

Oracle Financial Services Customer Analytics Applications Pack

Installation and Configuration Guide

Release 8.1.2.0.0

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Financial Services

OFS Customer Analytics Applications Pack Installation and Configuration Guide

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Document Control

Version Number	Revision Date	Change Log
1.0	Dec-2021	Created the document with instructions for the installation of the OFS Customer Analytics Applications Pack Release 8.1.2.0.0.

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1 Preface

This section provides information about the Oracle Financial Services Customer Analytics Applications Pack (OFS CA 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](#) with the required login credentials to quickly notify us of any issues at any stage.

Topics:

- [Intended Audience](#)
- [How this Guide is Organized](#)
- [Related Documents](#)
- [Conventions](#)
- [Abbreviations](#)

1.1 Intended Audience

The Oracle Financial Services Customer Analytics Applications Pack (OFS CA 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:

- OFS Customer Analytics Application Pack components
- OFSAA architecture
- UNIX commands
- Database concepts
- Web server or web application server

1.2 How this Guide is Organized

The Installation Guide consists of the following sections:

- [Complete Installation Checklist](#)
- [Pre-installation](#)
- [Installation](#)
- [Post-installation](#)
- [Migrate Excel Upload Functionality](#)
- [Frequently Asked Questions \(FAQs\) and Error Dictionary](#)

1.3 Access to Oracle Support

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

1.4 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.

[OHC Documentation Library](#) for the Oracle Financial Services Customer Analytics Applications Pack (OFS CA Pack) Release 8.1.2.0.0:

- [Oracle Financial Services Retail Customer Analytics Release Notes, Release 8.1.2.0.0](#)
- [OFS Retail Customer Analytics User Guide Release 8.1.2.0.0](#)
- [Oracle Financial Services Retail Customer Analytics Security Guide, Release 8.1.1.x](#)
- [Oracle Financial Services Retail Customer Analytics Cloning Reference Guide, Release 8.1.1.x](#)

[OHC Documentation Library](#) for OFS AAI Application Pack:

- [OFS Analytical Applications Infrastructure Installation Guide Release 8.1.2.0.0](#)
- [OFS Analytical Applications Infrastructure User Guide Release 8.1.2.0.0](#)
- [OFS Analytical Applications Infrastructure Environment Check Utility Guide Release 8.1.x](#)
- [OFS Analytical Applications Infrastructure Application Pack Administration and Configuration Guide Release 8.1.x](#)
- [OFS AAI Application Security Guide Release 8.1.x](#)
- [OFS Analytical Applications Infrastructure Cloning Guide Release 8.1.x](#)
- [OFSAA Licensing User Manual, Release 8.1.2.0.0](#)

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.

Table 1: Document Conventions

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

Convention	Meaning
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 and internal document links.

1.6 Abbreviations

The following table lists the abbreviations used in this document:

Table 2: Abbreviations

Abbreviation	Meaning
AIX	Advanced Interactive eXecutive
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

Abbreviation	Meaning
MFA	Multi-Factor Authentication
MOS	My Oracle Support
OFSAA	Oracle Financial Services Analytical Applications
OFSAAI	Oracle Financial Services Analytical Application Infrastructure
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 Analytical Applications (OFSAA)

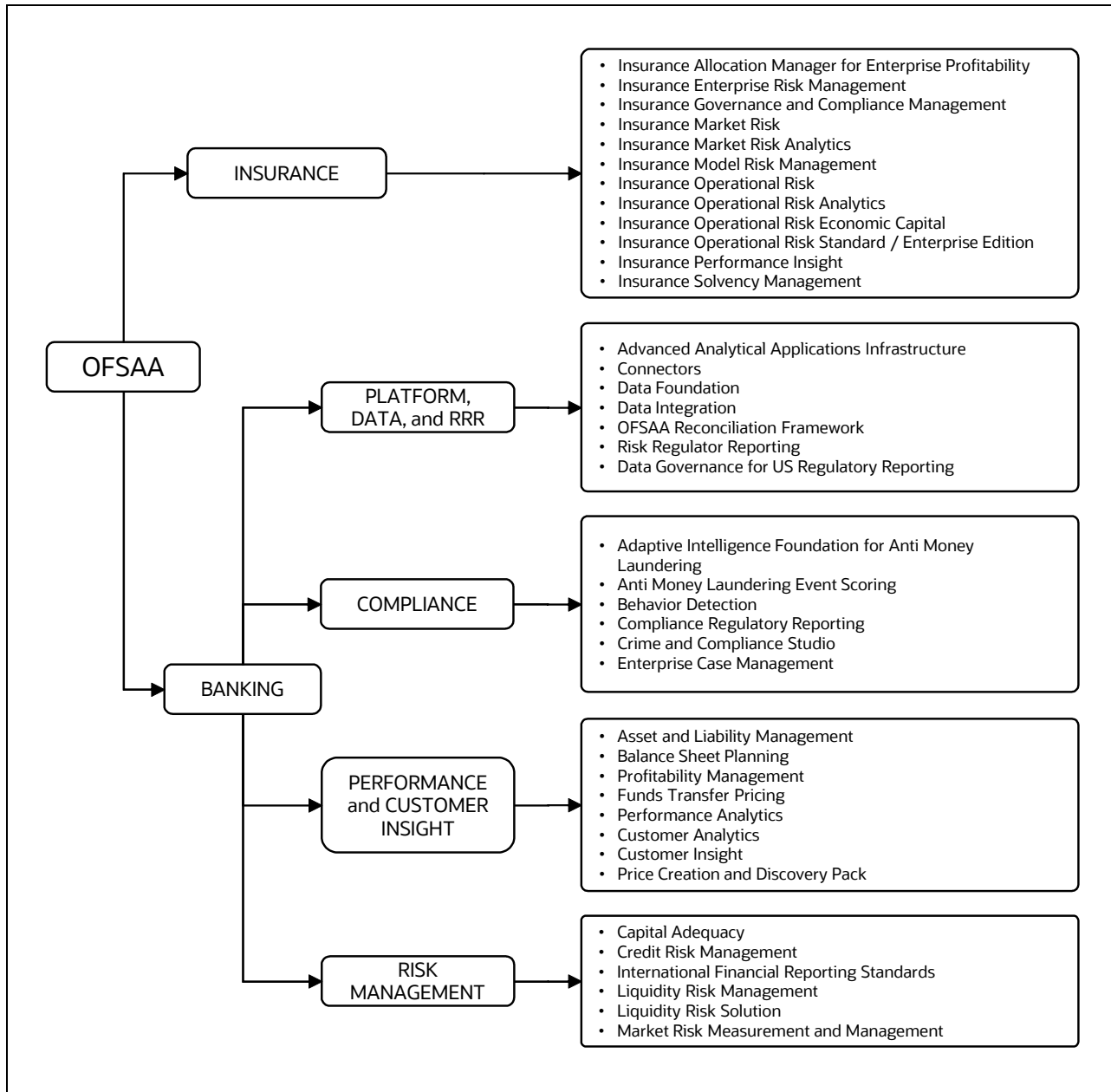
In today's turbulent markets, financial institutions require a better understanding of their risk-return, while strengthening competitive advantage and enhancing long-term customer value. Oracle Financial Services Analytical Applications (OFSAA) enable financial institutions to measure and meet risk-adjusted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

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

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

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

Figure 1: OFSAA Application Packs



Topics:

- [Oracle Financial Services Analytical Applications Infrastructure \(OFS AAI\)](#)
- [OFS Customer Analytics Applications Pack](#)

2.1 Oracle Financial Services Analytical Applications Infrastructure (OFS AAI)

Oracle Financial Services Analytical Applications Infrastructure (OFS AAI) 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.

Topics:

- [Components of OFSAA Infrastructure](#)
- [OFSAA Infrastructure High Availability](#)
- [Deployment Topology](#)

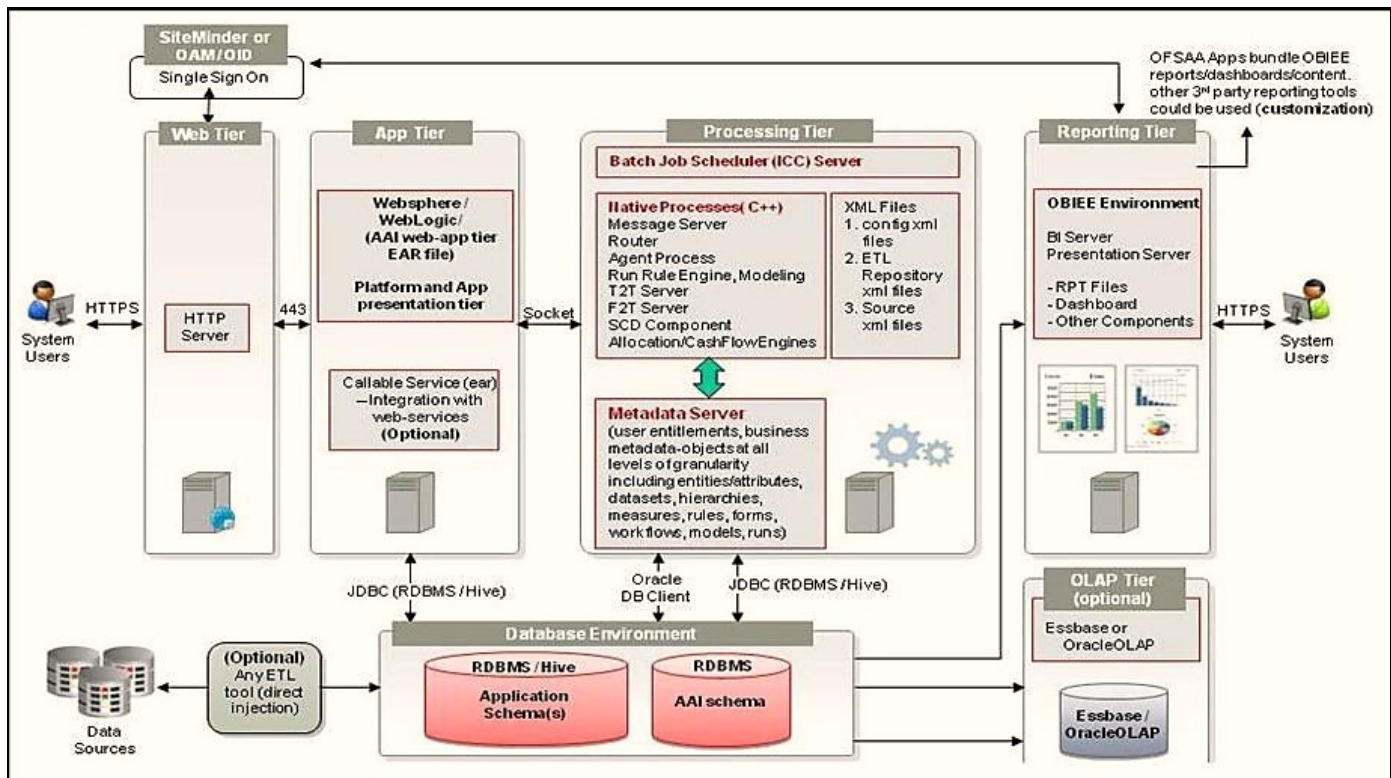
2.1.1 Components of OFSAA Infrastructure

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 run on the other. The UI and presentation layers are deployed on any of the supported J2EE Servers.

