

Oracle Financial Services Data Integration Pack

Installation Guide

Release 8.1.1.0.0

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ORACLE
Financial Services

Oracle Financial Services Data Integration Pack Installation Guide

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Document Control

Table 1: Document Version Control

Version Number	Revision Date	Change Log
1.1	May 2022	Added the Configure Tomcat for User Group Authorization, Data Mapping, and Disable WADL for the Web Service Section (Doc 34184414).
1.0	March 2021	Created the document with instructions for the installation of the OFS DI Pack Release 8.1.1.0.0

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1 Preface

This section provides supporting information for the Oracle Financial Services Data Integration (OFS DI) Application Pack Installation Guide.

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.

1.1 Audience

The OFS DI Installation Guide is intended for administrators, business users, strategists, data analysts, and implementation consultants who are responsible for installing and maintaining the application pack components.

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

- Oracle Financial Services Data Integration Application Pack components
- OFSAA architecture
- UNIX commands
- Database concepts
- Web server or web application server

1.2 Access to Oracle Support

Oracle customers have access to electronic support through My Oracle Support. For 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.

1.3 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 Data Integration**:
 - *OFS Data Integration Hub User Guide Release 8.1.1.0.0*
 - *Oracle Financial Services Data Integration User Guide Release*
 - *Data Foundation Integration With Fusion Accounting Hub Cloud*
 - *Insurance Data Foundation Integration With Fusion Accounting Hub Cloud*
 - *Oracle Financial Services Analytical Application-DRM Interface User Guide Release*

- *Oracle Financial Services Analytical Application-OBP Interface User Guide Release*
- *Oracle Financial Services Analytical Application-FAH Interface User Guide Release*
- *Oracle Financial Services Analytical Application-FCUBS Interface User Guide Release*
- *Oracle Financial Services Data Integration Security Guide*
- *Oracle Financial Services Data Integration Cloning Guide*
- **OHC Documentation Library for OFS AAI Application Pack:**
 - *OFS Advanced Analytical Applications Infrastructure (OFS AAI) Application Pack Installation and Configuration Guide*
 - *OFS Analytical Applications Infrastructure User Guide*
 - *OFS Analytical Applications Infrastructure Administration Guide*
 - *Oracle Financial Services Analytical Applications Infrastructure Environment Check Utility Guide*
- **Additional documents:**
 - [OFSAA Licensing User Manual, Release 8.1.1.0.0](#)
 - [OFS DI Cloning Guide Release 8.0.x](#)
 - [OFS DI Cloning Guide Release 8.1.x](#)
 - [OFS Analytical Applications Infrastructure Security Guide](#)
 - [OFSAAI FAQ Document](#)
 - [OFS Analytical Applications 8.1.1.0.0 Technology Matrix](#)
 - [Oracle Financial Services Analytical Applications Infrastructure Cloning Guide](#)

1.4 Conventions

The following text conventions are used in this document.

Table 2: Document Conventions

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action or terms defined in text or the glossary.
<i>Italic</i>	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
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.
<u>Hyperlink</u>	Hyperlink type indicates the links to external websites and internal document links.

1.5 Abbreviations

The following table lists the abbreviations used in this document.

Table 3: Abbreviations

Conventions	Description
AIX	Advanced Interactive Executive
BDP	Big Data Processing
DBA	Database Administrator
DDL	Data Definition Language
DEFQ	Data Entry Forms and Queries
DIH	Data Integration Hub
ODI	Oracle Data Integrator
ADI	Application Data Interface
KM	Knowledge Module
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
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

Conventions	Description
OFSAAA1	Oracle Financial Services Advanced Analytical Applications Infrastructure Application Pack
OFS DI	Oracle Financial Services Data Integration
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
TDE	Transparent Data Encryption
TNS	Transparent Network Substrate
URL	Uniform Resource Locator
VM	Virtual Machine
WAR	Web Archive
XML	Extensible Markup Language

Part I

Topics:

- [Pre-installation](#)
- [Installation](#)
- [Post-installation](#)

