Oracle Financial Services Cash Flow Engine Application Pack

Installation and Configuration Guide

Release 8.1.1.0.0

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OFS Cash Flow Engine Application Pack Installation and Configuration Guide

Document Control

Version Number	Revision Date	Change Log
1.0	March 2021	Created the document with instructions for the installation of the OFS CFE Release 8.1.1.0.0.

Table of Contents

1 Preface

This section provides information about the Oracle Financial Services Cash Flow Engine (OFS CFE) Application Pack.

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

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

Topics:

1.1 Audience

OFS CFE Application Pack Installation and Configuration Guide is intended for administrators and implementation consultants who handle installing and maintaining the application pack components.

This document assumes that you have experience in installing Enterprise components and basic knowledge about the following:

- OFS CFE pack components
- OFSAA Architecture
- UNIX Commands
- Database Concepts
- Web server or web application server

1.2 How this Guide is Organized

The Installation Guide is organized into the following sections:

- Introduction: This section contains an introduction to the OFSAAI and its components, introduction to the OFS CFE Application Pack, and installation scenarios that the current release supports.
- Complete Installation Checklist: This section has the complete list of tasks that you must perform to install the OFS CFE Application Pack installation.
- Pre-installation: This section contains the pre-installation requirements to install the OFS CFE Application Pack and the hardware and base software environment required.

- Installation: This section details the steps to install the OFS CFE Application Pack installation.
- Post-installation: This section details the steps that are you must performed after a successful installation of the OFS CFE Application Pack. This section also contains the additional configuration.
- Post Deployment Configurations: This section details the deployment steps to be followed after the OFS CFE Application Pack installation.
- Frequently Asked Questions (FAQs) and Error Dictionary: This section contains a list of FAQs and installation error-related information.

1.3 Access to Oracle Support

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

1.4 Related Documents

We strive to keep this and all other related documents updated regularly; visit the OHC Documentation Library to download the latest version available there. The list of related documents is provided here.

OHC Documentation Library for OFS CFE Application Pack Release 8.1.1.0.0:

- *Oracle Financial Services Cash Flow Engine User Guide*
- *Oracle Financial Services Cash Flow Engine Data Dictionary Guide*

OHC Documentation Library for OFS AAAI Application Pack:

- *OFSAAAI Application Security Guide*
- *Oracle Financial Services Analytical Applications Technology Matrix*
- *Oracle Financial Services Analytical Applications Infrastructure Environment Check Utility Guide*
- *Oracle Financial Services Analytical Applications Infrastructure Cloning Guide*

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.
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
`monospace`	Monospace type indicates commands within a paragraph, URLs, code in examples, file names, text that appears on the screen, or text that you enter.

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

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

2 Introduction

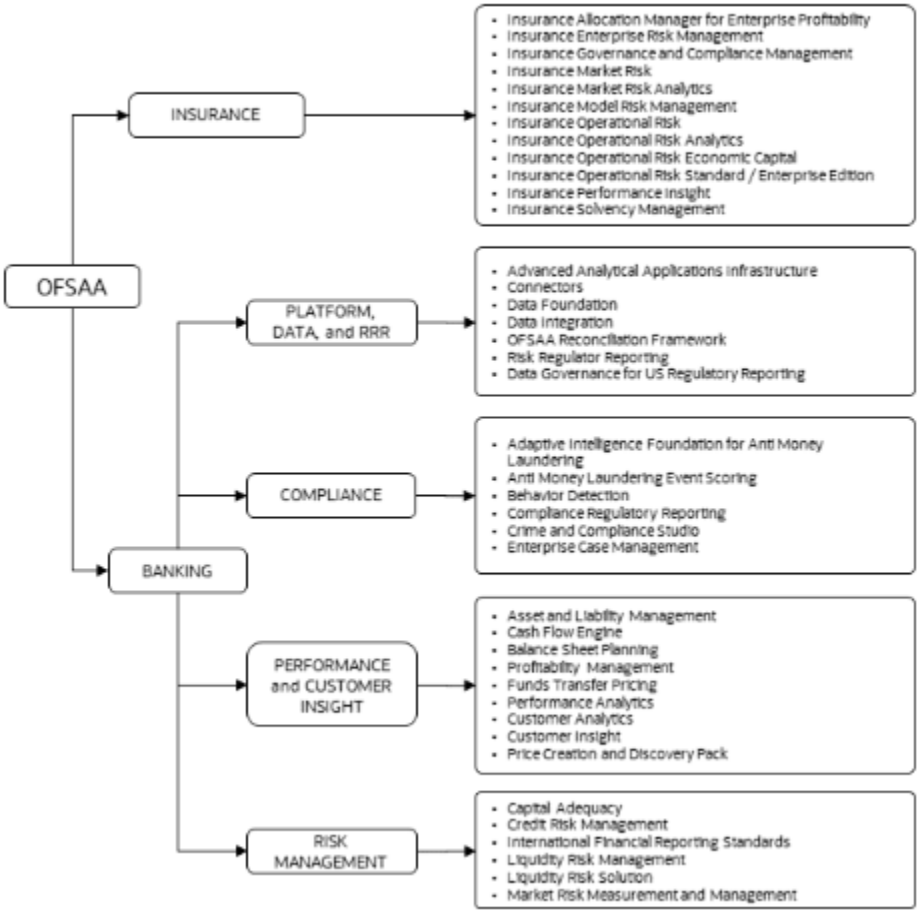
In today's turbulent markets, financial institutions require a better understanding of their risk-return, while strengthening competitive advantage and enhancing long-term customer value. Oracle Financial Services Analytical Applications (OFSAA) enable financial institutions to measure and meet risk-adjusted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

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

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

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

Figure 1: Application Packs of OFSAA



Topics:

2.1 Oracle Financial Services Analytical Applications Infrastructure (OFSAAI)

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

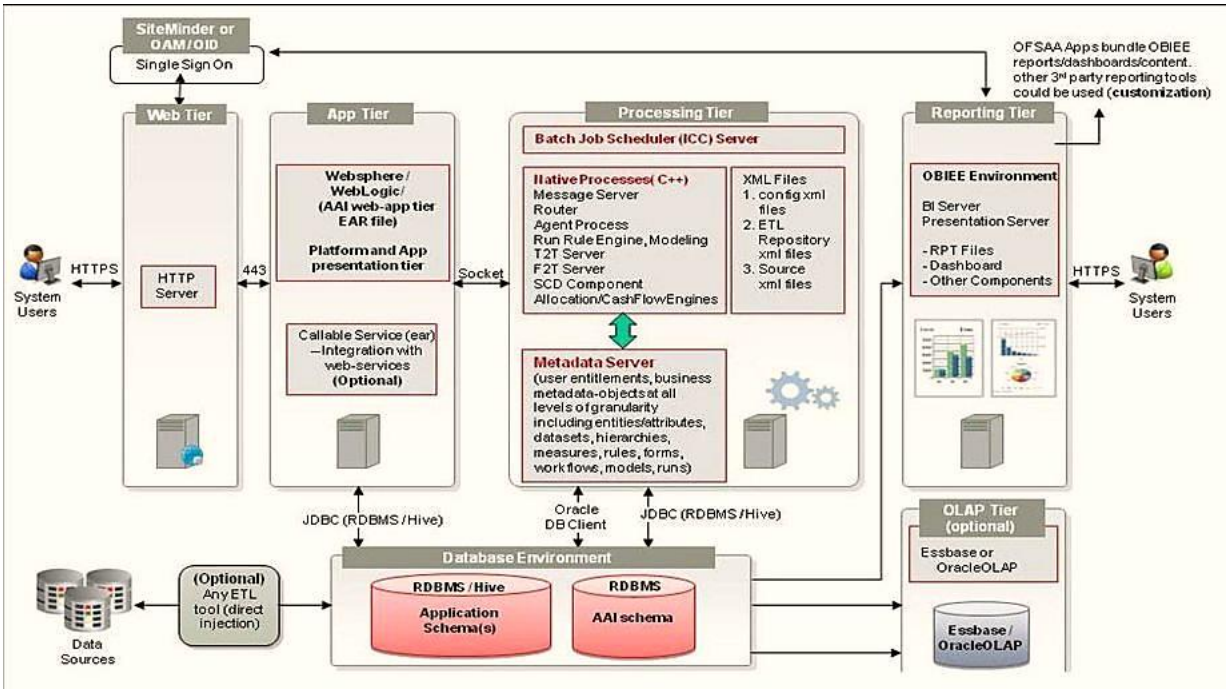
2.1.1 Components of OFSAAI

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

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

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

Figure 2: Components of OFSAAI



2.1.2 OFSAA Infrastructure High Availability

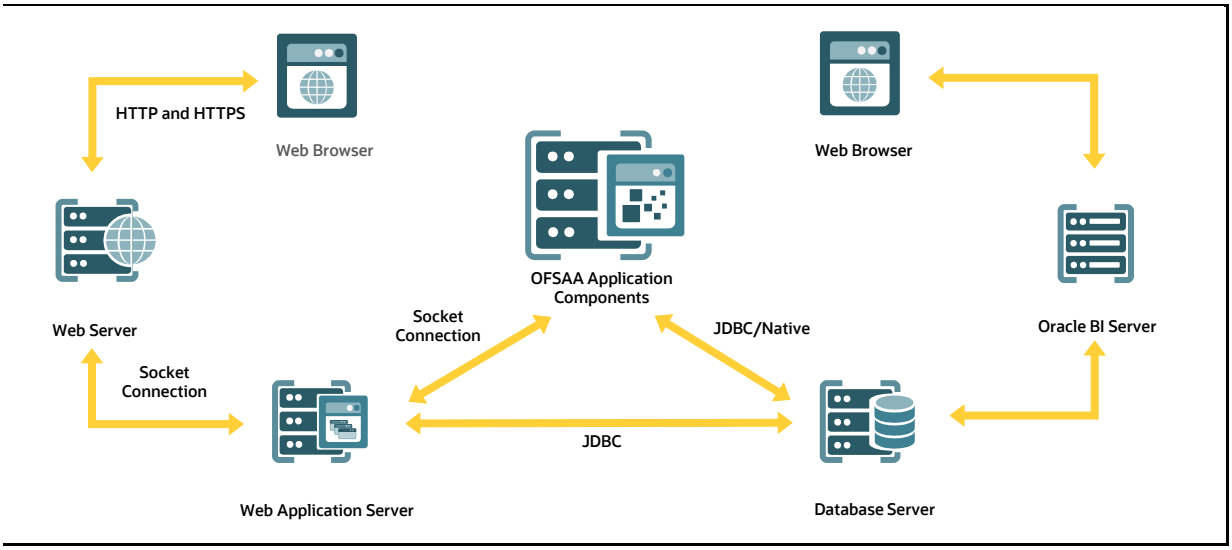
The current release of the OFSAA Infrastructure supports only the *Single Instance* installation for the Infrastructure components. However, the High Availability (HA) for the Database Server and (or) the Web application server clustering and deployment are supported in this release.

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

2.1.3 Deployment Topology

The following figure shows the Deployment Topology for the OFSAA Infrastructure.

Figure 3: The logical architecture implemented for OFSAAI Application Pack



2.1 Oracle Financial Services Cash Flow Engine (OFS CFE) Application Pack

OFS CFE Application Pack includes the following applications:

- **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.
- **Oracle Financial Services Cash Flow Engine** (OFS CFE): Cash flow calculation is an integral part of finance and risk solutions. Oracle Financial Services Cash Flow Engine (OFSCFE) is designed to help institutions to take a fresh and granular look at their cash inflows and outflows. It allows you to calculate cash flows of their Assets, Liabilities, and Off-Balance Sheet products at instrument level. The application measures and models every loan, deposit, and off-balance sheet instrument individually, using deterministic methods. This helps gain a better insight into the granularity of cash inflows and outflows to be utilized for multiple non-regulatory and regulatory purposes. Due to its generic nature OFSCFE is suitable for both financial and non-financial institutions with exposure to financial securities/instruments.

2.2 OFS AAI Extension Pack

The Oracle Financial Services Analytical Applications Infrastructure Extension (OFS AAIE) Pack adds a set of new advanced features for 8.1.1.0.0 Release across OFSAA applications. This pack can be installed on an OFSAA instance having one or more OFSAA application packs.

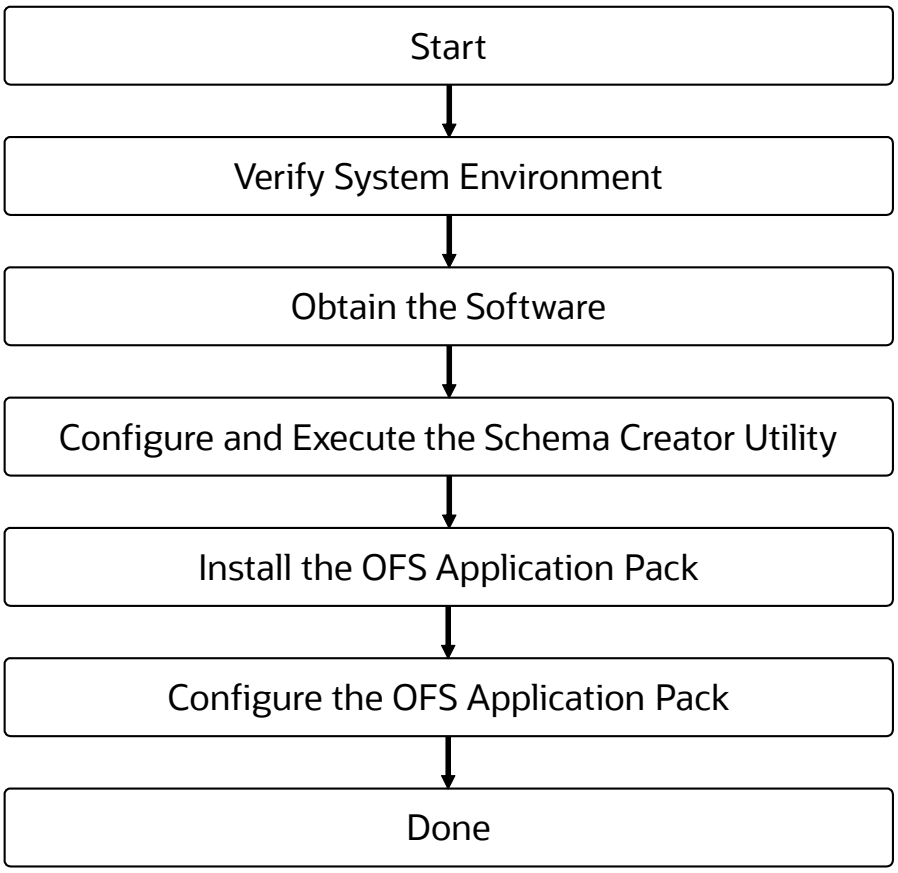
The Oracle Financial Services Analytical Applications Infrastructure Extension Pack includes the following advanced features and functionalities:

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

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

2.3 Installation Overview

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



2.4 Installation Scenarios

Release 8.1.1.0.0 of OFS CFE supports various installation scenarios. A high-level overview of the possible scenarios is provided in the following table. Detailed procedural steps are provided in the succeeding sections of this document.

Table 3: Release 8.1.1.0.0 Installation

Scenario	Installation and Upgrade Instructions
Installation Instructions	
Install OFS CFE Application Pack v8.1.1.0.0	1. Update the OFS_CFE_PACK.xml. 2. Update `OFSAAI_InstallConfig.xml`. 3. Configure the Schema Creator utility. Update `OFS_CFE_SCHEMA_IN.xml` file. 4. Run the Schema Creator utility. 5. Configure `Manifest.xml` (optional). 6. Update the `Silent.props` file present in the Release 8.1.1.0.0 pack for OFS CFE Application Pack. 7. Trigger the installation.
Install OFS CFE Application Pack v8.1.1.0.0 on an existing OFSAA Instance You have already installed an application pack from release 8.1.1.0.0 and now you want to install another application pack from Release 8.1.1.0.0. **Example**: OFS ALM Pack is already installed and now you want to install OFS CFE Pack.	1. Update the `OFS_CFE_PACK.xml` file for the newly licensed OFS CFE Application Pack. 2. Run the Schema Creator utility ONLY for the newly licensed OFS CFE Application Pack. 3. Update the `Silent.props` file of the newly licensed OFS CFE Application Pack. 4. Trigger the installation.

3 Complete Installation Check List

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

Table 4: Complete Installation Checklist

Sl. No.	Pre-installation Activity
1	Install all the prerequisite *hardware and software* given in the Tech Matrix.
2	License Information
3	Verify the System Environment using the Environment Check Utility.
4	Configure the Database Instance settings.
5	Install and configure the web application server.
6	Configure the HTTP settings on the web server.
7	Configure the following Operating System and File System settings: • File Descriptor • Total number of processes • Port (or Ports) • `.profile` file permissions • Set up the SFTP Private Key
8	Update the following Environment Settings required for the installation in the `.profile` file: Java Settings • Oracle Database Server and Client Settings • Add TNS entries in the `TNSNAMES.ORA` file • Oracle Essbase Settings • Time Zone Settings
9	(Optional) Install and configure Oracle R or Oracle R Enterprise.
10	Prepare for Installation • Download the OFS CFE Application Pack installer kit • Prerequisites for Installation • Create the Installation, Download, and Metadata Repository Directories • Compatibility Matrix
11	Extract the installer kit.

Sl. No.	Installation Activity
1	Configure the `OFS_CFE_PACK.xml` file.
2	Configure the Schema Creator Utility.
3	Execute the Schema Creator Utility in Offline, Online, or TCPS modes and verify the log file.
4	Configure the `OFSAAI_InstallConfig.xml` file.
5	Configure the `Manifest.xml` file.
6	Configure the `Silent.props` file.
7	Trigger the OFS CFE Application Pack installation.
8	Install CFE Pack on Pack.
9	Verify the installation logs.