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

Figure 2: Components of OFSAAI



2.1.2 OFSAA Infrastructure High Availability

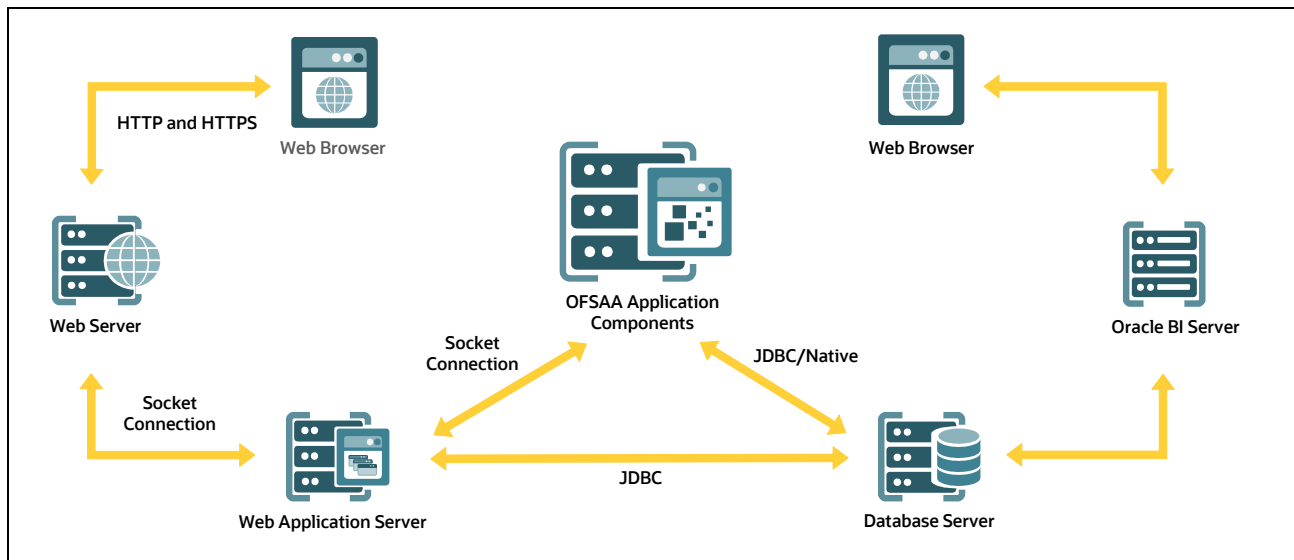
The current release of the OFSAA Infrastructure supports only the "Single Instance" installation for the Infrastructure components. However, the High Availability (HA) for the Database Server and/ or the Web application server clustering and deployment is supported in this release.

This release supports the Active-Passive model of implementation for OFSAAI components. For more information, see the [OFS Analytical Applications Configuration for High Availability Best Practices Guide](#).

2.1.3 Deployment Topology

The following figure illustrates the deployment topology of OFSAA application packs.

Figure 3: Logical Architecture Implemented for OFSAA Application Packs



2.2 OFS Customer Analytics Application Pack

OFS Customer Analytics Application Pack (OFS CA 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 CA 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 CA 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 Customer Analytics:** Oracle Financial Services Retail Customer Analytics (OFS RCA) is a complete end-to-end web-based Business Intelligence solution for Customer Analytics. It provides tools for data integration and includes customizable, pre-built dashboards and reports, a reporting data model, and user-friendly functional subject areas for ad-hoc reporting. It enables you to actively plan, manage, and track marketing investments with pre-built reports, dashboards, and underlying data structures.

2.3 OFS AAI Extension Pack

The Oracle Financial Services Analytical Applications Infrastructure Extension (OFS AAIE) Pack adds a set of new advanced features for the 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

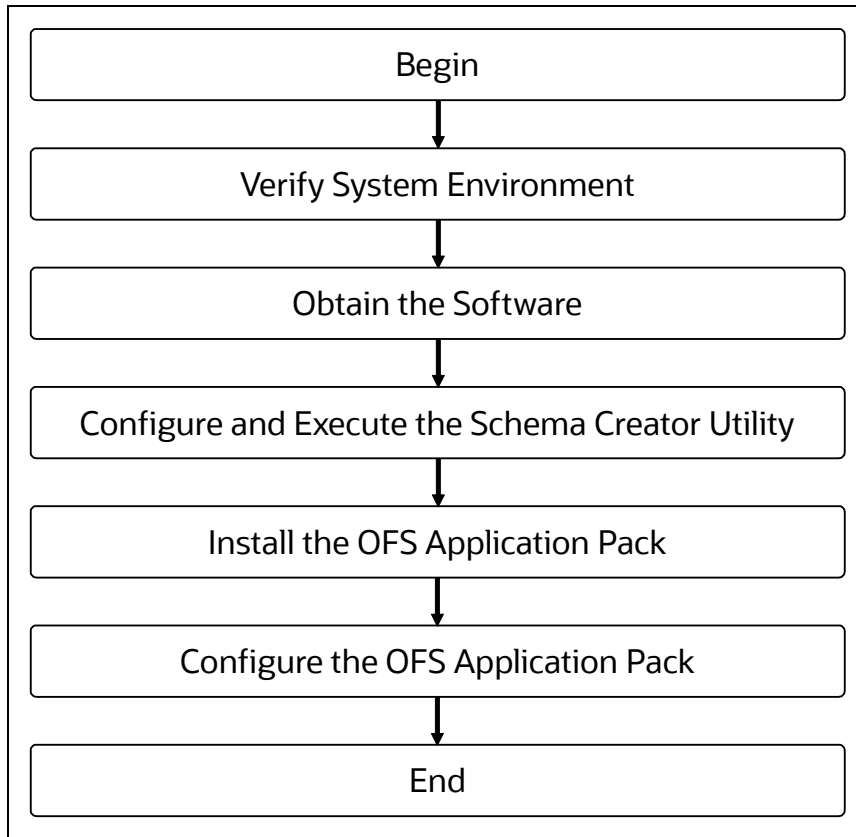
The pack is enabled by the procurement of an additional license. For more information, see the OFS AAIE Release Notes and Installation Guide on the [OHC Documentation Library](#).

2.4 Installation Overview

Release 8.1.2.0.0 of OFS CA Applications Pack supports the fresh installation.

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

Figure 4: 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.

Table 3: Pre-installation Checklist

Sl. 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 style="list-style-type: none"> • Installation directory • Temporary directory • Staging Area/Metadata Repository • Download directory
7	Configure the following Operating System and File System settings: <ul style="list-style-type: none"> • File Descriptor • Total number of processes • Port(s) • <code>.profile</code> file permissions • Add FTP/SFTP configuration for file transfer
8	Update the following Environment Settings required for the installation in the <code>.profile</code> file: <ul style="list-style-type: none"> • Java Settings • Oracle Database Server and Client Settings • Add TNS entries in the <code>tnsnames.ora</code> file • Oracle Essbase Settings • Time Zone Settings
9	Download the installer kit and erwin data models.
10	Perform prerequisites for installation.

Table 4: Installation Checklist

Sl. No.	Installation Activity
1	Extract the installer kit.
2	Install the Pre-installation Patches.
3	Configure the OFS_CA_PACK.xml file.
4	Configure the OFS_CA_SCHEMA_IN.xml file.
5	Execute the Schema Creator Utility in Offline , Online , or TCPS modes and verify the log file.
6	Configure the OFSAAI_InstallConfig.xml file.
7	Configure the Silent.props file.
8	Trigger the application installation.

Table 5: Post-installation Checklist

Sl. No.	Post-installation Activity
1	Verify the installation logs.
2	Patch OFSAA Infrastructure Installation.
3	Back up the SCHEMA_CREATOR.xml, OFS_CA_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 Work Manager in the Web Application Servers.
10	Access the OFSAA application.
11	OFSAA Landing Page
12	Configure the excludeURLList.cfg file
13	Change the ICC batch ownership.
14	Add TNS entries in the tnsnames.ora file.
15	Create Application Users.
16	Map the Application User(s) to User Groups.
17	Excel upload mapping and template.
18	Set TDE and Data Redaction in OFSAAI.
	Implement Data Protection in OFSAA.

Table 6: Additional Configuration

Sl. 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).

4 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 Oracle Financial Services Customer Analytics Application Pack is qualified.

Topics:

- [Third-Party Licensing Information](#)
- [Verify System Environment](#)

NOTE

OFS Analytical Applications Customer Analytics Application Pack installation can be performed on both Virtual and Physical servers.

See the [OFSAA Technology Matrix](#) for the hardware and software required to install OFS CA Application Pack Release 8.1.2.0.0.

The following software combinations are recommended.

Table 7: Recommended Software Combinations

Operating System	Database	Web Application Server	Web Server
Oracle Linux	Oracle Database	Oracle WebLogic Server/ Apache Tomcat Server/ IBM WebSphere Application Server	Oracle HTTP Server/ Apache HTTP Server/ IBM 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 Customer Analytics Application Pack, see the [OFSAA Licensing Information User Manual Release 8.1.2.0.0](#).

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 that 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 notifies you if any requirements are not met.

It can also be obtained separately by contacting [Oracle Support](#).

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

For more details on the download and usage of this utility, see the [OFS Analytical Applications Infrastructure Environment Check Utility Guide](#).

5 Pre-installation

This section contains the pre-installation requirements to install the OFS CA Application Pack.

Topics:

- [Pre-installation Checklist](#)
- [Hardware and Software Requirements and Specifications](#)
- [Preparing for Installation](#)
- [Installation Overview](#)
- [Installation](#)
- [Compatibility Matrix](#)

5.1 Pre-installation Checklist

You can use this checklist to have a glance at everything that you 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.

Table 8: Pre-installation Checklist

Sl. 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 Web Server.
6	<p>Create the Installation, Download, and Metadata Repository Directories:</p> <ul style="list-style-type: none"> • Installation directory • Temporary directory • Staging Area/Metadata Repository • Download directory
7	<p>Configure the following Operating System and File System settings:</p> <ul style="list-style-type: none"> • File Descriptor • Total number of processes • Port(s) • .profile file permissions • Add FTP/SFTP configuration for file transfer

Sl. No.	Pre-installation Activity
8	<p>Update the following Environment Settings required for the installation in the <code>.profile</code> file:</p> <ul style="list-style-type: none"> • Java Settings • Oracle Database Server and Client Settings • Add TNS entries in the <code>tnsnames.ora</code> file • Oracle Essbase Settings • Time Zone Settings
9	Download the installer kit and erwin data models.
10	Perform prerequisites for installation.

5.2 Preparing for Installation

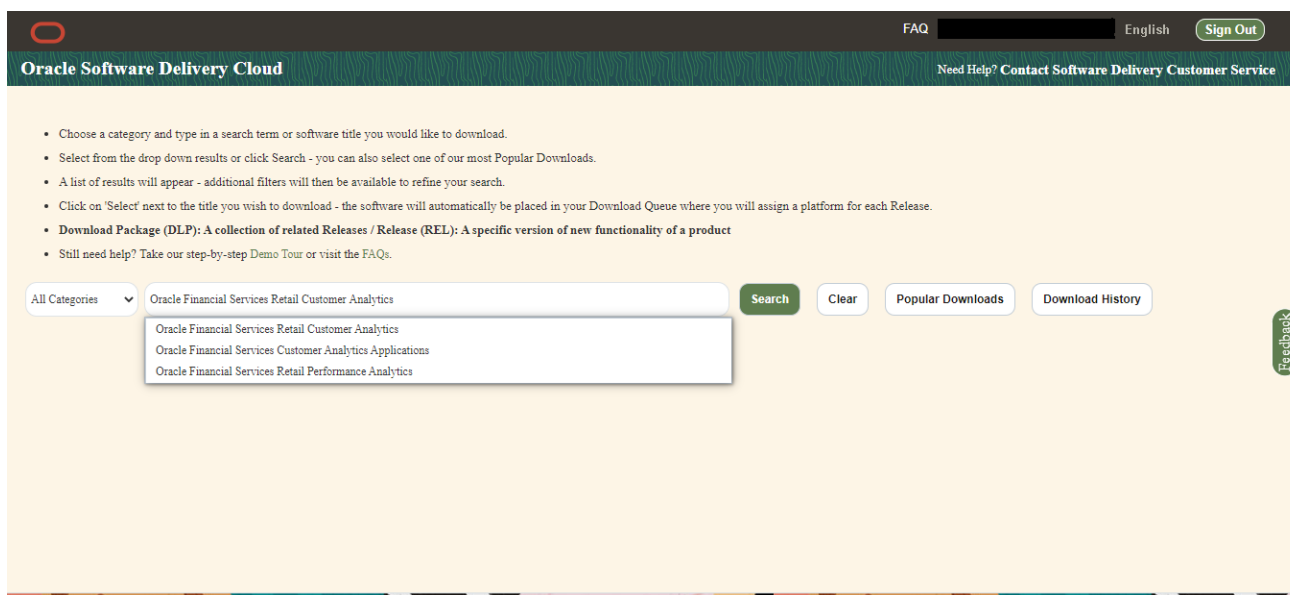
This section describes how to download the installer and the mandatory prerequisites you must ensure installing the OFS CA Pack.

