_PATH	Identifies the absolute path of the directory that is identified as the file system stage area.	Yes
	No te: Th e dire ctor y mu st exi st on the sa me sys tem on whi ch the Sa me sys tem on whi ch the Sa A A Infr astr uct ure is bei ng inst alle d (ca n be on a sep ara te mo unt	



InteractionVariable Name	Significance and Expected Value	Mandatory
	The user mentioned in the APP_SFTP_USER_ID parameter in the following example must have RWX permission on the directory.	
	<pre>For example,</pre>	
OFSAAI_SFTP_USER_ID	Identifies the user who has RWX permissions on the directory identified for the parameter APP_FTPSHARE_PATH.	Yes
OFSAAI_SFTP_PRIVATE_KEY	Identifies the SFTP private key for OFSAAI.	No
	For example,	
	<pre><interactionvariable name="OFSAAI_SFTP_PRIVATE _KEY">/home/ofsaapp/.ssh/ id_rsa<!-- InteractionVariable--></interactionvariable></pre>	
	By default, the value is <b>NA</b> , which indicates that, for authentication, you are prompted to enter the password for the user <ofsaai_sftp_user_ ID&gt;.</ofsaai_sftp_user_ 	
	For more information on how to generate an SFTP Private key, see the Set Up SFTP Private Key section.	
OFSAAI_SFTP_PASSPHRASE	Identifies the passphrase for the SFTP private key for OFSAAI.	No
	For example,	
	InteractionVariable name="OFSAAI_SFTP_PASSPHR ASE">enter a pass phrase here <br InteractionVariable>	
	By default, the value is NA.	
	If the OFSAAI_SFTP_PRIVATE_KEY value is given and the OFSAAI_SFTP_PASSPHRASE	
	value is <b>NA</b> , then the passphrase is identified as empty.	

InteractionVariable Name	Significance and Expected Value	Mandatory
InteractionGroup name="Hive D	etails"	
The default value set for the intera	ction variables under this group is	NA.
Note:		
I he fol	lowing values are required only for	Hive Configuration.
HIVE_SERVER_PORT	Identifies the port used for the file transfer service. The default value is 22 (SFTP). To use this port for FTP, set this value to <b>21</b> . For example,	Yes
	<pre><interactionvariable name="HIVE_SERVER_PORT">2 2</interactionvariable></pre>	
HIVE_SERVER_FTPDRIVE	Identifies the absolute path to the directory identified as file system stage area of the HIVE server.	Yes
	<pre>For example, <interactionvariable name="HIVE_SERVER_FTPDRIV E"&gt;/scratch/ofsaa/ ftpshare<!--<br-->InteractionVariable&gt;</interactionvariable </pre>	
HIVE_SERVER_FTP_USERID	Identifies the user who has RWX permissions on the directory identified under the parameter HIVE SERVER FTPDRIVE.	Yes
	For example,	
	<interactionvariable name="HIVE_SERVER_FTP_USE RID"&gt;ofsaa<!--<br-->InteractionVariable&gt;</interactionvariable 	
HIVE_SERVER_FTP_PROTOC OL	If the HIVE_SERVER_PORT is <b>21</b> , then set the value to <b>FTP</b> . If not, set it to <b>SFTP</b> .	Yes
	For example,	
	<interactionvariable name="HIVE_SERVER_FTP_PRO TOCOL"&gt;SFTP<!--<br-->InteractionVariable&gt;</interactionvariable 	

InteractionVariable Name	Significance and Expected Value	Mandatory
HIVE_SFTP_PRIVATE_KEY	Identifies the SFTP private key for the HIVE server.	
	For example,	
	<interactionvariable name="HIVE_SFTP_PRIVATE_ KEY"&gt;/scratch/ testuser/.ssh/id_rsa<!--<br-->InteractionVariable&gt;</interactionvariable 	
	By default, the value is NA, which indicates that, for authentication, you are prompted to enter the password for the user <hive_server_ftp_userid>.</hive_server_ftp_userid>	
	For more information on generating SFTP Private key, see the Set Up SFTP Private Key section.	
HIVE_SFTP_PASSPHRASE	Identifies the passphrase for the SFTP private key for HIVE.	
	For example,	
	<interactionvariable name="HIVE_SFTP_ PASSPHRASE"&gt;NA<!--<br-->InteractionVariable&gt;</interactionvariable 	
	By default, the value is <b>NA</b> .	
	If the HIVE SFTP_PRIVATE_KEY value is NA, then the passphrase is identified as empty.	

## 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 Configure the Silent.props File

This section is applicable for a new installation of OFS Performance Analytics Pack (OFS PFT Pack) Release 8.1.2.0.0. In the installer kit path OFS\_PFT\_PACK/ appsLibConfig/conf/, rename the Silent.template file to Silent.props. Edit the Silent.props file and modify only the following parameters.

#### Note:

In the pack-on-pack scenario, the parameters OFS\_EFPA\_SEGMENT\_1\_CODE, OFS\_IPA\_SEGMENT\_1\_CODE, OFS\_RPA\_SEGMENT\_1\_CODE must be same as the parameters SEGMENT\_1\_CODE of the previously installed application pack. Do not modify these parameters if there are no other packs than the OFS Performance Analytics Pack (OFS PFT Pack) installed.

Property Name	Description of Property	Permissible Values	Comments
LOG_MODE	Mode for logging	0 = Debug (Passwords	Default: 0
		will not be printed in the log file)	This is optional.
		1 = General (Password will be printed in the log file)	
SEGMENT_1_CODE	Segment Code	Not Applicable	Mandatory
			<b>NOTE</b> : The Segment Code should be in upper case.
APPFTP_LOG_PATH	Infodom Maintenance log path (to be created) for the new Infodom for applayer	Not Applicable	# Mandatory if this an App Layer Installation and if you want to create a new infodom.
			# That is, you have specified INSTALL_APP=1 and INFODOM_TYPE=0

Table 6-5 Parameters for Silent.props File



Property Name	Description of Property	Permissible Values	Comments
DBFTP_LOG_PATH	Infodom Maintenance log path (to be created) for the new Infodom for DBLayer	Not Applicable	# Mandatory if this an App Layer Installation and if you want to create a new Infodom # That is, you have
			specified INSTALL_APP=1 and INFODOM_TYPE=0
UPLOAD_MODEL	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.
OBI Parameters			
OFS_EFPA_OBI_HOS T	Address of the OBIEE	For example: 10.11.12.13	Mandatory
	server.	Or	
		myweb.server.com	
OFS_EFPA_OBI_POR T	The port number of the OBIEE server.	For example: 9500	Mandatory
OFS_EFPA_OBI_CO NTEXT	The context of the OBIEE.	For example: Analytics	Mandatory
OFS_EFPA_OBI_PRO TOCOL	The protocol details of the OBIEE server.	http or https	Mandatory
OFS_IPA_OBI_HOST	The hostname or IP Address of the OBIEE	For example: 10.11.12.13	Mandatory
	server.	or	
		myweb.server.com	•• • •
OFS_IPA_OBI_PORT	The port number of the OBIEE server.	For example: 9500	Mandatory
OFS_IPA_OBI_CONT EXT	The context of the OBIEE.	For example: Analytics	·
OFS_IPA_OBI_PROT OCOL	The protocol details of the OBIEE server.	http or https	Mandatory
OFS_RPA_OBI_HOS T	The hostname or IP Address of the OBIEE	For example: 10.11.12.13	Mandatory
	server.	or	
		myweb.server.com	

Table 6-5 (Cont.) Parameters for Silent.props	s File
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Property Name	Description of Property	Permissible Values	Comments
OFS_RPA_OBI_POR T	The port number of the OBIEE server.	For example: 9500	Mandatory
OFS_RPA_OBI_CON TEXT	The context of the OBIEE.	For example: Analytics	Mandatory
OFS_RPA_OBI_PROT OCOL	The protocol details of the OBIEE server.	http or https	Mandatory
ETL_APPSRC_TYPE	Create new ETL App or Src pair or use an	0 = New 1 = Existing	#Mandatory if this an App layer installation.
	existing one.		# That is, you have specifiedINSTALL_AP P=1.
			# 0 = If you want to create a new ETL app or src pair
			# 1 = If you want to use an existing pair
ETL_APP_1_DESC	Description for the ETL App	Not Applicable	# Mandatory if you want to create a new ETL app or src pair.
			#That is, you have specified ETL_APPSRC_TYPE =0
ETL_SRC_1_1_DESC	Description for the ETL Staging source description	Not Applicable	# Mandatory if you want to create a new ETL app or src pair.
			#That is, you have specified ETL_APPSRC_TYPE =0
ETL_SRC_1_2_DESC	Description for the ETL Processing source description	Not Applicable	# Mandatory if you want to create a new ETL app or src pair.
			#That is, you have specified ETL_APPSRC_TYPE =0
ETL_APP_1_NAME	ETL application name	Not Applicable	This is for the App Layer installation.
ETL_SRC_1_1_NAM E	ETL Staging source name	Not Applicable	This Source must be mapped to the above ETL Application.
ETL_SRC_1_2_NAM E	ETL Processing source name	Not Applicable	This Source must be mapped to the above ETL Application.

Table 6-5	(Cont.) Parameters for Si	lent.props File
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# 6.7 Install the OFS Performance Analytics Pack (OFS PFT Pack) Pack

This topics describes the step-by-step instructions to install the OFS Profitability Analytics Pack (OFS PFT Pack).

Before you begin the installation, ensure you have configured and executed the following files:

- 1. Configure the OS File System Settings and Environment Settings in .profile File
- 2. Configure the OFS\_PFT\_PACK.xml File
- 3. Configure the OFS\_PFT\_SCHEMA\_IN.xml File
- 4. Configure the OFSAAI\_InstallConfig.xml File (Do not configure this file if an installation of OFSAAI 8.1.2 already exists.)
- 5. Execute the Schema Creator Utility
- 6. Configure the Silent.props File

To install the OFS Performance Analytics Pack (OFS PFT Pack), follow these steps:

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

FIC\_HOME=<OFSAA Installation Directory>
export FIC HOME

- 3. Execute the user .profile file. . ./.profile
- 4. Navigate to the OFS\_PFT\_PACK/bin directory.

### Note:

Do not install the new applications in the same segment if the preinstalled applications use the Run Management functionality of OFSAAI.

5. Enter the following command in the console to execute the application pack installer. ./setup.sh SILENT

The installer proceeds with the pre-installation checks.





OS specific Validation Started Checking en US.utf8 locale. Status : SUCCESS Unix shell found : /bin/ksh. Status : SUCCESS Total file descriptors : 65536. Status : SUCCESS Total number of process : 4096. Status : SUCCESS OS version : 7. Status : SUCCESS OS specific Validation Completed. Status : SUCCESS	
DB specific Validation Started Oracle Client version : 19.0.0.0.0, Status : SUCCESS client version 19.0 Successfully connected to schema t2_bcatomic&lt.Status : S CREATE SESSION has been granted to user. Status : SUCCESS CREATE SOCEDURE has been granted to user. Status : SUCCESS CREATE VIEW has been granted to user. Status : SUCCESS CREATE TRIGGER has been granted to user. Status : SUCCESS CREATE TRIGGER has been granted to user. Status : SUCCESS CREATE TRIGGER has been granted to user. Status : SUCCESS CREATE MATERIALIZED VIEW has been granted to user. Status : SUCCESS CREATE SOULNCE has been granted to user. Status : SUCCESS SELECT privilege is granted for NLS INSTANCE PARAMETERS vie NLS CHARACTERSET : AL32UTF8. Current value : PATE. Status : NLS_CHARACTERSET : AL32UTF8. Current value : AL32UTF8. Status : SLECT privilege is granted for USER T3_QUOTAS view. Current Schema is granted with at least 500 MB table space for user Oracle db R2 version 19.0 Oracle SERVER 19.0 Oracle SERVER SUCEND COMPANE : Status : DB Specific Validation Completed. Status : SUCCESS	SUCCESS w. Current value : READ. Status : SUCCESS SUCCESS us : SUCCESS value : SELECT. Status : SUCCESS 0. Status : SUCCESS t value : READ. Status : SUCCESS : t2_bcconfig8lt. Current value : 500 MB. Status : SUCCESS SUCCESS
find: '/scratch/bcuser/OFSAA/ext/lib': No such file or direc Environment check utility Status : SUCCESS	tory
<ul> <li>Welcome to Oracle Financial Services Analytical Applicati</li> <li>Checking Infrastructure installation status Infrastructure installation does not exist. Proceeding with Triggering Infrastructure installation</li> <li>Please enter Infrastructure Application/Database component log4j:WARN No appenders could be found for logger (org.apach log4j:WARN See initialize the log4) system properly.</li> <li>log4j:WARN See http://logging.apache.org/log4j/l.2/faq.html# hostname is whf00ots</li> </ul>	ons Infrastructure (OFS AAI) Installation * Infrastructure installation PTP/STP password : e.commons.vfs2.impl.StandardFileSystemManager).

6. Enter the OFSAA Processing Tier FTP/SFTP password value when prompted in the Command Prompt and proceed.

### Figure 6-7 OFSAA Processing Tier FTP/SFTP password

)B specific Validation Started
Oracle Client version : 11.2.0.2.0. Status : SUCCESS
CREATE SESSION has been granted to user. Status : SUCCESS
CREATE PROCEDURE has been granted to user. Status : SUCCESS
CREATE VIEW has been granted to user. Status : SUCCESS
CREATE TRIGGER has been granted to user. Status : SUCCESS
CREATE MATERIALIZED VIEW has been granted to user. Status : SUCCESS
CREATE TABLE has been granted to user. Status : SUCCESS
CREATE SEQUENCE has been granted to user. Status : SUCCESS
SELECT privilege is granted for V_Snls_parameters view. Current value : SELECT. Status : SUCCESS NLS_LENGTH_SEMANTICS : BYTE. Current value : BYTE. Status : SUCCESS NLS_MINATURES : BYTE. Current value : BYTE. Status : SUCCESS
NLS CHARACTERSET : ALSQUIFS, Current value : ALSQUIFS, Status : SUCCESS
SELECT privilege is granted for V sparameter view. Current value : SELECT. Status : SUCCESS
Open cursor value is greater than 1000. Current value : 1000. Status : SUCCESS
SELECT privilege is granted for USER TS QUOTAS view. Current value : SELECT. Status : SUCCESS Schema is granted with at least 500 MB cable space. Current value : 500 MB. Status : SUCCESS
Schema is granted with at least sub who table space, current value : sub who Status : SUCLESS Oracle Server version Current value : 11.2.0.2.0. Status : SUCCESS
Uracle server version current value : 11.2.0.2.0. Status : SUCLESS D8 specific Validation Completed. Status : SUCCESS
b specific valuation completed, status - Sociess
Invironment check utility Status : SUCCESS
Welcome to Oracle Financial Services Advanced Analytical Applications Infrastructure (OFS AAAI) Applications Pack Installation
Checking Infrastructure installation status
Infrastructure installation does not exist. Proceeding with Infrastructure installation
Triggering Infrastructure installation
Flease enter Infrastructure FTF/SFTP password :

7. The process displays the OFSAA License. Enter Y and proceed.



Figure 6-8 OFSAA License Agreement



8. The installer installs the OFS AAI application.

Figure 6-9 OFS AAI Installation

Are you accepting the terms and con $\boldsymbol{\gamma}$	nditions mentioned above? [Y/N]:
Please enter password for default	Infrastructure administrator user SYSADMN:
Please re-enter password for defai	ult Infrastructure administrator user SYSADMN:
Please enter password for default	Infrastructure authorizer user SYSAUTH:
Please re-enter password for defau Starting installation Preparing to install Extracting the installation resourc Configuring the installer for this	
Launching installer Preparing SILENT Mode Installation	
OFSAAInfrastructure	(created with InstallAnywhere)
Installing	
[]	

9. After OFS AAAI is installed, the OFS Performance Analytics applications installation begins.



### Figure 6-10 OFS Performance Analytics Applications Installation

Starting OFSAA Service OFSAA Service - OK Preparing to install Extracting the installation resources from the s Configuring the installer for this system's env	**************************************
Launching installer	
Preparing SILENT Mode Installation	
pack installsilent	(created with InstallAnywhere)
Installing	
[=====================================	
Installation Complete.	
failurecount 1	
Pack Name found is: OFS_IBCE_PACK	
[DynamicServiceManager] [GlobalParameters.ISWEB]:	false
FIC_HOME:/scratch/bcuser/OFSAA/	
Pack ID got for Synch is OFS_IBCE_PACK SLF4J: Failed to load class "org.slf4j.impl.Stat	ti el esse »Di e de » "
SLF4J: Defaulting to no-operation (NOP) logger :	
SLF4J: See http://www.slf4j.org/codes.html#Stat:	

The OFSAA Infrastructure installation performs a post-install health check automatically on the successful installation of the product.