Sl. No.	Post-installation Activity
1	Back up the OFS_CFE_SCHEMA_IN.`xml`, `OFS_CFE_SCHEMA_OUTPUT.xml`, and `Silent.props` files.
2	Add Atomic Schema Details in the `tnsnames.ora` file.
3	Stop the OFSAA Infrastructure services.
4	Create and deploy EAR or WAR files.
5	Build EAR or WAR file once and Deploy Across Multiple OFSAA Instances.
6	Start the OFSAA Infrastructure services.
7	Access the OFSAA Application.
8	OFSAA Landing Page
9	Configure Work Manager in the web application servers.
10	Configure Resource Reference in the web application servers.
11	Excel upload mapping and template.
12	Add TNS entries in the `tnsnames.ora` file.
13	Configure the excludeURLList.cfg file.
14	Configure Oracle R distribution and Oracle R Enterprise (ORE).
15	Set TDE and Data Redaction in OFSAAI.
16	Implement Data Protection in OFSAA.
17	Post Deployment Configurations • Configure GDPR

Sl. No.	Post-installation Activity
	• Login as System Administrator • Create Application Users • Map ICC Batch Execution Rights to User Changes in the `.profile` file for Solaris Operating System

Sl. No.	Additional Configuration Activity
1	Configure the web server.
2	Configure Resource Reference in the web servers.
3	Configure Work Manager in the web application servers.
4	Add FTP/SFTP Configuration for File Transfer.
5	Configure the Infrastructure Server Memory.
6	Retrieve the Patch Information.
7	Change IP or Hostname, Ports, Deployed Paths of the OFSAA Instance.
8	Execute the Encryption Changer.
9	Set Infrastructure LDAP Configuration.
10	Configure the OFSAAI web services.
11	Enable Parallel Execution of DML statements.
12	Configure the Message Details in Forms Designer.
13	Configure Password Changes.
14	Configure Java Virtual Machine.
15	Configure Internal Service.
16	Configure Dimension and Hierarchy Management • Configure Member Deletion • Configure Attribute Default Date Format • Configure Members Reverse Population • Configure Hierarchy Reverse Population • Configure Maximum Levels allowed in Hierarchies • Configure Node Limit for a Hierarchy Tree

4 Pre-installation

This section contains the pre-installation requirements to install the OFS CFE application.

Topics

4.1 Pre-installation Checklist

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

Table 5: Pre-installation Checklist

Sl. No.	Activity
1	Install all the prerequisite *hardware and software* given in the Tech Matrix.
2	License Information
3	Verify the System Environment using the Environment Check Utility.
4	Configure the Database Instance settings.
5	Install and configure the web application server.
6	Configure the HTTP settings on the web server.
7	Configure the following Operating System and File System settings: • File Descriptor • Total number of processes • Port (or Ports) • `.profile` file permissions • Set up the SFTP Private Key
8	Update the following Environment Settings as required for the installation in the `.profile` file: Java Settings • Oracle Database Server and Client Settings • Add TNS entries in the `TNSNAMES.ORA` file • Oracle Essbase Settings • Time Zone Settings
9	(Optional) Install and configure Oracle R or Oracle R Enterprise.

Sl. No.	Activity
10	Prepare for Installation • Download the OFS CFE Application Pack installer kit • Prerequisites for Installation • Create the Installation, Download, and Metadata Repository Directories • Compatibility Matrix

4.2 Hardware and Software Requirements

For a list of all the hardware and software requirements including operating systems, database, web servers, and web application server versions for which this release of the Oracle Financial Services Cash Flow Engine Application Pack is qualified can be found in the Technology Matrix

Table 6: Recommended Software Combination

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

4.3 License Information

For details of the third-party software tools used, see the OFSAA Licensing Information User Manual Release 8.1.1.0.0.

4.4 Verify System Environment

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

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

For information on downloading and using this utility, see the Oracle Financial Services Analytical Applications Infrastructure Environment Check Utility Guide.

4.5 Install Oracle R distribution and Oracle R Enterprise (ORE)

This is an optional step and required only if you intend to use Oracle R scripting in the Oracle Financial Services Enterprise Modeling Application.

Install Oracle R Distribution and Oracle R Enterprise (Server Components) on the Oracle Database server. See the Oracle R Enterprise Installation and Administration Guide for Linux at Oracle R Enterprise Documentation Library. For supported versions of ORD and ORE, see the Tech Matrix.

NOTE If you use ORE 1.4.1 with Oracle Financial Services Enterprise Modeling, you must set the session time zone in the `R_HOME/etc/Rprofile.site` file on the database server, where `R_HOME` is the home directory of the R instance on which ORE server packages are installed. Alternatively, you can set the session time zone in scripts registered within OFS EM by using the Sys.env(TZ=<time zone>) R function.

4.6 Preparing for Installation

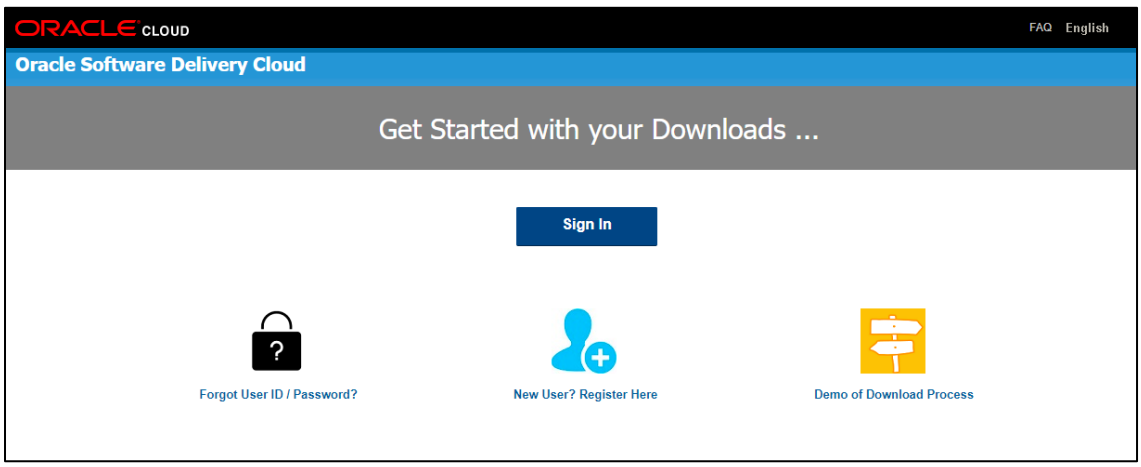
This section describes how to download the installer and the mandatory prerequisites you must ensure installing the OFS CFE Application Pack.

4.7 Download the OFS CFE Application Pack Installer and Mandatory Patches

To download the OFS CFE Application Pack Installer Release v8.1.1.0.0, follow these steps:

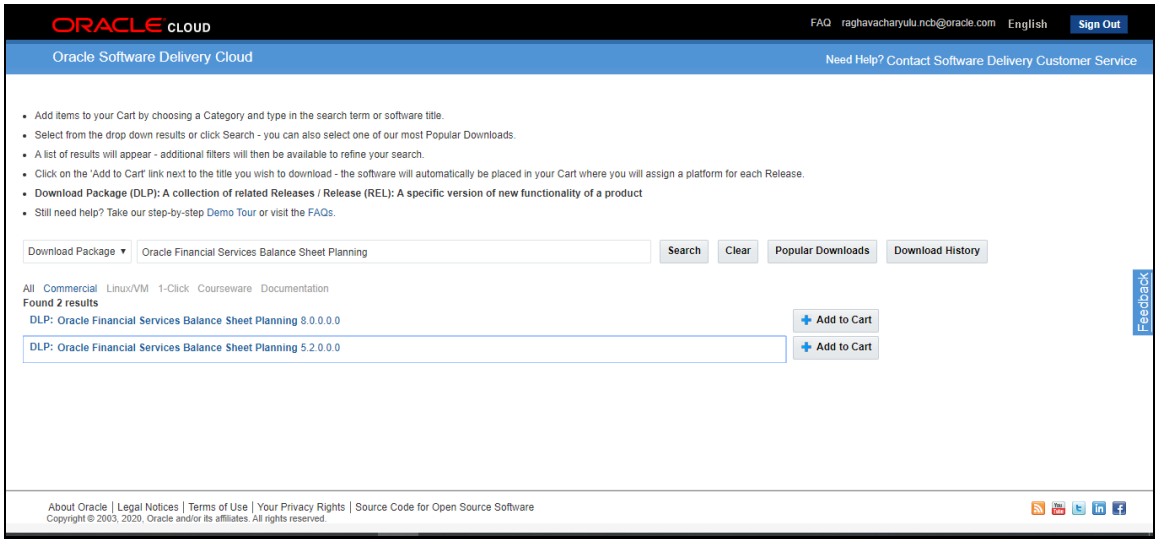
1. Log in to the Oracle Software Delivery Cloud (OSDC) with a valid Oracle account.

Figure 1: Oracle Software Delivery Cloud Page



2. Search for the full product name **Oracle Financial Services Cash Flow Engine Application Pack** and download the installer archive.

Figure 2: Oracle Software Delivery Cloud Search Page



3. Copy the installer archive into the download directory (in Binary mode) in the setup identified for the OFS CFE Application Pack installation.

> **NOTE** You can download the OFS CFE ERWIN data model patch 32606505 from My Oracle Support.

> **NOTE** Select the required archive files for either Solaris SPARC or Linux based on the operating system of your OFSAAAI.

1. Log in to My Oracle Support, search for the **33663417** Mandatory Patch in the **Patches & Updates** Tab and download it.
2. Before proceeding with the domain creation, download and install the required one-off Patch or the latest WLS PSU for 14.1.1 from My oracle Support (Doc ID 2806740.2). For more information, refer to **Configure WebLogic for Application Deployment** in AAI installation guide.

> **ATTENTION** On the 10th of December 2021, Oracle released Security Alert CVE-2021-44228 in response to the disclosure of a new vulnerability affecting Apache Log4J prior to version 2.15. The application of the **33663417** Mandatory Patch fixes the issue.
>
> For details, see the My Oracle Support Doc ID 2827801.1.
>
> Ensure that you reapply the 33663417 Mandatory Patch whenever you install or upgrade the application, or apply an incremental patch.

4.7.1 Prerequisites for Installation

Before beginning the installation, ensure that:

- You have executed the `.profile` file.
- The FICServer is up and running. For information on restarting the services, see the *Start the Infrastructure Services* section in the OFS Advanced Analytical Applications Infrastructure Release 8.1.1.0.0 Installation and Configuration Guide for more information.

4.7.2 Create the Installation, Download and Metadata Directories

To install the OFS CFE Application Pack, create the following directories:

- **OFS CFE Download Directory (Optional)**: Create a download directory and copy the OFS CFE Application Pack Installer File (archive). This is the directory where the downloaded installer or patches can be copied. Assign 755 permission to this directory.
- **OFSAA Installation Directory (Mandatory)**: Create an installation directory where the product binaries are installed. Assign 755 user permission to the installation directory. FIC_HOME variable to be set in the `.profile` pointing to this OFSAA Installation Directory.
- **OFSAA Staging or Metadata Repository Directory (Mandatory)**: A directory to hold the application metadata artifacts and additionally act as the staging area for the flat files. This directory is also referred to as "FTPSHARE". Create a Staging or Metadata Repository Directory to copy data files, save data extracts, and so on.

> **NOTE** Assign 755 user permission to the installation directory.
>
> Assign 775 user permission to the staging directory.
>
> Ensure the OFSAA staging directory is not set to the same path as the OFSAA installation directory and is not a sub-folder inside the OFSAA installation directory.

4.7.3 Compatibility Matrix

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

Table 7: List of Applications Not to be Installed in on a Single Infodom

If you are installing	Do not install
OFS_CFE_PACK	OFS_PFT_INS_PACK OFS_BD_PACK OFS_CRR_PACK

If you are installing	Do not install
OFS_PFT_INS_PACK	OFS_PFT_PACK OFS_CFE_PACK OFS_BSP_PACK
OFS_CFE_PACK	OFS_PFT_INS_PACK
OFS_BSP_PACK	OFS_PFT_INS_PACK
OFS_PFT_PACK	OFS_PFT_INS_PACK OFS_BD_PACK OFS_CRR_PACK

This table lists the applications or app-combinations that can be installed on a single infodom. For more information, see the Install OFS CFE Application Pack v8.1.1.0.0 on an Existing OFSAA Instance.

Table 8: List of Applications can be Installed in on a Single Infodom

If you are installing	Can be installed
OFS_CFE_PACK	PLATFORM PFT FTP DIH FTP BASEL_BASIC CIRPA CIIPA EFPA BASEL_BASIC OREC BASEL_ANALYTICS BASEL_ADV GL DGSEBA DGS INTF_FCUBS INTF_FAH INTF_OBP INTF_DRM DIH HM LLFP LRM OFSAAAI RP CREC OREC

5 Installation

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

Topics:

5.1 Installation Checklist

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

Table 5: Installation Checklist

Sl. No.	Activity
1	Extract the installer kit.
2	Configure the `OFS_CFE_PACK.xml` file.
3	Configure the Schema Creator Utility.
4	Execute the Schema Creator Utility in Offline, Online, or TCPS modes and verify the log file.
5	Configure the `OFSAAI_InstallConfig.xml` file.
6	Configure the `Silent.props` file.
7	Trigger the OFS CFE Application Pack installation.
8	Install CFE Pack on Pack.

5.2 Extract the OFS CFE Application Pack Software

You must be logged in to the UNIX operating system as a non-root user to perform the following steps. To extract the software, follow these steps:

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

2. 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 unzip_<os>.Z
   ```

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

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

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

   For example `chmod 751 unzip_sparc`

4. Extract the contents of the OFS CFE Application Pack Release 8.1.1.0.0 installer archive file in the download directory using the following command:

   ```
   unzip OFS_CFE_PACK.zip
   ```

   > **NOTE** Do not rename the Application Pack installer folder name on extraction from the archive.

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

   ```
   chmod -R 750 OFS_CFE_PACK
   ```

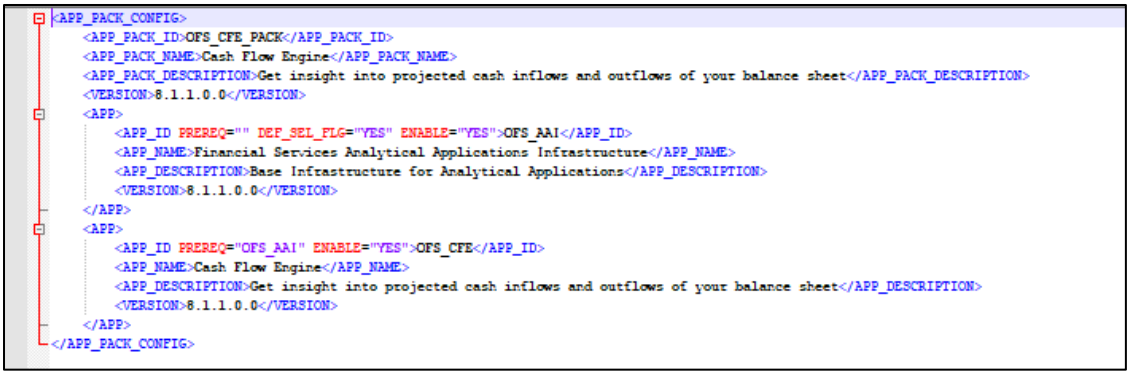
5.3 Configure the OFS_CFE_PACK.xml File

The `OFS_CFE_PACK.xml` file contains details of the various products that are packaged together in the OFS CFE Applications Pack.

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

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

Figure 4: Sample OFS_CFE_PACK.xml File



```
<APP_PACK_CONFIG>
    <APP_PACK_ID>OFS_CFE_PACK</APP_PACK_ID>
    <APP_PACK_NAME>Cash Flow Engine</APP_PACK_NAME>
    <APP_PACK_DESCRIPTION>Get insight into projected cash inflows and outflows of your balance sheet</APP_PACK_DESCRIPTION>
    <VERSION>8.1.1.0.0</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>8.1.1.0.0</VERSION>
    </APP>
    <APP>
        <APP_ID PREREQ="OFS_AAI" ENABLE="YES">OFS_CFE</APP_ID>
        <APP_NAME>Cash Flow Engine</APP_NAME>
        <APP_DESCRIPTION>Get insight into projected cash inflows and outflows of your balance sheet</APP_DESCRIPTION>
        <VERSION>8.1.1.0.0</VERSION>
    </APP>
</APP_PACK_CONFIG>
```

Table 9: `OFS_CFE_PACK.xml` File Parameters

Tag Name or Attribute Name	Description	Mandatory (Y or N)	Comments
APP_PACK_ID	Unique Application Pack Identifier	Y	Unique Seeded Value. Do not modify this value.
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 CFE. For all other applications, the default Application ID is set to none. You can set it for the applications you want to install. Do not modify this value.
APP_ID/ DEF_SEL_FLAG	Default Selected Flag	Y	In all Application Packs, Infrastructure requires this value to be set to "YES". Do not modify this value.

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

5.4 Configure the Schema Creator Utility

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

Configure and execute the schema creator utility before installing the OFS CFE Application Pack.

Topics:

5.4.1 Prerequisites

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

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

For HIVE installation, you must also have the following:

- HIVE connection credentials (for example, Kerberos connection properties)
- Hostname or IP of the HIVE Server installation

5.4.2 Configure the Schema Creator Utility for RDBMS Installation

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

You can configure the following types of Schemas:

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

5.4.2.1 Configure the OFS_CFE_SCHEMA_IN.xml File

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

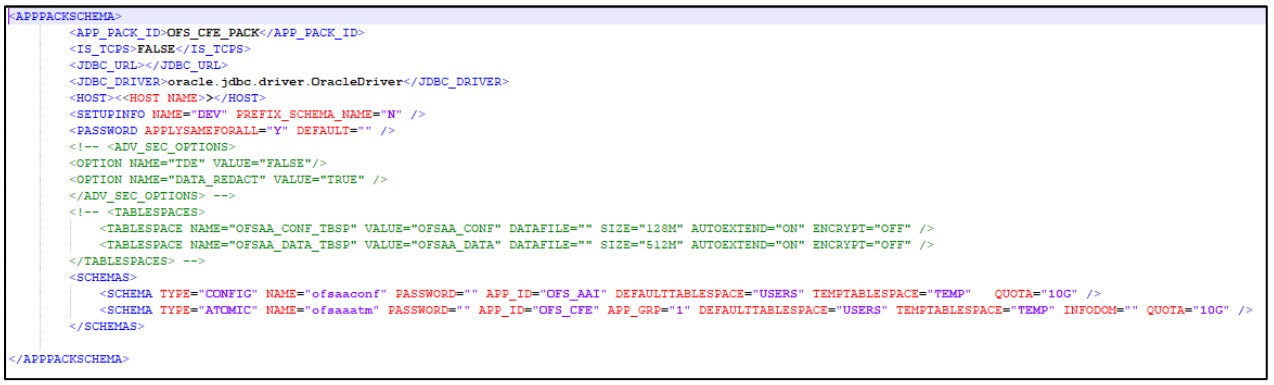
Specify the database schemas required for the installation in the `OFS_CFE_SCHEMA_IN.xml` file. Update the values of the various tags and parameters available in this file before executing the Schema Creator utility.

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

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

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

Figure 5: Sample of OFS_CFE_SCHEMA_IN.xml File