5.2.1 Download the OFS CA Application Pack Installer and Erwin Data Models

To download the OFS CA Application Pack Installer Release v8.1.2.0.0, follow these steps:

1. Log in to the [Oracle Software Delivery Cloud](#) with a valid Oracle account.
2. Search for the full product name **Oracle Financial Services Retail Customer Analytics Application Pack** and download the installer archive.

Figure 5: Oracle Software Delivery Cloud Page



3. Download the installer archive and copy (in Binary mode) to the download directory in the setup identified for OFS CA Application Pack installation.

4. Download the following erwin data model from [My Oracle Support](#):
 - OFS CA erwin data model: Patch ID **33688532**

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 CA Application 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 them with the custom data model.

- The installer only uploads the data model of the selected applications. Data models of the unselected or unlicensed applications are not uploaded, that is data model upload is skipped for the unselected or unlicensed applications.
- The installer only executes the installer scripts of the selected applications. Scripts of the unselected or unlicensed applications are not 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.

5.2.2 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. For a sample installation procedure, see [Appendix A](#).

5.2.2.1 Apex 21.1 and ORDS 21.1.3.153.1102 Software Installation to Database

1. Ensure that Apex 21.1 is installed.
 - a. Download the APEX 21.1 software from the following link:
<https://www.oracle.com/tools/downloads/apex-211-downloads.html>
 - b. Installation Guide
<https://docs.oracle.com/en/database/oracle/application-express/21.1/htmig/index.html>
2. Install ORDS.
 - a. Download the ORDS 21.1.3.153.1102 software from the following link:

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

b. Installation Guide

<https://docs.oracle.com/en/database/oracle/oracle-rest-data-services/index.html>

5.2.2.1.1 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 6: ords_params.properties File

```
db.hostname=whf00bel
db.port=1521
db.servicename=OFSAAWS2
db.sid=
db.username=APEX_PUBLIC_USER
migrate.apex.rest=false
rest.services.apex.add=
rest.services.ords.add=true
schema.tablespace.default=SYSAUX
schema.tablespace.temp=TEMP
standalone.http.port=8080
standalone.static.images=
user.tablespace.default=USERS
user.tablespace.temp=TEMP
~
~
```

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
```

5. Database connection and URL mapping ORDS commands.

Ensure that `ofsaa` is the database connection name. Run below command.

```
java -jar ords.war setup --database ofsaa
```

6. Create a URL mapping to the new database connection by running the below command.

```
$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:

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


```
java -jar ords.war static apex/images/
```
- ii. Move the configuration folder of ORDS setup to the WebLogic host location.
- iii. Create a folder at the deployed location `ords.ear`.
- iv. Create `ords.war` folder in the `ords.ear` folder and place `ords.war` in it.
- v. Inflate the `ords.war` file using the command:


```
jar -xvf ords.war
```
- vi. Update the `web.xml` file in `ords.war/WEBINF/` to give `config.dir` path.
- vii. Delete the `ords.war` file in `ords.war` folder.
- viii. Create a folder at the deployed location `i.ear`.
- ix. Create `i.war` folder in the `i.ear` folder and place `i.war` in it.
- x. Inflate the `i.war` file using command:


```
jar -xvf i.war
```
- xi. Delete the `i.war` file in the `i.war` folder.
- xii. Copy the Apex images into the `i.war` folder.
- xiii. 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: Oracle Apex Application login page should be displayed for the following link:

```
http://<hostname>:<port>/ords/
```

6 Installation

This section provides detailed steps to install the OFS CA Applications Pack.

Topics:

- [Installation Checklist](#)
- [Extract the Software](#)
- [Configure OFS_CA_PACK.xml File](#)
- [Configure Schema Creator Utility](#)
- [Configure the OFSAAI_InstallConfig.xml File](#)
- [Configure the Silent.props file](#)
- [Install the OFS CA Application Pack](#)

6.1 Installation Checklist

You can use this checklist to have a glance at everything that you need to 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.

Table 9: Installation Checklist

Sl. No.	Installation Activity
1	Extract the installer kit.
2	Install the Pre-installation Patches.
3	Configure the OFS_CA_PACK.xml file.
4	Configure the OFS_CA_SCHEMA_IN.xml file.
5	Execute the Schema Creator Utility in Offline , Online , or TCPS modes and verify the log file.
6	Configure the OFSAAI_InstallConfig.xml file.
7	Configure the Silent.props file.
8	Trigger the application installation.

6.2 Extract the Software

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

1. 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.

2. Assign 751 permission to the file using the following command:

```
chmod 751 unzip_<OS>
```

For example `chmod 751 unzip_sparc`

3. Extract the contents of the OFS CA Applications Pack Release 8.1.2.0.0 installer archive file in the download directory using the following command:

```
unzip Ofs_CA_8.1.2.0.0_LINUX.zip
```

4. Navigate to the download directory and assign 750 permission to the installer directory using the following command:

```
chmod -R 750 Ofs_CA_Pack
```

6.3 Configure the Ofs_CA_PACK.xml File

The `Ofs_CA_PACK.xml` file contains details on the various products that are packaged in the OFS CA Applications Pack.

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

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

1. Navigate to the `Ofs_CA_PACK/conf` directory.
2. Open the `Ofs_CA_PACK.xml` file in a text editor.

Figure 7: Sample OFS_CA_PACK.xml File

```

<APP_PACK_CONFIG>
  <APP_PACK_ID>OFS_CA_PACK</APP_PACK_ID>
  <APP_PACK_NAME>Financial Services Customer Analytical Applications</APP_PACK_NAME>
  <APP_PACK_DESCRIPTION>Applications for Customer Analytical Applications</APP_PACK_DESCRIPTION>
  <VERSION>8.1.2.0.0</VERSION>
  <APP>
    <APP_ID PREREQ="" DEF_SEL_FLG="YES" ENABLE="YES">OFS_AAI</APP_ID>
    <APP_NAME>Financial Services Analytical Applications Infrastructure</APP_NAME>
    <APP_DESCRIPTION>Base Infrastructure for Analytical Applications</APP_DESCRIPTION>
    <VERSION>8.1.2.0.0</VERSION>
  </APP>
  <APP>
    <APP_ID PREREQ="OFS_AAI" DEF_SEL_FLG="YES" ENABLE="YES">OFS_RCA</APP_ID>
    <APP_NAME>Financial Services Retail Customer Analytics</APP_NAME>
    <APP_DESCRIPTION>Application for Retail Customer Analytics</APP_DESCRIPTION>
    <VERSION>8.1.2.0.0</VERSION>
  </APP>
</APP_PACK_CONFIG>

```

3. Configure the OFS_CA_PACK.xml file as mentioned in the following table.

Table 10: OFS_CA_PACK.xml File Parameters

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

Tag Name and Attribute Name	Description	Mandatory (Y or N)	Comments
APP_ID/ ENABLE	Enable Application or Product	Y	<ul style="list-style-type: none"> • Default YES for Infrastructure • NO for others Set this attribute value to YES against every APP_ID which is licensed and must be enabled for use. NOTE: The Application/Product cannot be disabled once enabled. Only Applications/Products which are enabled are installed. To enable other licensed Applications/Products, you need to reinstall by making the flag as Y for the App_ID. However, in case of reinstallation to enable the other Applications/Products, execution of the schema creation utility must be skipped if it does not include any additional sandboxes to be created.
APP_NAME	Unique Application or Product Name	Y	Unique Seeded Value. Do not modify this value.
APP_DESCRIPTION	Unique Application or Product Name	Y	Unique Seeded Value. Do not modify this value.
VERSION	Unique release version	Y	Unique Seeded Value. Do not modify this value.

4. Save and close the file.

6.4 Configure the Schema Creator Utility

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

Configure and execute the schema creator utility before installing the OFS CA Applications Pack.

Topics:

- [Prerequisites](#)
- [Configure Schema Creator Utility for RDBMS Installation](#)
- [Execute the Schema Creator Utility](#)

6.4.1 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.

6.4.2 Configure the Schema Creator Utility for RDBMS Installation

If the installation is performed for RDBMS, provide the application-specific schema details in the `OFS_CA_SCHEMA_IN.xml` file.

You can configure the following schema types:

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

6.4.2.1 Configure the OFS_CA_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_CA_SCHEMA_IN.xml`. Update the required values in this file before executing the Schema Creator Utility.

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

1. Log in to the system as a non-root user.
2. Navigate to the `OFS_CA_PACK/schema_creator/conf` directory.
3. Edit the `OFS_CA_SCHEMA_IN.XML` file using a text editor and configure the values as mentioned in the following table.

Figure 8: Sample OFS_CA_SCHEMA_IN.xml File

```

<APPPACKSCHEMA>
  <APP_PACK_ID>OFS_CA_PACK</APP_PACK_ID>
  <IS_TCPS>FALSE</IS_TCPS>
  <JDBC_URL>jdbc:oracle:thin:@whf00pjh.in.oracle.com:1521/OFSAAWS6</JDBC_URL>
  <JDBC_DRIVER>oracle.jdbc.driver.OracleDriver</JDBC_DRIVER>
  <HOST>whf00crp</HOST>
  <SETUPINFO NAME="IUT" PREFIX_SCHEMA_NAME="N" />
  <PASSWORD APPLYSAMEFORALL="Y" DEFAULT="" />
  <!-- Uncomment for data encryption and redaction -->

  <ADV_SEC_OPTIONS>
    <OPTION NAME="TDE" VALUE="FALSE"/>
    <OPTION NAME="DATA_REDACT" VALUE="TRUE" />
  </ADV_SEC_OPTIONS>

  <TABLESPACES>
    <TABLESPACE NAME="OFSAA_CONF_TBSP" VALUE="CA812_CONF" DATAFILE="/scratch/oraofss/app/oradata/OFSAADB/OFSAAWS6/CA812_CONF.dbf" SIZE="128M" AUTOEXTEND="ON" ENCRYPT="OFF" />
    <TABLESPACE NAME="OFSAA_DATA_TBSP" VALUE="CA812_DATA" DATAFILE="/scratch/oraofss/app/oradata/OFSAADB/OFSAAWS6/CA812_DATA.dbf" SIZE="512M" AUTOEXTEND="ON" ENCRYPT="OFF" />
  </TABLESPACES>
  <SCHEMAS>
    <SCHEMA TYPE="CONFIG" NAME="CA812IUTCONF" PASSWORD="" APP_ID="OFS_AAI" DEFAULTTABLESPACE="##OFSAA_CONF_TBSP##" TEMPTABLESPACE="TEMP" QUOTA="UNLIMITED" />
    <SCHEMA TYPE="ATOMIC" NAME="CA812IUTATM" PASSWORD="" APP_ID="OFS_RCA" APP_GRP="1" INFODOM="OFSICAINF" DEFAULTTABLESPACE="##OFSAA_DATA_TBSP##" TEMPTABLESPACE="TEMP" QUOTA="UNLIMITED" />
  </SCHEMAS>
</APPPACKSCHEMA>

```

Table 11: OFS_CA_SCHEMA_IN.xml file (APPPACKSCHEMA Parameters)