The following message is displayed in the console:

Installation completed

- **10.** To verify if the release is applied successfully, check the log files mentioned in the Verify the Log File Information section.
- **11.** After the installation OFS Performance Analytics Pack (OFS PFT Pack) 8.1.2.0.0 is successful, complete the required Post-installation steps.



# 7 Post-installation

After the successful installation of the OFS Performance Analytics Pack (OFS PFT Pack) Release 8.1.2.0.0, follow the post-installation procedures.

### **Post-installation Checklist**

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

SI. No.	Post-installation Activity
1	Verify the installation logs.
2	Patch OFSAA Infrastructure Installation.
3	Back up the SCHEMA_CREATOR.xml, OFS_PM_SCHEMA_OUTPUT.xml, and Silent.props files.
4	Stop the OFSAA Infrastructure services.
5	Create and deploy EAR/WAR files.
6	Start the OFSAA Infrastructure services.
7	Configure the webserver.
8	Configure the Resource Reference in web application servers.
9	Configure the Resource Reference in web application servers.
10	Configure the Work Manager in the Web Application Servers.
11	Access the OFSAA application.
12	OFSAA Landing Page
13	Configure the excludeURLList.cfg file.
14	Change the ICC batch ownership.
15	Create Application Users.
16	Map the Application User(s) to User Groups.
17	Excel upload mapping and template.
18	Configure TDE and Data Redaction in OFSAAI.
19	Implement Data Protection in OFSAA.

 Table 7-1
 Post-installation Checklist

# 7.1 Verify the Log File Information

See the following logs files for more information:

- Pack\_Install.log file in the OFS\_PFT\_PACK/logs/ directory.
- Infrastructure installation log files in the OFS\_PFT\_PACK/OFS\_AAI/logs/ directory.



- OFS EFPA installation.log file in the OFS PFT PACK/OFS EFPA/logs directory.
- OFS\_IPA\_installation.log file in the OFS\_PFT\_PACK/OFS\_IPA/logs directory.
- OFS RPA installation.log file in the OFS PFT PACK/OFS RPA/logs directory.

# 7.2 Backup SCHEMA\_CREATOR\_IN.xml, OFS\_PFT\_SCHEMA\_OUTPUT.xml and Silent.props Files

Back up the SCHEMA\_CREATOR.xml, OFS\_PFT\_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_PFT_SCHEMA_IN.xml	OFS_PFT_PACK/schema_creator/conf
OFS_PFT_SCHEMA_OUTPUT.xml	OFS_PFT_PACK/schema_creator/
Silent.props	OFS_PFT_PACK/appsLibConfig/conf

# 7.3 Stop the Infrastructure Services

To stop Infrastructure services, follow these steps:

- 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
- 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.

 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

# 7.4 Create the EAR/WAR File

The EAR/WAR files are automatically generated during the new installation. However, see this section if you have to create EAR/WAR files after installation or upgrade.



# 7.5 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.

 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.

# 7.6 Configure the Web Server

This step assumes the installation of a web server exists as per the prerequisites.

Refer to the product-specific installation guide to install and configure the web server. If an installation already exists, skip, and proceed to the next step.

### 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.

This step assumes the installation of a web application server exists as per the prerequisites. To configure the Web application server for OFSAA Deployment refer to the following sections.

### Topics:

- 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.

# 7.6.1 Configure WebSphere Application Server for Application Deployment

You can deploy multiple OFSAA applications on different profiles of a stand-alone WebSphere application server. To create multiple WebSphere "Profiles" in a stand-alone server, use the command line option as explained in the following section. A profile is the set of files that define the runtime environment. At least one profile must exist to run the WebSphere Application Server.

## 7.6.1.1 Create a 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 <br/>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.

# 7.6.1.2 Manage IBM WebSphere SDK Java Technology Edition Versions

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

- 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.
- On the Application servers window, click the required Application Server link. For example, server1 in the following figure:

Configuration	
General Properties	Container Settings
Name	<ul> <li>Session management</li> </ul>
server1	SIP Container Settings
Node name whf00acnNode01	Web Container Settings
Luurovadurageas	Portlet Container Settings
Run in development mode	EJB Container Settings
Parallel start	Container Services
Start components as needed	Business Process Services
Access to internal server classes	Applications
Allow T	<ul> <li>Installed applications</li> </ul>
Server-specific Application Settings	Server messaging
Classicader policy	- Messaping engines
Multiple V	<ul> <li>Messaging engine inbound transports</li> </ul>
Class loading mode Classes loaded with parent class loader first	WebSphere MQ link inbound transports
Classes roaded with parent class loader first	- <u>SIB service</u>
	Server Infrastructure
Apply OK Reset Cancel	Java and Process Management
	Administration
	<ul> <li>Java SDKs</li> </ul>

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

	age lists the software ferences	development kits (SDKs) that ar	e installed on the server. These SDKs are available	to the servers.	
Mai	ke Default				
0	0 # 7				
Select	Name 🔿	Version 🗘	Location 🗘	Bits ()	Default (
You o	an administer the foll	owing resources:			
۲	1.6_64	1.6	\${WAS_INSTALL_ROOT}/java	64	false
8	1.7_64	1.7	\${WAS_INSTALL_ROOT}/java_1.7_64	64	false
	1.8_64	1.8	\${WAS_INSTALL_ROOT}/java_1.8_64	64	true



Application servers > server1 > Java SDKs This page lists the software development kits (SDKs) that are installed on the server. These SDKs are available to the servers. Preferences Make Default 00 # 9 Select Name 🗘 Version 🗘 Bits 🗘 Default 🗘 Location 🗘 You can administer the following resources: 8.0\_64 \${WAS\_INSTALL\_ROOT}/java/8.0 64 8.0 true Total 1

Figure 7-3 Application Server List of Java SDKs

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

## 7.6.1.3 Manage Applications in WebSphere

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.



WebSphere, softwa	re
	WebSphere Integrated Solutions Console User ID: admin Password: I Log in
IBM.	Licensed Materials - Property of IBM (c) Copyright IBM Corp. 1997, 2011 All Rights Reserved. IBM, the IBM logo, ibm.com and WebSphere are trademarks or registered trademarks of International Business Machines Corp., registered in many jurisdictions worldwide. Other product and service names might be trademarks of IBM or other companies. A current list of IBM trademarks is available on the Web at <u>Copyright and trademark information</u> .

### 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

St	rt Stop Install Uninstall	Update Rollout Update Remove File	Export DDL Export File Liberty Advisor *
	0 7 9		
Selec	Name O	Application Status 🗘	Liberty Advisor Summary 😟
You	can administer the following resou	rces:	
	DefaultApplication	*	0
0	btlee	+	0
0	putty.	*	0

This Enterprise Applications window helps you to:

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

# 7.6.1.4 Configure WebSphere Application Server to Initialize Filters before Initializing Load-On-Startup Servlets and Allowing Empty Servlets Maps

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.

- 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

Use th	cation servers > server1 > Web container > Custor is page to specify an arbitrary name and value pair. The al system configuration properties. ferences		the name and value pair is a string that can set
Nev	v Delete		
0	0 # 9		
Select	Name 🗘	Value 🗘	Description 🗘
You c	an administer the following resources:		
	com.ibm.ws.webcontainer.emptyServletMappings	true	empty servlet mappings
	com.ibm.ws.webcontainer.initFilterBeforeInitServlet	true	
8	com.ibm.ws.webcontainer.invokeFilterInitAtStartup	true	

- 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.



# 7.6.1.5 Configure WebSphere Application Server Persistence to JPA Specification 2.0

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:

meral Properties	- Additional Properties
25A Specification 2.0 ▼	<ul> <li>Custom eroperties</li> </ul>
Default persistence provider	Related Items
Select a default persistence provider that is included with WebSphere Application Server	· Data Sources
Default persistence provider	
com.ibm.websphere.persistence.PersistenceProviderImpl 🔻	

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.

# 7.6.1.6 Configure WebSphere Application Server to Use a Load Balancer or Proxy Server

The configuration prevents the process server from redirecting to an internal port when using a load balancer or proxy server.

The following steps describe the configuration:

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.
- 6. Click Web Container Settings and then Custom Properties to view the Custom Properties window.

### Figure 7-8 Application Servers Load Balancer Proxy Server

plicatio	n servers		
Use th	cation servers > server1 > Web container > Cus is page to specify an arbitrary name and value pair. T al system configuration properties. Iferences		for the name and value pair is a string that can set
Nev	v Delete		
0	0#9		
Select	Name 🗘	Value 🗘	Description 🗇
You o	an administer the following resources:		
	com.ibm.ws.webcontainer.extractHostHeaderPort	true	303.
۲	trusthostheaderport	true	023
Total	2		

- 7. Click **New** and enter the following properties:
  - com.ibm.ws.webcontainer.extractHostHeaderPort: true
  - Trusthostheaderport: 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.

### 7.6.1.7 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



# 7.6.1.8 Configure WebSphere Memory Settings

To configure the WebSphere Memory Settings, follow these steps:

- 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

## 7.6.1.9 Configure WebSphere for Rest Services Authorization

For more information, see the OFS Analytical Applications Infrastructure Administration Guide.

# 7.6.2 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.

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

## 7.6.2.1 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 7-9 Configuration Type

- 2. Select Create a new domain option and click Next to the Templates window.
  - Fusion Middleware Configuration Wizard Page 2 of 8@ofs1220601 0 1 ORACLE Templates FUSION MIDDLEWARE T Create Domain Administrator Account Create Domain Using Broduct Templates Template Categories: All Templates Available Templates Domain Mode and JDK Basic WebLogic Server Domain - 122120 [wiserver]\* Advanced Configuration WebLogic Advanced Web Services for JAX-RPC Extension - 12 2 1 2.0 [oracle\_common] Configuration Summary WebLogic Advanced Web Services for JAX-WS Extension - 12 2 1 2 0 [oracle\_common] WebLogic Coherence Cluster Extension - 12 2 1 2 0 [wiserver] Configuration Progress WebLogic JAX-WS SOAP/JMS Extension - 12 2 1 2.0 [oracle\_common] End Of Certiguration Create Domain Using Custom Template: Template Newton: [/scriebs/000w1/Oracle/Middlewate/Oracle\_Home < Back Next> Emoh Cancel Help

Figure 7-10 Templates

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

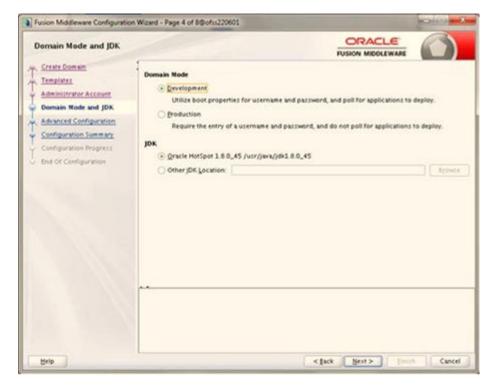


Create Domain       Templatest         Administrator Account       Environment         Configuration       Summary         Configuration       Final of Configuration         Configuration       Name         Password       Configuration         Configuration       Password         Configuration       Configuration         User name may not contain commas, tabs, or any of the following characters: <>#j670()	Administrator Account			
	Templates Administrator Account Domain Mode and JOK Advanced Configuration Configuration Summary Configuration Progress	Password Confirm Password	y of the following characters: <>+7(6700)	

Figure 7-11 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 7-12 Domain Mode and JDK



5. Select from the following options:



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

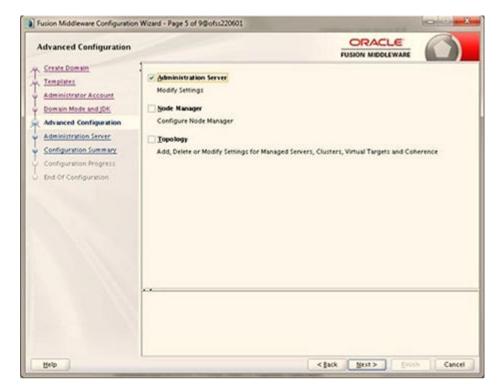


Figure 7-13 Advanced Configuration

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.



Administration Server				
Create Domain Templates Administrator Account Commiss ration Account Administration Server Configuration Server Configuration Progress End Of Configuration	Usten Port Enable SSL SSL Usten Port	AdminServer All Local Addresses 9091	d different from SSL listen port and coher	ence port.

Figure 7-14 Administration Server

 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.



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.

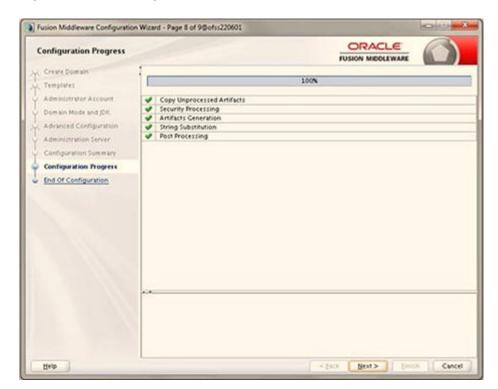


Configuration Summary				
Create Domain Templates Administration Account Domain Mode and JDK Advanced Configuration Administration Server Configuration Servers Configuration Progress End Of Configuration	View Deployment	Nume Description Author Location	Oracle Corporatio	bLogic Server doma
	Select Create to accept the above options and start creat above configuration before starting Domain Creation, go the left pane, or by using the Back button.	ing and config o back to the re	uring a new domai levant page by seli	n. To change the coting its name in

Figure 7-15 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 7-16 Creating Domain





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



Figure 7-17 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).

### 7.6.2.2 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.

# 7.6.2.3 Configure WebLogic Memory Settings

To configure the WebLogic Memory Settings, follow these steps:

- 1. Change the memory setting for Java Heap to -Xms512m -Xms3072m 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_64BIT WLS_MEM_ARGS_32BIT="-Xms512m -Xmx1024m"
```

### Example 2:

```
JAVA_VM=
MEM ARGS="-Xms256m -Xmx1024m"
```

# 7.6.3 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:

## 7.6.3.1 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.



# 7.6.3.2 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:

 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.

# 7.6.3.3 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/.

## 7.6.3.4 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
```

# 7.6.3.5 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.

## 7.6.3.6 Uninstall WAR Files in Tomcat

To uninstall WAR files in Tomcat, refer to Uninstalling WAR Files in Tomcat.

# 7.6.4 Additional Configurations for Web Servers

This section provides information for additional configuration required for the web servers on OFSAAAI.

### Note:

The instructions in this section are applicable if you are upgrading from an earlier version of OFSAAI to 8.1.2.0.0.

- **Configuration for WebSphere**: To configure WebSphere, see the Configure WebSphere Application Server for Application Deployment section. Additionally, configure for REST services. For details, see the *Configuring WebSphere for REST Services Authorization* section in the OFS Analytical Applications Infrastructure Administration Guide.
- Additionally, you must configure the Work Manager in WebSphere and map it to the OFSAA instance. For details, see the Work Manager Configurations section in the OFS Analytical Applications Infrastructure Administration Guide.
- Configuration for WebLogic: To configure WebLogic, see the Configure WebLogic for Application Deployment section. Additionally, configure for REST services. For details, see the Configuring WebLogic for REST Services



Authorization section in the OFS Analytical Applications Infrastructure Administration Guide.