```
<APPPACKSCHEMA>
        <APP_PACK_ID>OFS_CFE_PACK</APP_PACK_ID>
        <IS_TCPS>FALSE</IS_TCPS>
        <JDBC_URL></JDBC_URL>
        <JDBC_DRIVER>oracle.jdbc.driver.OracleDriver</JDBC_DRIVER>
        <HOST><<HOST NAME>></HOST>
        <SETUPINFO NAME="DEV" PREFIX_SCHEMA_NAME="N" />
        <PASSWORD APPLYSAMEFORALL="Y" DEFAULT="" />
        <!-- <ADV_SEC_OPTIONS>
        <OPTION NAME="TDE" VALUE="FALSE"/>
        <OPTION NAME="DATA_REDACT" VALUE="TRUE" />
        </ADV_SEC_OPTIONS> -->
        <!-- <TABLESPACES>
            <TABLESPACE NAME="OFSAA_CONF_TBSP" VALUE="OFSAA_CONF" DATAFILE="" SIZE="128M" AUTOEXTEND="ON" ENCRYPT="OFF" />
            <TABLESPACE NAME="OFSAA_DATA_TBSP" VALUE="OFSAA_DATA" DATAFILE="" SIZE="512M" AUTOEXTEND="ON" ENCRYPT="OFF" />
        </TABLESPACES> -->
        <SCHEMAS>
            <SCHEMA TYPE="CONFIG" NAME="ofsaaconf" PASSWORD="" APP_ID="OFS_AAI" DEFAULTTABLESPACE="USERS" TEMPTABLESPACE="TEMP"    QUOTA="10G" />
            <SCHEMA TYPE="ATOMIC" NAME="ofsaaatm" PASSWORD="" APP_ID="OFS_CFE" APP_GRP="1" DEFAULTTABLESPACE="USERS" TEMPTABLESPACE="TEMP" INFODOM="" QUOTA="10G" />
        </SCHEMAS>

</APPPACKSCHEMA>
```

Table 10: OFS_CFE_SCHEMA_IN.xml File Parameters

Tag Name or Attribute Name	Description	Mandatory (Y or N)	Default Value or Permissible Value	Comments
<APP_PACK_ID>	Seeded unique ID for the OFSSAA Application Pack.	Y	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.
<JDBC_URL>	Enter the JDBC URL. **NOTE:** You can enter the following JDBC URL types: 1. RAC or NON-RAC enabled database connectivity URL. 2. TCPS RAC or NON-RAC enabled database connectivity URL provided the <IS_TCPS> tag value is TRUE. 3. Wallet-enabled JDBC URL.	Y	Example: jdbc:oracle:thin:@< DBSERVER IP/ HOST/ IP>:<PORT>:<SID> or jdbc:oracle:thin:@//[HOS T][:PORT]/ SERVICE or jdbc:oracle:thin:@(DESCRI PTION=(ADDRESS_ LIST=(ADDRESS=(PROT OCOL=TCP)(HOST=[HO ST])(port=[PORT]))(ADD RESS=(PROTOCOL=TCP) (HOST=[HOST])(PORT=[PORT]))(LOAD_ BALANCE=yes)(FAILOV ER=yes))(CONNECT_ DATA=(SERVICE_ NAME=[SERVICE]))) For example: jdbc:oracle:thin:@//dbhos t.server.com:1521/service 1 or jdbc:oracle:thin:@//dbsho st.server.com:1521/scan-1 or jdbc:oracle:thin:@(DESCRI PTION=(ADDRESS_ LIST=(ADDRESS=(PROT OCOL=TCP)(HOST=dbhost1.server.com) (port=1521))(ADDRESS=(PROTOCOL=TCP)(H OST=dbhost2.s erver.com)(PORT=1521))(	Ensure to add an entry (with SID or SERVICE NAME) in the `tnsnames.ora` file on the OFSAA server. The entry must match with the SID or SERVICE NAME used in the JDBC URL. Ensure that you have configured: 1. The correct Oracle Wallet with the credentials for stored Sys, Config, and Atomic Users. 2. The JDBC URL as follows: `jdbc:oracle:thin:/@` For more information on how to configure Oracle Wallets for OFSAA Installation and Data Sources, see the Oracle Financial Services Analytical Applications Infrastructure Administration and Configuration Guide.

Tag Name or Attribute Name	Description	Mandatory (Y or N)	Default Value or Permissible Value	Comments
			LOAD_BALANCE=yes)(FAILOVER=yes))(CONNECT_DATA=(SERVICE_NAME=service1))) or <JDBC_URL>jdbc:oracle:thin:@(DESCRIPTION = (ADDRESS = (PROTOCOL =TCPS)(HOST = dbhost.server.com)(PORT = 2484))(CONNECT_DATA =(SERVER = DEDICATED)(SERVICE_NAME=SERVICEID))(security=(ssl_server_cert_dn=CN=dbhost))) or jdbc:oracle:thin:/@	
<JDBC_DRIVER>	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 Host Name or IP Address of the system on which you are installing the OFSAA components.	Y	Host Name or IP Address	
<SETUPINFO>/PREFIX_SCHEMA_NAME	Identifies whether the value specified in <SETUPINFO>/NAME attribute must be prefixed to the Schema name.	N	Y or N	The default value is Y.

Tag Name or Attribute Name	Description	Mandatory (Y or N)	Default Value or Permissible Value	Comments
<SETUPINFO>/NAME	Enter the acronym for the type of implementation. This information is displayed in the OFSAA Home Page. On executing the Schema Creator utility, this value is prefixed with each Schema name. For example: dev_ofsaaconf, uat_ofsaatm.	Y	Accepts strings with a minimum length of two and a maximum of four. For example: DEV, SIT, PROD.	This message appears in the OFSAA Landing Page as "*Connected To: DEV*". The Schemas that are created get this prefix. For example, dev_ofsaaconf, uat_ofsaaconf, and so on.
<PASSWORD>/ DEFAULT*	Enter the password if you want to set a default password for all Schemas. You also must set the 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_<APP PACK>_SCHEMA_IN.xml` file is cleared.
<PASSWORD>/ APPLYSAMEFORALL	If you have entered Y in APPLYSAMEFORALL attribute and also have specified individual passwords for all the Schemas, then the specified individual passwords will take precedence.	Y	Default N Permissible: Y or N Enter Y if you want to apply the password specified in the DEFAULT attribute for all the Schemas. If you enter N, provide individual passwords for all Schemas.	Setting this attribute value is mandatory if the DEFAULT attribute is set.

Tag Name or Attribute Name	Description	Mandatory (Y or N)	Default Value or Permissible Value	Comments
<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, or ADDON SANDBOX and ADDON Schemas do not apply to OFSAAI.	Only One CONFIG Schema can exist in the file. Do not edit this attribute value. This Schema identifies as the CONFIGURATION Schema that contains the OFSAA setup details and other Metadata information. Multiple ATOMIC, SANDBOX, or ADDON Schemas can exist in the file.
<SCHEMA>/NAME	The Schemas' names are seeded based on the Application Pack by default. You can edit the Schema names if required. The Schema Name will have a prefix of the SETUPINFO/ NAME attribute. SCHEMA NAME must be the same for all the ATOMIC Schemas of the applications within an Application Pack.	Y	The permissible length is 15 characters and only alphanumeric characters are allowed. No special characters allowed except underscore '_'.	SETUPOINFO/NAME attribute value is prefixed to the Schema name being created. For example, if a name is set as *ofsaatm* and setupinfo as *uat*, then Schema created is *uat_ofsaatm*. NAME must be the same where APP_GRP=1 for all SCHEMA tags (not applicable for this Application Pack).
<SCHEMA>/PASSWORD	Enter the password of the Schema to be created. If this attribute is left blank, then the password specified in the <PASSWORD>/DEFAULT attribute is taken as the Schema Password.	N	The maximum length allowed is 30 characters. Special characters are not allowed.	It is mandatory to enter the password if you have set the <PASSWORD>/ APPLYSAMEFORALL attribute as N.

Tag Name or Attribute Name	Description	Mandatory (Y or N)	Default Value or Permissible Value	Comments
<SCHEMA>/APP_ID	The Application ID is seeded based on the Application Pack.	Y	Unique Seeded Value	Identifies the Application or Product for which the Schema is being created. Do not modify this attribute value. Do not modify this value.
<SCHEMA>/DEFAULT TABLESPACE	Enter the available default tablespace for DB User. If this attribute is left blank, then USERS is set as the default tablespace.	N	Default USERS Permissible Any existing valid tablespace name.	Modify this value to associate any valid tablespace with the Schema.
<SCHEMA>/TEMPTA BLESPACE	Enter the available temporary tablespace for DB User. If this attribute is left bank, TEMP is set as the default tablespace.	N	Default TEMP Permissible Any existing valid temporary tablespace name.	Modify this value to associate any valid tablespace with the Schema.
<SCHEMA>/QUOTA	Enter the quota to be set on the DEFAULTTABLESPACE attribute for the Schema or user. By default, the quota size is set to 500M. Minimum: 500M or Unlimited on default Tablespace.	N	Example: 600M/ m 20G/ g UNLIMITED/ unlimited	Modify this value to grant the specified quota on the mentioned tablespace to the user.

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

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

<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.
				Example: The following snippet shows that TDE is enabled and hence the tablespace is shown with encryption ON.
				`<ADV_SEC_OPTIONS>`
				`<OPTION NAME="TDE" VALUE="FALSE"/>`
				`<OPTION NAME="DATA_REDACT" VALUE="FALSE" />`
				`</ADV_SEC_OPTIONS>`
				`<TABLESPACES>`
				`<TABLESPACE NAME="OFS_AAI_TBSP_1" VALUE="TS_USERS1" DATAFILE="/scratch/ora19c/app/oracle/oradata/OFSPQA19cDB/ts_users1.dbf" SIZE="500M" AUTOEXTEND="ON" ENCRYPT="ON" />`
				`<TABLESPACE NAME="OFS_AAI_TBSP_2" VALUE="TS_USERS2" DATAFILE="/scratch/ora19c/app/oracle/oradata/OFSPQA19cDB/ts_users2.dbf"`

Tag Name or Attribute Name	Description	Mandatory (Y or N)	Default Value or Permissible Value	Comments
				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>

5.4.2.1.1 Enable TDE and Data Redaction - 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>
```

5.5 Execute the Schema Creator Utility

Depending on the 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 while Installing Subsequent Applications Pack

> **NOTE** For Pack on Pack installation, see the Install OFS CFE Application Pack v8.1.1.0.0 on an Existing OFSAA Instance section.

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

5.5.1 Execute the Schema Creator Utility in Offline Mode

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

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

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

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

To execute the Schema Creator utility in the offline mode, follow these steps:

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

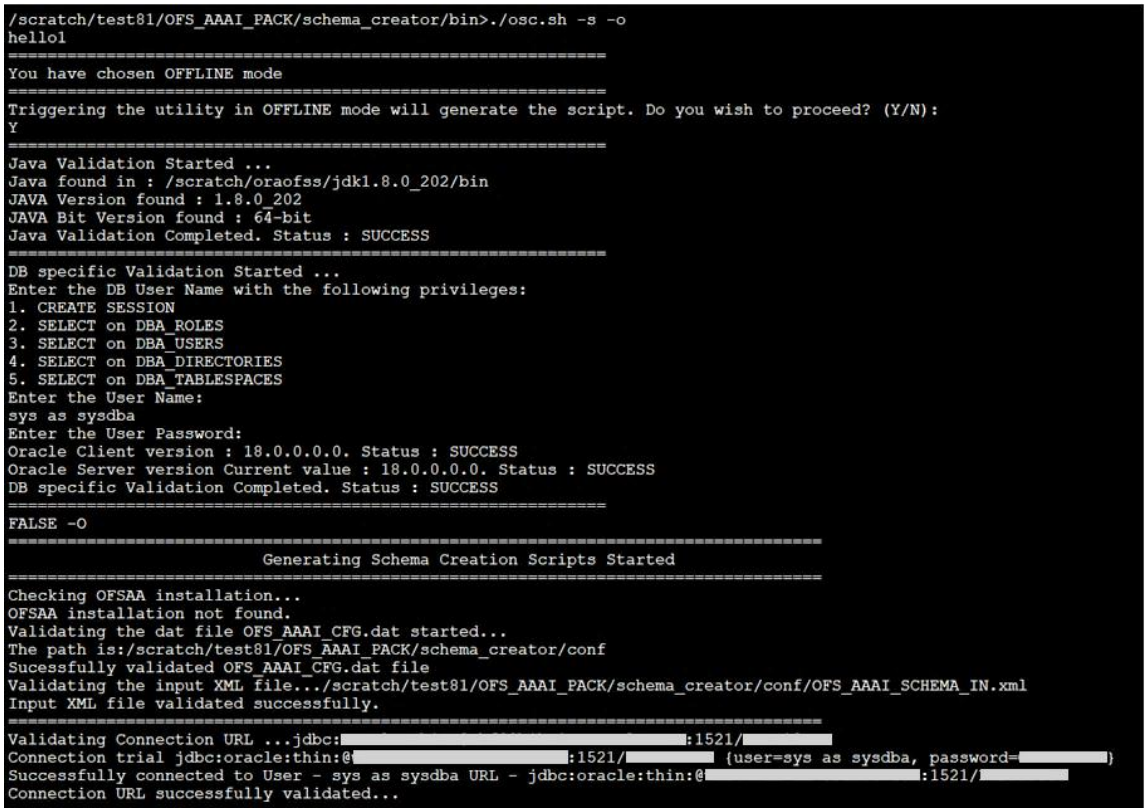
   ```
   ./osc.sh -s -o
   ```

4. 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).

5. Enter `Y` to proceed.
6. Enter the DB Username with SELECT privileges.
7. Enter the User Password.

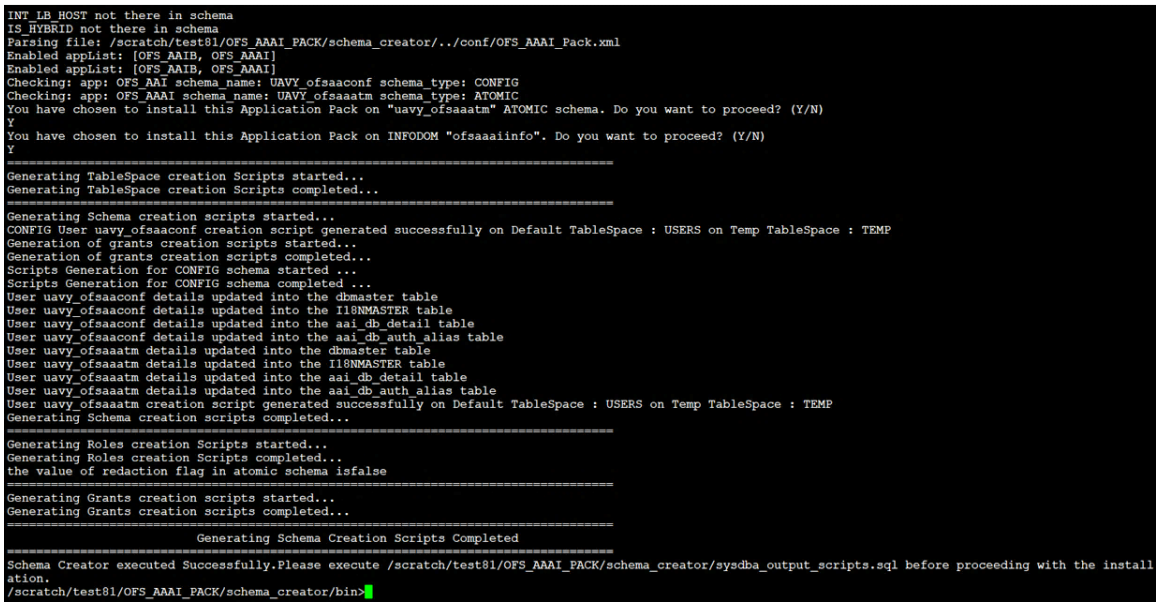
Figure 6: Schema Creation in Offline Mode



8. 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).