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

Tag Name and Attribute Name	Description	Mandatory (Y or N)	Default Value or Permissible Value	Comments
<JDBC_URL>	<p>Enter the JDBC URL.</p> <p>You can enter the RAC/ NON-RAC enabled database connectivity URL.</p>	Y	<p>Example:</p> <p>jdbc:oracle:thin:@< DBSERVER IP/ HOST/ IP>:<PORT>:<SID></p> <p>or</p> <p>jdbc:oracle:thin:@//[HOST][:PORT]/SERVICE</p> <p>or</p> <p>jdbc:oracle:thin:@(DESCRIPTION=(ADDRESS_LIST=(ADDRESS=(PROTOCOL=TCP)(HOST=[HOST])(port=[PORT]))(ADDRESS=(PROTOCOL=TCP)(HOST=[HOST])(PORT=[PORT])(LOAD_BALANCE=yes)(FAILOVER=yes)(CONNECT_DATA=(SERVICE_NAME=[SERVICE]))))</p> <p>For example:</p> <p>jdbc:oracle:thin:@//dbhost1.server.com:1521/service1</p> <p>or</p> <p>jdbc:oracle:thin:@//dbhost1.server.com:1521/scan-1</p> <p>or</p> <p>jdbc:oracle:thin:@(DESCRIPTION=(ADDRESS_LIST=(ADDRESS=(PROTOCOL=TCP)(HOST=dbhost1.server.com)(port=1521))(ADDRESS=(PROTOCOL=TCP)(HOST=dbhost2.server.com)(PORT=1521))(LOAD_BALANCE=yes)(FAILOVER=yes)(CONNECT_DATA=(SERVICE_NAME=service1)))</p>	<p>Ensure that you add an entry (with SID/ SERVICE NAME) in the <code>tnsnames.ora</code> file on the OFSAA server. The entry must match the SID/ SERVICE NAME used in the JDBC URL.</p> <p>Ensure that you have configured:</p> <ol style="list-style-type: none"> 1. The correct Oracle Wallet with the credentials for stored Sys, Config, and Atomic Users. 2. The JDBC URL as follows: <pre>jdbc:oracle:thin:@</pre> <p>For more information on how to configure Oracle Wallets for OFSAA Installation and Data Sources, see the OFS Analytical Applications Infrastructure Administration Guide.</p>

Tag Name and Attribute Name	Description	Mandatory (Y or N)	Default Value or Permissible Value	Comments
<JDBC_DRIVER>	The name of the driver is seeded.	Y	Example: oracle.jdbc.driver.OracleDriver	Only JDBC Thin Driver is supported. Do not modify this value.
<HOST>	Enter the Hostname/ IP Address of the system on which you are installing the OFSAA components.	Y	Host Name/IP Address	
<SETUPINFO>/PREFIX_SCHEMA_NAME	Identifies whether the value specified in <SETUPINFO>/NAME attribute must be prefixed to the schema name.	N	YES or NO	The default value is YES.
<SETUPINFO>/NAME	Enter the acronym for the type of implementation. This information is displayed on the OFSAA Home Page. On executing the schema creator utility, this value is prefixed with each schema name. For example: dev_ofsaconf, uat_ofsaatm.	Y	Accepts strings with a minimum length of two and a maximum of four. Example: DEV, SIT, PROD	This message appears in the OFSAA Landing Page as "Connected To: DEV". The schemas being created get this prefix. For example, dev_nameconf, uat_nameconf, and so on.

Tag Name and Attribute Name	Description	Mandatory (Y or N)	Default Value or Permissible Value	Comments
<PASSWORD>/ DEFAULT*	Enter the password if you want to set a default password for all schemas. You also must set the APPLYSAMEFORALL attribute as Y to apply the default password for all the schemas.	N	The maximum length allowed is 30 characters. Special characters are not allowed.	On successful execution of the utility, the entered password in the OFS_CA_SCHEMA_IN.xml file is nullified.
<PASSWORD>/ APPLYSAMEFORALL	If you have entered Y in the APPLYSAMEFORALL attribute and also have specified individual passwords for all the schemas, then the specified individual passwords will take precedence.	Y	Default value: N Permissible value: Y or N Enter Y if you want to apply the password specified in the DEFAULT attribute for all the schemas. If you enter N, provide individual passwords for all schemas.	Setting this attribute value is mandatory if the DEFAULT attribute is set.
<SCHEMA>/TYPE	The types of schemas supported in this release are ATOMIC, CONFIG, SANDBOX, and ADDON. By default, the schema types are seeded based on the Application Pack.	Y	ATOMIC/CONFIG/SANDBOX/ADDON SANDBOX and ADDON schemas do not apply to OFS_CA_PACK.	Only One CONFIG schema can exist in the file. Do not edit this attribute value. This schema identifies as the CONFIGURATION schema that holds the OFSAA setup details and other Metadata information. Multiple ATOMIC/ SANDBOX/ADDON schemas can exist in the file.

Tag Name and Attribute Name	Description	Mandatory (Y or N)	Default Value or Permissible Value	Comments
<SCHEMA>/NAME	<p>The schemas' names are seeded based on the Application Pack by default.</p> <p>You can edit the schema names if required.</p> <p>The Schema Name will have a prefix of the SETUPINFO/NAME attribute.</p> <p>SCHEMA NAME must be the same for all the ATOMIC Schemas of the applications within an Application Pack.</p>	Y	The permissible length is 15 characters and only alphanumeric characters are allowed. No special characters are allowed except underscore _.	<p>The SETUPINFO/NAME attribute value is prefixed to the schema name being created.</p> <p>For example, if a name is set as 'ofsaatm' and setupinfo as 'uat', then the schema created is 'uat_ofsaatm'.</p> <p>NAME must be the same where APP_GRP=1 for all SCHEMA tags (not applicable for this Application).</p>
<SCHEMA>/PASSWORD	<p>Enter the password of the schema to be created.</p> <p>If this attribute is left blank, then the password specified in the <PASSWORD>/DEFAULT attribute is taken as the Schema Password.</p>	N	The maximum length allowed is 30 characters. Special characters are not allowed.	It is mandatory to enter the password if you have set the <PASSWORD>/APPLYSAMEFORALL attribute as N.
<SCHEMA>/APP_ID	The Application ID is seeded based on the Application.	Y	Unique Seeded Value	Identifies the Application/ Product for which the schema is being created. Do not modify this attribute value.

Tag Name and Attribute Name	Description	Mandatory (Y or N)	Default Value or Permissible Value	Comments
<SCHEMA>/DEFAULTTABLESPACE	Enter the available default tablespace for DB User. If this attribute is left blank, then USERS is set as the default tablespace.	N	Default value: USERS Permissible value: Any existing valid tablespace name.	Modify this value to associate any valid tablespace with the schema.
<SCHEMA>/TEMPTABLESPACE	Enter the available temporary tablespace for DB User. If this attribute is left blank, TEMP is set as the default tablespace.	N	Default value: TEMP Permissible value: Any existing valid temporary tablespace name.	Modify this value to associate any valid tablespace with the schema.
<SCHEMA>/QUOTA	Enter the quota to be set on the DEFAULTTABLESPACE attribute for the schema/ user. By default, the quota size is set to 500M. Minimum: 500M or Unlimited on default Tablespace.	N	Example: 600M or 600m 20G or 20g UNLIMITED or unlimited	Modify this value to grant the specified quota on the mentioned tablespace to the user.

Tag Name and Attribute Name	Description	Mandatory (Y or N)	Default Value or Permissible Value	Comments
<SCHEMA>/INFODOM	Enter the name of the Information Domain to associate this schema. The schema creator utility automatically derives an Information Domain Name based on the Application Pack if no value is specified for this attribute.	N	The permissible length is 16 characters and only alphanumeric characters are allowed. No special characters are allowed.	
<ADV_SEC_OPTIONS>/	Parent tag to hold Advance Security Options.	N	NA	Uncomment the tag and edit if you want to add security options. For example, TDE and Data Redact. For details, see the example following the rows.
<ADV_SEC_OPTIONS>/TDE	Tag to enable/disable TDE feature.	N	The default value is FALSE. To enable TDE, set this value to TRUE.	Ensure this tag is not commented if you have uncommented <ADV_SEC_OPTIONS>.
<ADV_SEC_OPTIONS>/DATA_REDACT	Tag to enable/disable the Data Redaction feature.	N	The default value is FALSE. To enable DATA_REDACT, set this value to TRUE.	Ensure this tag is not commented if you have uncommented <ADV_SEC_OPTIONS>.
<TABLESPACES>	Parent tag to hold <TABLESPACE> elements	N	NA	Uncomment the tag and edit only if tablespaces are to be created as part of the installation. For details, see the example that follows the table. When TDE is TRUE in ADV_SEC_OPTIONS, it is mandatory for the <TABLESPACES> tag to be present in the XML file.

Tag Name and Attribute Name	Description	Mandatory (Y or N)	Default Value or Permissible Value	Comments
<TABLESPACE>/NAME	Logical Name of the tablespace to be created.	Y	OFSAA_CONF_TBSP OFSAA_DATA_TBSP	Name, if specified, must be referred in the <SCHEMA DEFAULTTABLESPACE="##NAME##"> attribute. Note the ## syntax.
<TABLESPACE>/VALUE	Physical Name of the tablespace to be created.	Y	NA	Value, if specified, is the actual name of the TABLESPACE.
<TABLESPACE>/DATAFILE	Specifies the location of the data file on the server.	Y	NA	Enter the absolute path of the file to be created.
<TABLESPACE>/AUTOEXTEND	Specifies if the tablespace must be extensible or have a hard limit.	Y	ON or OFF	Set to ON to ensure that the tablespace does not run out of space when full.
<TABLESPACE>/ENCRYPT	Specifies if the tablespace (or tablespaces) must be encrypted using TDE.	Y	ON or OFF	Set to ON to ensure that the tablespaces when created are encrypted using TDE. NOTE: Encryption of tablespaces requires enabling Transparent Data Encryption (TDE) on the Database Server.

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="FALSE"/>
<OPTION NAME="DATA_REDACT" VALUE="FALSE" />
</ADV_SEC_OPTIONS>
<TABLESPACES>
```

```
<TABLESPACE NAME="OFS_AAI_TBSP_1" VALUE="TS_USERS1" DATAFILE="/
scratch/ora12c/app/oracle/oradata/OFSPQA12CDB/ts_users1.dbf" SIZE="500M" AUTOEXTEND="ON"
ENCRYPT="ON" />

<TABLESPACE NAME="OFS_AAI_TBSP_2" VALUE="TS_USERS2" DATAFILE="/
scratch/ora12c/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>
```

6.5 Execute the Schema Creator Utility

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

Topics:

- [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](#)

6.5.1 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_CA_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 Infodomain>. Do you want to proceed? (Y/N).

Enter **Y** to proceed.

Figure 9: Schema Creation in Offline Mode – Script Generation

```

=====
                          Generating Schema Creation Scripts Started
=====
Checking OFSAA installation...
Found OFSAA installation at /scratch/ofsaadb/OFSAAI
Validating the dat file OFS_AAAI_CFG.dat started...
Successfully validated OFS_AAAI_CFG.dat file
Parsing /scratch/ofsaadb/OFSAAI/conf/DynamicServices.xml
Successfully connected to User - dev_conf1 URL - jdbc:oracle:thin:@ofss220623:1521:MEDIADB
Validating the input XML file.../scratch/ofsaadb/OFS_AAAI_PACK/schema_creator/conf/OFS_AAAI_SCHEMA_IN.xml
Input XML file validated successfully.
=====
Validating Connection URL ...jdbc:oracle:thin:@ofss220623:1521:MEDIADB
Successfully connected to User - sample URL - jdbc:oracle:thin:@ofss220623:1521:
MEDIADB
Connection URL successfully validated...
You have chosen to install this Application Pack on "uat_atm_anurag" ATOMIC sche
ma. Do you want to proceed? (Y/N)
y
You have chosen to install this Application Pack on INFODOM "ofsaaiinfo1". Do y
ou want to proceed? (Y/N)
y
=====

```

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

*Schema Creator executed successfully. Execute the file
scratch/ofsaapp/OFS_CA_PACK/schema_creator/sysdba_output_scripts.sql
before proceeding with the installation.*

Figure 10: Message to execute the sysdba_output_scripts.sql file

NOTE

If there are any errors during the SQL script execution, reconfigure the `OFS_CA_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_CA_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_CA_SCHEMA_OUTPUT.XML` file is generated. Do not modify this file.

6.5.2 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. Navigate to the `OFS_CA_PACK/schema_creator/bin` directory.
3. Execute the utility.

For Example: `./osc.sh -s`

The `OFS_CA_SCHEMA_OUTPUT.XML` file is successfully generated. Do not modify this file.

6.5.3 Execute the Schema Creator Utility in TCPS Mode

If you intend to run the OFS CA Application Pack Installer in TCPS mode, it is mandatory to execute the schema creator utility with the `-s` option and in the Online mode.

6.5.3.1 Prerequisites

The following are the prerequisites for this configuration:

1. UNIX user credentials used for installing OFSAA.
2. UNIX user credentials with which Web Application Server (Oracle WebLogic (WLS)/Apache Tomcat/ IBM WebSphere) was installed.
3. OFSAAI version should be 8.1.0.0.0 or later.
4. Ensure OFSAA installed and deployed has JAVA 8 (Java version must support Java unlimited cryptographic policy. Java version 1.8.0_161+ supports the 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-or->

[oracle-wallets](#) and <https://blogs.oracle.com/weblogicserver/weblogic-jdbc-use-of-oracle-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, tnsping, and sqlldr must work between the Client and the Server.

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

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

1. Log in as a UNIX user with 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_OFSAATM, then the value for ATOMICALIASNAME must be entered as PRODOFSAATM.

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](#).

6.5.3.2 Execute the Schema Creator Utility

To execute the utility, follow these steps:

1. Edit the `OFS_CA_PACK/schema_creator/conf/OFS_CA_SCHEMA_IN.xml` file in a text editor. See the tables in [Configure the OFS_CA_SCHEMA_IN.xml File](#) for the values that you must modify in the XML file.
2. Execute the utility with the `-s` option.