- Additionally, you must configure the Work Manager in WebLogic. For details, see the Work Manager Configurations section in the OFS Analytical Applications Infrastructure Administration Guide.
- Configuration for Tomcat: For the successful execution of Data Mapping in Tomcat, perform the configurations mentioned in the Configuration for Tomcat section in the OFS Analytical Applications Infrastructure Administration Guide.

For additional configurations, see the Configure Apache Tomcat Server for Application Deployment section.

# 7.7 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.

# 7.7.1 Configure Resource Reference in WebSphere Application Server

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

# 7.7.1.1 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.
- Expand the Resources option in the LHS menu and click JDBC > JDBC Providers to display the JDBC Providers window.



Figure 7-18	JDBC Providers
rigare 7-10	JDDC I IOVIACI J

1080.	providers		
Use thi access	is page to edit properties of a JDE to the specific vendor database of	3C provider. The JDBC provider object encapsulates the of your environment. Learn more about this task in a <u>gui</u>	
	eps and more general information		
Sco	pe: Cell=whf00cywNode01Cel	l, Node=whf00cywNode01, Server=server1	
		hich the resource definition is visible. For detailed inform	nation on
	what scope is and how it work	ks, see the scope settings help.	
	Node=whf00cywNode01, S	erver=server1 🔻	
E Pret	ferences		
New	Delete		
	Delete		
		Scope 🗘	Description 🗘
Select	077		Description 🗘
Select	Name 🗘		Description 🗢
Select You ca	Name \$	rces:	

- 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.

•	Step 1: Create new 3DBC provider	Create new JDBC provider
	Step 2: Enter database class path information	Set the basic configuration values of a JDBC provider, which encapsulates the specific vendor JDBC driver implementation classes that are required to access the database The wizard fills in the name and the description fields, but you can type different values.
	Step 3: Summery	Scope cells:03X5150REV- Zone2Node05Cell:nodes:0X5150REV- Zone2Node05:servers:server5
		• Database type Oracle
		Provider type     Oracle 3DBC Driver
		Implementation type     Connection pool data source
		* Name Crade JOBC Driver
		Description
		Oracle 3DBC Driver

Figure 7-19 Create a new JDBC Provider

- 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.

<b>→</b>	Step 1: Create new 3DBC provider	Enter database class path information
	Step 2: Enter database class path information Step 3: Summary	Set the environment variables that represent the JDBC driver class files, which WebSphere(N) Application Server uses to define your JDBC provider. This witard page displays the file names) you supply only the directory locations of the files. Use complete directory paths when you type the JDBC driver file locations. For examples CriSQuLB(gava on Windows(R) or /home/db2/inst//sqlibs/gava on Linux(TM). If a value is specified for you, you may click Next to accept the value.
		Class paths
		S{ORACLE_JDBC_DRIVER_PATH}/00006.04
		Directory location for "ojdbc6.jar" which is saved as WebSphere variable s(ORACLE_JOBC_DRIVER_PATH)
		/oracle/orajdbc/app/orajdbc/product/11.2.0/client_1/jdbc/lib

Figure 7-20 Enter database class path information

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.



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.



Create a new JOBC Provider	5		
Step 1: Create new 3DBC provider	Summary of actions:		
Step 2. Enter			
database class path information	Options	Values	
-) Step 3: Summary	Scope	cells:0x5150AEv-Zone2Node05Cellinodes:0x5150AEv- Zone2Node05:servers:server1	
	JDEC provider name	Oracle 2000 Driver	
	Description	Oracle 3DBC Driver	
	Class path	\$(ORACLE_JOBC_DRIVER_PATH)/ojdbc6.jar	
	\$(ORACLE_DOSC_DRIVER_PATH)	/oracle/orajdbc/app/orajdbc/product/11.2.0/client_1/jdbc/lib	
	Implementation class name	oracle.jdbc.pool.OracleConnectionPoolDataSource	

Figure 7-21 Summary

- **10.** Verify the details and click **Finish** to create the JDBC Provider.
- **11**. The options to Save and Review are displayed. Click **Save**.

## 7.7.1.2 Create Data Source

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

- 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.

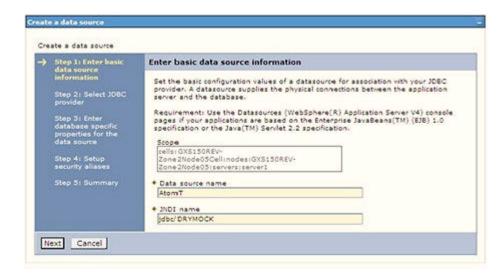


Jee th	is page to edit t	he settings of a datase	surce that is associated with you	r selected 3DB	C provider. The d	atasource
phiett	supplies your ap	polication with connection	ons for accessing the database. Ik steps and more general info	Learn more al	bout this task in	a <u>quided</u>
3 500	per Cell+GXS15	OREV-Zone2Node05Ce	I. Node=GX5150REV-Zone2No	de05. Serveres	erverl	
	Scope specif	les the level at which t	he resource definition is visible.	For detailed		
	information	on what scope is and h	ow it works, see the scope sett	nor help,		
	Node+GX	S150REV-Zone2Node0:	5. Server=servert 💌			
g Pre	ferences					
Ner	Delete Te	et connection Man	aga atata			
D	0 7 9					
	Name O	JNDE name C	Scope C	Provider C	Description C	Catalogue d
		e following resources:	Prope C	-inite Q	Care provide C	Category C
	Default		Node=0X\$150REV-	Derby JDBC	Datazource	
-	Catagourte		Zone2Node05,Server#server1	Provider	for the WebSphere Default Application	
	FICMASTER	JODG/FICMASTER	Node=0x5150REV- Zone2Node05.Server#server1	FICMASTER	New JOBC Datasource	
		- Alexandre -				
	AGAIN	MBG/RORFFW	Node=0X5150REV- Zone2Node05.Server=server1	RORFFW	New 306C Datasource	
	ADAPING	JOBC/RORPNC	Node=0XS150REV- Zone2Node05.Server=server1	RORPHC	New 208C Detesource	
	UPOSPET	JODC/UPOSPFT	Node=GXS150REV- Zone2Node05.Server#server1	UPGSPFT	New 308C Datasource	
	UNDEROR	jdbe/UPGSROR	Node=GXS150REv- Zohe2Node05.Server#server1	UPGSROR	New JDEC Datasource	

Figure 7-22 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 7-23 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.

 Create a data source
 Step 1: Enter basic data source

 Step 1: Enter basic data source
 Select JDBC provider

 Step 2: Select 3DBC
 Select JDBC provider to support the datasource. If you choose to create a new JDBC provider, it will be created at the same scope as the datasource. If you are selecting an existing JDBC provider, only those providers at the current scope are available from the list.

 Step 3: Enter database specific points or the list.

 Create new JDBC provider
 Select an existing JDBC provider
 Select JDBC Driver
 Select JDBC Driver
 Select JDBC Driver

Figure 7-24 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 7-25 Enter database specific properties

	ate a data source					
Step 1: Enter basic data source		Enter database specific properties for the data source				
	information Step 21 Select JDBC provider	Set these database-specific properties, which are required by the database vendor JOBC driver to support the connections that are managed through the datasource.				
<b>~</b>	Step 3: Enter	Name	Value			
	database specific properties for the data source	+ URL	[10.184.108.91:1521:ord11g			
		Data store helper class name				
	Step 4: Setup security aliases	Oracle11g data store helper 💌				
	Step 5: Summary	Use this data source in container managed persistence (CMP)				

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.



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.

reate a data source	
Step 1: Enter basic data source information	Setup security aliases
Step 2: Select 308C provider	Select the authentication values for this resource. Component-managed authentication alias
Step 3: Enter database specific properties for the data source	(none) V Mapping-configuration alias (none) V
Step 4: Setup security allases	Container-managed authentication alias (none)
Step 5: Summary	Note: You can create a new J2C authentication alias by accessing one of the following links. Clicking on a link will cancel the wzard and your current wzard selections will be lost. <u>Global J2C authentication alias</u> Security domains

Figure 7-26 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**.

Step 1: Enter basic data source information Step 2: Select JOBC provider Step 3: Enter database specific properties for the	Summary Summary of actions:		
	Scope	cells:GXS150REV-Zone2Node05Cell:nodes:GXS150REV- Zone2Node05:servers:server1	
	Data source name	AtomT	
	data source	JNDI name	Jdbe/DRYMOCK
Step 4: Setup security aliases	Select an existing JDBC provider	Oracle JDBC Driver	
Step 5: Summary	Implementation class name	oracle.jdbc.pool.OracleConnectionPoolDataSource	
	URL	jdbcioracleithini@10.184.108.91:1521:ord11gr2	
	Data store helper class name	com.ibm.websphere.rsadapter.Oracle10gDataStoreHelper	
	Use this data source in container managed persistence (CMP)	true	
	Component-managed authentication alias	(none)	
	Mapping-configuration alias	(none)	
	Container-managed authentication alias	(none)	

Figure 7-27 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.

# 7.7.1.3 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.

Data sources > Default Datasource > JAAS - J2C authentication data							
Specifies a list of user identities and passwords for Java(TM) 2 connector security to use.							
Prefix new alias names with the node name of the cell (for compatibility with earlier releases)							
Apply							
Preferences							
New Delete							
10	0 7 9						
	Allas O	User ID 🔿	Description C				
	can administer the following resources:		1.000				
	GXS150REV- Zone2Node05/FICMASTER	upgsconf	FICMASTER				
	GX5150REV-Zone2Node05/RORFFW	rorffw					
	GXS130REV-Zone2Node05/RORPNC	rorpine					
	GXS150REV-Zone2Node05/UPGSPFT	upgspft	Paspa				
	OXS150REV- Zone2Node05/UPGSPR00	upgsprod	upgsprod				
	GNS150REV- Zone2Node05/UPGSRCR	upgaror	upgaror				
	GXS150REV- Zone2Node05/UPGSSAND	upgssand	upgssand				
	GXS150REV-Zone2Node05/VASTEST	upgsconf	upgsconf				

Figure 7-28 JAASJ2C authentication data

2. Click New under the Preferences section.



Data sources > Default Datasource > JAAS - J2C authentication data > New	
Specifies a list of user identities and passwords for Java(TM) 2 connector security to use.	
General Properties	
+ Alias	
Atm	
User ID	
upgs73	
Password	
Description	
Atomic Instance	
Apply OK Reset Cancel	

Figure 7-29 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.

## 7.7.1.4 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.



ght warrant changing the	se values.	
onfiguration		
General Properties		
Constant of the second s		Additional Properties
Scope cells:ipa26dorNode01	Cellinodes:ipa26dorNode01:servers:server1	Advanced
+ Connection timeout		connection pool properties
+ Connection timeout	seconds	Connection pool
		custom properties
* Maximum connection 100	connections	
	1	
* Minimum connection	connections	
10	connections	
* Reap time		
180	seconds	
+ Unused timeout		
1800	seconds	
+ Aged timeout	Letters at the res	
0	seconds	
Purge policy	677 Y C	
EntirePool	<b>M</b>	

Figure 7-30 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.

### 7.7.2 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.

### 7.7.2.1 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 7-31 Welcome

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

ORACLE WebLogic Server	Administration Consults			
Change Cander	😫 Hone Lag Out Professiona 🖓 Record Help	1.9.	Webster, manager	Corvected to P
Yes charges and restarts	Home channess of BHI data teacore			
Configuration editing is studied. Put us changes will actionate ally be activated as you readily, add or delete tance in the diman-	Summary of XBC Data Sources			
Demain Ministere	A EOC data source is an ideal bound to the XEC the borrow a database correction from a data source.	e that provides database conventivity through a poo	of XRC convertient. Applications can look up to that source on the XES	Etres and Paris
NuClui e Echerysiant Dapkunents Ersenam Ersenam R Messagrap E ZEC	* Pro page sciences the EDC data score stants if is Containing this Edde Data Score on (Hanned - Hore Edwards Edde)	al Nave Jaan vesting in the daman.		
Cula Sources The Cula Sources	(New) (Restr.)		Proving 1 to 1 o	di Anna 15
Tendent Tores	(C) Name in	JHDI Name	Targets	
Harings AEEPoorders	R SATON	MCDOHORY	Adrational	
TIPS Reported	u (New, Deleter,		Partylisis	d 1 Penna 15
han de L.	1			
Course XMC data sources     Delate XMC data sources				
lysten Sutur	1			
health of Russing Servers				
Failed (2) Critical (2) Counting (2) Waining (2) Critical (2)				
1 (A 11)	J			
Waltungs Server Vendors 21.1.1				

Figure 7-32 Summary of JDBC Data Sources



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

fers Ned Trees Co	encet	
308C Data Source Proper	ties	
The following properties will b Indicates required fields	e used to identify your new 308C data source.	
What would you like to name y	our new XBC data source?	
C * Name:	ATOMSTSOL	
What 200 name would you like	e to assign to your new JDBC Data Source?	
36be/ATCHSTSOL	5	
What database type would yo	v like to select?	
Database Type:	Oracle	
Text Next Trees Co	and all	

#### Figure 7-33 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 7-34 JDBC Data Source Properties

308C Data Source Prog	erties	
The following properties w	I be used to identify your new XXXC data source.	
Database Type: 0	ade	
What database driver would	you like to use to create database connections? Note: * indicates that the driver is explicitly supp	ported by Oracle WebLogic Server.
Database Driver:	Oracle's Driver (Thin XA) for Instance connections: Versions 9.0.1 and later	~

- 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 7-35 Transaction Options

Create a New 200C Duta Source
Back france Cancer
Transaction Options
You have selected non-XA 206C driver to preate database connection in your new data source.
Does this data source support global transactions? If yes, please choose the transaction protocol for the data source.
Supports Global Transactions
Select the soliton if you want to enable rom-NA.200C connections from the data source to participate in global transactions using the Lagging Last Resource (LR) transaction optimization. Recommended in place of Emulate Two-Rease Commit.
O Logging Last Resource
Select this option if you want to enable non-IKA ZBC connections from the data source to emulate perstopation in global transitions using 374. Select this option only if your application can take ate heuristic conditions.
O Emulate Two Phase Commit
Select the option if you want to enable non-XA.200C connections from the data source to participate in global transactions using the one ghase connect transaction processing. With this option, no other resources can participate in the global transaction.
③ One Phase Commit
Sect. Red. Cencer.

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**.

106C Data Source		
Cancel		
Properties		
cton Properties.		
ne of the detabase you would like	a connect to?	
etives	fegbu	
ne or IP address of the Catabases	net.	
	10,184,74.80	
t on the database server used to	Pred to the debbase?	
	1521	
account user name do you want t	use to meste database corrections?	
er Name:	saatom	
tabase account password to use to	preate detabase connections?	
mont		
neret	hard other states	

Figure 7-36 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.

Test Configuration   Back Next	friet Carcel
Test Outabase Connection	
Test the database availability and the	median properties you provided.
That is the full package name of 308C	ver daas used to presta database connections in the connection pool?
Date that the driver class must be in th	Compart of any server to which is a Deployed.)
Driver Class Name:	eracle stbc OracleOnier
What is the URL of the database to car	ot 60 The format of the UBL varies by 2000 driver.
UNL	jdbc bracle thin @10.184.1
lihat database account user name do y	usert to use to steale delabose correctors?
Database User Nome:	station
inat a the debilate account persons	o use to treate decidese corrections?
tale. An well on period of the opened	enter: The parameter is the Teacourd Rafd instead of the Trager last field (adjust)
Password	
Confirm Password:	[
	EC driver when presting detabase connectional
ihal are the properties to poss to the Properties	
ihelare the properties to point to the . Properties: Une comparation	
ihelare the properties to point to the . Properties: Une comparation	C dher when prestry debaar convectored
Mail are the properties to poss to the 2 Properties Later = a satisf The set of driver properties whose rook System Properties	C dher when prestry debaar convectored
that are the properties to pass to the impertient unear as as con- the set of driver properties whose resu- hysteen Properties:	EC dituer when preating database connectaned?