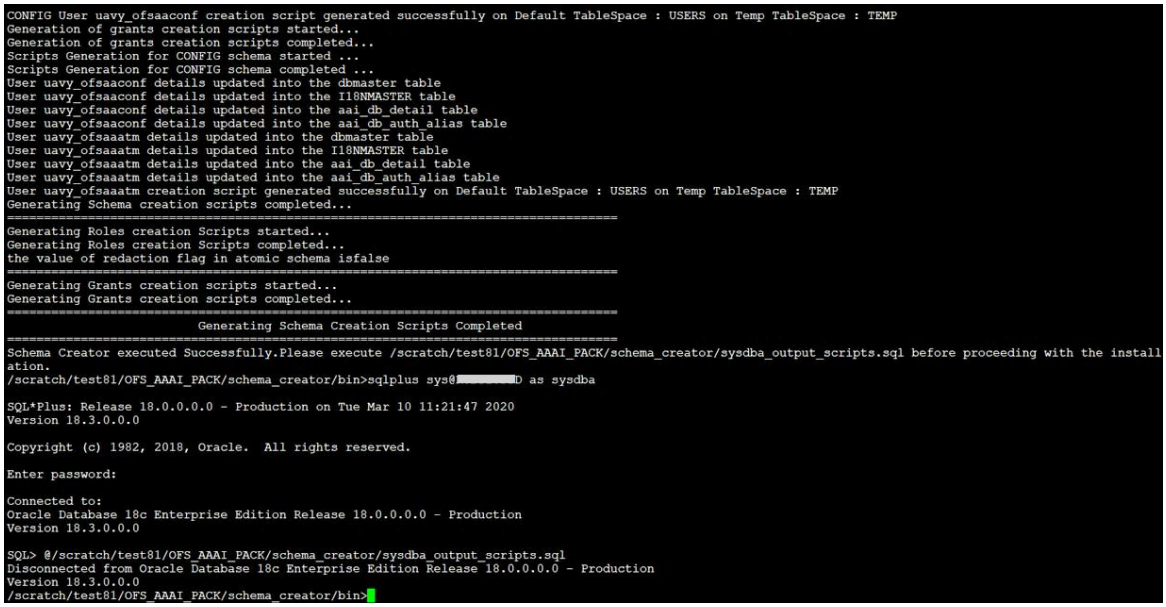
Figure 7: Schema Creation in Offline Mode Script Generation



9. Enter **Y** to start the script generation. The following message is displayed:

You have chosen to install this Application Pack on <Name of the Infodom>. Do you want to proceed? (Y/N).

Figure 8: Schema Creation in Offline Mode Successful



On successful execution of the Schema Creator utility, the console displays the following status message:

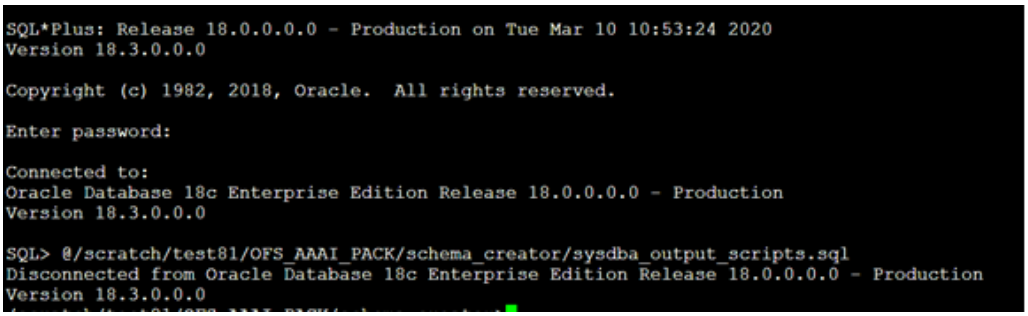
Schema Creator executed successfully. Please execute `scratch/ofsaaapp/OFS_ALAM_PACK/schema_creator/sysdba_output_scripts.sql` before proceeding with the installation.

Additionally, if you have configured the `<<APP PACK>>_SCHEMA_BIGDATA_IN.xml` file, a file called `hive_output_scripts.hql` is also created in the `/scratch/ofsaaapp/OFS_AAAI_PACK/schema_creator` directory.

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

10. Navigate to the `OFS_AAAI/schema_creator` directory.
11. Log in to SQLPLUS as a user having SYSDBA Privileges.

Figure 9: Schema Creation in Offline Mode – Execute sysdba_output_scripts.sql



12. Execute the `sysdba_output_scripts.sql` file using the following command:

    `SQL>@sysdba_output_scripts.sql`

    Alternatively, you can copy the `sysdba_output_scripts.sql` file and `SQLScripts` directory to a remote server and execute the `sysdba_output_scripts.sql` file, after providing appropriate execute permissions.

13. Log in to the Hue Browser with System Administrator privileges. Execute the script mentioned under `hive_output_scripts.hql` (omitting the slash ('/')) in the HIVE Query Editor. For example:

    `CREATE SCHEMA IF NOT EXIST <<HIVE SCHEMA NAME>>`

> **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.

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

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

5.5.2 Execute the Schema Creator Utility in Online Mode

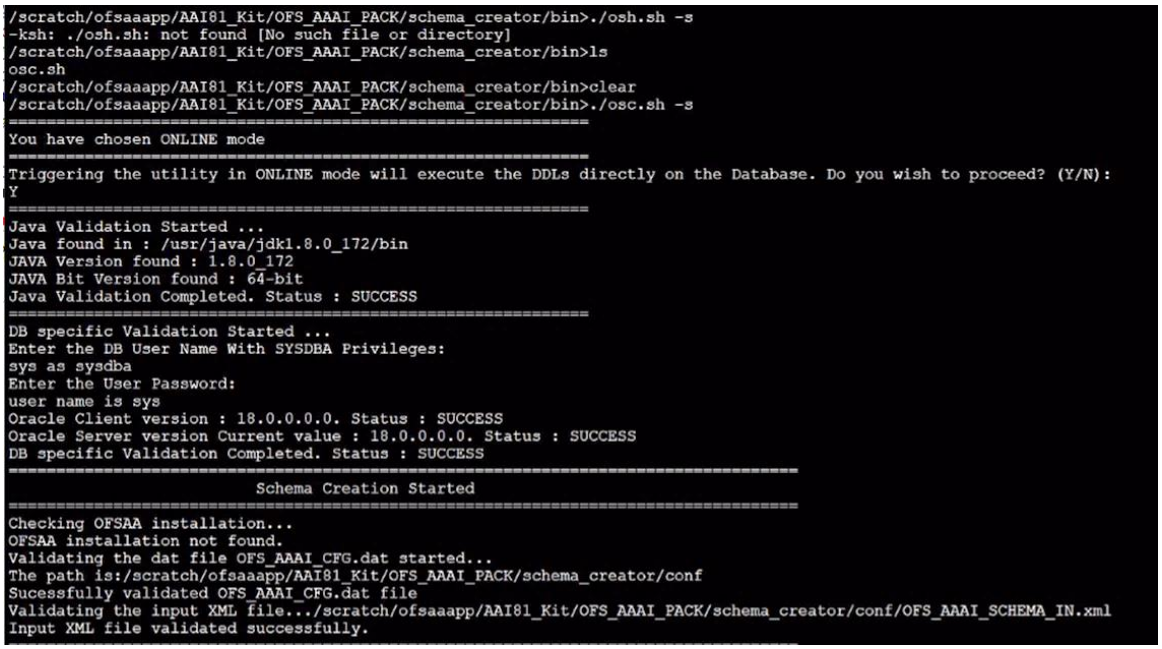
In Online mode, the utility connects to the database and executes the DDLs for Users, Objects, and Grants. If you have SYSDBA privileges you can execute the Schema Creator Utility in Online mode and thereby create the Users, Objects, and Grants during the execution process. To execute the utility in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

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

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

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

Figure 10: Schema Creation in Online Mode

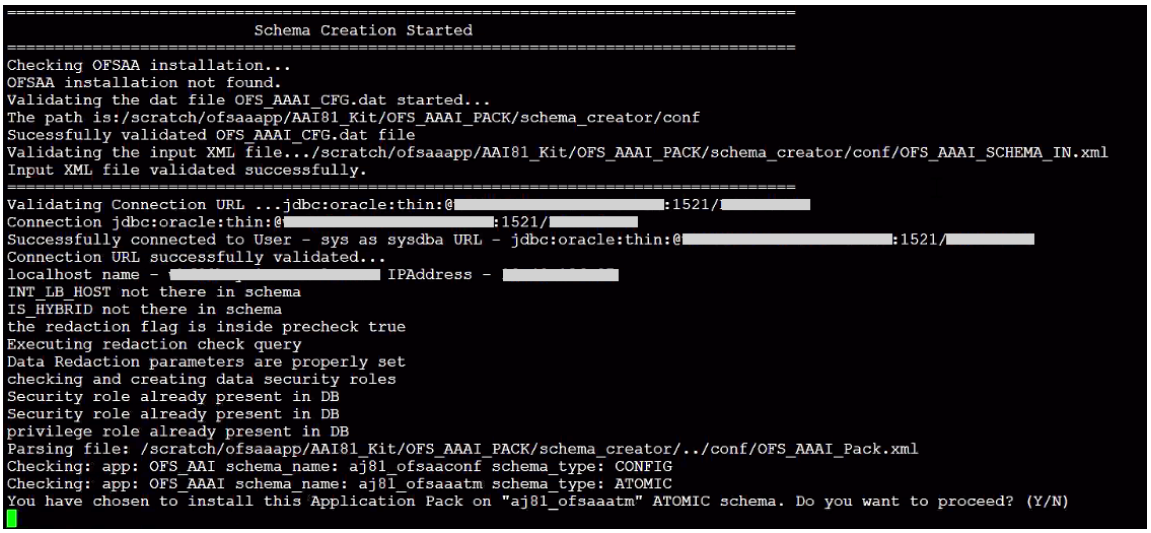


3. The following message is displayed:

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

4. Enter **Y** to proceed.

Figure 11: Schema Creation in Online Mode – DDL Execution

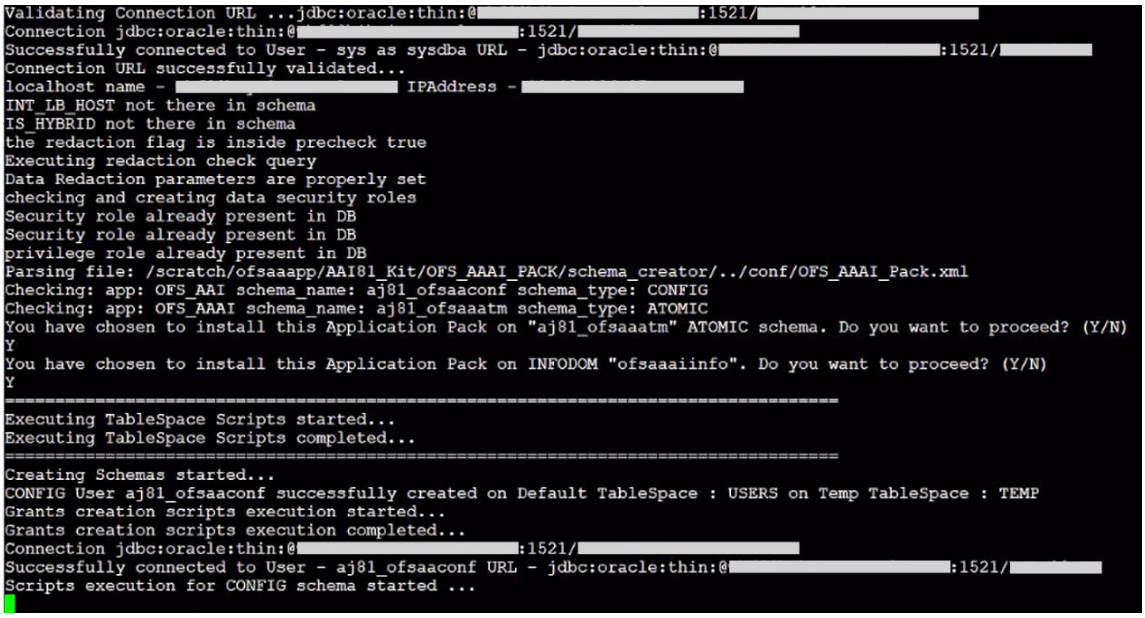


5. The following message is displayed:

   You have chosen to install this application pack on INFODOM "<INFODOM_NAME>". Do you wish to proceed? (Y/y or N/n).

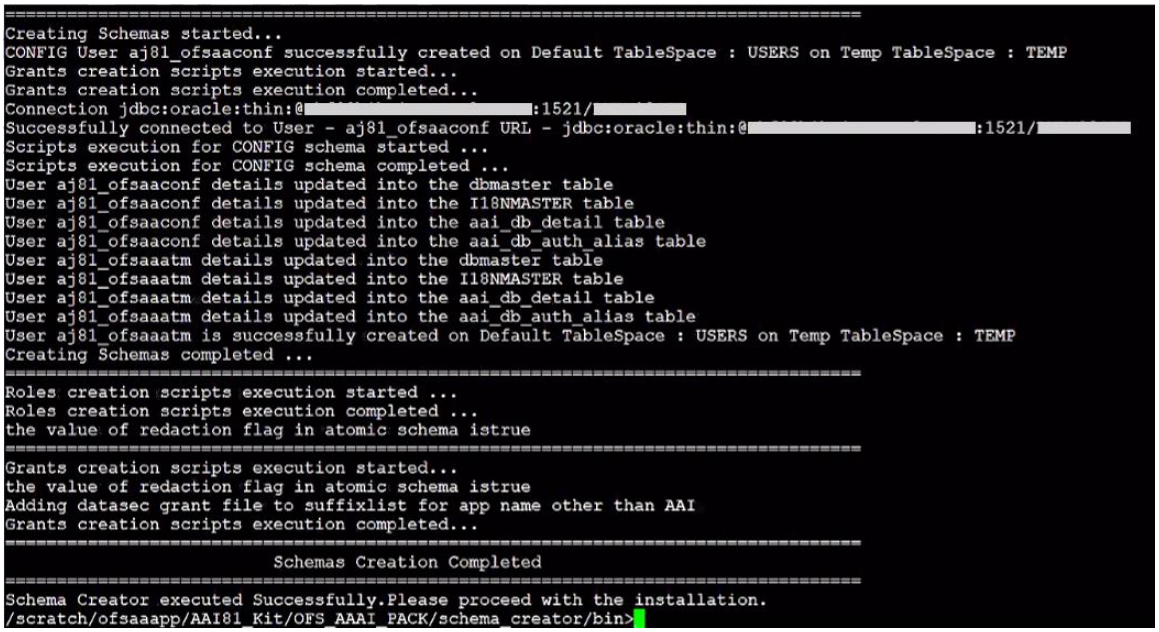
6. Enter **Y** to proceed.

Figure 12: Schema Creation in Online Mode – Infodom Confirmation



7. After Schema creation is successful, proceed to the Configure the OFSAAI_InstallConfig.xml File section.

Figure 13: Schema Creation in Online Mode –Successful



The result of this task is that the OFS_CFE_SCHEMA_OUTPUT.XML file is generated. Do not modify this file.

5.5.3 Execute the Schema Creator Utility while Installing Subsequent Applications Pack

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

To execute the Schema Creator utility while installing OFS CFE Application Pack over an existing Application Pack, follow these steps:

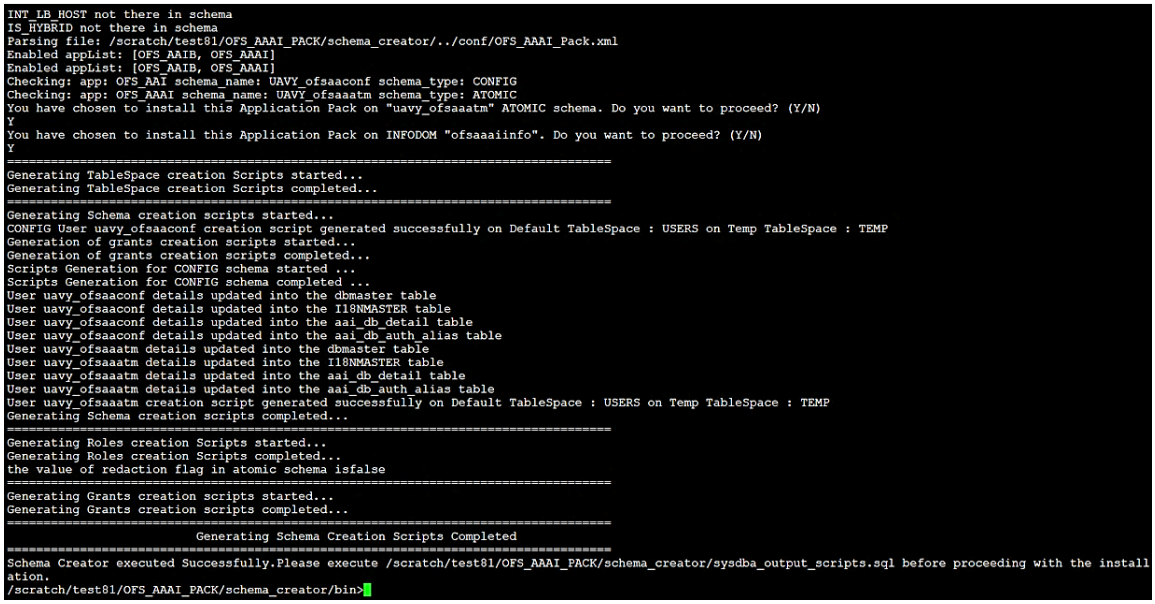
1. Edit the file `OFS_CFE_PACK/schema_creator/conf/OFS_CFE_SCHEMA_IN.xml` in a text editor. See the Configure OFS_CFE_SCHEMA_IN.xml File section for values you must modify in the XML file.
2. Execute the utility with -s option. For Example: `./osc.sh –s –o`

Figure 14: Execute the Schema Creator Utility to Install Subsequent Applications Pack

```
/scratch/test81/OFS_AAAI_PACK/schema_creator/bin>./osc.sh -s -o
hello1
============================================================
You have chosen OFFLINE mode
============================================================
Triggering the utility in OFFLINE mode will generate the script. Do you wish to proceed? (Y/N):
Y
============================================================
Java Validation Started ...
Java found in : /scratch/oraofss/jdk1.8.0_202/bin
JAVA Version found : 1.8.0_202
JAVA Bit Version found : 64-bit
Java Validation Completed. Status : SUCCESS
============================================================
DB specific Validation Started ...
Enter the DB User Name with the following privileges:
1. CREATE SESSION
2. SELECT on DBA_ROLES
3. SELECT on DBA_USERS
4. SELECT on DBA_DIRECTORIES
5. SELECT on DBA_TABLESPACES
Enter the User Name:
sys as sysdba
Enter the User Password:
Oracle Client version : 18.0.0.0.0. Status : SUCCESS
Oracle Server version Current value : 18.0.0.0.0. Status : SUCCESS
DB specific Validation Completed. Status : SUCCESS
============================================================
FALSE -O
================================================================================
                        Generating Schema Creation Scripts Started
================================================================================
Checking OFSAA installation...
OFSAA installation not found.
Validating the dat file OFS_AAAI_CFG.dat started...
The path is:/scratch/test81/OFS_AAAI_PACK/schema_creator/conf
Sucessfully validated OFS_AAAI_CFG.dat file
Validating the input XML file.../scratch/test81/OFS_AAAI_PACK/schema_creator/conf/OFS_AAAI_SCHEMA_IN.xml
Input XML file validated successfully.
================================================================================
Validating Connection URL ...jdbc:[redacted]:1521/[redacted]
Connection trial jdbc:oracle:thin:@[redacted]:1521/[redacted] {user=sys as sysdba, password=[redacted])
Successfully connected to User - sys as sysdba URL - jdbc:oracle:thin:@[redacted]:1521/[redacted]
Connection URL successfully validated...
```

After successful Schema creation, execute the `sysdba_output_scripts.sql` file.