```
./osc.sh -s TCPS <WALLET_HOME>
```

For example: \$./osc.sh -s TCPS /scratch/oraofss/wallet

Figure 11: Schema Creation in the TCPS Mode

```

/scratch/aai81ssl>cd /scratch/aai81ssl/OFS_AAAI_PACK/schema_creator/bin
/scratch/aai81ssl/OFS_AAAI_PACK/schema_creator/bin>./osc.sh TCPS /scratch/aai81ssl/wallet
Error: - Please provide proper arguments
/scratch/aai81ssl/OFS_AAAI_PACK/schema_creator/bin>./osc.sh -s TCPS /scratch/aai81ssl/wallet
-S
TCPS
/scratch/aai81ssl/wallet
-Doracle.net.tns_admin=/scratch/aai81ssl -Doracle.net.wallet_location=(SOURCE=(METHOD=file) (METHOD_DATA=(DIRECTORY=/scratch/aai81ssl/wallet))) -Doracle.net.ssl_server_dn_match=true -Djavax.net.ssl.trustStoreType=SSO -Djavax.net.ssl.trustStore=wallet.sso -Doracle.net.ssl_version=1.2
exporting wallet FALSE
##Entries created by schema creator ##
=====
You have chosen ONLINE mode
=====
Triggering the utility in ONLINE mode will execute the DDLs directly on the Database. Do you wish to proceed? (Y/N):
Y

```

The following message is displayed:

Triggering the utility in ONLINE mode will execute the DDLs directly on the Database. Do you wish to proceed? (Y/y or N/n).

3. Enter **Y** to proceed.

The following message is displayed:

You have chosen to install this application pack on the “<ATOMIC_SCHEMA_NAME>” ATOMIC schema. Do you wish to proceed? (Y/y or N/n).

Figure 12: Schema Creation in the TCPS Mode – Install on Atomic Schema

```

0430: 58 8D 05 B2 02 0F 2D 01 0C 00 00 00 00 00 04 X.....-.....
0440: 01 01 02 23 E4 00 02 05 7B 00 00 01 0C 01 0E 03 ...#.....
0450: 00 00 00 00 00 00 00 00 00 00 00 10 00 01 01 .....
0460: 00 00 00 00 02 05 7B 00 19 4F 52 41 2D 30 31 34 .....ORA-014
0470: 30 33 3A 20 6E 6F 20 64 61 74 61 20 66 6F 75 6E 03: no data foun
0480: 64 0A 61 1D D5 6D 51 10 60 C1 A6 85 B4 88 52 0F d.a.mQ.`.....R.
0490: A4 F8 CA 1B 2C F2 09 09 09 09 09 09 09 09 .....
You have chosen to install this Application Pack on "t81s_ofsaaatm" ATOMIC schema. Do you want to proceed? (Y/N)
Y

```

4. Enter **Y** to proceed.

5. After Schema creation is successful, proceed to [Configure the OFSAAI InstallConfig.xml File](#).

Figure 13: Schema Creation in the TCPS Mode

```

0030: 05 02 24 2C 00 00 00 00 01 10 00 2B 00 00 00 00 ..$,.....+....
0040: 00 00 00 00 00 00 00 00 58 00 01 01 00 00 00 00 .....X.....
0050: 00 00 EE 63 D9 C7 F0 3C A2 23 E1 34 68 01 68 96 ...c...<.#.4h.h.
0060: 4F 69 FD 59 9F 23 09 09 09 09 09 09 09 09 Oi.Y.#.....
Grants creation scripts execution completed...
=====
Schemas Creation Completed
=====
Schema Creator executed Successfully.Please proceed with the installation.
/scratch/aai81ssl/OFS_AAAI_PACK/schema_creator/bin>

```

The result of this task is that the <PACK>_SCHEMA_OUTPUT.XML file is generated. Do not modify this file.

6. After the installation is completed, delete the ojdbc7.jar file from web-INF folder which will be located in the deployed web-app/folder.

6.5.4 Execute the Schema Creator Utility while Installing 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_CA_PACK/schema_creator/conf/OFS_CA_SCHEMA_IN.xml` file in a text editor. See the [OFS_CA_SCHEMA_IN.xml](#) file for values you must modify in the XML file.
2. Execute the utility.

For Example: `./osc.sh -s`

Figure 14: Schema Creator Utility

```

Validating Connection URL ...jdbc:oracle:thin:@ofss220623:1521:MEDIADB
Successfully connected to User - sample URL - jdbc:oracle:thin:@ofss220623:1521:
MEDIADB
Connection URL successfully validated...
You have chosen to install this Application Pack on "uat_atm_anurag" ATOMIC sche
ma. Do you want to proceed? (Y/N)
Y
You have chosen to install this Application Pack on INFODOM "cfssaainfc1". Do y
ou want to proceed? (Y/N)
Y
=====
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/cfssaapp/OFS_AAAI_P
ACK/schema_creator/sysdba_output_scripts.sql before proceeding with the installa
tion.

```

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 15: Select the Atomic User

```

Validating the dat file OFS_IBCE_CFG.dat started...
The path is:/scratch/bcuser/kit/OFS_IBCE_PACK/schema_creator/conf
Successfully validated OFS_IBCE_CFG.dat file
Validating the input XML file.../scratch/bcuser/kit/OFS_IBCE_PACK/schema_creator/conf/OFS_IBCE_SCHEMA_IN.xml
Input XML file validated successfully.
=====
Validating Connection URL ..jdbc: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_IBCE_PACK/schema_creator/./conf/OFS_IBCE_PACK.xml
Checking: app: OFS_AAI schema_name: T2_BCCONFIG81T schema_type: CONFIG
Checking: app: OFS_IBCE 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

1. See the log file in the `OFS_CA_PACK/schema_creator/logs` directory for the execution status.
2. See the `sysdba_output_scripts.log` file for execution status if executed in offline mode. This log is empty if there are no errors in the execution.
3. If there are any errors, contact [My Oracle Support](#).

6.6 Configure the OFSAAI_InstallConfig.xml File

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

1. Navigate to the `OFS_CA_PACK/OFS_AAI/conf/` folder.
2. Open the `OFSAAI_InstallConfig.xml` file in a text editor.
3. Configure the `OFSAAI_InstallConfig.xml` file as mentioned in the following table.

You must manually set the **InteractionVariable** parameter values as mentioned in the table. If a value is not applicable, enter NA. Ensure that the value is not entered as NULL.

Table 12: OFSAA Infrastructure Installation Tasks and Descriptions

InteractionVariable Name	Significance and Expected Value	Mandatory
<Layer name="GENERAL">		
InteractionGroup name="WebServerType"		
WEBAPPSERVERTYPE	<p>Identifies the web application server on which the OFSAA infrastructure web components are deployed.</p> <p>Set the following numeric value depending on the type of web application server:</p> <ul style="list-style-type: none"> • Apache Tomcat = 1 • IBM WebSphere Application Server = 2 • Oracle WebLogic Server = 3 <p>For example, <code><InteractionVariable name="WEBAPPSERVERTYPE">3</InteractionVariable></code></p>	Yes
InteractionGroup name="OFSAA Infrastructure Server Details"		
DBSERVER_IP	<p>Identifies the hostname or IP address of the system on which the Database Engine is hosted.</p> <p>NOTE: For RAC Database, the value must be NA. For example, <code><InteractionVariable name="DBSERVER_IP">14.15.16.17</InteractionVariable></code> or <code><InteractionVariable name="DBSERVER_IP">dbhost.server.com</InteractionVariable></code></p>	Yes
InteractionGroup name="Database Details"		
ORACLE_SID/SERVICE_NAME	<p>Identifies the Oracle DB Instance SID or SERVICE_NAME</p> <p>NOTE: The Oracle_SID value must be the same as it is mentioned in JDBC_URL.</p> <p>For example, <code><InteractionVariable name="ORACLE_SID/SERVICE_NAME">ofsaser</InteractionVariable></code></p>	Yes
ABS_DRIVER_PATH	<p>Identifies the directory where the JDBC driver (ojdbc<version>.jar) exists. This would typically be the \$ORACLE_HOME/jdbc/lib directory.</p> <p>For example, <code><InteractionVariable name="ABS_DRIVER_PATH">"/oradata6/revwb7/oracle </InteractionVariable></code></p>	Yes

InteractionVariable Name	Significance and Expected Value	Mandatory
	Note: See the JDBC Jar files to identify the correct <code>ojdbc<version>.jar</code> version to be copied.	
InteractionGroup name="OLAP Detail"		
OLAP_SERVER_IMPLEMENTATION	<p>Identifies whether the OFSAA infrastructure OLAP component needs to be configured. It depends on whether you intend to use the OLAP feature. The following numeric value must be set depending on your choice:</p> <ul style="list-style-type: none"> • YES: 1 • NO: 0 <p>Note: If the value for OLAP_SERVER_IMPLEMENTATION is set to 1, the installer checks if the following environment variables are set in the .profile file:</p> <ul style="list-style-type: none"> • ARBORPATH • HYPERION_HOME • ESSBASEPATH 	No
InteractionGroup name="SFTP Details"		
SFTP_ENABLE	<p>Identifies if the SFTP (Secure File Transfer Protocol) feature is to be enabled. The following numeric value must be set depending on your choice:</p> <ul style="list-style-type: none"> • SFTP: 1 • FTP: 0 	Yes
<p>NOTE: The default value for SFTP_ENABLE is 1, which signifies that SFTP is used. Oracle recommends using SFTP instead of FTP because SFTP is more secure. However, you can ignore this recommendation and use FTP by setting SFTP_ENABLE to 0. You can change this selection later from the OFSAAI administration interface. Set SFTP_ENABLE to -1 to configure ftpshare and weblocal path as a local path mounted for the OFSAAI server.</p>		
FILE_TRANSFER_PORT	<p>Identifies the port used for the file transfer service. The default value specified is 22 (SFTP). Specify a value like 21 or any other PORT value if the value for SFTP_ENABLE is 0.</p> <p>For example, <code><InteractionVariable name="FILE_TRANSFER_PORT">21</InteractionVariable></code></p>	Yes
InteractionGroup name="Locale Detail"		
LOCALE	Identifies the locale information to be used during the installation. This release of the OFSAA Infrastructure supports only US English.	Yes