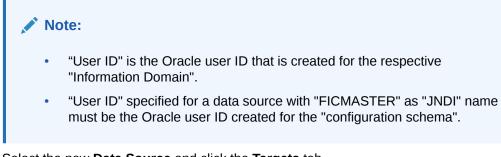
### Figure 7-37 Database Details

- **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 7-38 Select Targets

tate a New JDBC Data Source	
Select Targets Tou can select one or none targets to deploy your new 200C data sour at a bater time.	or. If you don't select a target, the data source will be created but not deployed. You will need to deploy the data source
2 Administerver	

- **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.



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

Figure 7-39 Data Source

reate a New 308C Graham	k Duta Source		
200 (and (2000) [4	Lancal		
308C Gridlank Data Sour	ce Properties		
The following properties will a and cartes required fields	be used to identify your new 2080	Grdunk dela source.	
that you'd you like to name	vaur new 2002 Gridlerk deta saura	ai .	
C * Name	(x)z		
that 200 nene vould you'r	te to weigh to your new 2080 Gro	lunik deta esunce?	
A DECE Name:			
3494/454			
That detabase type would yo	ov the to select?		
butabase Type:	Onde		
the NA muer?			
A Driver			
100 (and (1000) (4	Carroan)		
and a second product of the			

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

### 7.7.2.2 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 7-40 GridLink Data Source

eate a New JDBC GridLink Data Sour		
Sack Next From Cancel		
Connection Properties		
Define Connection Properties.		
nter Complete 308C URL for GridUrik data	se.	
omplete JOBC URL:		
ihat database account user name do you	ant to use to create database connections?	
Natabase User Name:		
that is the database account password to	te to meate database normertons?	
assword		
assword		
onfirm Password:		
Anna   March   Editory   Cannel		
Back Next Cancel		

**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 7-41 JNDI Name

Create a New JOBC GridLin	k Data Source		
Freit And Frank	Cancer		
308C GridLink Data Sou	rce Properties		
The following properties will "Indicates required fields	I be used to identify your new 306C Gri	edunik data source.	
What would you like to name	your new 2080 GridLink data source?		
A Name:	xyz		
(2) 3401 Name: 3 60 0 / Ky2	ike to assign to your new 2080 Griduni	12	
What database type Hould in	oulike to select?		
Database Type:	Oracle		
Is the XA driver?			
XA Driver			
(111) (hest.) [7/101] [.4	Cancel		

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

# 7.7.2.3 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.

- 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.
- In the LHS menu (Domain Structure), select Services > JDBC > Multi Data Sources to display the Summary of JDBC Multi Data Sources window.

o the	mult data source is an 2021 tree. Applications to provide the connect	can look up a multi data source on the 3x00 tree.	provides load balancing and falover between data source and then reserve a database connection from a data sour	es. As with data sources, multi data sources are als ce. The multi data source determines from which da	a boun
se th	is page to create or vie	n multi data sources in your domain.			
	mize this table				
usto					
		d - Hore Columns Exist)			
luiti C		d - Hore Columns Exist)		Showing 1 to 2 of 2 Previou	a i Ne
New	Data Sources(Filtere	d - Hore Columns Exist) JHD1 Name	Algorithm Type	Showing 1 to 2 of 2 Previou Targets	/s   Ne
New	Data Sources(Filtere		Algorithm Type	1	a   Ne

Figure 7-42 Multi Data Sources

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

create a New JDBC Multi Data Se	auce	
Servi Next / Cancel		
Configure the Hulti Data Sour	ne	
The following properties will be use	ed to identify your new 2080 multi data source.	
What would you like to name your n	ev 2000 multi data source?	
🐔 Name:	JDBC Multi Data Source-0	
Vihat 2401 name would you like to a	essign to your new 306C multi data source?	
30DI Name: jdbo/infodomname		
What algorithm type for this JDBC N	Auto Data Source would you like to select?	
What agorithm type for this 300C M		

Figure 7-43 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 7-44 Select Targets

reate a New JDBC Hulti Data Source		
Back Next Trank Carcel		
Select Targets You can select one or more targets to deploy your new 2080 MU	15 Data Source.	
Servers		
AdminServer		

6. Select the AdminServer check box and click Next.

Figure 7-45 Select Data Source Type

Create a New JDBC Hulti Data Source	
Back, Next, Frink Cancel	
Select Data Source Type	
Please select type (kA or Non-KA) of data source you would like to add to your new 3080 Multi Data Source.	
O XA Deiver	
Non-XA Driver	
Back Next Carcel	

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



Back Frink Canc	cel.			
Add Data Sources What JDBC Data Sources wou	ld you like to add to your new 3	08C Multi Data Source?		
Nata Sources:				
Available	Chosen			
ROBE RUSIONI RUSIONE RUSIONEH	A RORI	line.	- -	
Create a New Data Source				

### Figure 7-46 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.

### 7.7.2.4 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.
- 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.

### 7.7.2.5 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.

- 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.

### 7.7.2.6 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 7-47 WorkManager Screen 1

Configuration Targets Notes		
Save		
Use this page to define the request classes and	constraints for the selected Work Manager.	
Name:	amyWorkHanager-TFLT	The user-specified name of this MBean instance. More Info
Scoper	Global	The scope in which this Work Manager is created. More Info
🛃 Request Class:	(None configured)   New	A request class associated with this Work Manager. This may be a FairShareRequestClass, ResponseTimeRequestClass, or a ContextRequestClass. Mare Info
🔊 Minimum Threads Constraint:	(None configured) * New	The minimum number of threads allocated to resolve deadlocks. More Info
🔁 Maximum Threads Constraint:	(None configured) • New	The maximum number of concurrent threads that can be allocated to execute requests. Here Info.
🛃 Capacity Constraint:	(None configured) * New	The total number of requests that can be queued or executing before WebLogic Server begins reject requests. Here Seful
🛃 Stuck Thread Action:	Ignore stuck threads	Specify how stuck threads should be detected, and what action to take should they occur. Here ${\rm Infe}_{\rm em}$
Max Shuck Thread Time:	0	Tion after which a executing thread is declared as study. More left
Stuck Thread Count:	0	Sumbor of stuck threads also which the WaddMassper is shadown. Note $Info_{PP}$
Resume When Distuck		Whether in resume work example over the stack/Herade were descent. Here Infe-
Save		

### Figure 7-48 Workmanager Screen 2

Save					
[Saue]					
A Work Hanager defines a set of request of	lasses and thread constraints	s that manage work performed by W	ebLogic Server instances. This page display	s the Work Hanagers, request	classes and thread constraints defined for this doma
Work Managers are defined at the domain	and partition level. You can	also define application-level and mod	ule-level Work Hanagers.		
actilition Fair Share:     50     A desired percentage of thread usage by a gathline, compared to the thread usage by all partitions, is economecided that the sum of this value for all the partitions marine in a VKLS domain add up to 100, but it is not shrictly enforced. When they do not add up to 100, VKS aspent thread usage the USE but it is not shrictly enforced. When they do not add up to 100, VKS aspent thread usage the USE but it is not shrictly enforced. When for specifying partition far share values for partitions. Here to for					
Save					
Work Managers, Request Classes and	Constraints				
[New] [Clote] [Delete]					Showing 1 to 1 of 1 Previous   Nex
😳 Name 🙃		Туре	Targets	Scope	Domain Partitions
		Work Manager	AdminServer	Global	
🗐 um/WorkManager-TPLT					



# 7.7.3 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 <code>ojdbc<version>.jar</code> file version to be copied.

### 7.7.3.1 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.

### 7.7.3.2 Define JDBC Connection Pooling

To define the JDBC connection pooling, follow these steps:

 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.

 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.

### 7.7.3.3 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.

# 7.8 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.

### 7.8.1 Configure Work Manager in WebSphere Application Server

### 7.8.1.1 Create Work Manager

To create the Work Manager, 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.



WebSphere, software	
	WebSphere Integrated Solutions Console User ID: admin Password: I
IBM, the IBM International product and	enais - Property of IBM (c) Copyright IBM Corp. 1997, 2011 All Rights Reserved. logo, Ibm.com and WebSphere are trademarks or registered trademarks of Business Machines Corp., registered in many jurisdictions worldwide. Other service names might be trademarks of IBM or other companies. A current list of rks is available on the Web at <u>Copyright and trademark information</u> .

### Figure 7-49 WebSphere Login page

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

Figure 7-50 Home page

View Alteria V	Watsma		
	Websere)	950	
X Build Activities	Drepated Solutions Console provides a common administrative	console for multiple products. The table	Strepstel Solution Consult, 8.3.3.0 Build Sumber: pr/339-81 Build Date: 57433
A Servers	Tata the product surface that can be administered through this in more information.	elafation. Delett a product surfa to van	Build Bate: 5/14/13
X Apphentone			LICENDED MATERIALS PROMETY OF JEM 5/14-016, 5724-045, 5724-046, 5724-046, 5635-0465 (C) Capyright Sciences of the canon includes of the control of the Science
X Services	Public Ranne	Version	International Business Warkings Corp. 1996, 2012
K Assources	mattation, Automotion, Server	4.5.5.0	
X Decerta	and the second se		
X Encountry (			
X Summ administration			
K Users and Groups			
X Wonduring and Taxing			
K Treaklashooting			
X Service integration			
* uppt			

3. From the LHS menu, expand **Resources > Asynchronous beans** and select **Work Managers**.

Figure	7-51	Work	Managers

Week of tasks	Extrust Report and Stat. Purper Mill	060-4				Otes page
	Buck managers					
<ul> <li>Balance</li> <li>Sandari Accountes</li> <li>Sandari Accountes</li> <li>Sandaria</li> <li>Sandaria</li> <li>Bancara</li> <li>Sandaria</li> </ul>	in Singer Cal-additionation	Call, hore-additionality.	re bound into the Jaco(744) Naming and Drastory Sanatrigenees as is coulde. As detailed information on other cos			Field help For field help softemation, safest a field help softemation, safest the help sonair to displayed. Page help More referensistic about the 2014
Schulden     Objectson Herspers     Objectson Herspers     K. 200	Factor-atticipations	(hadenaftitigethadel), beveragenet V				
8.040	fam. Owieta					
E Resource Adapters 27 Augustosena Janta	PDTY	P D T Y				
in Tonal matagara	Salad Name 5	JADI name ()	Bolges C	Description ()	Category ()	
<ul> <li>Buth Hamping</li> </ul>	You can administer the follows	The last advected the following resources				
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H SHL	and the second			meetinge	0425	
H Resource Decountment	Total 1					
# Encurity						
* Environment						
X System administration						
W Users and Droate						
A Munitoring and Turning						
A Treakleshooting						
A Service integration						
H 4000						



4. Select the required Scope from the drop-down list.

For example, Node=whf00aqnNode01, Server=server1.

5. Click New in the Preferences section.

Veret at tasks	Cub-uritites/hands/stat. Auto-schoolog	
	Buth Partagets	
aduna .	Hork matagers > New	
E Duiled Activities	Specifies a nork-manager that sectaries a pool of threads that are bound in	in the Jaco (TW) Barriers and Directory Interface (2004).
5 Datum	Cartiguration	
H Applications	and the second se	
A Baricos		
S fattering	Second Engenties	The additional properties sell has be available with the general properties. For the dam are applied or served.
<ul> <li>Scholulars</li> <li>Object profit management</li> </ul>	* 3034	Additional Programmes
# 243	[ats of Olaphicael3Cat roday of Olaphicael1 annars secard]	Control progetting
# JOHC	* tare	
X Pattores Adapters	* 2001 rame	
III Asynchronous beats	Jan/monthenager	
* muti-mategore	Quartistics.	
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8 Mail	0	
R LRL X factors Decretation	Ň	
	Servery	
N Security		
A Environment	Work Smanul	
8 System advocatuation	B millaasonda	
N Users and Broops	Work report parts are werk sharts	
If Mantaning and Tarang		
R Treaklashooting	Table Stores Auf action [Place (V)]	
8 Service integration		
# 4600	Service names	
	Distantionalization	
	Application Profiling Service (deprecated)	
	C Security	
	C Watching	
	Thread pool properties	
	* Sumber of electric Dreads	
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	Maximum number of itreasts	
	2 Presents	
	* Thread Brighty	
	§ priority	
	Si transite	
	5256154343545	
	Appry CH Revel Cancel	

Figure 7-52 New Work Managers

- 6. Enter the Name as 'wm' and JNDI name as 'wm/WorkManager ' in the respective fields.
- 7. Enter the Thread pool properties.
- 8. Click Apply.



weighters software	Web	-
Views Att tasks	Genetitephiliptics, Inite-ROCOM	
	Ministration	
walcome	2 Messages	
K Oulded Activities	do Changes have been made to your local configuration. You can	
i Seves	Iare directly to the master configuration.     Increase diagram to the master configuration.	
R Applications	· Still contraction of a contract	
# Services	The server may need to be restarted for these changes to take effect.	
E Resources		
<ul> <li>Scholulars</li> <li>Object paid managers</li> <li>X JMS</li> <li>X JMS</li> <li>X SMS</li> <li>X SMS</li> <li>X Associa Adapters</li> </ul>	Workswarears > +== Secrifies a work manager that contains a pool of threads that are bound into the Juva(TH) Naming and Directory Interface (TRDI). Configuration	
Asynchronius beans     Tonar managers	General Progenties Address diversities	
* Work managers	General Properties Additional Properties	-
R Cache instances	[and white an index white product renews renews] * Contain assertion	
N Mail	* Name	
X Vel	arm X	
X Resource Devicement	<ul> <li>Indi name</li> </ul>	
f Security	berry Work Managar	
K Environment	Description	
K System administration	^	
E Users and Groups		
6 Manistring and Tuning		
K Troubleshooting	Category	
8 Service Integration		
X 4001	Work Emeral milliseconds	
	Wipel, respondi spore alga [0	
	Work respect genera full action [Birock]]	
	Service names	

Figure 7-53 Configure Work Managers

9. Click Save.

Figure 7-54 Work Managers Preferences

Inteleptores Antheory						Welcome add
View Altaska	Currenter	Deprindetition, Publication	564 <sup>°</sup>			
Volusion     Xourdea Antonices     Xourdea     Xapticulation     Xapticulation     Social     Xapticulation     Socializes     Socializes     Xourdea     Xourdea     Xourdea     Xourdea     Xourdea     Xourdea	Events     Events					
B Assures Adapters B Azynchronous bases II. Timer managers	and	E) (7. 19) Channel D	POI name 0	Seene C	Description ()	Category ()
Work managers     X Carbo materices     X Mail     X UKL     X Resource Environment	Yeur	an administer the following DefaultWorkHanase:	resources am/default am/WorkManager	Node=uM00apMode03.Server=server3 Node=uM00apMode03.Server=cerver3	WorkManager	OwleyN
R Security	Total	2				
K. Enclosement X. System additionatorollium X. Vivera and Oronge K. Manistreg and Yusing X. Transbestering K. Service Integration						
¥ 0001						

After creating the work manager, you must map it to an OFSAA instance.