Figure 15: Install Subsequent Applications Pack–Execute sysdba_output_scripts.sql



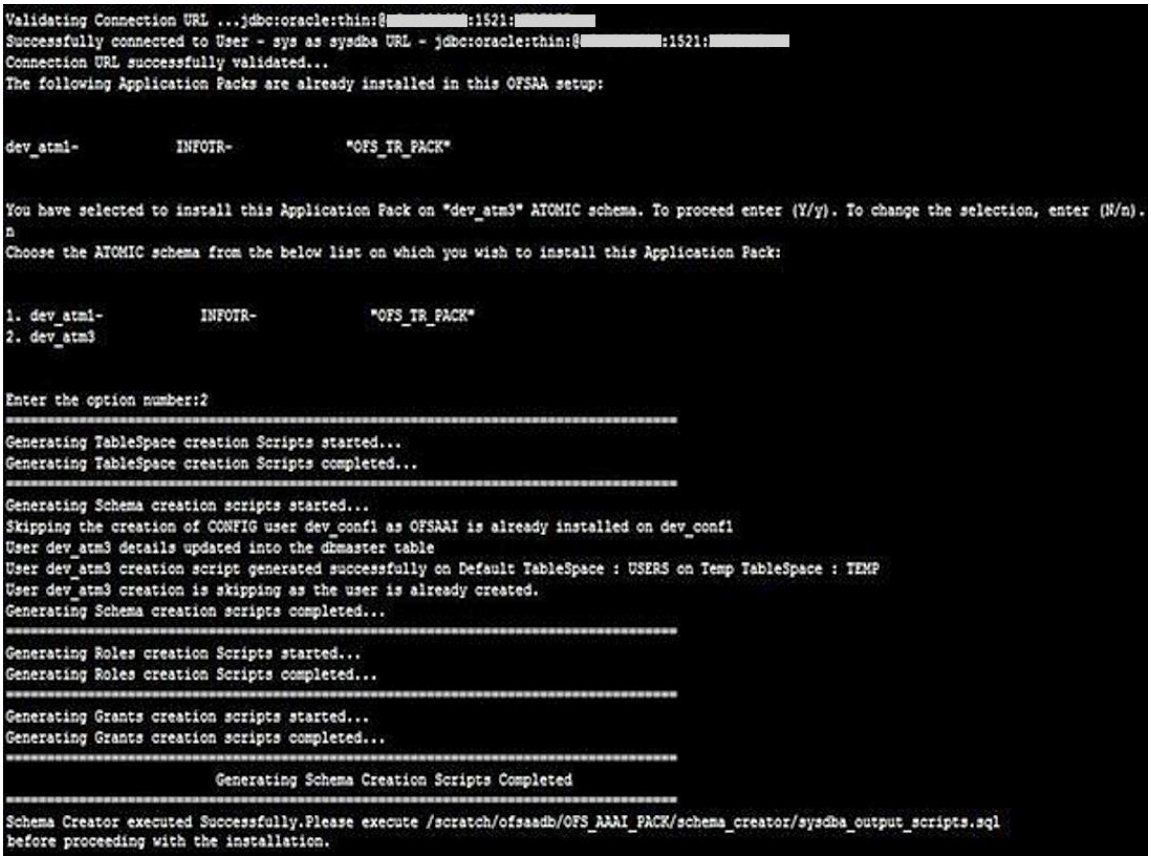
> **NOTE** You must use the same config Schema user name as the previous Application Pack.

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

Figure 16: Install Subsequent Applications Pack–Select Atomic Schema and Infodom

4. Select the Atomic User on which you want to install the Application Pack.

Figure 17: Install Subsequent Applications Pack–Select Atomic Schema and Infodom



On successful execution of Schema Creator utility, the console displays the following status message:

Success. Please proceed with the installation.

- See the log file in `OFS_CFE_PACK/schema_creator/logs` directory for the execution status.
- See the log file `sysdba_output_scripts.log` for execution status if executed in offline mode. This log will be empty if there are no errors in the execution.
- If there are any errors, contact My Oracle Support.

5.6 Configure the OFSAAI_InstallConfig.xml File

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

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

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

Figure 18: Sample of OFSAAI_InstallConfig.xml File

```
<UserInteractions>
    <Layer name="GENERAL">
        <InteractionGroup name="WebServerType" >
            <InteractionVariable name="WEBAPPSERVERTYPE">1</InteractionVariable>
        </InteractionGroup>
        <InteractionGroup name="OFSAA Infrastructure Server Details">
            <InteractionVariable name="DBSERVER_IP">whf00jkv.in.oracle.com</InteractionVariable>
        </InteractionGroup>
        <InteractionGroup name="Database Details" >
            <InteractionVariable name="ORACLE_SID/SERVICE_NAME">MRMMQA19C</InteractionVariable>
            <InteractionVariable name="ABS_DRIVER_PATH">/scratch/oraofss/app/product/18.0.0/client_1/jdbc/lib</InteractionVariable>
        </InteractionGroup>
        <InteractionGroup name="OLAP Detail">
            <InteractionVariable name="OLAP_SERVER_IMPLEMENTATION">0</InteractionVariable>
        </InteractionGroup>
        <InteractionGroup name="SFTP Details">
            <InteractionVariable name="SFTP_ENABLE">1</InteractionVariable>
            <InteractionVariable name="FILE_TRANSFER_PORT">22</InteractionVariable>
        </InteractionGroup>
        <InteractionGroup name="Locale Detail">
          <InteractionVariable name="LOCALE">en_US</InteractionVariable>
        </InteractionGroup>
        <InteractionGroup name="OFSAA Infrastructure Communicating ports" >
            <InteractionVariable name="JAVAPORT">7421</InteractionVariable>
            <InteractionVariable name="NATIVEPORT">7422</InteractionVariable>
            <InteractionVariable name="AGENTPORT">7423</InteractionVariable>
            <InteractionVariable name="ICCPORT">7424</InteractionVariable>
            <InteractionVariable name="ICCNATIVEPORT">7425</InteractionVariable>
            <InteractionVariable name="OLAPPORT">7426</InteractionVariable>
            <InteractionVariable name="MSGPORT">7427</InteractionVariable>
            <InteractionVariable name="ROUTERPORT">7428</InteractionVariable>
            <InteractionVariable name="AMPORT">7429</InteractionVariable>
        </InteractionGroup>
        <InteractionGroup name="WEB_DETAILS" >
            <InteractionVariable name="HTTPS_ENABLE">0</InteractionVariable>
            <InteractionVariable name="WEB_SERVER_IP">whf00cwz</InteractionVariable>
            <InteractionVariable name="WEB_SERVER_PORT">7430</InteractionVariable>
            <InteractionVariable name="CONTEXT_NAME">ALM822</InteractionVariable>
            <InteractionVariable name="WEBAPP_CONTEXT_PATH">/scratch/81user2/apache-tomcat-9.0.22/webapps</InteractionVariable>
            <InteractionVariable name="WEB_LOCAL_PATH">/scratch/81user2/ftpshare</InteractionVariable>
        </InteractionGroup>
        <InteractionGroup name=" Weblogic Setup Details" >
            <InteractionVariable name="WEBLOGIC_DOMAIN_HOME">NA</InteractionVariable>
        </InteractionGroup>
        <InteractionGroup name="OFSAAI FTP Details">
            <InteractionVariable name="OFSAAI_FTPSHARE_PATH">/scratch/81user2/ftpshare</InteractionVariable>
            <InteractionVariable name="OFSAAI_SFTP_USER_ID">81user2</InteractionVariable>
            <InteractionVariable name="OFSAAI_SFTP_PRIVATE_KEY">NA</InteractionVariable>
            <InteractionVariable name="OFSAAI_SFTP_PASSPHRASE">NA</InteractionVariable>
        </InteractionGroup>
        <InteractionGroup name="HIVE_DETAILS" >
            <InteractionVariable name="HIVE_SERVER_PORT">NA</InteractionVariable>
            <InteractionVariable name="HIVE_SERVER_FTPDRIVE">NA</InteractionVariable>
            <InteractionVariable name="HIVE_SERVER_FTP_USERID">NA</InteractionVariable>
            <InteractionVariable name="HIVE_SERVER_FTP_PROTOCOL">NA</InteractionVariable>
            <InteractionVariable name="HIVE_SFTP_PRIVATE_KEY">NA</InteractionVariable>
            <InteractionVariable name="HIVE_SFTP_PASSPHRASE">NA</InteractionVariable>
        </InteractionGroup>
    </Layer>
</UserInteractions>
```

Table 11: OFSAA Infrastructure Installation Tasks and Descriptions

InteractionVariable Name	Significance and Expected Value	Mandatory
<Layer name="GENERAL">		
InteractionGroup name=”WebServerType”		

WEBAPPSERVERTYPE	Identifies the web application server on which the OFSAA Infrastructure web components are deployed. Set the following numeric value depending on the type of web application server: • Apache Tomcat = 1 • IBM WebSphere Application Server = 2 • Oracle WebLogic Server = 3 For example, `<InteractionVariable name="WEBAPPSERVERTYPE">3</InteractionVari able>`	Yes
InteractionGroup name="OFSAA Infrastructure Server Details"		
DBSERVER_IP	Identifies the host name or IP address of the system on which the Database Engine is hosted. **NOTE:** For RAC Database, the value must be NA. For example, `<InteractionVariable name="DBSERVER_IP">14.15.16.17</InteractionVariable>` or `<InteractionVariable name="DBSERVER_IP">dbhost.server.com</InteractionVariable>`	Yes
InteractionGroup name="Database Details"		
ORACLE_SID/SERVICE_NAME	Identifies the Oracle DB Instance SID or SERVICE_NAME **NOTE:** The `Oracle_SID` value must be exactly the same as it is mentioned in `JDBC_URL`. For example, `<InteractionVariable name="ORACLE_SID/SERVICE_NAME">ofsaser</InteractionVariable>`	Yes
ABS_DRIVER_PATH	Identifies the directory where the JDBC driver (`ojdbc<version>.jar`) exists. This is typically the `$ORACLE_HOME/jdbc/lib` directory. For example, `<InteractionVariable name="ABS_DRIVER_PATH">">/oradata6/revwb7/ oracle </InteractionVariable>` **NOTE:** See Hardware and Software Requirements to identify the correct `ojdbc<version>.jar` file version to be copied.	Yes
InteractionGroup name="OLAP Detail		
OLAP_SERVER_IMPLEMENTATION	Identifies whether the OFSAA Infrastructure OLAP component must be configured. It depends on whether you intend to use the OLAP feature. The following numeric value must be set depending on your choice: • YES: 1 • NO: 0 **NOTE:** If the value for `OLAP_SERVER_IMPLEMENTATION` is set to 1, the installer checks if the following environment variables are set in the `.profile` file: • ARBORPATH • HYPERION_HOME • ESSBASEPATH	No

InteractionGroup name="SFTP Details"		
SFTP_ENABLE	Identifies if the SFTP (Secure File Transfer Protocol) feature is to be enabled. The following numeric value must be set depending on your choice: • SFTP: 1 • FTP: 0	Yes
NOTE: The default value for SFTP_ENABLE is **1**, which signifies that SFTP is used. Oracle recommends using SFTP instead of FTP because SFTP is more secure. However, you can ignore this recommendation and use FTP by setting SFTP_ENABLE to **0**. You can change this selection later from the OFSAAI administration interface. Set SFTP_ENABLE to **-1** to configure ftpshare and weblocal path as a local path mounted for the OFSAAI server.		
FILE_TRANSFER_PORT	Identifies the port used for the file transfer service. The default value specified is **22** (SFTP). Specify the value as **21** or any other PORT value if the value for SFTP_ENABLE is **0**. For example, <InteractionVariable name="FILE_TRANSFER_PORT">21</InteractionVariable>	Yes
InteractionGroup name="Locale Detail"		
LOCALE	Identifies the locale information to be used during the installation. This release of the OFSAA Infrastructure supports only US English. For example, <InteractionVariable name="LOCALE">en_US</InteractionVariable>	Yes
InteractionGroup name="OFSAA Infrastructure Communicating ports" **NOTE:** The following ports are used internally by the various OFSAA Infrastructure services. The default values mentioned are set in the installation. If you intend to specify a different value, update the parameter value accordingly, ensure that the port value is in the range 1025 to 65535, and the respective port is enabled.		
JAVAPORT	9999	Yes
NATIVEPORT	6666	Yes
AGENTPORT	6510	Yes
ICCPORT	6507	Yes
ICCNATIVEPORT	6509	Yes
OLAPPORT	10101	Yes
MSGPORT	6501	Yes
ROUTERPORT	6500	Yes
AMPORT	6505	Yes
InteractionGroup name="Web Details" **NOTE:** If the value for HTTPS_ENABLE is set to **1**, ensure that you have a valid certificate available from a trusted CA and it is configured on your web application server.		
HTTPS_ENABLE	Identifies whether the UI must be accessed using HTTP or HTTPS scheme. The default value is set to **0**. The numeric value must be set depending on the following options:	Yes

	• YES: 1 • NO: 0 For example, <InteractionVariable name="HTTPS_ENABLE">0</InteractionVariable>	
WEB_SERVER_IP	Identifies the HTTP Server IP or Host name or Web application server IP or Host name, to be used to access the UI. This IP is typically the HTTP Server IP. If a separate HTTP Server is not available, then the value must be Web application server IP/Host name. For example, <InteractionVariable name="WEB_SERVER_IP">10.11.12.13</InteractionVariable> or <InteractionVariable name="WEB_SERVER_IP">myweb.server.com</InteractionVariable>	No
WEB_SERVER_PORT	Identifies the Web Server Port, which is typically 80 for non-SSL and 443 for SSL. If a separate HTTP Server exists, the port value must be the value configured for the Web Server. **Warning:** The installer will not accept the port value as: • 80, if the HTTPS_ENABLE variable is 1 • 443, if the HTTPS_ENABLE variable is 0 For example, <InteractionVariable name="WEB_SERVER_PORT">80</InteractionVariable>	No
CONTEXT_NAME	Identifies the web application context name which is used to build the URL to access the OFSAA application. You can identify the context name from the following URL format: <scheme>://<host>:<port>/<context-name>/login.jsp For example: https://myweb:443/ofsaadev/login.jsp For example, <InteractionVariable name="CONTEXT_NAME">ofsaadev</InteractionVariable>	Yes
WEBAPP_CONTEXT_PATH	Identifies the absolute path of the exploded EAR file on the web application server. • For Tomcat, specify the Tomcat directory path till /webapps. For example, /oradata6/ revwb7/tomcat/webapps/. • For WebSphere, specify the WebSphere path as <WebSphere profile directory>/installedApps/<NodeCellName>. For example, /data2/test//WebSphere/AppServer/profiles/<Profile_Name>/installedApps/aiximfNode01Cell, where aix-imf is the Host name. • For WebLogic, specify the WebLogic home directory path. For example, /<WebLogic home directory path>/bea/wlserver_10.3 **NOTE:** For WebLogic, the value specified for this attribute is ignored and the value provided against the attribute WEBLOGIC_DOMAIN_HOME is considered.	Yes

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

The default value set for the interaction variables under this group is NA. **NOTE:** The following values are required only for Hive Configuration.		
HIVE_SERVER_PORT	Identifies the port used for the file transfer service. The default value is **22** (SFTP). To use this port for FTP, set this value to **21**. For example, `<InteractionVariable name="HIVE_SERVER_PORT">22</InteractionVariable>`	Yes
HIVE_SERVER_FTPDRIVE	Identifies the absolute path to the directory identified as file system stage area of the HIVE server. For example, `<InteractionVariable name="HIVE_SERVER_FTPDRIVE">/scratch/ofsaa/ftpshare</InteractionVariable>`	Yes
HIVE_SERVER_FTP_USERID	Identifies the user who has RWX permissions on the directory identified under the parameter `HIVE_SERVER_FTPDRIVE`. For example, `<InteractionVariable name="HIVE_SERVER_FTP_USERID">ofsaa</InteractionVariable>`	Yes
HIVE_SERVER_FTP_PROTOCOL	If the `HIVE_SERVER_PORT` is 21, then set the value to **FTP**. If not, set it to **SFTP**. For example, `<InteractionVariable name="HIVE_SERVER_FTP_PROTOCOL">SFTP</InteractionVariable>`	Yes
HIVE_SFTP_PRIVATE_KEY	Identifies the SFTP private key for the HIVE server. For example, `<InteractionVariable name="HIVE_SFTP_PRIVATE_KEY">/scratch/testuser/.ssh/id_rsa</InteractionVariable>` By default, the value is **NA**, which indicates that, for authentication, you are prompted to enter the password for the user <HIVE_SERVER_FTP_USERID>. For more information on generating SFTP Private key, see the Set Up SFTP Private Key section.	
HIVE_SFTP_PASSPHRASE	Identifies the passphrase for the SFTP private key for HIVE. For example, `<InteractionVariable name="HIVE_SFTP_PASSPHRASE">NA</InteractionVariable>` By default, the value is **NA**. If the `HIVE_SFTP_PRIVATE_KEY` value is **NA**, then the passphrase is identified as empty.	

5.6.1 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 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

5.7 Manifest.xml File

The `Manifest.xml` file contains details of the various datamodels used during new Installation or Upgrade scenarios.