InteractionVariable Name	Significance and Expected Value	Mandatory
	For example, <InteractionVariable name="LOCALE">en_US</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. For more details on configuring your setup for HTTPS.		
HTTPS_ENABLE	Identifies whether the UI must be accessed using HTTP or HTTPS scheme. The default value is set to 0 . The numeric value must be set depending on the following options: <ul style="list-style-type: none"> • YES: 1 • NO: 0 For example, <InteractionVariable name="HTTPS_ENABLE">0</InteractionVariable>	Yes
WEB_SERVER_IP	Identifies the HTTP Server IP/ Hostname or Web Application Server IP/ Hostname, to be used to access the UI. This IP is typically the HTTP Server IP.	No

InteractionVariable Name	Significance and Expected Value	Mandatory
	<p>If a separate HTTP Server is not available, then the value must be Web Application Server IP/Hostname.</p> <p>For example, <code><InteractionVariable name="WEB_SERVER_IP">10.11.12.13</InteractionVariable></code></p> <p>or</p> <p><code><InteractionVariable name="WEB_SERVER_IP">myweb.server.com</InteractionVariable></code></p>	
WEB_SERVER_PORT	<p>Identifies the webserver 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 webserver.</p> <p>Warning: The installer will not accept the port value as:</p> <ul style="list-style-type: none"> • 80, if the HTTPS_ENABLE variable is 1 • 443, if the HTTPS_ENABLE variable is 0 <p>For example, <code><InteractionVariable name="WEB_SERVER_PORT">80</InteractionVariable></code></p>	No
CONTEXT_NAME	<p>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:</p> <p><code><scheme>://<host>:<port>/<context-name>/login.jsp</code></p> <p>For example: <code>https://myweb:443/ofsaadev/login.jsp</code></p> <p>For example, <code><InteractionVariable name="CONTEXT_NAME">ofsaadev</InteractionVariable></code></p>	Yes
WEBAPP_CONTEXT_PATH	<p>Identifies the absolute path of the exploded EAR file on the web application server.</p> <ul style="list-style-type: none"> • For Tomcat, specify the Tomcat directory path till /webapps. For example: <code>/oradata6/revwb7/tomcat/webapps/</code>. • For WebSphere, specify the WebSphere path as <code><WebSphere profile directory>/installedApps/<NodeCellName></code>. For example: <code>/data2/test//WebSphere/AppServer/profiles/<Profile_Name>/installedApps/aiximfNode01Cell</code>, where aix-imf is the Host name. • For WebLogic, specify the WebLogic home directory path. For example: <code>/<WebLogic home directory path>/bea/wlserver_10.3</code> <p>Note: For WebLogic, the value specified for this attribute is ignored and the value provided against the attribute WEBLOGIC_DOMAIN_HOME is considered.</p>	Yes

InteractionVariable Name	Significance and Expected Value	Mandatory
WEB_LOCAL_PATH	<p>Identifies the absolute path to any directory on the web application server that can hold temporary files, which are uploaded as part of the application's usage.</p> <p>Set this in the FTPSHARE location.</p> <p>Note: During a clustered deployment, ensure that this path and the directory are the same on all the nodes.</p>	Yes
InteractionGroup name="Weblogic Setup Details"		
WEBLOGIC_DOMAIN_HOME	<p>Identifies the WebLogic Domain Home.</p> <p>For example, <code><InteractionVariable name="WEBLOGIC_DOMAIN_HOME">/home/weblogic/bea/user_projects/domains/mydomain</InteractionVariable></code></p>	<p>Yes.</p> <p>Specify the value only if WEBAPPSERVERTYPE is set as 3 (WebLogic)</p>
InteractionGroup name="OFSAAI FTP Details"		
OFSAAI_FTPSHARE_PATH	<p>Identifies the absolute path of the directory that is identified as the file system stage area.</p> <p>Note: The directory must exist on the same system on which the OFSAA infrastructure is being installed (can be on a separate mount).</p> <p>The user mentioned in the APP_SFTP_USER_ID parameter in the following example must have RWX permission on the directory.</p> <p>For example, <code><InteractionVariable name="APP_FTPSHARE_PATH">"/oradata6/revwb7/ftpshare</InteractionVariable></code></p>	Yes
OFSAAI_SFTP_USER_ID	<p>Identifies the user who has RWX permissions on the directory identified for the parameter APP_FTPSHARE_PATH.</p>	Yes
OFSAAI_SFTP_PRIVATE_KEY	<p>Identifies the SFTP private key for OFSAAI.</p> <p>For example, <code><InteractionVariable name="OFSAAI_SFTP_PRIVATE_KEY">/home/ofsaapp/.ssh/id_rsa</InteractionVariable></code></p> <p>By default, the value is NA, which indicates that for authentication, you are prompted to enter the password for the user <code><OFSAAI_SFTP_USER_ID></code>.</p> <p>For more information on how to generate an SFTP Private key, see the Setting Up SFTP Private Key section.</p>	No

InteractionVariable Name	Significance and Expected Value	Mandatory
OFSAAI_SFTP_PASSPHRASE	<p>Identifies the passphrase for the SFTP private key for OFSAAI.</p> <p>For example:</p> <pre>InteractionVariable name="OFSAAI_SFTP_PASSPHRASE">enter a pass phrase here</InteractionVariable></pre> <p>By default, the value is NA.</p> <p>If the OFSAAI_SFTP_PRIVATE_KEY value is given and the OFSAAI_SFTP_PASSPHRASE value is NA, then the passphrase is identified as empty.</p>	No

6.6.1 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 a 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

6.7 Configure the Silent.props File

This section is applicable for a new installation of OFS CA Applications Pack Release 8.1.1.0.0. In the installer kit path `OFS_CA_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_CA_SEGMENT_1_CODE` must be the 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 CA pack installed.

Table 13: Parameters for the Silent.props File

Property Name	Description of Property	Permissible Values	Comments
LOG_MODE	Mode for logging	0 = Debug (Passwords will not be printed in the log file) 1 = General (Password will be printed in the log file)	Default: 0 This is optional.
SEGMENT_1_CODE	Segment Code	Not Applicable	Mandatory NOTE: The Segment Code should be in the 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
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			
OBI_HOST	The hostname or IP Address of the OBIEE server.	For example: 10.11.12.13 Or myweb.server.com	Mandatory

Property Name	Description of Property	Permissible Values	Comments
OBI_PORT	The port number of the OBIEE server.	For example 9500	Mandatory
OBI_CONTEXT	The context of the OBIEE.	For example: Analytics	Mandatory
OBI_PROTOCOL	The protocol details of the OBIEE server.	http or https	Mandatory
ETL_APPSRC_TYPE	Create a new ETL App or Src pair or use an existing one	0 = New 1 = Existing	#Mandatory if this an App layer installation. # That is, you have specified INSTALL_APP=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_NAME	ETL Staging source name	Not Applicable	This Source must be mapped to the above ETL Application.
ETL_SRC_1_2_NAME	ETL Processing source name	Not Applicable	This Source must be mapped to the above ETL Application.

6.8 Install the OFS CA Applications Pack

ATTENTION

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_CA_PACK.xml File](#)
3. [Configure the OFS_CA_SCHEMA_IN.xml File](#)
4. [Configure the OFSAAI InstallConfig.xml File](#) (Do not configure this file if an installation of OFSAAI 8.1.1 already exists.)
5. [Execute the Schema Creator Utility](#)

To install the OFS CA Applications Pack, follow these steps:

1. Log in to the system as a non-root user.
2. Identify a directory for installation and set the same in the user `.profile` file as follows:

```
FIC_HOME=<OFSAA Installation Directory>
export FIC_HOME
```
3. Ensure that python home is added to the PATH variable in `.profile` as mentioned in the sample installation step in [Appendix A](#).
4. Execute the user `.profile` file.

```
. ~/.profile
```
5. Navigate to the `OFS_CA_PACK/bin` directory.

ATTENTION

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

6. Enter the following command in the console to execute the application pack installer.

```
./setup.sh SILENT
```

The installer proceeds with the pre-installation checks.

Figure 16: Installation

```

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_bcatomic81t. 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 NLS_INSTANCE_PARAMETERS view. Current value : READ. Status : SUCCESS
NLS_LENGTH_SEMANTICS : 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 : 4000. Status : SUCCESS
SELECT privilege is granted for USER_TS_QUOTAS view. Current value : READ. Status : SUCCESS
Schema is granted with at least 500 MB table space for user : t2_bconfig81t. Current value : 500 MB. Status : SUCCESS
Oracle db version 19
Oracle db R2 version 19.0
Oracle Server version Current value : 19.0.0.0.0. Status : SUCCESS
DB specific Validation Completed. Status : SUCCESS
=====
find: '/scratch/bcuser/OFSAA/ext/lib': No such file or directory
Environment check utility Status : SUCCESS
=====
*****
* Welcome to Oracle Financial Services Analytical Applications Infrastructure (OFS AAI) Installation *
*****
Checking Infrastructure installation status ...
Infrastructure installation does not exist. Proceeding with Infrastructure installation ...
Triggering Infrastructure installation ...

Please enter Infrastructure Application/Database component FTP/SFTP password :
log4j:WARN No appenders could be found for logger (org.apache.commons.vfs2.impl.StandardFileSystemManager).
log4j:WARN Please initialize the log4j system properly.
log4j:WARN See http://logging.apache.org/log4j/1.2/faq.html#noconfig for more info.
hostname is whf00ots
hostname is whf00ots

```

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

Figure 17: OFSAA Processing Tier FTP/SFTP password

```

DB 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_$nls_parameters view. Current value : SELECT. Status : SUCCESS
NLS_LENGTH_SEMANTICS : BYTE. Current value : BYTE. Status : SUCCESS
NLS_CHARACTERSET : AL32UTF8. Current value : AL32UTF8. Status : SUCCESS
SELECT privilege is granted for V_$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
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
DB specific Validation Completed. Status : SUCCESS
=====
Environment check utility Status : SUCCESS
=====
*****
* Welcome to Oracle Financial Services Advanced Analytical Applications Infrastructure (OFS AAI) Applications Pack Installation
*****
Checking Infrastructure installation status ...
Infrastructure installation does not exist. Proceeding with Infrastructure installation ...
Triggering Infrastructure installation ...

Please enter Infrastructure FTP/SFTP password :

```

8. The process displays the OFSAA License. Enter **Y** and proceed.

Figure 18: OFSAA License Agreement

```

*****
OFSAA APPLICATION PACK LICENSE AGREEMENT
*****
* WARNING: This Software System is protected by International copyright laws. Unauthorized reproduction or distribution of this Software System, or any portion of it, may result in severe civil and criminal penalties and will be prosecuted to the maximum extent possible under the Law.*
* Oracle Financial Services Analytical Applications (OFSAA) Application Pack is a group of OFSAA products packaged together in a single installer. Each Application Pack addresses specific functional domains via its products that are grouped together. The Oracle Financial Services Analytical Applications Infrastructure (OFS AAI) being the base infrastructure for deployment of other OFSAA products/Application Packs, is bundled with each Application Pack. With every Application Pack installation, the OFSAA Infrastructure product would be checked for and installed if required.*
* Oracle Financial Services Enterprise Modeling (OFS EAM) and Oracle Financial Services InLine Processing Engine (OFS IPE) products are separately licensable products and should not be enabled unless it has been licensed. Oracle Financial Services Enterprise Modeling (OFS EAM) and Oracle Financial Services InLine Processing Engine (OFS IPE) products are only part of the Oracle Financial Services Advanced Analytics Infrastructure Pack and specific OFSAA Application Pack to that require these advanced analytical features of the product. Oracle Financial Services Enterprise Modeling (OFS EAM) or Oracle Financial Services InLine Processing Engine (OFS IPE) product gets pre-selected automatically on selecting any of the OFSAA products within a specific Application Pack that require these products to be enabled and configured.*
* Multiple products being grouped together under a Application Pack, mandate installation and configuration of these products by default. However, during the Application Pack installation, based on the products that are being selected, it would get enabled and should be licensed for. It is important to note that products once selected (enabled) cannot be disabled at a later stage. However, products can only be enabled at any later stage using the OFSAA Infrastructure 'Manage Application Pack Licenses' feature.*
* Enabling a product within a Application Pack automatically implies you agree with this license agreement and the respective terms and conditions.*
*****
Are you accepting the terms and conditions mentioned above? [Y/N]:
Y

Please enter password for default Infrastructure administrator user SYSADMIN:
Please re-enter password for default Infrastructure administrator user SYSADMIN:
Please enter password for default Infrastructure authorizer user SYSAUTH:
Please re-enter password for default Infrastructure authorizer user SYSAUTH:
Starting installation...
Preparing to install...
Extracting the installation resources from the installer archive...
Configuring the installer for this system's environment...