## 7.8.1.2 Map Work Manager to OFSAA WebSphere Instance

To map the Work Manager to an OFSAA WebSphere Instance, follow these steps:

1. From the LHS menu, expand Applications > Application Types and click WebSphere enterprise applications.



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Viewi Att tasks	ColorAttragenerations and analysister		
	Enterprise Applications		
<ul> <li>Valuene</li> <li>K Outled Activities</li> <li>Servers</li> </ul>	Enterprise Applications Use this page to manage installed applications. A single application can be	deployed onto multiple servers.	
If Applications	¥ Palarences		
<ul> <li>New Application</li> </ul>	Dan Dep Install Universit Update Releat Update Remove File Export Export DDs Export File		
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N Security			
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x uppt			

Figure 7-55 Enterprise Applications

2. Click OFSAAI instance hyperlink.

Figure 7-56 OFSAAI

guration	
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Detail Properties   Tatteit acestific application status  Estatus behavior  Application binatina  Class losdicing and update, detection  Estatuset dispatcher properties  AASPL accurate  Main Bestimation  Estatuset according  Keferences	Sassion,managament     Context Root For Web Modules     Suitables upsementers for emotion     Work and HDF antimeters     Without hosts     Suitable hosts     Suitable measuring provides references     Cleast Module Properties     Slant module deployment mode     Database Profiles
Encloses references     Shared Stran, references     Shared Stran, references     OK  Reset] Cancel	<ul> <li>SQLL and files and averQuery, bind files</li> </ul>

3. Click the **Resource references** link under the **References** section.



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12	0						
Select	Module		Bean URI		esource Reference	Target Resource 2	MOI Name
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Select.	Module	Bean	URI	Resource Reference	Target Resourc	e JNDE Name	Login configuration
E) Select	-	Bean	URI	Reference	Баралиста		Legin configuration Resource authorization: Container
	Application		Diff/web.xml	JEBO/FICMASTE	e Brovse		Authentication method: None
0	OFSAA3 Web Application		OFSAAL.sur,WEB- Diff/sub.com	plbc/orseox.cs	MO Browse	CINFO	Resource authorization: Container Authentication method: None

Figure 7-57 Resource References

4. Click **Browse** corresponding to the Work Manager Resource Reference. The available resources are displayed.

### Figure 7-58 Available Resources

is dete	mined by the targets to which that module	e is mapped. Resources	Resources shown here are only those availa available to a module can come from a hier will override the parent. The overridden resou	rarchical scope of a bean. If resources at
Appl	Cancel			
***	2			
Select	Name 0.	JNDI name () _	Scope 0.	Description
0	AsyncRequestDispatcherWorkManager	wm/ard	Node=whf00agnNode01	
		wm/default	Node=whf00agnNode01.Server=server1	WebSphere Default WorkManager
0	DefaultWorkManager	THE GREATER		

5. Select the newly created Work Manager ('wm') and click Apply.



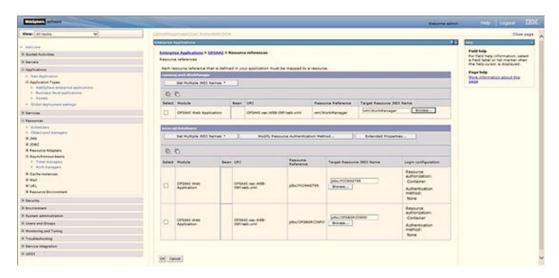


Figure 7-59 Select Work Manager

6. Select the Work Manager ('wm/WorkManager') and click **OK**.

Figure 7-60 OFSAAI Configuration

rprise Applications	
Messages     Changes have been made to your lot     Sage, directly to the master configurat     Eccity changes before saving or disc     The server may need to be restarted  Interprise Applications > OFSAA1	ion. anding.
	nks to access pages for further configuring of the application or its modules.
Configuration	one of any and the first of the second se
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<ul> <li>Sequest dispatcher properties</li> </ul>	Enterprise Java Bean Properties
JASPL provider     Contom properties     View Deployment Depositor     Last participant exposit extension	Pafault messaoine provider references     Chent Hodule Properties     Sinct module deployment mode
References	Database Profiles
Resource references     Shared library references     Shared library references	<ul> <li>SQL2 profiles and pureQuery bind files</li> </ul>

7. Click Save.



#### 28 **Enterprise Applications** Use this page to manage installed applications. A single application can be deployed onto multiple servers. · Preferences Start Stop Install Uninstall Update Rollout Update Remove File Export DDL Export File 2077 Select Name C Application Status Q. You can administer the following resources -DefaultApplication OFSAAL . formamanager ٠ + https:/ . SVEC Total 5

### Figure 7-61 Enterprise Applications Preferences

# 7.8.2 Configure Work Manager in WebLogic Application Server

To create the Work Manager in WebLogic application server, follow these steps:

 Open the WebLogic admin console in the browser window: http:// <ipaddress>:<administrative console port>/console. (https if SSL is enabled). The Welcome window is displayed.



#### Figure 7-62 WebLogic Login page

- 2. Log in with the user ID that has admin rights.
- 3. From the **Domain Structure** menu in the LHS, expand Environment and select **Work Managers** to display the Summary of Work Managers window.



ORACLE WebLogic Server	Administration Conscie 10x		c
Change Costine	R mara Log Dat Malamons 202 Record Halp	1.9./	Wolksma, weblage, Connelled to: GAC200
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Figure 7-63 Work Manager

4. Click **New** to create a new Work Manager component.

Figure 7-64 New Work Manager

Create a New Work Manager Component	
Back Next Finish Cancel	
Select Work Manager Definition type	
What type of Work Manager, Request Class or Constraint do you want to create?	
Work Manager	
O Response Time Request Class	
○ Fair Share Request Class	
O Context Request Class	
O Maximum Threads Constraint	
O Minimum Threads Constraint	
Capacity Constraint	
Back Next Finish Cancel	

5. Select the Work Manager and click Next.

Figure 7-65 Work Manager

🕜 Home Log Out Preferences 🐼 R	ecord Help
Home >Summary of Work Managers	
Create a New Work Manager Compo	nent
Back Next Finish Cancel	
Work Manager Properties	
The following properties will be used to	o identify your new Work Manager.
* Indicates required fields	
What would you like to name your new	Work Manager?
* Name:	wm/WorkManager  ×
Back Next Finish Cancel	

6. Enter the Name as 'wm/WorkManager' and click **Next**.



lack Next Final Carcel	
Select deployment targets	
You can target the Work Manager to any of these V	VebLopic Server instances or Clusters. Select the same targets on which you will deploy applications that reference the Work Manager.
vailable targets :	
kenven	
ervers Z AdminServer	

Figure 7-66 Select Deployment Targets

7. Select the required deployment target and click Finish.

### Figure 7-67 Summary of Work Managers

		Welcome, weblogic Connected to: GRCBI
torne - Summary of Work Hanapors Sersagers		
All changes have been activated. No restarts are necessary	K	
S Work Manager created successfully		
Summary of Work Humapore		
	constraints that manage work performed by WebLogic Server Instances. This page displays th can also define application-level and mobule-level Work Managers.	
() Customize this table		Showing 1 to 1 of 1 Physical (Next
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© Contomize this table Global Work Hanagers, Report Classes and Constrain Mee. [Chine] [Chine]	<b>b</b>	Showing 1 to 1 of 1 Previous   Next

# 7.9 Access the OFSAA Application

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 7-68 OFSAA Login Window

ORACLE' Financial Services Analytical A	oplications	= Almat
Ð		
	Language US-English ~ User ID Password Login	



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.

# 7.10 OFSAA Landing Page

On successful log in, the OFSAA Landing page is displayed.

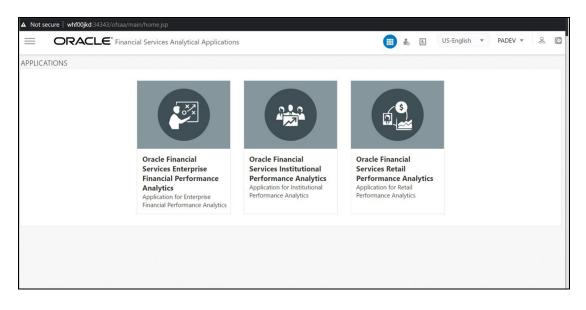


Figure 7-69 OFSAA Landing Page

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



# 7.11 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.

# 7.12 Configure the excludeURLList.cfg File

To configure the excludeURLList.cfg file, follow these steps:

- 1. Go to \$FIC\_WEB\_HOME/webroot/conf.
- 2. Create a backup of the file excludeURLList.cfg.
- 3. Edit the following details in excludeURLList.cfg file:
  - [SQLIA]./dataIntegrator/ to [ALL]./dataIntegrator/
  - [SQLIA]./ETLExtractionServlet to [ALL]./ETLExtractionServlet
- 4. Go to \$FIC\_WEB\_HOME.
- 5. Backup the existing ear/war files.
- 6. Delete <app>.ear and <app>.war files.
- 7. Re-create the ear/war files by running ant.sh.
- 8. Use the new ear/war files and re-deploy them.
- 9. Re-start the OFSAA environment.

# 7.13 Change the ICC Batch Ownership

All the seeded batches in the OFS PA applications are automatically assigned to the SYSADMN user during installation.

To see the batches in the Batch Maintenance menu, you must 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 must be transferred.
- infodom is an optional parameter. If specified, the ownership of the batches pertaining to that Infodom is changed.

# 7.14 Create Application Users

Create the application users in the OFSAA setup before use. For more information, see the User Administrator section in the Oracle Financial Services Analytical Applications Infrastructure User Guide.

Note:

This step may not be required if you have already set up users in the OFSAA setup.

# 7.15 Map Application User(s) to User Group

Starting the OFSAA 8.1 release, with the installation of every OFSAA Application Pack, preconfigured application user groups are seeded. These user groups are unique to every OFSAA Application Pack and have application roles pre-configured.

User Groups seeded with the OFSAAAI Application Pack are listed in the Seeded User Groups Table

Name	Description
Modeler Group	A user mapped to this group has access to all the menu items for Enterprise modeling but does not have authorization rights for sandbox population, model deployment, and modeling technique authorization.
Modeling Administrator Group	A user mapped to this group has access to all the menu items for Enterprise modeling and has authorization rights for the sandbox population, model deployment, and modeling technique authorization.
Business Administrator	A user mapped to this group has access to all the menu items and actions for the advanced operations of metadata objects.
Business Authorizer	A user mapped to this group has access to all the menu items and actions for authorization of changes to metadata objects.
Business Owner	A user mapped to this group has access to all the menu items and actions for read and write of metadata objects
Business User	A user mapped to this group has access to all the menu items and actions for access and read of metadata objects.

Table 7-3 Seeded User Groups



Name	Description
Identity Administrator	A user mapped to this group has access to all the menu items for managing User entitlements, User Group Entitlements, and Access Management configurations.
Identity Authorizer	A user mapped to this group has access to all the menu items for authorizing User entitlements, User Group Entitlements, and Access Management configurations.
System Administrator	A user mapped to this group has access to all menu items for managing the setup configurations.
Object Administrator	A user mapped to this group has access to all menu items for managing object migration and metadata traceability using the metadata browser.
Guest Group	A user mapped to this group has access to certain menu items with only access privileges.

#### Table 7-3 (Cont.) Seeded User Groups

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

For more information, see the Mapping/Unmapping Users section from the Oracle Financial Services Analytical Applications Infrastructure User Guide.

# 7.16 Excel Upload Mapping and Template

This section provides steps about the Excel Upload.

- Post-installation, navigate to the ExcelUpload directory present in the path:p Extracted Installer location/\$FIC\_HOME/dumps
- 2. In the ExcelUpload directory, change the directory name from infodom to the name of the respective Infodom.
- 3. Copy the ExcelUpload directory to the ftpshare/STAGE directory.
- 4. Create the STAGE directory in the path <TOMCAT HOME>.
- 5. Copy the Excelupload directory to the STAGE directory in the path <TOMCAT HOME>.

# 7.17 Configure Transparent Data Encryption (TDE) and Data Redaction in OFSAA

Two features comprise of Oracle Advanced Security: Transparent Data Encryption and Oracle Data Redaction.

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

• Prerequisites



Transparent Data Encryption (TDE)

# 7.17.1 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.

# 7.17.2 Transparent Data Encryption (TDE)

Transparent Data Encryption (TDE) enables you to encrypt sensitive data, such as Personally Identifiable Information (PII), that you store in tables and tablespaces. After the data is encrypted, this data is transparently decrypted for authorized users or applications when they access this data. To prevent unauthorized decryption, TDE stores the encryption keys in a security module external to the database, called a Keystore. For more details on TDE, see the Database Advanced Security Guide.

TDE tablespace encryption enables you to encrypt all of the data stored in a tablespace. To control the encryption, you use a Keystore and TDE master encryption key. Oracle Database supports both software keystores and hardware, or HSM-based, keystores. A software keystore is a container for the TDE master encryption key, and it resides in the software file system.

To configure TDE for OFSAA, follow these steps:

- Create a new PDB (19c)/ instance (18c) on the same or different Database Server for TDE. For more information, see Configure Software Keystore and Encrypted Tablespace Creation.
- 2. Shutdown the OFSAAI Services.
- **3.** Export all Configuration, Atomic, and Sandbox Schemas as per the applications installed in your OFSAA instance.

#### For example:

expdp SYSTEM/oracle@OFSA19c2DB DIRECTORY=data\_pump\_dir DUMPFILE=ofsaaconf\_ ofsaaatm\_%U.dmp filesize=2G SCHEMAS=ofsaaconf,ofsaaatm LOGFILE=ofsaaconf\_ ofsaaatm\_exp.log

### Note:

The above command will create data dumps as files of 2GB size each (multiples). Any other commands/ tools as appropriate may be used to archive the schemas.

4. Import all schemas that are exported using the above command, into the new DB instance.

#### For example:

```
impdp SYSTEM/oracle@OFSA12nDB DIRECTORY=data_pump_dir DUMPFILE=ofsaaconf_
ofsaaatm_%U.dmp SCHEMAS=ofsaaconf,ofsaaatm LOGFILE=ofsaaconf_ofsaaatm_
imp.log
```



### Note:

- Restoring the exported dumps creates Configuration and Atomic Schema(s) with the same user credentials as that of the source, along with the existing grants.
- If schemas are restored using a tool/ mechanism other than as mentioned in Steps 1 and 2, retain the user credentials of Configuration and Atomic Schemas the same as in the Source environment, along with the Schema grants.
- 5. Provide select grants on sys.V\_\$parameter to view Configuration and Atomic Schemas of Target Environment database.

For example:

```
Log in as sys user:
SQL> GRANT SELECT ON SYS.V_$PARAMETER TO ofsaaconf;
Grant succeeded
SQL> GRANT SELECT ON SYS.V_$PARAMETER TO ofsaaatm;
Grant succeeded
```

- 6. Update .profile for ORACLE\_SID environment variable with new ORACLE\_SID.
- Update JDBC URL by executing Port Changer utility. For details on how to execute Port Changer utility, see Changing IP/Hostname, Ports, Deployed paths, Protocol of the OFSAA Instance section under Generic Configurations chapter in OFS Analytical Applications Infrastructure Administration Guide.
- 8. Navigate to the \$FIC\_WEB\_HOME directory and execute the following command to trigger the creation of the EAR/WAR file:

./ant.sh

- 9. The EAR/WAR file <contextname>.ear/.war is created in the \$FIC\_WEB\_HOME directory.
- On completion of the EAR/WAR file creation, the message "BUILD SUCCESSFUL" is displayed.
- **11.** Edit the existing Connection Pool settings to point to the new JDBC URL and verify connections.
- **12.** Clear the webserver cache and redeploy the application onto your configured web application server.
- **13.** Restart the OFSAA Services. For more information, see Start the Infrastructure Services.

### 7.17.2.1 Configure a Software Keystore and Encrypted Tablespace Creation

A software keystore is a container for the TDE master encryption key, and it resides in the software file system. You must define a location for the key in the sqlnet.ora file so that the database locates the keystore (one per database) by checking the keystore location in the sqlnet.ora file. After defining the location, create the keystore and open it. Set the TDE master key after opening it and then encrypt the data.

To find whether a wallet is already existing, check the following entries:



- 1. The location specified by the ENCRYPTION\_WALLET\_LOCATION parameter in the sqlnet.ora file.
- 2. The location specified by the WALLET\_LOCATION parameter in the sqlnet.ora file.

Encrypted tablespaces can share the default database wallet. However, Oracle recommends that you use a separate wallet for transparent data encryption functionality by specifying the ENCRYPTION\_WALLET\_LOCATION parameter in the sqlnet.ora file.

### Note:

You must have the required privileges to perform the following actions.

To configure the software keystore, follow the instructions in the following sections:

- Set the Software Keystore Location in the sqlnet.ora File
- Create the Software Keystore
- Open the Software Keystore
- Set the Software TDE Master Encryption Key
- Encrypting your Data

### 7.17.2.2 Test the Encryption

Test the encryption by checking if a tablespace is encrypted or not. Execute the following query to check:

SELECT tablespace name, encrypted FROM dba tablespaces;

The following result is displayed, which indicates whether the TABLESPACE is encrypted or not in the ENCRYPTED column.