- If you are using only CFE application standalone, then `OFS_CFE_Datamodel.xml` data model slice will be processed.
- If you are using integrated upload (CFE), then `OFS_CFE_PACK_Datamodel.xml` data model slide will be processed.

Figure 19: Sample Manifest.xml File

```
<DATAMODELS>
<PACK>
    <RDBMS>
        <!--Default entry to upload pack level integrated slice. -->
        <UPLOAD MODEL="OFS_CFE_PACK_Datamodel.xml" seq="1"/>

        <!--App level slice for individual Slice upload. Kindly uncomment the below entries with commenting above entry incase app wise slice to be uploaded.-->
        <!--UPLOAD MODEL="OFS_CFE_Datamodel.xml" seq="1"/>-->
    </RDBMS>
    <HIVE>
        <!--Default entry to upload pack level integrated slice. -->
        <UPLOAD MODEL="OFS_CFE_PACK_Datamodel.xml" seq="1"/>

        <!--App level slice for individual Slice upload. Kindly uncomment the below entries with commenting above entry incase app wise slice to be uploaded.-->
        <!--UPLOAD MODEL="OFS_CFE_Datamodel.xml" seq="1"/>-->
    </HIVE>
    <HYBRID>
        <!--Default entry to upload pack level integrated slice. -->
        <UPLOAD MODEL="OFS_CFE_PACK_Datamodel.xml" seq="1"/>

        <!--App level slice for individual Slice upload. Kindly uncomment the below entries with commenting above entry incase app wise slice to be uploaded.-->
        <!--UPLOAD MODEL="OFS_CFE_Datamodel.xml" seq="1"/>-->
    </HYBRID>
</PACK>
<APP ID="OFS_CFE">
    <RDBMS>
        <UPLOAD MODEL="OFS_CFE_Datamodel.xml" seq="1"/>
    </RDBMS>
    <HIVE>
        <UPLOAD MODEL="OFS_CFE_Datamodel.xml" seq="1"/>
    </HIVE>
    <HYBRID>
        <UPLOAD MODEL="OFS_CFE_Datamodel.xml" seq="1"/>
    </HYBRID>
</APP>
</DATAMODELS>
```

5.8 Configure the Silent.props File

This section is applicable for a new installation of the OFS CFE Application Pack Release 8.1.1.0.0.

5.8.1 Silent.template

To configure the `Silent.props`, follow these steps:

1. Navigate to the installer kit path `OFS_CFE_PACK/appsLibConfig/conf`
2. Rename the `Silent.template` file to `Silent.props`.
3. Edit the `Silent.props` file and modify only the following parameters.

Figure 20: Sample of Silent.props File

```
########################################
### START OF PACK LEVEL_INPUTS ########
########################################
# Specify the Infodom Maintenance log path(to be created) for the new Infodom
# Please ignore if you are doing installation on an existing information domain
APPFTP_LOG_PATH=
DBFTP_LOG_PATH=

# Specify wheter you want to perform Model Upload
# 0 = If you have already performed Model Upload and want to skip model upload process
# 1 = If you want to perform Model Upload
UPLOAD_MODEL=

# Specify whether you want to use the released datamodel or customized datamodel for model upload process
# 0 = If you want to upload the released datamodel
# 1 = If you want to upload the customized datamodel
MODEL_TYPE=

# Specify the path(DM_DIRECTORY) and file(DATAMODEL) name for the cutomized datamodel
# Mandatory only if you want to upload the customized datamodel
# i.e you have specified MODEL_TYPE=
DATAMODEL=
DM_DIRECTORY=
########################################
### END OF PACK_LEVEL_INPUTS ##########
########################################

########################################
### START OF OFS_CFE ##########
########################################

# Specify the Cash Flow Engine Segment Code
SEGMENT_1_CODE=

#Please specify if you want create new ETL App/Src pair or use an existing one.
# 0 = If you want to create a new ETL app/src pair
# 1 = If you want to use an existing pair
ETL_APPSRC_TYPE=

# Please give description for the ETL App/Src pair
```

Table 12: Parameters for the Silent.props File (Silent.template)

Property Name	Description of Property	Permissible values	Comments
APPFTP_LOG_PATH	Infodom Maintenance log path (to be created)	Not Applicable	# Mandatory if this an App Layer Installation and if you want to create a

Property Name	Description of Property	Permissible values	Comments
	for the new Infodom for applayer		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	If you want to perform Model Upload	0 = No 1 = yes	Mandatory
MODEL_TYPE	Released data model or Customized data model	0 = released 1 = customized	Mandatory only if you want to upload the data model.
DATAMODEL	Path for the customized data model	Not Applicable	# Mandatory only if you want to upload the customized data model. # That is, you have specified MODEL_TYPE=1
DM_DIRECTORY	File name for the customized data model	Not Applicable	# Mandatory only if you want to upload the customized data model. # That is, you have specified MODEL_TYPE=1
SEGMENT_1_CODE	Segment Code	Not Applicable	Mandatory **NOTE**: The Segment Code should be in upper case.
ETL_APPSRC_TYPE	Create 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

Property Name	Description of Property	Permissible values	Comments
ETL_SRC_1_DESC	Description for the ETL Staging source description	Not Applicable	# Mandatory if you want to create new ETL app or src pair. #That is, you have specified ETL_APPSRC_TYPE=0
ETL_SRC_2_DESC	Description for the ETL Processing source description	Not Applicable	# Mandatory if you want to create new ETL app or src pair. #That is, you have specified ETL_APPSRC_TYPE=0
ETL_SRC_1_NAME	ETL Staging source name	Not Applicable	This Source must be mapped to the above ETL Application.
ETL_SRC_2_NAME	ETL Processing source name	Not Applicable	This Source must be mapped to the above ETL Application.

5.9 Install the OFS CFE Application Pack

ATTENTION Before you begin the installation, configure and execute the following files:

1. Configure the OS File System Settings and Environment Settings in the .profile file
2. Configure the OFS_CFE_PACK.xml file
3. Configure the OFS_CFE_SCHEMA_IN.xml file
4. Configure the OFSAAI_InstallConfig.xml file (do not configure this file if an installation of OFSAAI 8.1 already exists.)
5. Execute the Schema Creator Utility
6. Configure the Manifest.xml file
7. Configure the Silent.props file

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

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

```
FIC_HOME=<OFSAA Installation Directory>
export FIC_HOME
```

3. Execute the user `.profile` file.

   ```
   . ./.profile
   ```

4. Navigate to the `OFS_CFE_PACK/bin` directory.

> **ATTENTION** Do not install the new applications in the same segment if the preinstalled applications use run management.

5. Enter the following command in the console to execute the application pack installer with the Silent option.

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

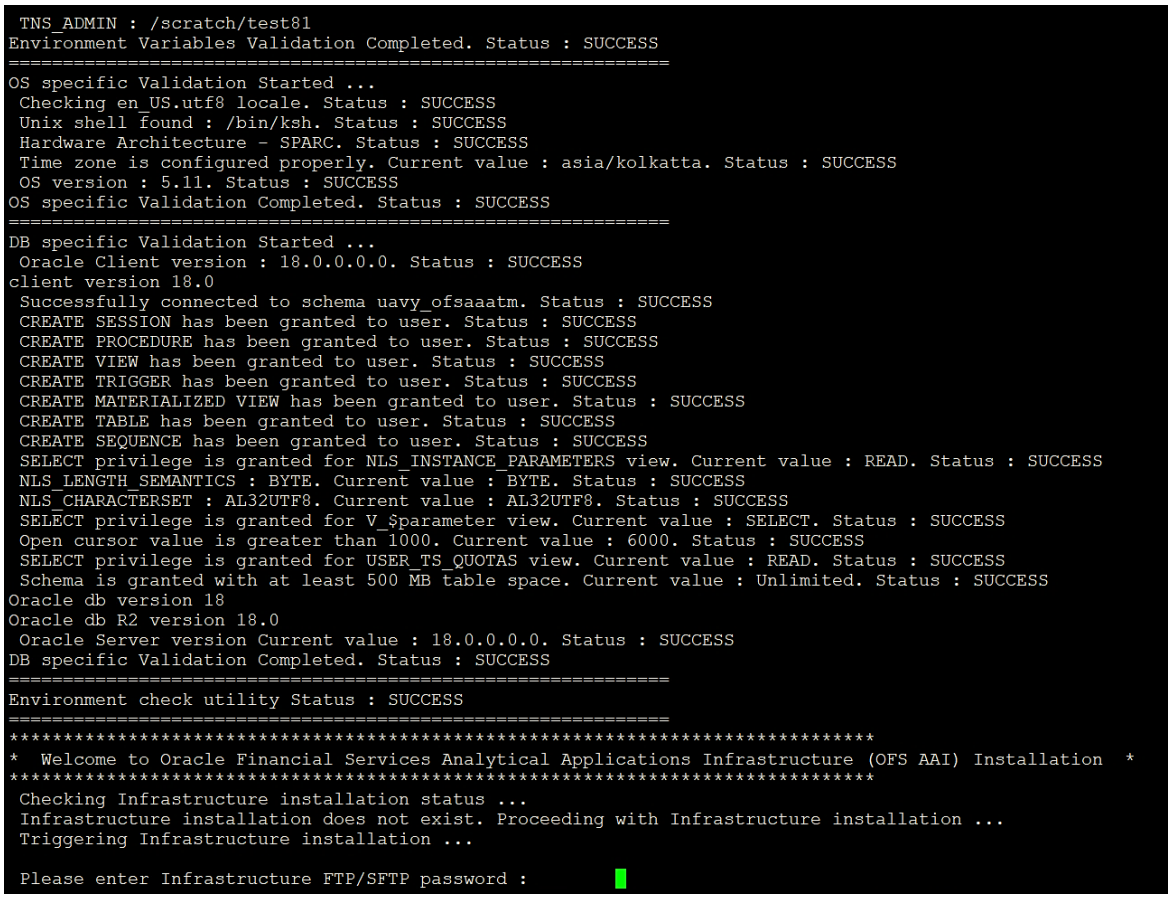
6. The installer proceeds with Pre-installation Checks.

Figure 21: Silent Mode of Installation

```
/scratch/test81/OFS_AAAI_PACK/bin>./setup.sh SILENT
Current OS Type ----  SunOS
 FIC_HOME : /scratch/test81/OFSAAI_81FULL
Environment check utility started...
===============================================================
Java Validation Started ...
 Java found in : /scratch/oraofss/jdk1.8.0_202/bin
JCE IS true
 JAVA Version found : 1.8.0_202
 JAVA Bit Version found : 64-bit
Java Validation Completed. Status : SUCCESS
===============================================================
Environment Variables Validation Started ...
 ORACLE_HOME : /scratch/oraofss/app/product/18.3.0/client_1
 TNS_ADMIN : /scratch/test81
Environment Variables Validation Completed. Status : SUCCESS
===============================================================
OS specific Validation Started ...
 Checking en_US.utf8 locale. Status : SUCCESS
 Unix shell found : /bin/ksh. Status : SUCCESS
 Hardware Architecture - SPARC. Status : SUCCESS
 Time zone is configured properly. Current value : asia/kolkatta. Status : SUCCESS
 OS version : 5.11. Status : SUCCESS
OS specific Validation Completed. Status : SUCCESS
===============================================================
DB specific Validation Started ...
 Oracle Client version : 18.0.0.0.0. Status : SUCCESS
client version 18.0
 Successfully connected to schema uavy_ofsaaatm. 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 : 6000. 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. Current value : Unlimited. Status : SUCCESS
Oracle db version 18
```

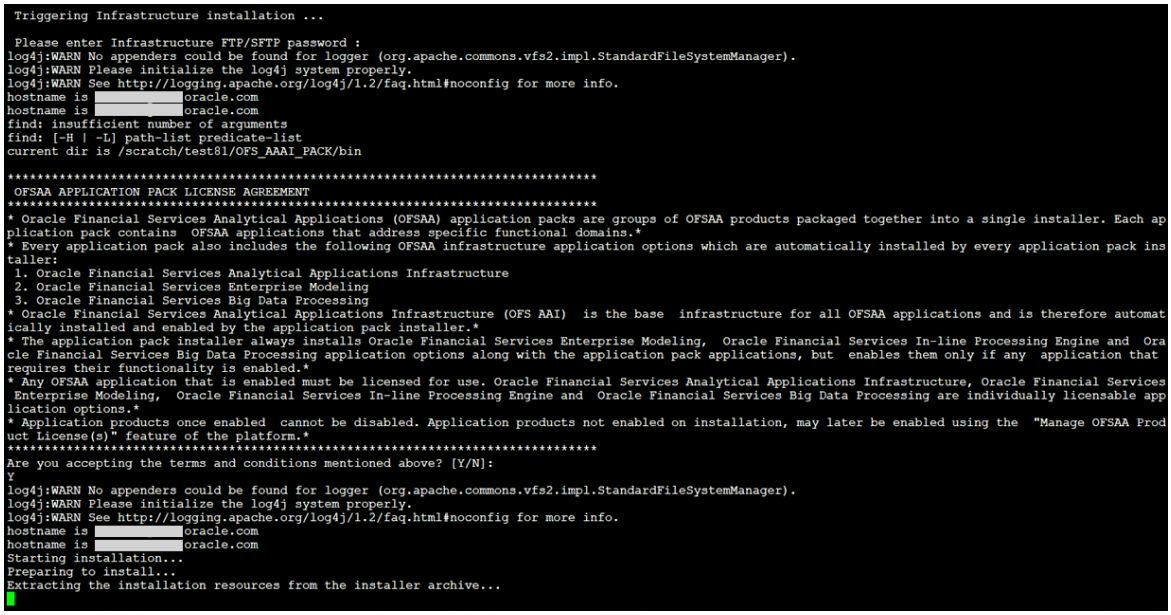
7. Enter the OFSAA Processing Tier FTP/SFTP password value and proceed, when prompted in the command prompt.

Figure 22: OFSAA Processing Tier FTP/SFTP Password Prompt



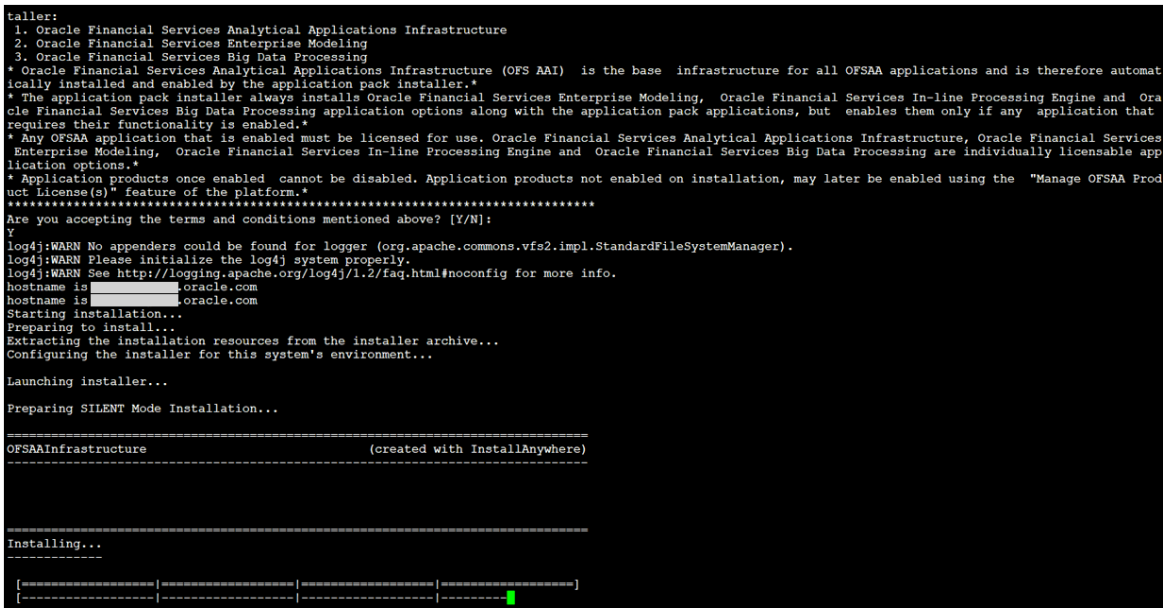
8. The process displays the OFSAA License. Enter **Y** and proceed.