```

9. The installer installs the OFS AAI application.

Figure 19: OFS AAI Installation

```

Are you accepting the terms and conditions mentioned above? [Y/N]:
Y

Please enter password for default Infrastructure administrator user SYSADMIN:
Please re-enter password for default Infrastructure administrator user SYSADMIN:
Please enter password for default Infrastructure authorizer user SYSAUTH:
Please re-enter password for default Infrastructure authorizer user SYSAUTH:
Starting installation...
Preparing to install...
Extracting the installation resources from the installer archive...
Configuring the installer for this system's environment...

Launching installer...

Preparing SILENT Mode Installation...

-----
OFSAAInfrastructure                               (created with InstallAnywhere)
-----

Installing...

[-----]
[-----]
[-----]
[-----]

```

10. After OFS AAI is installed, the OFS CA Applications Pack installation begins.

Figure 20: OFS CA Installation

```

*****
Welcome to OFS_IBCE_PACK Installation
*****
Starting OFSAA Service...
OFSAA Service - OK
Preparing to install...
Extracting the installation resources from the installer archive...
Configuring the installer for this system's environment...

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.StaticLoggerBinder".
SLF4J: Defaulting to no-operation (NOP) logger implementation
SLF4J: See http://www.slf4j.org/codes.html#StaticLoggerBinder for further details.

```

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*

11. To verify if the release is applied successfully, check the log files mentioned in the [Verify the Log File Information](#) section.
12. After the installation OFS CA Pack 8.1.2.0.0 is successful, complete the required [Post-installation](#) steps.

7 Post-installation

After the successful installation of the OFS CA Applications Pack Release 8.1.2.0.0, follow the post-installation procedures.

Topics:

- [Post-installation Checklist](#)
- [Verify the Log File Information](#)
- [Backup the SCHEMA_CREATOR.xml, OFS_CA_SCHEMA_OUTPUT.xml, and Silent.props Files](#)
- [Change the ICC Batch Ownership](#)
- [Excel Upload Mapping and Template](#)
- [Apex Workspace Creation and Application Deployment Steps](#)
- [Additional Configuration](#)

7.1 Post-installation Checklist

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

NOTE See the *Post-Installation* section in the [OFS AAI Release 8.1.0.0 Installation and Configuration Guide](#) to complete these procedures.

Table 14: Post-installation Checklist

Sl. No.	Post-installation Activity
1	Verify the installation logs.
2	Patch OFSAA Infrastructure Installation.
3	Back up the SCHEMA_CREATOR.xml, OFS_CA_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 Work Manager in the Web Application Servers.
10	Access the OFSAA application.
11	OFSAA Landing Page

Sl. No.	Post-installation Activity
12	Configure the <code>excludeURLList.cfg</code> file
13	Change the ICC batch ownership.
14	Add TNS entries in the <code>tnsnames.ora</code> file.
15	Create Application Users.
16	Map the Application User(s) to User Groups.
17	Excel upload mapping and template.
18	Set TDE and Data Redaction in OFSAAI.
19	Implement Data Protection in OFSAA.

7.2 Verify the Log File Information

See the following logs files for more information:

- `Pack_Install.log` file in the `OFS_CA_PACK/logs/` directory.
- Infrastructure installation log files in the `OFS_CA_PACK/OFS_AAI/logs/` directory.
- `OFS_CA_PACK_installation.log` file in the `OFS_CA_PACK/OFS_CA/logs` directory.

7.3 Post-installation Database Configuration

7.3.1 BAND Setup for OFS RCA

Populate the Configuration Data: The following tables need to be populated. The following tables represent sample entries, which needs to be followed while editing and updating the band definitions;

NOTE We have not provided the data for Audit Columns. You have to populate the Audit Columns as per standard norms.

Table 15: FSI_BI_PROPERTIES

MAPs the Propensity Band Code to be used by NBP.

V_PROPERTY_CLASS	V_PROPERTY_CODE	V_PROPERTY_NAME	V_PROPERTY_VALUE	V_PROPERTY_DESC
GLOBAL.SETUP_DEFAULTS	DEFAULT.BAND_TYPES	PROPENSITYBANDS	XSELL_PROP_BANDS	Sample bands created to identify xsell propensity levels

The following tables show the NBP Propensity Band and other bands namely:

- TXNAMT
- XSELL_PROP_BANDS*
- NBPCUSTAGE
- CHANNEL_PROP_BANDS

NOTE Propensity Band can be changed from FSI_BI_PROPERTIES as mentioned above.

Table 16: DIM_BANDS_TL

BAND_ID	BAND_NAME	DESCRIPTION	LANGUAGE
144	TRANSACTION AMOUNT 0 to 1000	TXNAMT	US
145	TRANSACTION AMOUNT 1001 to 20000	TXNAMT	US
146	TRANSACTION AMOUNT 20001 to 50000	TXNAMT	US
147	TRANSACTION AMOUNT 50001 to 100000	TXNAMT	US
148	TRANSACTION AMOUNT 100001 and Above	TXNAMT	US
520	XSELL Propensity 70 to 80	XSELL_PROP_BANDS	US
521	XSELL Propensity 0 to 10	XSELL_PROP_BANDS	US
522	XSELL Propensity 10 to 20	XSELL_PROP_BANDS	US
523	XSELL Propensity 90 to 100	XSELL_PROP_BANDS	US
524	XSELL Propensity 20 to 30	XSELL_PROP_BANDS	US
525	XSELL Propensity 30 to 40	XSELL_PROP_BANDS	US
526	XSELL Propensity 40 to 50	XSELL_PROP_BANDS	US
527	XSELL Propensity 50 to 60	XSELL_PROP_BANDS	US
528	XSELL Propensity 60 to 70	XSELL_PROP_BANDS	US
529	XSELL Propensity 80 to 90	XSELL_PROP_BANDS	US
629	NBPCUSTAGE BAND 0 15	NBPCUSTAGE	US
630	NBPCUSTAGE BAND 15 25	NBPCUSTAGE	US
631	NBPCUSTAGE BAND 25 30	NBPCUSTAGE	US
632	NBPCUSTAGE BAND 30 ABOVE	NBPCUSTAGE	US
537	Channel Propensity 70 to 80	CHANNEL_PROP_BANDS	US
530	Channel Propensity 0 to 10	CHANNEL_PROP_BANDS	US
531	Channel Propensity 10 to 20	CHANNEL_PROP_BANDS	US

BAND_ID	BAND_NAME	DESCRIPTION	LANGUAGE
539	Channel Propensity 90 to 100	CHANNEL_PROP_BANDS	US
532	Channel Propensity 20 to 30	CHANNEL_PROP_BANDS	US
533	Channel Propensity 30 to 40	CHANNEL_PROP_BANDS	US
534	Channel Propensity 40 to 50	CHANNEL_PROP_BANDS	US
535	Channel Propensity 50 to 60	CHANNEL_PROP_BANDS	US
536	Channel Propensity 60 to 70	CHANNEL_PROP_BANDS	US
538	XSELL Propensity 80 to 90	CHANNEL_PROP_BANDS	US

Table 17: DIM_BANDS_B

BAND_ID	BAND_DISPLAY_CODE	ENABLED_FLAG	LEAF_ONLY_FLAG	BAND_CODE	DEFINITION_LANGUAGE
144	144	Y	Y	TXNAMT	US
145	145	Y	Y	TXNAMT	US
146	146	Y	Y	TXNAMT	US
147	147	Y	Y	TXNAMT	US
148	148	Y	Y	TXNAMT	US
520	520	Y	Y	XSELL_PROP_BANDS	US
521	521	Y	Y	XSELL_PROP_BANDS	US
522	522	Y	Y	XSELL_PROP_BANDS	US
523	523	Y	Y	XSELL_PROP_BANDS	US
524	524	Y	Y	XSELL_PROP_BANDS	US
525	525	Y	Y	XSELL_PROP_BANDS	US
526	526	Y	Y	XSELL_PROP_BANDS	US
527	527	Y	Y	XSELL_PROP_BANDS	US

BAND_ID	BAND_DISPLAY_CODE	ENABLED_FLAG	LEAF_ONLY_FLAG	BAND_CODE	DEFINITION_LANGUAGE
528	528	Y	Y	XSELL_PROP_BANDS	US
529	529	Y	Y	XSELL_PROP_BANDS	US
629	629	Y	Y	NBPCUSTAGE	US
630	630	Y	Y	NBPCUSTAGE	US
631	631	Y	Y	NBPCUSTAGE	US
632	632	Y	Y	NBPCUSTAGE	US
530	530	Y	Y	CHANNEL_PROP_BANDS	US
531	531	Y	Y	CHANNEL_PROP_BANDS	US
532	532	Y	Y	CHANNEL_PROP_BANDS	US
533	533	Y	Y	CHANNEL_PROP_BANDS	US
534	534	Y	Y	CHANNEL_PROP_BANDS	US
535	535	Y	Y	CHANNEL_PROP_BANDS	US
536	536	Y	Y	CHANNEL_PROP_BANDS	US
537	537	Y	Y	CHANNEL_PROP_BANDS	US
538	538	Y	Y	CHANNEL_PROP_BANDS	US
539	539	Y	Y	CHANNEL_PROP_BANDS	US

Table 18: DIM_BANDS_ATTR

BAND_ID	ATTRIBUTE_ID	DIM_ATTRIBUTE_NUMERIC_MEMBER	DIM_ATTRIBUTE_VARCHAR_MEMBER	NUMBER_ASSIGN_VALUE	VARCHAR_ASSIGN_VALUE
144	3	10			TXNAMT
144	1			0	
144	2			1000	
145	3	10			TXNAMT
145	1			1001	
145	2			20000	
146	3	10			TXNAMT
146	1			20001	
146	2			50000	
147	3	10			TXNAMT
147	1			50001	
147	2			100000	
148	3	10			TXNAMT
148	1			100001	
148	2			9999999	
520	1	30		0	
520	2			10	
520	3				XSELL_PROP_BANDS
521	1	30		10	
521	2			20	
521	3				XSELL_PROP_BANDS
522	1	30		20	

BAND_ID	ATTRIBUTE_ID	DIM_ATTRIBUTE_NUMERIC_MEMBER	DIM_ATTRIBUTE_VARCHAR_MEMBER	NUMBER_ASSIGN_VALUE	VARCHAR_ASSIGN_VALUE
522	2			30	
522	3				XSELL_PROP_BANDS
523	1	30		30	
523	2			40	
523	3				XSELL_PROP_BANDS
524	1	30		40	
524	2			50	
524	3				XSELL_PROP_BANDS
525	1	30		50	
525	2			60	
525	3				XSELL_PROP_BANDS
526	1	30		60	
526	2			70	
526	3				XSELL_PROP_BANDS
527	1	30		70	
527	2			80	
527	3				XSELL_PROP_BANDS
528	1	30		80	
528	2			90	
528	3				XSELL_PROP_BANDS
529	1	30		90	
529	2			100	
529	3				XSELL_PROP_BANDS
629	3	20			NBPCUSTAGE

BAND_ID	ATTRIBUTE_ID	DIM_ATTRIBUTE_NUMERIC_MEMBER	DIM_ATTRIBUTE_VARCHAR_MEMBER	NUMBER_ASSIGN_VALUE	VARCHAR_ASSIGN_VALUE
629	1			0	
629	2			15	
630	3	20			NBPCUSTAGE
630	1			15	
630	2			25	
631	3	20			NBPCUSTAGE
631	1			25	
631	2			30	
632	3	20			NBPCUSTAGE
632	1			30	
632	2			200	
530	1			0	
530	2			10	
530	3				CHANNEL_PROP_BANDS
531	1			10	
531	2			20	
531	3				CHANNEL_PROP_BANDS
532	1			20	
532	2			30	
532	3				CHANNEL_PROP_BANDS
533	1			30	
533	2			40	
533	3				CHANNEL_PROP_BANDS
534	1			40	