TABLESPACE_NAME	ENCRYPTED
SYSTEM	NO
SYSAUX	NO
UNDOTBS1	NO
TEMP	NO
USERS	NO
ENCRYPTED_TS	YES

#### Table 7-4 Testing the Encryption

The above example indicates TABLESPACE ENCRYPTED TS is created with Encryption ON.

# 7.18 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).
- 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 Guide.



# 8 Upgrade

### Topics:

- Upgrade Scenarios
- Prepare for Upgrade
- Verify the Log File Information
- Post Upgrade Steps

# 8.1 Upgrade Scenarios

The possible upgrade scenarios and a high-level sequence of steps to complete the upgrade are summarized in this section.

Scenario	Upgrade Instructions		
Upgrade from OFS Profitability Management 8.1.10 to OFS OFS PFT Pack 8.1.2.0.0		Run the Environment Check Utility tool and ensure that the hardware and software requirements are installed as per the OFS Analytical Applications Technology Matrix.http://docs.oracle.com/cd/E55339_01/ homepage.htm	
	2.	Update the Silent.props file present in the Release 8.1.2.0.0 pack.	
	3.	Trigger the Release 8.1.2.0.0installation.	
Upgrade from OFS PFT Release v8.1.0.0.0 In this scenario, you are upgrading the application pack from Release 8.1.1.0.0 to Release 8.1.2.0.0	1.	Clone your existing environment to the 8.1.2.0.00FS Analytical Applications Technology Matrix	
	2.	Run the Environment Check Utility tool and ensure that the hardware and software requirements are installed as per the TechStack.	
	3.	Trigger the Release 8.1.2.0.0installation.	

### Table 8-1 Upgrade Scenarios

# 8.2 Prepare for Upgrade

Before you install/upgrade any of your application packs to Release v8.1.2.0.0, ensure that all the application packs in your current OFSAA instance are available in Release v8.1.2.0.0 or later version.

Contact My Oracle Support (MOS) for more information about the release version details.



#### Note:

The minimum supported version is 8.1.1.0.0. If upgrading from a release before 8.1.0.0.0, then first upgrade to 8.1.1.0.0 or later. After this step, you can upgrade to 8.1.2.0.0.

Before starting upgrade, follow these steps:

- 1. Back up the OFSAA schemas from the Oracle Database server.
- Backup the following environment files: from the OFS\_PFT\_PACK>/schema\_creator/ conf directory:
  - OFS\_PFT\_PACK.xml
  - OFS\_PFT\_SCHEMA\_IN.xml
  - OFSAAI\_InstallConfig.xml
  - See the OFS Analytical Applications Technology Matrix, Release 8.1.2.0.0 for the hardware and software required to upgrade to OFS AAAI Release 8.1.2.0.0.
  - Enable unlimited cryptographic policy for Java. For more information, see the *Enabling Unlimited Cryptographic Policy* section in the OFS Analytical Applications Infrastructure Administration and Configuration Guide.

## 8.2.1 Update the Silent.props File

Update the Silent.props file present in the Release 8.1.2.0.0 pack. In the installer kit path OFS\_PFT\_PACK/appsLibConfig/conf/, rename the Silent.template file to Silent.props. Edit the Silent.props file and modify only the following parameters.

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 PFT PACK/appsLibConfig/conf directory.
- 2. Open the Silent.props file and edit only the following parameters:

Property Name	Description of Property	Permissible Values	Comments
UPLOAD_MODEL	Whether you want to	0: No	Mandatory
	perform the Model Upload.	1: Yes	
MODEL_TYPE The released data model or a customized data model.	0: Released	Mandatory only if you	
	1: Customized	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.

#### Table 8-2 Parameters for the Silent.props File



Property Name	Description of Property	Permissible Values	Comments
DM_DIRECTORY	The file name for the customized data model.	Not Applicable	Mandatory only if you want to upload the customized data model.

### Table 8-2 (Cont.) Parameters for the Silent.props File

### Note:

Do not modify any other parameter in the silent.props file other than those mentioned in the previous table in case of an upgrade.

# 8.2.2 Trigger the Installation

To trigger the installation, follow these steps:

- 1. Navigate to OFS\_PFT\_PACK/bin folder.
- 2. Enter the following command in the console to execute the application pack installer. ./setup.sh SILENT

The installer proceeds with the pre-installation checks.

3. Enter the OFSAA Processing Tier FTP/SFTP password value and proceed, when prompted.

#### Figure 8-1 OFSAA Processing Tier FTP/SFTP Password Prompt

DB specific Validation Started Oracle Chient version : 11.2.0.2.0. Status : SUCCESS
CREATE SESSION has been granted to user. Status : SUCCESS
CREATE PROCEDURE has been granted to user. Status : SUCCESS CREATE VIEW has been granted to user. Status : SUCCESS
CREATE TRIGGER has been granted to user. Status : SUCCESS
CREATE MATERIALIZED VIEW has been granted to user. Status : SUCCESS
CREATE TABLE has been granted to user. Status : SUCCESS
CREATE SEQUENCE has been granted to user. Status : SUCCESS
SELECT privilege is granted for V \$nls_parameters view. Current value : SELECT. Status : SUCCESS NLS_LENGTH SHEMATICS : BYTE. Current value : BYTE. Status : SUCCESS NLS_CHARACTERSET : AL32UTF8. Current value : AL32UTF8. Status : SUCCESS
SELECT privilege is granted for V \$parameter view. Current value : SELECT. Status : SUCCESS
Open cursor value is greater than 1000. Current value : 1000. Status : SUCCESS SELECT privilege is granted for USER TS QUOTAS view. Current value : SELECT. Status : SUCCESS
SLEEL praviety is granted with at least 500 MB states view. Current value : 500 MB. Status : SUCCESS Schema is granted with at least 500 MB table space. Current value : 500 MB. Status : SUCCESS Oracle Server version Current value : 11.2.0.2.0. Status : SUCCESS DS specific Validation Completed. Status : SUCCESS
Environment check utility Status : SUCCESS
* Welcome to Oracle Financial Services Advanced Analytical Applications Infrastructure (OFS AAAI) Applications Pack Installation
Checking Infrastructure installation status
Infrastructure installation does not exist. Proceeding with Infrastructure installation Triggering Infrastructure installation
Please enter Infrastructure FTF/SFTF password :

4. The OFSAA License is displayed. Enter Y and proceed.

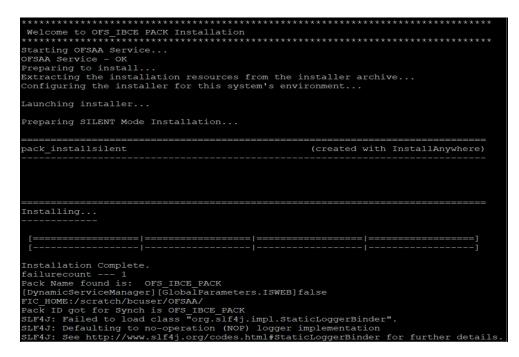


THAN ADDITION OF LICENS ADDITIONS TO ADDITIONS ADDITICONS ADDITIONS ADDITIONS ADDITIONS ADDITIONS ADDITION

Figure 8-2 Accept the OFSAA License Agreement

5. The OFS AAAI installation begins.

Figure 8-3 OFS PFT Installation



Data Model Upload may take several hours to complete.

- After the installation is successful, the following message is displayed in the console: Installation completed.
- 7. The OFSAA Infrastructure installation performs a post-install check automatically on the successful installation of the product.

# 8.3 Verify the Log File Information

See the following logs files for more information:

- Pack Install.log file in the OFS PFT PACK/logs/ directory.
- Infrastructure installation log files in the OFS PFT PACK/OFS AAI/logs/ directory.



- OFS\_EFPA\_installation.log file in the OFS\_PFT\_PACK/OFS\_EFPA/logs directory.
- OFS IPA installation.log file in the OFS PFT PACK/OFS IPA/logs directory.
- OFS RPA installation.log file in the OFS PFT PACK/OFS RPA/logs directory.

# 8.4 Post Upgrade Steps

Perform the following steps after completing the upgrade:

- OFS EFPA Application Steps
- Remove ContextDocLoader from the web.xml File
- Verify FSI\_DB\_INFO Entries
- Upgrade Script for Release 8.1 to Release 8.1.2 Upgrade (Optional)

# 8.4.1 OFS EFPA Application Steps

After the installation is complete, follow these steps:

- 1. Seed DIM\_COUNTRY with OTH and MSG with seeding script dim\_country.sql.
- 2. Revert values in the FCT\_MGMT\_REPORTING.N\_COUNTRY\_SKEY from backup taken earlier.

### 8.4.2 Remove ContextDocLoader from the web.xml File

To remove the ContextDocLoader from the web.xml file, follow these steps:

- 1. Navigate to the \$FIC\_WEB\_HOME/webroot/WEB-INF folder.
- 2. Open the web.xml file in a text editor.
- 3. 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>
```

4. Create and deploy the EAR/WAR files.

# 8.4.3 Verify FSI\_DB\_INFO Entries

After completing the upgrade process, verify data for the correct schema name (OWNER) and Tablespace (OUTPUT\_TABLESPACE) values in the FSI\_DB\_INFO table in the Atomic schema.



# 8.4.4 Upgrade Script for Release 8.1 to Release 8.1.2 Upgrade (Optional)

Run the following upgrade SQL script before upgrading the IPA, RPA, and EFPA applications if you are upgrading from Release 8.1.0.0.0.0 to Release 8.1.2.0.0. This step is optional.

```
CREATE TABLE BAK81_OFSA_OAM AS (SELECT * FROM
OFSA_OBJECT_APPLICATION_MAP)
/
DELETE FROM OFSA_OBJECT_APPLICATION_MAP
WHERE MD_FOLDER <> 'DEFAULT' and MD_CODE in
(
SELECT MD_CODE from
(
SELECT APP_ID, MD_CODE from OFSA_OBJECT_APPLICATION_MAP
WHERE APP_ID in ('OFS_IPA','OFS_RPA','OFS_EFPA')
group by APP_ID, MD_CODE having count(*) > 1
) T1
)
/
COMMIT
/
```

### 8.5 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.



# 9 Additional Configuration

You can use this checklist to have a glance at some additional configurations. The link provided in each step takes you to a section either within this document or to another referenced document.

SI. No.	Additional Configuration Activity
1	Add FTP/SFTP Configuration for File Transfer.
2	Configure the Infrastructure Server Memory.
3	Retrieve the Patch Information
4	Change IP or Hostname, Ports, Deployed Paths of the OFSAA Instance.
5	Configure the Infrastructure LDAP.
6	Configure and deploy the OFSAAI web services.
7	Enable the parallel execution of DML statements.
8	Configure the message details in the Forms Designer.
9	Clear the application cache.
10	Configure the password changes.
11	Configure the Java Virtual Machine.
12	Configure the internal service (Document Upload/ Download).

Table 9-1 Additional Configuration

### 9.1 Add FTP/SFTP Configuration for File Transfer

In OFSAA, certain modules require the transfer of files from the web application server to the OFSAA server over SSH.

Follow these steps to ensure the OFSAA server recognizes the web application server during file transfers.

- 1. Log in to the web application server.
- 2. Type sftp <user>@<OFSAA Server>.
- 3. Specify Yes when prompted for permission.

Are you sure you want to continue connecting (Yes/No)?

This will add an entry into the "known\_hosts" file.

4. A confirmation message is displayed:

Permanently added <OFSAA Server> RSA) to the list of known hosts.



### 9.2 Configure Infrastructure Server Memory

The memory settings for Infrastructure Application Server, Tomcat, WebSphere, and WebLogic can be edited for customizing memory settings and garbage collector settings depending on the available hardware configuration as explained in the following section. These settings are the bare minimum and have to be incremented considering the deployment metrics into account. The increments are usually handled in multiples of 128 MB for heap and 64 MB for the stack.

You can configure the Infrastructure Application Memory settings as follows:

- 1. Locate the .profile file.
- 2. Edit X\_ARGS field in this file for customizing memory settings and garbage collector settings depends on the hardware configuration.

This has a default value X\_ARGS="-Xms200m" X\_ARGS=" "\$X\_ARGS" \$DELIM - Xmx2048m"

#### Note:

Modify X\_ARGS\_APP variable in the .profile file to customize Java Memory Settings for Model Upload based on the Data Model size.

For Run and Rule executions, the following value is recommended:

```
X_ARGS_RNEXE="-Xms1g -Xmx1g -XX:+UseAdaptiveSizePolicy
-XX:MaxPermSize=512M -XX:+UseParallelOldGC
-XX:+DisableExplicitGC"
X_ARGS_RLEXE="-Xms1g -Xmx1g -XX:+UseAdaptiveSizePolicy
-XX:MaxPermSize=512M -XX:+UseParallelOldGC
-XX:+DisableExplicitGC"
```

### 9.3 Retrieve Patch Information

To identify the list of patches installed on your OFSAA setup, follow these steps:

- 1. Log in to the OFSAA application as a user with Object AdminAdvanced Role.
- 2. Navigate to Object Administration tab, expand Utilities, and click Patch Information.
- **3.** The window displays the list of patches installed on the OFSAA setup across Applications/Platforms.

# 9.4 Change IP/ Hostname, Ports, Deployed Paths of the OFSAAInstance

For information on this section, see OFS Analytical Applications Infrastructure Administration User Guide.



### 9.5 Set Infrastructure LDAP Configuration

For more information on LDAP configuration, see OFSAAI Administration Guide.

### 9.6 Configure OFSAAI Web Services

Web Services in OFSAAI is meant for exposing a web service to "asynchronously" or "synchronously" execute requested tasks offered by OFSAAI. The following configuration steps are to be done only if you are using the Web Services feature of OFSAAI.

### 9.7 Enable Parallel Execution of DML statements

A configuration file, OracleDB.conf is introduced to accommodate any configurable parameter related to operations on the oracle database. If you do not want to set a parameter to a specific value, then the respective parameter entry can be removed/commented off form the OracleDB.conf file that resides in the path <code>\$FIC DB HOME/conf</code>.

As of now, the OracleDB.conf file has only one parameter namely CNF\_DEGREE\_OF\_ PARALLELISM. This parameter indicates the degree of parallelism to be used for a DML operation if parallel DML is explicitly enabled in the session with the ENABLE PARALLEL DML clause of the ALTER SESSION statement. The default mode of a session is DISABLE PARALLEL DML. If CNF\_DEGREE\_OF\_PARALLELISM is not set, then the default degree, as decided by Oracle will be used.

### 9.8 Configure Message Details in Forms Designer

You can configure the Message Details in Forms Designer under Data Entry Forms and Queries module by updating the details of the mail server in the NotificationConfig.cfg file that resides in the path <code>\$FIC APP HOME/common/FICServer/conf.</code>

Ensure that the "authorized User details" for whom you must configure the Message details are included in Administration > Security Management > User Administrator > User Maintenance window.

Update the following parameters in the "NotificationConfig.cfg" file:

Parameter	Description
SMTP_SERVER_IP	Specify the hostname or IP address of the SMTP Server.
SMTP_DEBUG_MODE	To run SMTP service in Debug mode, set value to 'true', otherwise set value to 'false'.
SMTP_AUTHORIZATION	Set to 'true' if the SMTP server requires the client to be authenticated, otherwise set to 'false'.
SMTP_USERNAME	Username required for logging into the SMTP server, if authentication is not required use a dummy value.
SMTP_PASSWORD	Password required for logging into the SMTP server. If authentication is not required, use false value.

#### Table 9-2 NotificationConfig.cfg File Attributes



Parameter	Description
SMTP_MAILID	If the Messages must go from a Particular ID that ID must be added. The exchange server forces you to set a valid ID that is there in the exchange server. (Based on Security settings)

Table 9-2	(Cont.) NotificationConfig.cfg File Attributes
-----------	--

### 9.9 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>

### 9.10 Configure Password Changes

This section explains about how to modify the OFSAA Infrastructure Config Schema and Atomic Schema passwords for non Wallet-based and Wallet-based setups.

### 9.11 Configure Java Virtual Machine

While running several database intensive tasks in parallel, fetching the database connection from the connection pool may face an error. To ensure no such error is encountered, add the line securerandom.source=file:/dev/./urandom in the java.security configuration file available in \$JAVA HOME/jre/lib/security/ path.

This must be configured on all the machines or virtual machines where the OFSAAI database components (ficdb layer) are installed.

### 9.12 Configure Internal Service (Document Upload/ Download)

This step can be ignored if it has already been configured as part of any previous IR/ML installation.



The Document Upload /Download feature has changed and can now be configured to use Internal service for document upload/download instead of the earlier ExeWebService.

To facilitate internal service for document upload/ download, perform the following configurations:

- 1. Create the directories download, upload, TempDocument, and Temp in the local path of the Web application server and provide Read/Write permission.
  - To find the exact location, execute the following query in the CONFIG schema: select localpath from web\_server\_info
  - To create directories with Read/Write permission, execute the command: mkdir -m 777 download upload TempDocument Temp
- 2. Create DocStorage directory in the FTPSHARE location of APP tier and provide Read/ Write permission.
  - To find the exact location, execute the query in the CONFIG schema: select ftpdrive from app\_server\_info
  - To create a directory with Read/Write permission, execute the command: mkdir -m 777 DocStorage

By default, the parameter DOCUMENT\_SERVICE\_TYPE\_EXTERNAL value is set to FALSE in the Configuration table in CONFIG schema and hence the application "ExeWebService" will not be used. It is recommended that the value be set to FALSE and use the Internal service for document upload/ downloads. If you intend to continue using the External ExeWebService, set the value to TRUE.

Navigate to \$FIC\_HOME/EXEWebService/<WEBSERVER\_TYPE> directory of WEB tier and type ./
ant.sh. This triggers the creation of the EAR/WAR file EXEWebService.ear/.war. The
EAR/WAR file EXEWebService.ear/.war is created in the \$FIC\_HOME/EXEWebService/
<WEBSERVER\_TYPE> directory of WEB tier. Redeploy the generated EAR/WAR file onto your
configured web application server.



## 10 Installing OFS Performance Analytics pack 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. For example, OFS Profitability Management pack (OFS PAM Pack) is already installed and now you want to install OFS Performance Analytics Pack (OFS PFT Pack).

For installation instructions the OFS Performance Analytics Pack (OFS PFT Pack), see the Installation section.



## 11 RPD, Catalog Deployment, and D3 Configuration for OAS and OBIEE

This chapter provides the configuration procedures for RPD, Catalog Deployment, and D3 for OAS and OBIEE.

Topics:

- Data Visibility
- Deploying the Report Analytics
- Deploying D3 on the OBIEE Server

### 11.1 Data Visibility

This has been implemented with the set of tables and OBIEE roles. Roles Created in OBIEE is to restrict data based on Manager Hierarchy.

### 11.1.1 Creating OBIEE Roles

To create the OBIEE Roles, follow these steps:

- 1. Open the Admin Console of OBIEE.
- 2. Click on Security Realms under Domain Structure.
- 3. Click on myrealm under Realms.



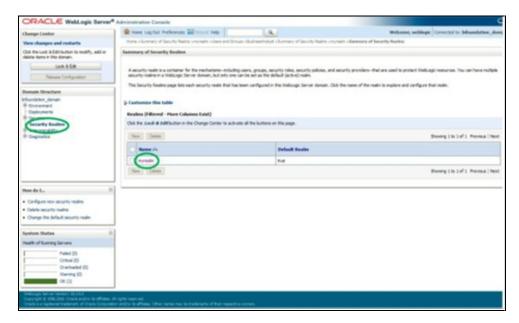


Figure 11-1 WebLogic Server Administration Console – Security Realms

4. Click on Groups tab of User and Groups.

Figure 11-2 Groups Tab

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	- 10	Configuration (them and Groups) Rales and Polices: Oxelented Heppings: Providers   Higheliter					
Look & Date	16	Litera Groups					
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Delete groups		CoeDomahCorrectors	CrossDenanConnectors can make inter-damain calls from fersign-domains.		Ovfe.Al-beritator		
	_	E Orginyers	Deployers can view all resource attributes and deploy applications.		DefailAutericator		
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5. Click on New and create new user group as 'Restricted Access'.



#### Figure 11-3 New User Group Creation

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· Crede proge						
<ul> <li>Holly proces</li> </ul>						
- Delete proves						
· Create users						

6. Create a new user under Users tab of Users and Groups.

Change Center	Have Lig Out Meferences	😰 Hone Lap O.X. Hefereness 🔛 Hener Hefer					
View changes and restarts	Name robert and Dimiter obtained	None Coast and Douge (Raman Federal Conners) of Security Radius consult). (Conners) of Security Radius consult) (SecUrity Radius Consult) (Security Radius Consult) (Security Radius Consult))					
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Dunain Structure	The page distingt information of	and each user that has been configured in the security reals.					
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Enumerate Conformation	<b>P</b> Contamize this table						
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Critical (33							
Overlaaded (D) Harring (D)							
06.02							
04.04							

Figure 11-4 New User Creation

7. Map the newly created users to 'Restricted Access' group, which need Data Visibility.

#### Figure 11-5 Mapping New Users to Restricted Access Group

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Dumain Structure	Use this pape to configure group membership for this user.					
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Now do 1	Ina					



- 8. Close the Admin Console of OBIEE.
- 9. Open Enterprise Manager of OBIEE.
- 10. Click on biinstance under Business Intelligence.

Figure 11-6 BI Instance

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Wescape Coman     Wescape Coman	sms without being prioripted to kig in again at each of them. If 550 is enabled then Crac	Apply
	and multiple	

11. Click on **Security** under biinstance.

Figure 11-7 Security Tab

Business Intelligence Ins	
Single Sign On	
Single Sign On (SSO)	
SSO enables a user to log in once	and gain access to all systems without being prompted to log in again at each of them. If SS
Enable SSO	
The SSO Provider Logoff URL	/bi-security-login/logout?redirect=/analytics
Security Realm	
Go to the Oracle WebLogic Ser	ver Administrator Console to configure and manage the WebLogic security realm.
Application Policies and	Roles
Configure and Manage Applica	tion Policies
Configure and Manage Applica	Non Dates

- **12.** Click on **Configure and Manage Application Roles** to create Application Roles.
- **13.** Map the newly created user group **Restricted Access** to the **BI Consumer Role**.
- 14. Click on **Create** and name as **OFSAA CI Data Visibility MGR** role . Ensure to use the same name as it is referenced in RPD failed to do this should have access to all reports data.



#### Figure 11-8 Create Application Role

	pplication F		ers designed at the enterg	rise level and typically used to	assion a privile	e or permission. A role can also contain other roles as members.	
Seneral							
A	oplication Stripe	obi			Role Name	]	
	* Role Name	OFSAA C	CI Data Visibility - MGR		- name		
	Display Name	Users gra	inted this role will have re	stricted access to data.			
	Description			1.			
Members In application	role may need to	be mapped	to users or groups define	d in enterprise LDAP server, o	the role can be	mapped to other application roles.	
View *	+ Add 🗙 🕯	elete	Detach				
Name							
No groups or	application roles a	dded.					
4							

15. Map the user group, which need data visibility to the OFSAA CI Data Visibility – MGR.

Figure 11-9 OFSAA CI Data Visibility- MGR

biinstance	o Intelligence Instance v				
Application Ro	les				
Application roles are the	e roles used by security	aware applications	that are specific to the	te application. These roles are seeded by applications in single global policy store when the applications are registered. These are also app	
Policy Store Prov	ider				
Search					
	or sole energy to every sole	an defined by this :	and a star line and	ication stripe to search if application uses a stripe that is different from application name.	
Criter search keyword i				након экре то теалог и аррисанов мета а экре тик и оперет пол аррисанов накте.	
	Application Stripe	001	*		
	Role Name	Starts With 🛩		•	
Vew v 🕌 Crea	te 🖹 Create Li	/ Edt.	X Delete		
1					
Role Name		Display Name		Description	
BIServiceAdminist	rator	BI Service Admini	strator	This role confers privileges required to administer the sample application.	
BIContentAuthor		<b>BI</b> Content Author		Users with this role can create most types of content.	
BIConsumer		BI Consumer		Users granted this role can consume content but are restricted in what they can create.	
OFSAA CI Data VI	sibility - MGR	Users granted this	s role will have restric	£	
4 Membership	for OFSAA CI Dat	ta Visibility - M	MGR		
Principal	Display Name	Name Type D		Description	
r timespan	Restricted Access Group R			Restricted access to data	

### 11.1.2 Data Population as per Visibility Changes

- FSI\_M\_USER: This table stores all the users that have access to OBIEE. The User ID in this table must match the user's login ID of OBIEE.
- FSI\_M\_USER\_MANAER\_MAP: This table needs only those users details who need Restricted Access. The V\_USERNAME has to be inserted with the login username created in OBIEE. V\_MANGER\_CODE has to be inserted with the manager code of the corresponding user from DIM\_MANAGEMENT table. V\_USER\_TYPE is updated as 'R' which denotes Restricted Access. Fail to update this table may end up with report errors.



#### Note:

Users insertion in FSI\_M\_USER and FSI\_M\_USER\_MANAGER\_MAP has to be done directly into the table. For example, in presence of Single Signon System, these tables need to be loaded with data from Single Signon System directly.

### 11.2 Deploying the Report Analytics

The deployment of IPA, RPA, and EFPA Report Analytics involves the following tasks:

Topics:

- Port OBIEE Artifacts to Oracle Analytics Server
- Deploying OFS RPA RPD File
- Deploying OFS RPA Catalog Files

### 11.2.1 Port OBIEE Artifacts to Oracle Analytics Server

You can deploy the OBIEE artifacts in two ways as follows:

- Directly deploy the artifacts distributed with OFSAA on the Oracle Analytics Server (OAS).
- Perform an in-place upgrade from OBIEE to OAS and deploy the artifacts. For more information, see Upgrade from Oracle Business Intelligence 12c documentation.

Note:

See the MOS Doc ID 2648055.1 to confirm if your application or pack is certified for Oracle Analytics Server.

### 11.2.2 Deploying OFS IPA, RPA, and EFPA RPD Files

To deploy the RPD file, follow these steps:

**1.** Copy the RPD file from the following location for the IPA, RPA, and EFPA applications.

#### Table 11-1 RPD Files

Application	File Name	Location
IPA and RPA	OFSAA_Analytics.rpd	\$FIC_HOME/ OFS_RPA_DASHBOARDS/ 12.2.1.4.0/datamode I
EFPA	OFS_EFPA_Analytics.rpd	\$FIC_HOME/ OFS_EFPA_DASHBOARDS/ 12.2.1.4.0/datamod el



Note:

It is recommended to merge the OFSAA\_Analytics.rpd and OFS\_EFPA\_Analytics.rpd files by creating fresh dummy.rpd files. You can then ignore the merge issues. Keep the merged rpd as the base in order to avoid the merge errors.

- 2. Paste the copied RPD file in the Windows machine where the OBIEE Windows Administration client or OAS Analytics client is installed and deploy. For more information on deployment, refer to your OBIEE 12c or OAS documentation.
- 3. Open the RPD file online with the default password.

#### Note:

The RPD files are configured with a default password, which you require to open for the first time. See the MOS Doc ID: 2691681.1 for the password.

- 4. In the OBIEE Windows Administration client, from the File menu, select Save.
- 5. Click Yes in the dialog box, Do you want to check global consistency?
- Click OK to acknowledge the message, Consistency check didn't find any errors, warning, or best practices violations. You can ignore the warnings on the consistency check.

### 11.2.3 Deploying IPA, RPA, and EFPA Catalog Files

To deploy the Catalog files, follow these steps:

**1.** Copy the Catalog files from the following locations for the OFS IPA and OFS RPA application.

Application	File Name	Location
IPA	OFSAA_Analytics.catalog	\$FIC_HOME/ OFS_IPA_DASHBOARDS/ 12.2.1.4.0/conten
		t/catalog
IPA	OFSAA_Analytics_IPA.catalog	\$FIC_HOME/ OFS_IPA_DASHBOARDS/ 12.2.1.4.0/conten
		t/catalog
RPA	OFSAA_Analytics_RPA.catalog	\$FIC_HOME/ OFS_RPA_DASHBOARDS/ 12.2.1.4.0/conten t/catalog

#### Table 11-2 Catalog Files



Application	File Name	Location
EFPA	<ul> <li>OFS_EFPA_Management Reporting.catalog</li> <li>OFS_EFPA_Financial Reporting.catalog</li> </ul>	\$FIC_HOME/ OFS_EFPA_DASHBOARDS/ 12.2.1.4.0/conte nt/catalog

#### Table 11-2 (Cont.) Catalog Files

- 2. Paste the copied catalog files to a local folder.
- 3. Open the analytics OBIEE or OAS URL-(http://<ipaddress>:<port>/analytics) and login with your server credentials.
- 4. Click the **Catalog** link available on the top right corner.
- 5. Click Shared Folders and then click Un-Archive.
- 6. Browse the path where catalog files are copied in the local folder. Select a file and click **Open**. Click **OK**. Repeat this for the remaining catalog files.
- 7. Click any of the **Dashboards** and verify if all the reports are available.

### **11.3 Post-Installation Steps**

After successfully deploying the RPD and Catalog files, perform the following steps:

- Apply the patch Bundle Patch for OBIEE 12.2.1.4.0. See the Readme packaged with the patch for further instructions on how to install the patch. See the Doc ID 2070465.1 for more information about the bundle patch.
- 2. Do the following changes in the instanceconfig.xml file:
  - a. Backup and edit the instanceconfig.xml file located at: \$ORACLE\_HOME/user\_projects/domains/bi/config/fmwconfig/biconfig/ OBIP S



Tag to be changed or added	Changes		
Change the following tag:	<charts></charts>		
<views></views>	<defaultwebimagetype>html5<!--<br-->DefaultWebImageType&gt;</defaultwebimagetype>		
	<maxvisiblecolumns>10000<!--<br-->MaxVisibleColumns&gt;</maxvisiblecolumns>		
	<maxvisiblepages>600000<!--<br-->MaxVisiblePages&gt;</maxvisiblepages>		
	<maxvisiblerows>900000<!--<br-->MaxVisibleRows&gt;</maxvisiblerows>		
	<maxvisiblesections>600000<!--<br-->MaxVisibleSections&gt;</maxvisiblesections>		
	<javahostreadlimitinkb>8192<!--<br-->JavaHostReadLimitInKB&gt;</javahostreadlimitinkb>		
	<cube></cube>		
	<cubemaxrecords>9999999<!--<br-->CubeMaxRecords&gt;</cubemaxrecords>		
	<cubemaxpopulatedcells>999999999<!--/CubeMaxPopulatedCells--></cubemaxpopulatedcells>		
Change the followingtag:	<security></security>		
<security></security>	<checkurlfreshness>false<!--<br-->CheckUrlFreshness&gt;</checkurlfreshness>		
	<enablesavingcontentwithhtml>true<!--<br-->EnableSavingContentWithHTML&gt;</enablesavingcontentwithhtml>		
Add the following tag:	<prompts></prompts>		
<serverins tance=""></serverins>	<maxdropdownvalues>256<!--<br-->MaxDropDownValues&gt;</maxdropdownvalues>		
	<resultrowlimit>65000</resultrowlimit>		
	<autoapplydashboardpromptvalues>true<!--<br-->AutoApplyDashboardPromptValues&gt;</autoapplydashboardpromptvalues>		
	<autosearchpromptdialogbox>true<!--<br-->AutoSearchPromptDialogBox&gt;</autosearchpromptdialogbox>		
	<autocompletepromptdropdowns></autocompletepromptdropdowns>		
	<supportautocomplete>true<!--<br-->SupportAutoComplete&gt;</supportautocomplete>		
	<caseinsensitive>true</caseinsensitive>		
	<matchinglevel>MatchAll</matchinglevel>		
	<resultslimit>50</resultslimit>		
	<shownullvaluewhencolumnisnullable>nev r</shownullvaluewhencolumnisnullable>		

 Table 11-3
 Tags and Changes for instanceconfig.xml File

**b.** Save and close the file.

c. Restart the presentation server for the changes to take effect.

3. Do the following changes in the NQSConfig.INI file. Evaluate function is used in filters of many reports. To support the evaluation function in reports, the value of EVALUATE\_SUPPORT\_LEVEL must be set as 2 instead of 0 in the NQSConfig.INI file of the OBIEE server present in the \$ORACLE\_HOME/user projects/domains/bi/config/fmwconfig/biconfig/OBIS directory.

### 11.4 Deploying D3 on OBIEE Server

This section provides detailed steps to install and configure D3, a visualization framework, which is used in a few reports of the OFS RPA application.

To deploy the D3 in the OBIEE server, follow these steps:

- Copy the analyticsRes folder from \$FIC\_HOME/OFS\_RPA\_DASHBOARDS directory to OBIEE Server at the following location: \$ORACLE\_HOME/user\_projects/domains/
- 2. Log in to the WebLogic server, navigate to **Deployments** in your Domain Structure, and then click **Install**.

Figure 11-10 WebLogic Administration Console

Change Center	🙆 Home Log Out Preferences 🗠 Record Help			
View changes and restarts	Home >Summary of Deployments			
No pending changes exist. Click the Release	Summary of Deployments			
Configuration button to allow others to edit the domain.	Configuration Control Monitoring			
Lock & Edit				
Release Configuration	This page displays the list of Java EE applications and standalone application modules installed to this dou			
Domain Structure	You can update (redeploy) or delete installed applications and modules from the domain by selecting the			
bi	To install a new application or module for deployment to targets in this domain, click Install.			
Domain Partitions	© Customize this table			
Environment				
Deployments     Services				
Security Realms	Deployments			
Interoperability     Diagnostics	Install Update Delete			
tar plagnosics	🔲 Name 🌣			
	adf.oracle.businesseditor(1.0,12.2.1.1.0)			
	eff.oracle.domain(1.0,12.2.1.1.0)			
	adf.oracle.domain.webapp(1.0,12.2.1.1.0)			
How do L	E E madminum (11.1.1)			
How do I 🖂  Install an enterprise application	B Condminservice (11.1.1)			
	E Cashing administration (11.1.1)     E Cashing administration (11.1.1)     E Cashing administration (11.1.1)			

3. Paste the full path of the D3 directory, select D3 (open directory), and click Next.



Change Center	A Home Log Out Preferences	Record Help		
View changes and restarts	Home > Summary of Deployments			
No pending changes exist. Click the Release Configuration builton to allow others to edit the domain.	Install Application Assistant			
Release Configuration	Locate deployment to initial and prepare for deployment Select the file path that represents the application reod directory, arthough file, exploded archive directory, or application module descriptor that you want to initi			
Domain Structure	Note: Only valid file paths are displa	ayed below. If you cannot find your deployment files, Upload your file(s) and/or confirm that your application contains the required deployment descriptors.		
bi ® Consin Partitions ® Environment — Consignments ® Sancies Sacurity Rains ® Interoperability ® Chagnetics	Path: Recently Used Paths: Current Location:	/scratch/obies12c/Middleware/Oracle_Home/user_projects/domains/analyticsRes/d3 /scratch/obies12c/Middleware/Oracle_Home/user_projects/domains/analyticsRes wh00blokuk.wasde.com / scratch / sheet2c/ /Middleware / Oracle_Home / user_projects / domains / analyticsRes		
	* 2 d3 (seen drectory) Back Ment Pinish (Cancel			

4. Select Install this deployment as an application and click Next.

ORACLE WebLogic Server Ad	ninistration Console 12c
Change Center	🕼 Home Log Out Preferences 🗠 Record Help
View changes and restarts	Kone >Sunmary of Deployments >Summary of Services >Summary of Deployments
No pending changes exist. Click the Release	Install Application Assistant
Configuration button to allow others to edit the domain.	(Back [Next] [Finish] [Cancel]
Release Configuration	Choose installation type and scope Select if the deployment should be installed as an application or library. Also decide the scope of this deployment.
Domain Structure	The application and its components will be targeted to the same locations. This is the most common usage.
bi ®-Domain Partitions ®-Environment	(i) Install this deployment as an application
Deployments	Application libraries are deployments that are available for other deployments to share. Libraries should be available on all of the targets running their referencing applications.
Services     Security Realms     Printeroperability	Install this deployment as a library
B Diagnostics	Select a scope in which you want to install the deployment.
	Scope: Global •
	(Back Ned) [Finith] [Cancel

Figure 11-12 Installation Type Selection

5. Select **bi\_cluster**, and then select **All servers in the cluster**.



Change Center	🙆 Home Log Out Preferences 🖾 Record Help			
View changes and restarts	Home >Summary of Deployments >Summary of Services >Summary of Deployments			
View changes and restarts No pending changes exist. Click the Release Configuration button to allow others to edit the domain. Lock & Edit Release Configuration Domain Structure bi Domain Partitions Domain Partitions Deferminent	Install Application Assistant           Back         Next         Enish         Cancel           Select deployment targets         Select the servers and/or clusters to which you want to deploy this application. (You can reconfigure deployment target Available targets for d3 :			
Deployments     -Deployments     -Security Realms     -Interoperability     Diagnostics	Servers AdminServer Clusters bi cluster Part of the cluster bi_server1			
How do I	Virtual Hosts			
<ul> <li>Start and stop a deployed enterprise application</li> </ul>	bi_internal_virtualhost1			
Configure an enterprise application     Create a deployment plan	Back Next Finish Cancel			

#### Figure 11-13 Deployment Targets

6. Select I will make the deployment accessible from the following location (as highlighted in the following screenshot) and click Finish.

Figure 11-14 Optional Settings

ORACLE WebLogic Server Adr	ninistration Console 12c				
Change Center	😧 Home Log Out Preferences 📈 Record Help				
View changes and restarts	Home >Summary of Deployments >Summary of Services >Summary of Deployments				
No pending changes exist. Click the Release Configuration button to allow others to edit the domain. Look & Edit Release Configuration	Install Application Assistant           Back_inst.         Finish_icanosi           Optional Settings         You can modify these settings or accept the defaults.				
Domain Structure	* Indicates required fields				
bi #: Comain Partitions #: Environment -: Deployments #: Sancies :: Sancies :	General What do you want to name this deployment? *Name: d3 - Security What security model do you want to use with this application? @ DD Onlys Use only roles and policies that are defined in the deployment descriptors. Custom Roles: Use roles that are defined in the Administration Console; use policies that are defined in the deployment descriptor.				
How do I	Custom Roles and Policies: Use only roles and policies that are defined in the Administration Console.				
Start and stop a deployed enterprise application     Configure an enterprise application     Oratin a deployment plan     Target an enterprise application to a server instance     Test the modules in an enterprise application	Advanced: Use a custom model that you have configured on the realm's configuration page.     Source Accessibility -     How should the source files be made accessible?     O Use the defaults defined by the deployment's targets     Recommended selection.				
System Status	Copy this application onto every target for me				
Health of Running Servers as of \$132 AM	During deployment, the files will be copied automatically to the Managed Servers to which the application is targeted.				
Failed (0) Critical (0)	I will make the deployment accessible from the following location				
Overloaded (0) Warning (0) OK (2)	Location: /scratch/obiee12cr/Middleware/Oracle_Home/user_projects/dc				

7. Click Activate Changes.

Change Center	🙆 Home Log Out Preferences 🔤 Record Help	Q		
View changes and restarts	Home >Summary of Deployments >Summary of Services >Summary of De	ployments		
Pending changes exist. They must be activated to take effect.	Messages  The deployment has been successfully installed.			
Activate Changes	You must also activate the pending changes to commit this, and other updates, to the active system.			
Undo All Changes	Summary of Deployments			
Domain Structure	Configuration Control Monitoring			
<ul> <li>Domain Partitions</li> <li>Environment</li> <li>Deployments</li> <li>Services</li> <li>Security Realms</li> <li>Toteroperability</li> <li>Diagnostics</li> </ul>	This page displays the list of Java EE applications and standalone app You can update (redeploy) or delete installed applications and modul To install a new application or module for deployment to targets in th Customize this table Deployments	les from the domain by selecting the checkbox next to the application name and then using the	he controls	
	Install Update Delete			
	🖸 Name 🙈	State	e Healt	
How do I	adf.oracle.businesseditor(1.0,12.2.1.1.0)	Active	2	
Install an enterprise application	adf.oracle.domain(1.0,12.2.1.1.0)	Active		
			8	
Configure an enterprise application     Update (redeploy) an enterprise application	adf.oracle.domain.webapp(1.0,12.2.1.1.0)	Active		

#### Figure 11-15 Summary of Deployments

8. After activating the changes, the application is in a **Prepared** state. Select the **Control** tab. All the installed applications are displayed. Select the application from the **Deployments** table, click **Stop**, and then select **Force stop now** from the drop-down menu.

#### Figure 11-16 Customize the Deployed Applications

ORACLE WebLogic Server Ada	ninistration Console 12c			
Change Center	🕜 Home Log Out Preferences 🔤 Record Help			
View changes and restarts	Home >Summary of Deployments >Summary of Services >Summary of Deployments			
Click the Lock & Edit button to modify, add or delete items in this domain.	Summary of Deployments			
Lock & Edit	Configuration Control Monitoring			
Release Configuration	This page displays the list of Java EE applications and standalone application modules installed to this domain.			
Domain Structure	You can start and stop applications and modules from the domain by selecting the checkbox next to the application name	and then using the contr	ols on this p	Jage.
bi Domain Partitions D-Environment Deployments D-Services	© Customize this table Deployments			
Security Realms	Start v Stop v			
⊕-Interoperability ⊕-Diagnostics	Nam Force stop now	State	Health	Туре
	B bi Stop, but continue servicing administration requests	Active	Ø OK	Enterprise Application
	B bidatasetsvc	Active	🖋 ОК	Enterprise Application
	B bimad (11.1.1)		Ø OK	Enterprise Application
How do I	D bipublisher (11.1.1)	Active	🖋 ОК	Enterprise Application
Configure an enterprise application	E bisearch		🖋 ОК	Enterprise Application
Start applications and modules	□ Bitech-analysis-application		🖋 ОК	Enterprise Application
Stop applications and modules	■ biwssoa (12.1.3)		Ø OK	Enterprise Application
<ul> <li>View the modules of an enterprise application</li> <li>Monitor the modules of an enterprise</li> </ul>	coherence-transaction-rar	Active	🖋 ОК	Resource Adapter
Monitor the modules of an enterprise application	e e da	Prepared	🖋 ОК	Web Application

 Start the application by selecting the check box next to it and then select Servicing all requests from the Start drop-down menu in the Deployments table in the WebLogic Server Administration Console.



Change Center	Hor	me Log Out Prefe	rences 🛃 Rec	Help Q			
View changes and restarts	Home >Summary of Deployments >Summary of Services >Summary of Deployments						
Click the Lock & Edit button to modify, add or delete items in this domain.	Summary of Deployments						
	Config	uration Control	Monitoring				
Release Configuration	This	page displays the l	ist of Java EE ap	itions and standalone application modules installed to this domain.			
Domain Structure				ules from the domain by selecting the checkbox next to the application name and then us	sing the contr	rols on this c	
bi	© Customize this table Deployments						
	Start v Stop v						
	Servicing all requests Servicing only administration requests Heal					Health	
		E bicontentserve			Active	🖋 ОК	
		bidatasetsvc     ■			Active	🖋 ОК	
	□				Active	🖉 ОК	
How do I		🗄 bipublisher (11	.1.1)		Active	🖋 ОК	
Configure an enterprise application     Start applications and modules     Stop applications and modules     View the modules of an enterprise application     Monitor the modules of an enterprise     application		💷 🗄 bisearch			Active	🖉 ОК	
		the bitech-analysis-application				🖋 ОК	
		■ 🗄 biwssoa (12.1.3)			Active	🖋 ОК	
	coherence-transaction-rar				Active	🖋 ОК	
					Prepared	Ø OK	

#### Figure 11-17 Customize the Deployed Applications

**10.** The application changes to the **Active** state and is ready to use.



# 12 Migrate Excel Upload Functionality

This section provides detailed instructions to migrate excel upload functionality.

Topics:

- Prerequisites
- Migrate Excel Upload



# 13 Frequently Asked Questions (FAQs) and Error Dictionary

This section consists of resolution to the frequently asked questions and error codes noticed during OFSAAI installation.

- Frequently Asked Questions
- Error Dictionary



# A Packaging the Python Libraries

To package the Python libraries, follow these steps:

- 1. The following sample installation steps are performed on Oracle Enterprise Linux 7.x.
- 2. Ensure that Oracle Enterprise Linux 7.x is installed.
- 3. Verify these libraries using the yum list as shown in the following command: yum list installed | grep libffi

Figure A-1 Python Libraries Verification

<pre>\$ yum list installed   grep libff</pre>	1	
libffi.i686	3.0.13-19.el7	@ol7_latest
libffi.x86 64	3.0.13-19.e17	@ol7 latest
libffi-devel.i686	3.0.13-19.el7	@ol7 latest
libffi-devel.x86 64	3.0.13-19.el7	@ol7 latest

#### Note:

If any lib is not installed, then install it using the above command one-by-one.

- 4. Install the following libraries using the following commands:
  - yum install libffi.i686
  - yum install libffi.x86 64
  - yum install libffi-devel.i686
  - yum install libffi-devel.x86 64
- 5. Ensure that the version of Python is 3.8.3 using the following commands: export http proxy=www-proxy-idc.in.oracle.com:80

exporthttps proxy=www-proxy-idc.in.oracle.com:80

wget https://www.python.org/ftp/python/3.9.4/Python-3.9.4.tgz tar xzf Python-3.9.4.tgz

cd Python-3.9.4

./configure--prefix=\$HOME/Python-3.9.4 --enable-optimizations -- withoutensurepip

make install

- 6. Add \$HOME/Python-3.9.4/bin in PATH in the .profile file.
- 7. After Python installation, execute the following command to install the setup tools:
  - a. Verify if pip3 is installed using the following command: Run pip3
  - b. If pip3 is not installed, then install it using the following command:



```
curl https://bootstrap.pypa.io/get-pip.py -o get-pip.py python3
get-pip.py
```

- c. Re-verify by executing: pip3 command (step a).
- 8. Install the Python libraries using the following commands:

```
pip3 install numpy==1.19.4 pip3 install pandas==1.2.4
pip3 install scikit-learn==0.24.2 pip3 install scipy==1.6.3
pip3 install seaborn==0.10.1 pip3 install statsmodels==0.12.2 pip3
install matplotlib==3.2.2
pip3 install imbalanced-learn==0.7.0 pip3 install cx_oracle==8.1.0
pip3 install sqlalchemy==1.3.18 pip3 install pmdarima==1.8.2
```

- 9. Python set up tools 57.0.0 wheel 0.36.2
  python3 -m pip3 install --user --upgrade setuptools==57.0.0
  wheel==0.36.2
- **10.** If you face an SSL Error:
  - Offline Installation of setuptools Download setuptools wheel from the following link:

wget https://files.pythonhosted.org/ packages/44/a6/7fb6e8b3f4a6051e72e4e2218889351f0ee484b 9ee17e995f5ccff780300/setuptools-50.3.0-py3-none-any.whl

pip3 install setuptools-50.1.0-py3-none-any.whl

Offline Installation of wheel
 Download wheel utility as

wget https://files.pythonhosted.org/ packages/a7/00/3df031b3ecd5444d572141321537080b40c1c25 e1caa3d86cdd12e5e919c/wheel-0.35.1-py2.py3-none-any.whl

pip3 install wheel-0.35.1-py2.py3-none-any.whl