Figure 23: Accept the OFSAA License Agreement



9. The installer installs the AAI application.

Figure 24: OFS AAI Silent Mode Installation

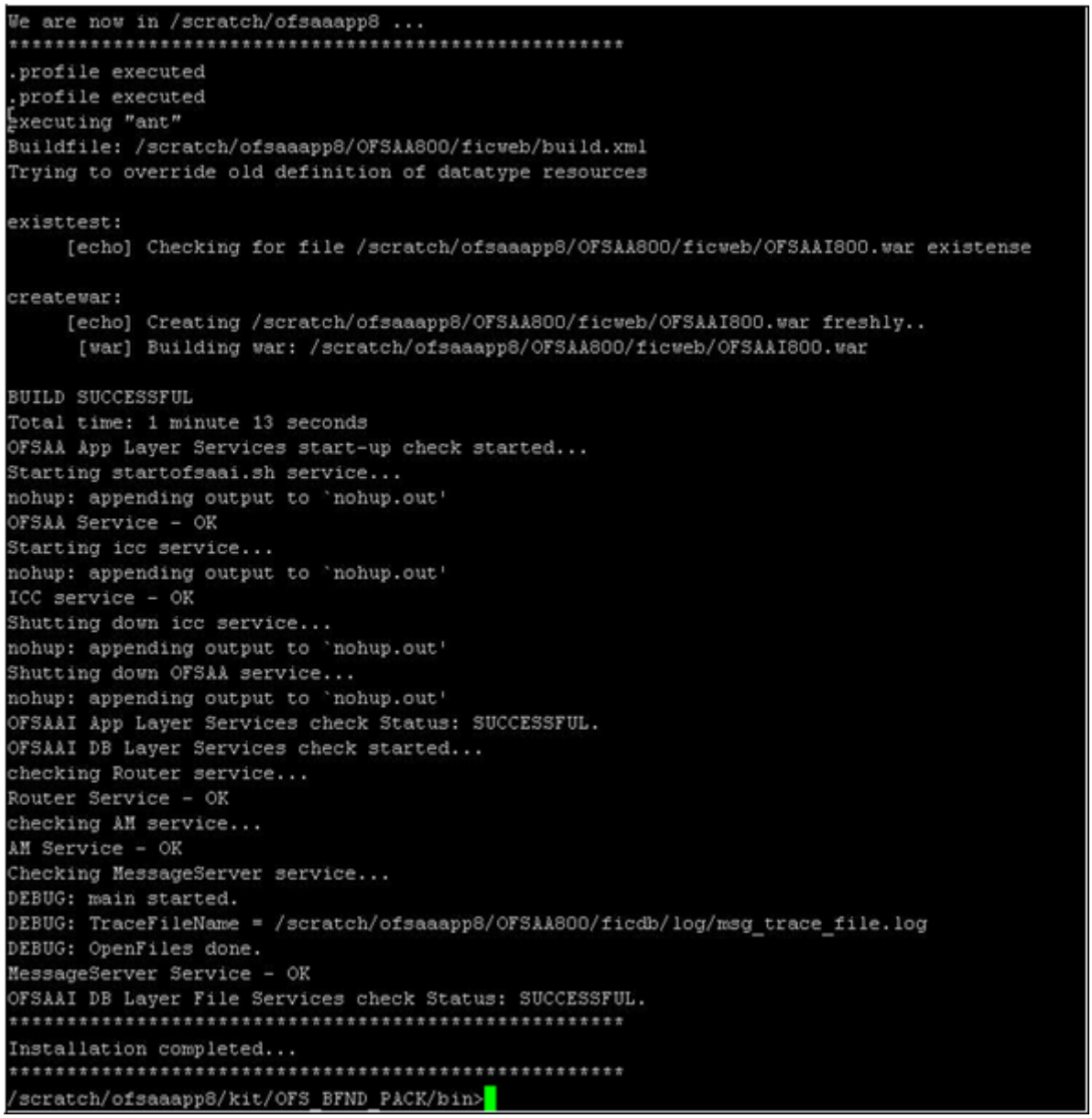


10. After AAI is installed, the OFS CFE pack installation begins.

Figure 25: OFS CFE pack Silent Mode Installation

Data Model Upload may take several hours to complete.

Figure 26: Silent Mode Installation Complete



11. The following message is displayed in the console:

    Installation completed...

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

    Congratulations! Your installation is complete.

13. On completion of installation, see the installation log files.

    To verify if the release is applied successfully, check the log files mentioned in the Verifying the Log File Information Section.

14. Update `.profile` file to define `$OFSAA_LOG_HOME`

Example of entry:

```
OFSAA_LOG_HOME=/u01/app/FTPSHARE//logs
export OFSAA_LOG_HOME
```

15. Verify FTPSHARE logs directory has 775 permission

```
chmod -R 775 FTPSHARE
```

16. Perform the steps mentioned in the Post Deployment Configurations section.
17. For enabling Transparent Data Encryption (TDE), see the Configuring TDE, Data Redaction and the Corresponding Settings in Oracle Financial Services Data Foundation Application Pack Data Protection Implementation Guide.
18. For enabling Data Redaction, see the Data Redaction section under the Data Security and Data Privacy chapter in the Oracle Financial Services Analytical Applications Infrastructure Administration Guide 8.0.7.0.0.

5.9.1 Verify the Log File Information

See the following logs files for more information:

- `Pack_Install.log` file located in the `OFS_CFE_PACK/logs/` directory for OFS CFE Application Pack installation logs.
- `OFS_CFE_installation.log` and `OFS_CFE_installation.err` files in the `OFS_CFE_PACK/OFS_CFE/logs/` directory for Cash Flow Engine Pack installation logs.
- Log file (or files) located in the `OFS_CFE_PACK/OFS_AAI/logs/` directory for Infrastructure installation logs.
- `OFSAAInfrastucture_Install.log` file located in the `$FIC_HOME` directory for Infrastructure installation logs.

After the installation OFSCFE 8.1.1.0.0 is successful, complete the required Post-installation steps.

5.10 Install OFS CFE Application Pack v8.1.1.0.0 on an Existing OFSAA Instance

You have already installed an application pack from release 8.1.x.0.0 and now you want to install another application pack from Release 8.1.1.0.0. For example, OFS ALM Pack is already installed and now you want to install OFS CFE Pack.

Download the following mandatory one-off patches from My Oracle Support into the download directory:

- 32530173
- 32548944

> **NOTE** Ignore patch 32530173, if you have already applied this patch as part of other Application pack installation.

5.10.1 Execute the Schema Creator Utility Only for the OFS CFE Application Pack

To execute the Schema Creator, follow these steps:

1. To execute the Schema Creator, follow these steps:

   While defining the Schema details for the applications, provide exactly the same Schema details given in the previous installation. The output file (`OFS_CFE_SCHEMA_OUTPUT.xml`) is generated as a result of the Schema creation process.

   a. Edit the file `OFS_CFE_PACK/schema_creator/conf/OFS_CFE_SCHEMA_IN.xml` in a text editor. See the Configure the OFS_CFE_PACK.xml File section for values to modify in the XML file.

   b. Execute the utility with -s option.

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

5.10.2 Update the OFS_CFE_PACK.xml File for the OFS CFE Application Pack

The `OFS_CFE_PACK.xml` file contains details of the various products that are packaged in the OFS CFE Application Pack.

This section details the various tags or parameters available in the file and the values that must be updated. Prior to installing the OFS CFE Pack in SILENT mode, it is mandatory to update this file.

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

1. Navigate to the `OFS_CFE_PACK/conf` directory.
2. Open the `OFS_CFE_PACK.xml` file in a text editor.
3. Configure the `OFS_CFE_PACK.xml` file as mentioned in the Configuring the OFS_CFE_PACK.xml File section.

5.10.3 Update the Silent.props File of the OFS CFE Application Pack

Most parameters in the `Silent.props` file for 8.1.1.0.0 have default values. Before triggering the installation, ensure that you review them thoroughly and update as required.

Update the `Silent.props` file in the Release 8.1.x pack ONLY for the newly licensed OFS CFE application pack.

1. Navigate to the `OFS_CFE_PACK/appsLibConfig/conf` directory.
2. Open the `Silent.props` file and edit the parameters as mentioned in the Configuring the Silent.props File section.

5.10.4 Trigger the Installation

To trigger the installation, follow these steps:

1. Navigate to the `OFS_CFE_PACK/bin` directory.

2. Enter the following command in the console to execute the application pack installer with Silent option.

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

3. The installer proceeds with Pre-installation Checks.

Figure 1: Silent Mode Installation

```
/scratch/test81/OFS_AAAI_PACK/bin>./setup.sh SILENT
Current OS Type ----  SunOS
 FIC_HOME : /scratch/test81/OFSAAI_81FULL
Environment check utility started...
============================================================
Java Validation Started ...
 Java found in : /scratch/oraofss/jdk1.8.0_202/bin
JCE IS true
 JAVA Version found : 1.8.0_202
 JAVA Bit Version found : 64-bit
Java Validation Completed. Status : SUCCESS
============================================================
Environment Variables Validation Started ...
 ORACLE_HOME : /scratch/oraofss/app/product/18.3.0/client_1
 TNS_ADMIN : /scratch/test81
Environment Variables Validation Completed. Status : SUCCESS
============================================================
OS specific Validation Started ...
 Checking en_US.utf8 locale. Status : SUCCESS
 Unix shell found : /bin/ksh. Status : SUCCESS
 Hardware Architecture - SPARC. Status : SUCCESS
 Time zone is configured properly. Current value : asia/kolkatta. Status : SUCCESS
 OS version : 5.11. Status : SUCCESS
OS specific Validation Completed. Status : SUCCESS
============================================================
DB specific Validation Started ...
 Oracle Client version : 18.0.0.0.0. Status : SUCCESS
client version 18.0
 Successfully connected to schema uavy_ofsaaatm. 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 : 6000. 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. Current value : Unlimited. Status : SUCCESS
Oracle db version 18
```

4. Enter the OFSAA Processing Tier FTP/SFTP password value and proceed, when prompted in the command prompt.

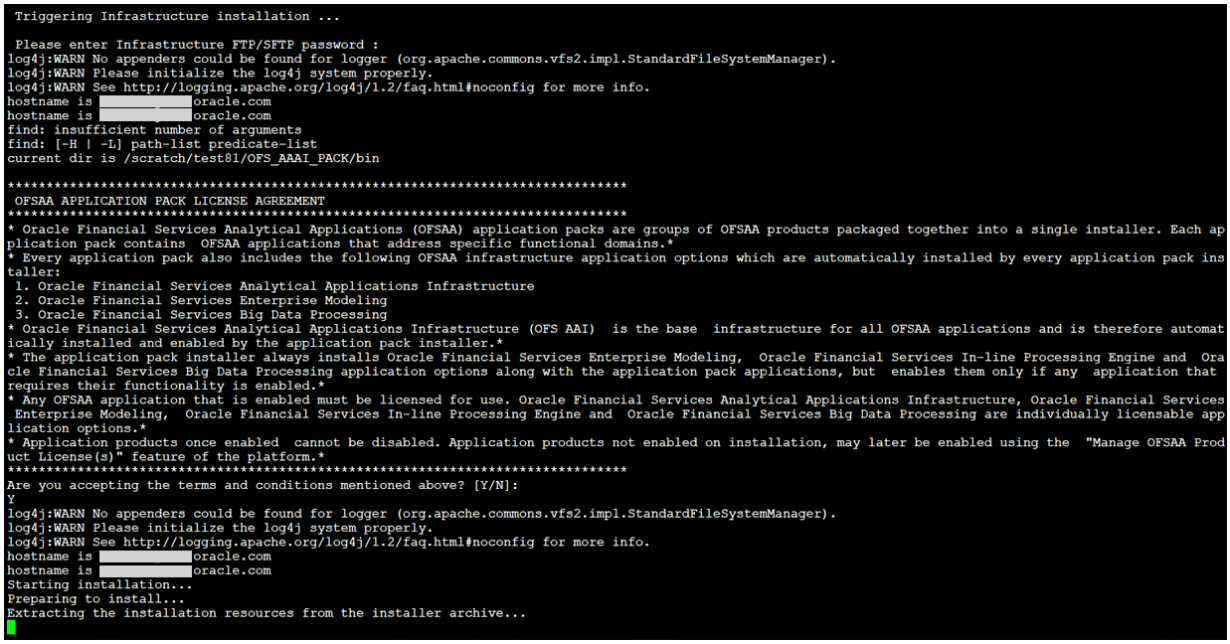
Figure 2: OFSAA Processing Tier FTP/SFTP password

```
 TNS_ADMIN : /scratch/test81
Environment Variables Validation Completed. Status : SUCCESS
============================================================
OS specific Validation Started ...
 Checking en_US.utf8 locale. Status : SUCCESS
 Unix shell found : /bin/ksh. Status : SUCCESS
 Hardware Architecture - SPARC. Status : SUCCESS
 Time zone is configured properly. Current value : asia/kolkatta. Status : SUCCESS
 OS version : 5.11. Status : SUCCESS
OS specific Validation Completed. Status : SUCCESS
============================================================
DB specific Validation Started ...
 Oracle Client version : 18.0.0.0.0. Status : SUCCESS
client version 18.0
 Successfully connected to schema uavy_ofsaaatm. 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 : 6000. 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. Current value : Unlimited. Status : SUCCESS
Oracle db version 18
Oracle db R2 version 18.0
 Oracle Server version Current value : 18.0.0.0.0. Status : SUCCESS
DB specific Validation Completed. Status : SUCCESS
============================================================
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 FTP/SFTP password :
```

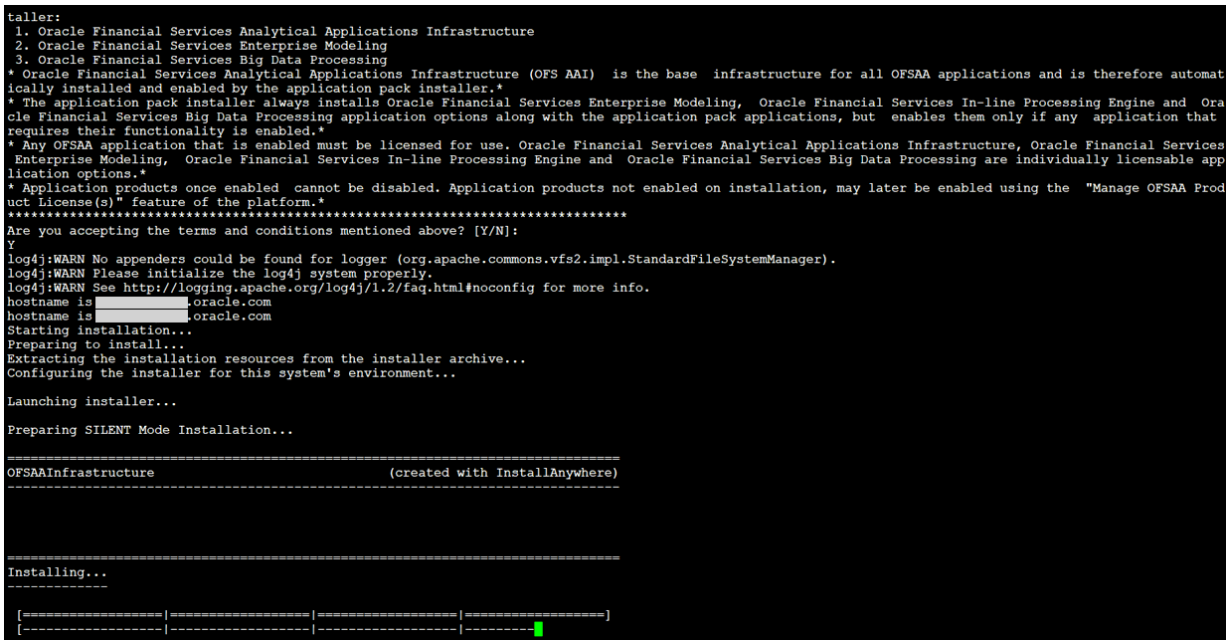
5. The process displays the OFSAA License. Enter **Y** and proceed.

Figure 3: OFSAA License



6. The OFS CFE pack installation begins.

Figure 5: OFS CFE pack Silent Mode Installation



Data Model Upload may take several hours to complete.

Do not close the console until the installation is complete.

Figure 6: Silent Mode Installation In Progress

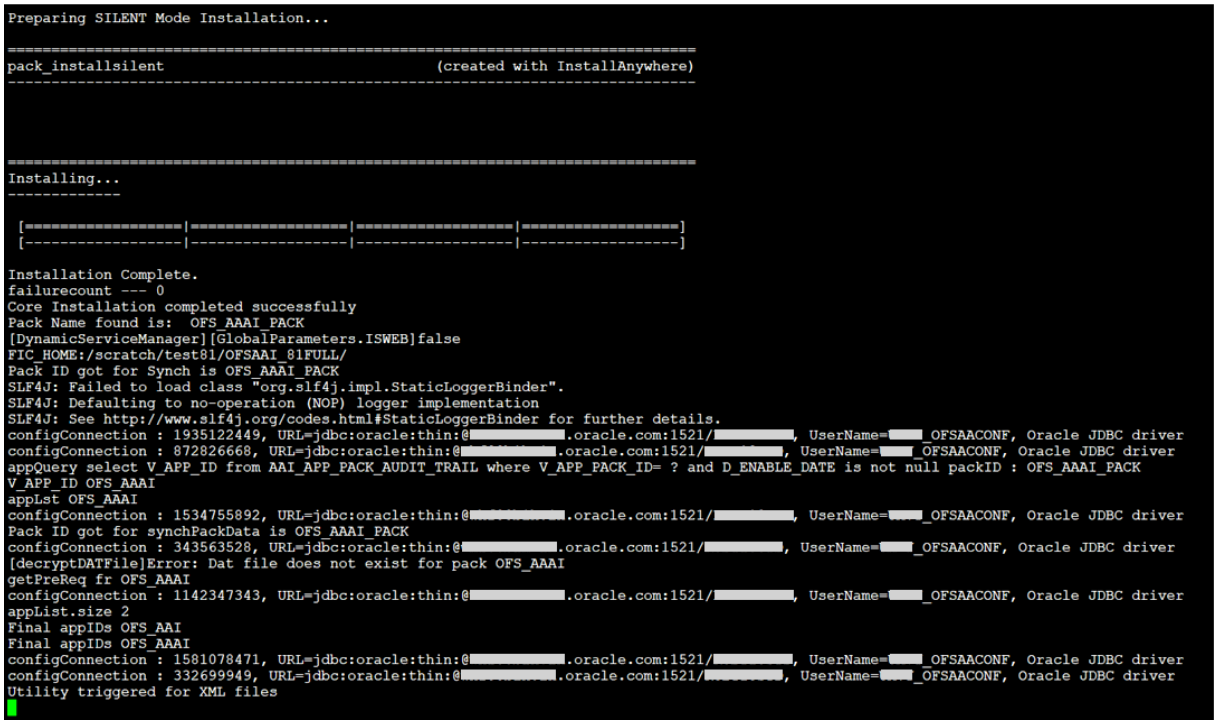


Figure 7: Silent Mode Installation Complete

```
We are now in /scratch/ofsaaapp8 ...
************************************************
.profile executed
.profile executed
Executing "ant"
Buildfile: /scratch/ofsaaapp8/OFSAA800/ficweb/build.xml
Trying to override old definition of datatype resources

existtest:
     [echo] Checking for file /scratch/ofsaaapp8/OFSAA800/ficweb/OFSAAI800.war existense

createwar:
     [echo] Creating /scratch/ofsaaapp8/OFSAA800/ficweb/OFSAAI800.war freshly..
      [war] Building war: /scratch/ofsaaapp8/OFSAA800/ficweb/OFSAAI800.war

BUILD SUCCESSFUL
Total time: 1 minute 13 seconds
OFSAA App Layer Services start-up check started...
Starting startofsaai.sh service...
nohup: appending output to `nohup.out'
OFSAA Service - OK
Starting icc service...
nohup: appending output to `nohup.out'
ICC service - OK
Shutting down icc service...
nohup: appending output to `nohup.out'
Shutting down OFSAA service...
nohup: appending output to `nohup.out'
OFSAAI App Layer Services check Status: SUCCESSFUL.
OFSAAI DB Layer Services check started...
checking Router service...
Router Service - OK
checking AM service...
AM Service - OK
Checking MessageServer service...
DEBUG: main started.
DEBUG: TraceFileName = /scratch/ofsaaapp8/OFSAA800/ficdb/log/msg_trace_file.log
DEBUG: OpenFiles done.
MessageServer Service - OK
OFSAAI DB Layer File Services check Status: SUCCESSFUL.
************************************************
Installation completed...
************************************************
/scratch/ofsaaapp8/kit/OFS_BFND_PACK/bin>
```

The following message is displayed in the console:

Congratulations! Your installation is complete.