BAND_ID	ATTRIBUTE_ID	DIM_ATTRIBUTE_NUMERIC_MEMBER	DIM_ATTRIBUTE_VARCHAR_MEMBER	NUMBER_ASSIGN_VALUE	VARCHAR_ASSIGN_VALUE
534	2			50	
534	3				CHANNEL_PROP_BANDS
535	1			50	
535	2			60	
535	3				CHANNEL_PROP_BANDS
536	1			60	
536	2			70	
536	3				CHANNEL_PROP_BANDS
537	1			70	
537	2			80	
537	3				CHANNEL_PROP_BANDS
538	1			80	
538	2			90	
538	3				CHANNEL_PROP_BANDS
539	1			90	
539	2			100	
539	3				CHANNEL_PROP_BANDS

7.3.2 Setting up Campaign Status Indicators

Table 19: Campaign Status Indicators

V_COMPONENT_CODE	V_COMPONENT_DESC	V_COMPONENT_VALUE
PLAN_RCA_CAMP	Indicates Plan Status for Campaign	PLAN
CANCELLED_RCA_CAMP	Indicates Cancelled Status for Campaign	CANCELLED
CLOSED_RCA_CAMP	Indicates Closed Status for Campaign	CLOSED
OPEN_RCA_CAMP	Indicates Open Status for Campaign	OPEN
ACTIVE_RCA_CAMP	Indicates Active Status for Campaign	ACTIVE

7.4 Backup SCHEMA_CREATOR_IN.xml, OFS_CA_SCHEMA_OUTPUT.xml, and Silent.props Files

Back up the `SCHEMA_CREATOR.xml`, `OFS_CA_SCHEMA_OUTPUT.xml`, and `Silent.props` files as they can be reused when upgrading existing applications or installing new applications.

Table 20: Directory of Files to Backup

File Name	Directory
OFS_CA_SCHEMA_IN.xml	OFS_CA_PACK/schema_creator/conf
OFS_CA_SCHEMA_OUTPUT.xml	OFS_CA_PACK/schema_creator/
Silent.props	OFS_CA_PACK/appsLibConfig/conf

7.5 Add Atomic Schema Details in the tnsnames.ora File

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

To add the Atomic Schema in the `tnsnames.ora` file, follow these steps:

1. Log in to the system as a non-root user.
2. Navigate to the `OFS_CA_PACK/Schema_Creator/conf` directory.
3. Edit the `tnsnames.ora` file using a text editor and add the Atomic Schema as follows and save the file.

```
<ATOMICSCHEMANAME> =
  (DESCRIPTION =
    (ADDRESS_LIST =
      (ADDRESS = (PROTOCOL = TCP) (HOST = <HOST NAME>) (PORT = <PORT
NUMBER>))
    )
    (CONNECT_DATA =
      (SERVICE_NAME = <SID NAME>)
    )
  )
```

7.6 Execute DIM_ACCOUNT_VIEWS_DDL.sql

Execute the following SQL script on the ATOMIC schema as a post-installation step:

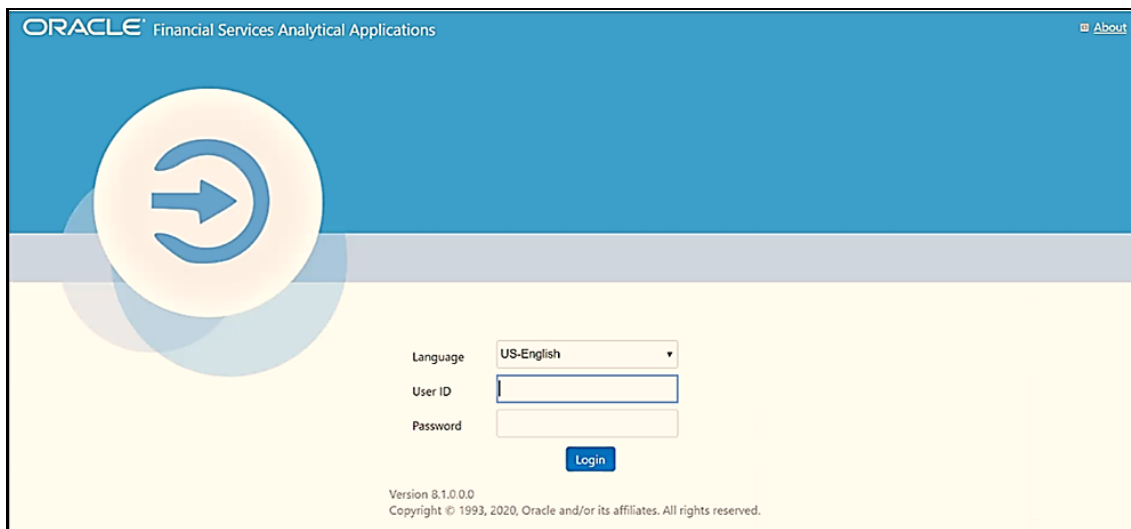
[DIM_ACCOUNT_VIEWS_DDL.sql](#)

7.7 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/ofsaal/login.jsp`
The OFSAA Login window is displayed.

Figure 21: OFSAA Login Window



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

- SYSADMN System Administrator
- SYSAUTH System Authorizer

The SYSADMN and SYSAUTH users are configured with a default password, which you require to log in 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.

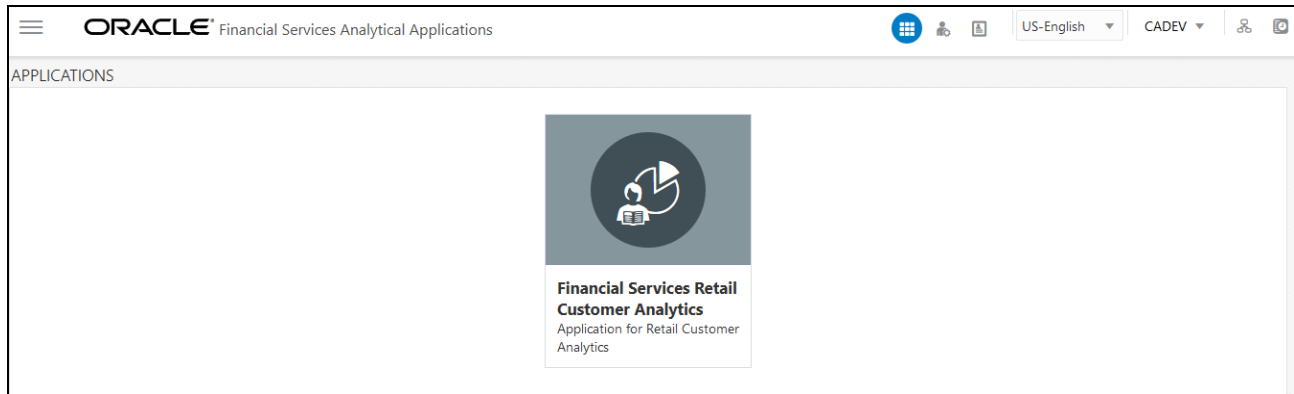
ATTENTION

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

7.8 OFSAA Landing Page

On the successful login, the **OFSAA Landing** page is displayed.

Figure 22: OFSAA Landing Page



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

7.9 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](#).

7.10 Change the ICC Batch Ownership

All the seeded batches in the OFS CA application 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` will be changed.

7.11 Excel Upload Mapping and Template

This section provides steps about the Excel Upload.

1. Post-installation, navigate to the `ExcelUpload` directory present in the path `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>`.

7.12 Apex Workspace Creation and Application Deployment Steps

To create the Workspace and deploy the application, follow these steps:

1. Sign in to Oracle Application Express Administration Services using the Instance administrator account and password created.
2. After logging into the Oracle Application Express (APEX) Administration console, you see the Administration home page. Click **Create Workspace** to start creating a workspace.
3. Enter a workspace name, ID number, and description, and then click **Next**.

Enter the following for the Workspace ID and Workspace Name:

- Workspace Id: 11111001001001
- Workspace Name: OFSAAWS_APEX

NOTE Ensure that the workspace IDs are the same in all your APEX instances in all your environments for the same Workspace.

4. Select Re-use existing schema and select the CONFIG schema name.

Figure 23: Create Workspace – Identify Schema

Create Workspace

✓ ————— ● ————— ● ————— ●

Identify Schema

Select whether or not the schema already exists. If the schema exists, select the schema from the list. If the schema does not exist, enter a name and password and choose the size of the associated tablespace to be created.

Re-use existing schema? ? →

* Schema Name ☰ ? →

* Schema Password ?

* Space Quota (MB) ?

Information on Schema

Account Status	OPEN
Default Tablespace	CA811_CONF
Suggested Additional Privileges	CREATE CLUSTER, CREATE DIMENSION, CREATE INDEXTYPE, CREATE OPERATOR, CREATE TYPE

5. Provide the Workspace admin details.

A dialog box confirms the details in the workflow.

6. Click **Next**.

This dialog tells you that you have successfully provisioned a Workspace.

7. Click **Done** to complete the workflow.

7.12.1 Create Views in CONFIG Schema

The following tables are in the atomic schema. Create views for those tables in config schema so that we can access these tables information in config schema.

NOTE

Execute the scripts that are included in the post-install fsapps only in case of Custom Model Upload.

Update the `ofsa_bxmodel_views.sql` file available at the location `FIC_HOME/dumps/apps/` and execute on the CONFIG schema.

7.12.2 Importing the Application

To import the application, follow these steps:

1. Connect to the Workspace that you have created using the workspace admin credentials.
2. Select **App Builder**.

NOTE

Before importing the application ensure that this application ID exists already in the workspace.

If the application ID already exists, then take a backup before importing the application.

3. Select the **Import** option. Import the file `f11010101.sql` available at the location `FIC_HOME/dumps/apps/`.
4. Click **Next** with the default options.
5. Select the CONFIG schema of the application and select the **Reuse Application ID** option. Click **Install Application**.
6. Click the **Run Application** button. This completes the import and directs you to the application.

7.12.3 Map User to ML Analyst Group or RCA Administrator

The user must be mapped to the ML Analyst Group or the RCA Administrator Group. This enables the user to see the Box Model UI menu link to the Model Management.

7.13 Batch Execution Step

Run the following ALTER statement in the CDB if the batch JOB_NBP_EOD_CUST_PRODDTYPE_R fails:

```
alter system set "_push_join_predicate" = false;
```

7.14 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.

NOTE See the *Additional Configuration* section in the [OFS AAI Release 8.1.2.0.0 Installation and Configuration Guide](#) to complete these procedures.

Table 21: Directory of Files to Backup

Sl. 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.

Sl. No.	Additional Configuration Activity
11	Configure the Java Virtual Machine.
12	Configure the internal service (Document Upload/Download).

8 Migrate Excel Upload Functionality

See the *Migrate Excel Upload Functionality* section in the [OFS AAI Release 8.1.2.0.0 Installation and Configuration Guide](#) to complete the procedures.

9 **Frequently Asked Questions (FAQs) and Error Dictionary**

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

10 Appendix 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 24: Python Libraries Verification

```
$ yum list installed | grep libffi
libffi.i686                3.0.13-19.el7           @ol7_latest
libffi.x86_64             3.0.13-19.el7           @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
export https_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 --
without-ensurepip
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/a6/7fb6e8b3f4a6051e72e4e2218889351f0ee484b9ee17e995f5ccff780300/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/a7/00/3df031b3ecd5444d572141321537080b40c1c25e1caa3d86cdd12e5e919c/wheel-0.35.1-py2.py3-none-any.whl>

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

11 Appendix B: 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.
2. 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 `launch the page`.

```
<script>
```

```
    var app_id=getUrlParameter('uiAppld');  
    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 `$FIC_HOME/ficweb`.
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.

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