5.10.5 Verify the Log File Information

See the following logs files for more information:

- The `Pack_Install.log` file in the `OFS_CFE_PACK/logs/` directory for OFS CFE Application Pack installation logs.
- The `OFS_CFE_installation.err` and `OFS_CFE_installation.log` files in the `OFS_CFE_PACK/OFS_CFE/logs/` directory.
- The Log file (or files) in the `OFS_CFE_PACK/OFS_AAI/logs/` directory for Infrastructure installation logs.

- The `OFSAAInfrastucture_Install.log` file in the `$FIC_HOME` directory for Infrastructure installation logs.

> **NOTE** Ignore following errors in `OFS_CFE_installation.err` and `OFS_CFE_installation.log` files during the pack on pack installation. Thess files are located in `OFS_CFE_PACK/OFS_CFE/logs folder.`
>
> 1. OBJECT Already Exist error.
> 2. Error: Table already has a primary key
> 3. ORA-01430: column being added already exists in table.
> 4. Error: Table already has a referential constraint with same name

5.10.6 Post-installation Steps

Follow the steps mentioned in the Post-installation Steps section.

6 Post-installation

After the successful installation of the OFS CFE Applications Pack Release 8.1.1.0.0, follow the post-installation procedures mentioned in Post-installation Checklist.

Topics:

6.1 Post-installation Checklist

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

> **NOTE** See the *Post-Installation* section in the OFS AAI Release 8.1.1.0.0 Installation and Configuration Guide to complete these procedures.

Table 10: Post-installation Checklist

Sl. No.	Activity
1	Verify the installation logs.
2	Back up the OFS_CFE_SCHEMA_IN.`xml`, `OFS_CFE_SCHEMA_OUTPUT.xml`, and `Silent.props` files.
3	Add Atomic Schema Details in the `tnsnames.ora` file
4	Stop the OFSAA Infrastructure services.
5	Create and deploy the EAR or WAR files.
6	Build the EAR or WAR file once and Deploy Across Multiple OFSAA Instances
7	Start the OFSAA Infrastructure services.
8	Access the OFSAA Application.
9	OFSAA Landing Page
10	Configure the web server.

11	Configure Work Manager in the web application servers.
12	Configure Resource Reference in the web application servers.
13	Excel upload mapping and template.
14	Add TNS entries in the `tnsnames.ora` file.
15	Configure the `excludeURLList.cfg`file.
16	Configure Oracle R distribution and Oracle R Enterprise (ORE).
17	Set TDE and Data Redaction in OFSAAI.
18	Implement Data Protection in OFSAA.
19	Post Deployment Configurations • Configure GDPR • Login as System Administrator • Create Application Users • Map ICC Batch Execution Rights to User • Save Post-Load Change Transformations • Changes in the `.profile` file for Solaris Operating System

6.2 Verify the Log File Information

See the following logs files for more information:

- Pack_Install.log file located in the `OFS_CFE_PACK/logs/` directory for OFS CFE Application Pack installation logs.
- Log file(s) located in the `OFS_CFE_PACK/OFS_AAI/logs/` directory for Infrastructure installation logs.
- The `OFSAAInfrastucture_Install.log` file located in the $FIC_HOME directory for Infrastructure installation logs.

6.3 Backup the OFS_CFE_SCHEMA_IN.xml, OFS_CFE_SCHEMA_OUTPUT.xml, and Silent.props Files

Back up the `OFS_CFE_SCHEMA_IN.xml`, `OFS_CFE_SCHEMA_OUTPUT.xml`, and `Silent.props` files for future reuse to upgrade the existing applications or install new applications.

Table 11: Directory of Files to Backup

File Name	Directory
`OFS_CFE_SCHEMA_IN.xml`	`OFS_CFE_PACK/schema_creator/conf`
`OFS_CFE_SCHEMA_OUTPUT.xml`	`OFS_CFE_PACK/schema_creator/`
`Silent.props`	`OFS_CFE_PACK/appsLibConfig/conf`

6.4 Adding 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_CFE_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>)
    )
```

6.5 Access the OFSAA Application

To access the OFSAA application, follow these steps:

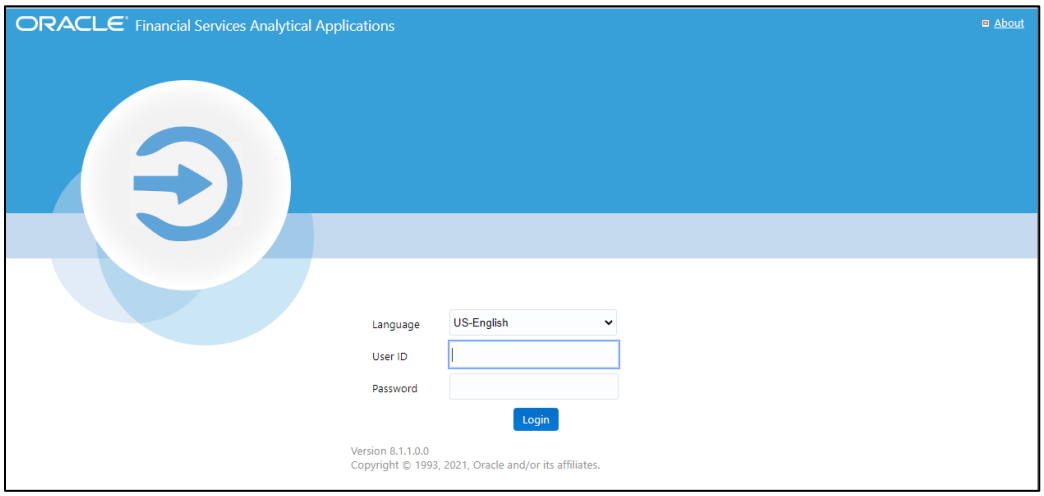
1. Open a browser and enter the URL in the following format:

   `<scheme>://<IP address/ hostname>:<port>/<context-name>/login.jsp`

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

   The OFSAA Login window is displayed.

Figure 25: OFSAA Login Window



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

- SYSADMN System Administrator
- SYSAUTH System Authorizer

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

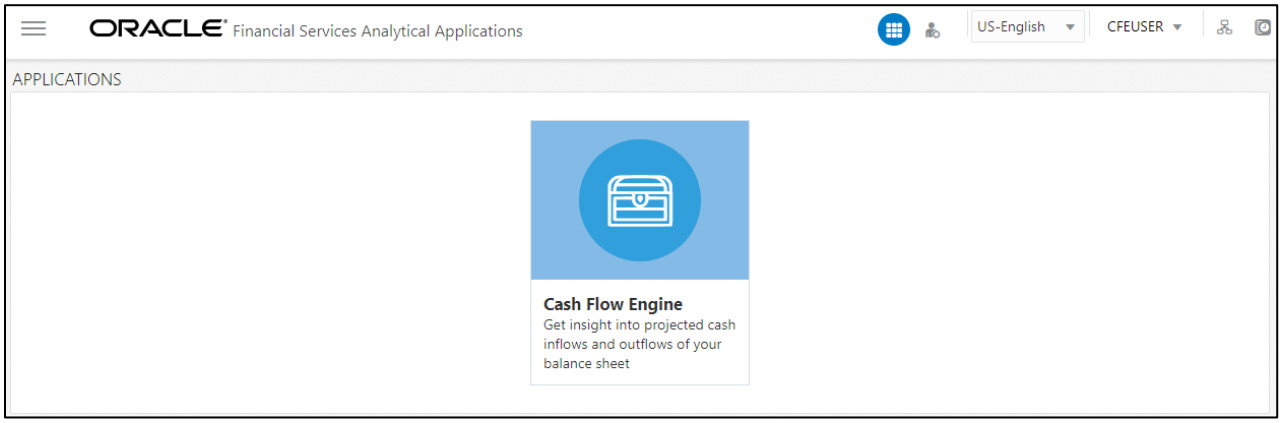
2. Log in to the application using the SYSADMN User ID and the default password. After the first login, you are prompted to change the password.

> **ATTENTION** The password change is required only for a new installation scenario.

6.6 OFSAA Landing Page

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

Figure 26: OFSAA Landing Page



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

6.7 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 8.1.1.0.0.

6.8 Post Deployment Configurations

This section lists the various configurations to be completed before you use the OFSAA Applications.

Topics:

6.8.1 GDPR Configuration

By default, data will be redacted to WebLogic user. If you want to see redacted data (PII data on the PII dashbaord) after enabling GDPR , then create WebLogic user in OFSAA application and or any new user in OBIEE and map the user to “Data Security Group” in OFSAA using SMS.

For more information on Data Protection Implementation by OFSAA, see the Oracle Financial Services Data Foundation User Guide.

6.8.2 Logging as System Administrator

Post installation, the first login into Infrastructure is possible only for a System Administrator through user ID **sysadmn**. This ID is created at the time of installation with the password provided during installation. Enter login ID sysadmn and password that was provided during installation. Click **Login**.

For more information, see the Access the OFSAA Application section,

System Administration refers to a process of managing, configuring, and maintaining confidential data in a multi-user computing environment. System Administration in Security Management involves creating functions, roles, and mapping functions to specific roles. System Administration also involves maintaining segment information, holiday list, and restricted passwords to ensure security within the Infrastructure system.

You can access System Administrator in LHS menu of Security Management. The options available under System Administrator are:

- Function Maintenance
- Role Maintenance
- Function - Role Mapping
- User Group Role Map
- Segment Maintenance

6.8.2.1 Function Maintenance

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

6.8.2.2 Role Maintenance

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

6.8.2.3 Function - Role Mapping

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

6.8.2.4 User Group Role Map

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

6.8.2.5 Segment Maintenance

Segment is used to control access rights on a defined list of objects. It is mapped to an information domain.

Segment Maintenance in the Infrastructure system facilitates you to create segments and assign access rights. You can have different segments for different Information Domains or same segments for different Information Domains.

User scope is controlled by segment or folder types with which the object is associated.

- Objects contained in a public folder will be displayed irrespective of any user.
- Objects contained in a shared folder will be displayed if user belongs to a user group which is mapped to an access type role with the corresponding folder.
- Objects contained in a private folder will be displayed only to the associated owner.

You can access Segment Maintenance by expanding System Administrator section within the tree structure of LHS menu. The Segment Maintenance window displays a list of available segments with details such Domain, Segment Code, Segment Name, Segment Description, Segment/Folder Type, Owner Code, and the number of Users Mapped to the segment. You can view, create, modify, and delete segments within the Segment Maintenance window.

You can also make use of Search and Pagination options to search for a specific role or view the list of existing roles within the system.

6.8.3 Change the ICC Batch Ownership

All the seeded batches in the OFS CFE 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.

6.8.4 Creating Application Users

Create the application users in the OFSAA setup prior to use. This step may not be required if you have already setup users in the OFSAA setup.

For more information, see *User Creation* section in the Oracle Financial Services Analytical Applications Infrastructure User Guide.

6.8.5 Mapping Application Users to User Group

With the installation of CFE Application Pack, preconfigured application user groups are seeded. These user groups are unique to every OFSAA Application Pack and have application roles preconfigured.

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

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

6.8.5.1 CFE Application Specific User Group Mappings

User Groups seeded with the OFS CFE Application are as follows:

User Group
CFE Administrator (CFEADMINGRP)
CFE Analyst (CFEANALYSTGRP)
CFE Auditor (CFEAUDITORGRP)

6.8.6 Saving Post-Load Change Transformations

After creating users, Log in to OFS CFE as any user who is mapped to CFE Admin or Analyst group and follow these steps:

1. Navigate to Data Management Framework and select Post Load Changes.
2. A new window is displayed. Click on each Transformation from Transformations List and click on Stored Procedure in the Right Panel, click on Edit in the Top Right Menu and Click on Finish Button in Bottom.

> **NOTE** All the Transformation Stored Procedures are required to be edited and saved (Finish Button) once for getting it is available.

7 Additional Configuration

You can use this checklist to have a quick 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 8.1.1.0.0 Installation and Configuration Guide to complete these procedures.

Table 12: Additional Configuration Checklist

Sl. No.	Activity
1	Configure the web server.
2	Configure Resource Reference in the web servers.
3	Configure Work Manager in the web application servers.
4	Add FTP/SFTP Configuration for File Transfer.
5	Configure the Infrastructure Server Memory.
6	Retrieve the Patch Information.
7	Change IP/Hostname, Ports, Deployed Paths of the OFSAA Instance.
8	Execute the Encryption Changer.
9	Set Infrastructure LDAP Configuration.
10	Configure the OFSAAI web services.
11	Enable Parallel Execution of DML statements.
12	Configure the Message Details in Forms Designer.
13	Configure Password Changes.
14	Configure Java Virtual Machine.
15	Configure Internal Service.
16	Configure Dimension and Hierarchy Management • Configure Member Deletion • Configure Attribute Default Date Format • Configure Members Reverse Population • Configure Hierarchy Reverse Population • Configure Maximum Levels allowed in Hierarchies • Configure Node Limit for a Hierarchy Tree

7.1 Configuration for Dimension and Hierarchy Management

These configuration changes are applicable when Dimension Management features provided in OFSAAI are used. You can open `AMHMConfig.properties` file present in the `$FIC_WEB_HOME/webroot/conf` directory to set the properties explained in the following sections.

Configuration for Dimension and Hierarchy Management must be done only after the application or solution installation is done. The properties specific to Information Domain are:

- $INFODOM$=<Name of the Information Domain>
- $DIMENSION_ID$=<Dimension ID for which the property must be set>

Topics:

7.1.1 Configure Member Deletion

This property should be set to allow the user to delete the Members for the Dimension.

Table 13: Configure Member Deletion

Value	Code	Example
# Member Deletion Configuration - VALUE - Y/N	MEMBER_DEL-$INFODOM$-$DIMENSION_ID$=$VALUE$	MEMBER_DEL-ORAFUSION-1=Y

7.1.2 Configure Attribute Default Date Format

This property should be set to display the Default Date Format for Date Type Attribute in the Attributes window.

Table 14: Configure Attribute Default Date Format

Value	Code	Example
# Attribute Default Date Format - DB_DATE_FORMAT: DD-MON-YYYY	ATTR_DEF_DATE_FORMAT-$INFODOM$=DB_DATE_FORMAT	ATTR_DEF_DATE_FORMAT-ORAFUSION=DD/MON/YYYY

7.1.3 Configure Members Reverse Population

This property should be set for reverse population of Members for the Dimensions in required Information Domains.

Table 15: Configure Members Reverse Population

Value	Code	Example
# Members Reverse population – VALUE - Y/N	MEMBER_REVERSE_POP-$INFODOM$-$DIMENSION_ID$=$VALUE$	MEMBER_REVERSE_POP-ORAFUSION-1=Y

7.1.4 Configure Hierarchy Reverse Population

This property should be set for reverse population of Hierarchies for the Dimensions in required Information Domains.

Table 16: Configure Hierarchy Reverse Population

Value	Code	Example
#Hierarchy Reverse population – VALUE - Y/N	HIERARCHY_REVERSE_POP-$INFODOM$-$DIMENSION_ID$=$VALUE$	HIERARCHY_REVERSE_POP-ORAFUSION-1=Y

7.1.5 Configure Maximum Levels allowed in Hierarchies

This property is required to set the maximum levels allowed to build the Hierarchies tree structure.

Table 17: Configure Maximum Levels allowed in Hierarchies

Value	Code	Example
#Hierarchy Maximum level allowed for the hierarchy in particular Information Domain - VALUE - Integer number	MAX_DEPTH-$INFODOM$=$VALUE$	MAX_DEPTH-FUSION=15

Hierarchies greater than 15 levels are not supported within the OFSAA EPM applications (CFE, FTP, PFT, and HM). If the hierarchy data contains more than 15 levels, `OFSA_IDT_ROLLUP` will not be populated. The number of hierarchy levels allowed for OFSAA EPM key dimensions must be less than or equal to 15.

If the Hierarchy Reverse Population setting is set to Y and more than 15 levels exist in the data, then this alert is displayed: "*The number of levels exceeds the limit*".

If the maximum level allowed setting is set greater than 15 and Hierarchy Reverse Population is set to Y, then this error is displayed "*Error occurred in Reverse Populating the hierarchy*".

7.1.6 Configure Node Limit for a Hierarchy Tree

This property is required to display the Hierarchy as a small or a large hierarchy. If the tree node limit exceeds the set limit, the Hierarchies are treated as large Hierarchy.

Table 18: Configure Node Limit for a Hierarchy Tree

Value	Code	Example
#Tree node limit for the hierarchy - Values is Integer number	TREE_NODE_LIMIT=$VALUE$	TREE_NODE_LIMIT=30

8 Remove OFSAA Infrastructure

See the Remove OFSAA Infrastructure section in the OFS AAI Release 8.1.1.0.0 Installation and Configuration Guide to complete the following procedures:

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

9 Frequently Asked Questions (FAQs) and Error Dictionary

For FAQs and installation error-related information, see the Frequently Asked Questions (FAQs) and Error Dictionary section in the OFS AAAI Release 8.1.1.0.0 Installation and Configuration Guide.

OFSAA Support

Raise a Service Request (SR) in My Oracle Support (MOS) for queries related to the OFSAA applications.

Send Us Your Comments

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- Do you need more information? If so, where?
- Are the examples correct? Do you need more examples?
- What features did you like most about this manual?

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