2 Introduction

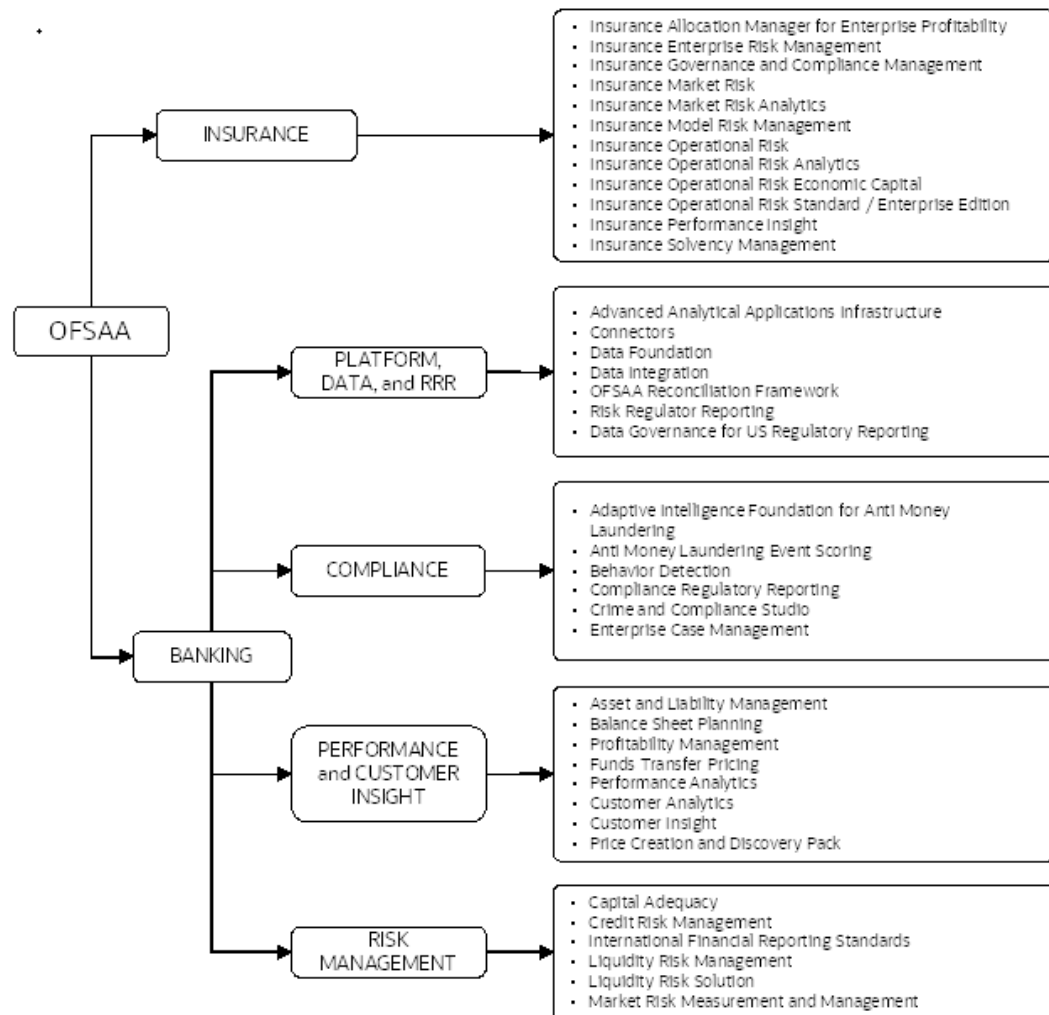
In today's turbulent markets, financial institutions require a better understanding of their risk-return, while strengthening competitive advantage and enhancing long-term customer value. Oracle Financial Services Analytical Applications (OFSAA) enable financial institutions to measure and meet risk-adjusted 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, promotes a transparent risk management culture, and provides pervasive intelligence.

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

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

Figure 1: Application Packs of OFSAA



2.1 Oracle Financial Services Analytical Applications Infrastructure (OFS AAI)

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

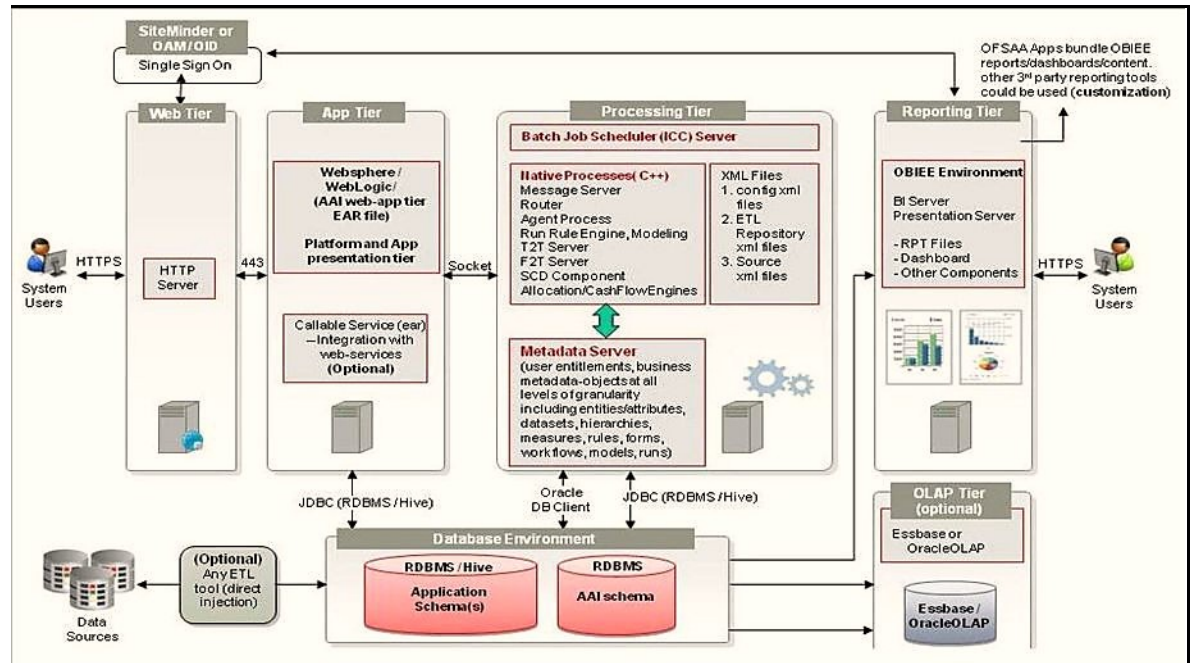
2.1.1 Components of OFSAA Infrastructure

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

The OFSAA Infrastructure components/frameworks are installed as two layers; primarily, the metadata server and Infrastructure services run on one layer, while the UI and presentation logic run on the other. The UI and presentation 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

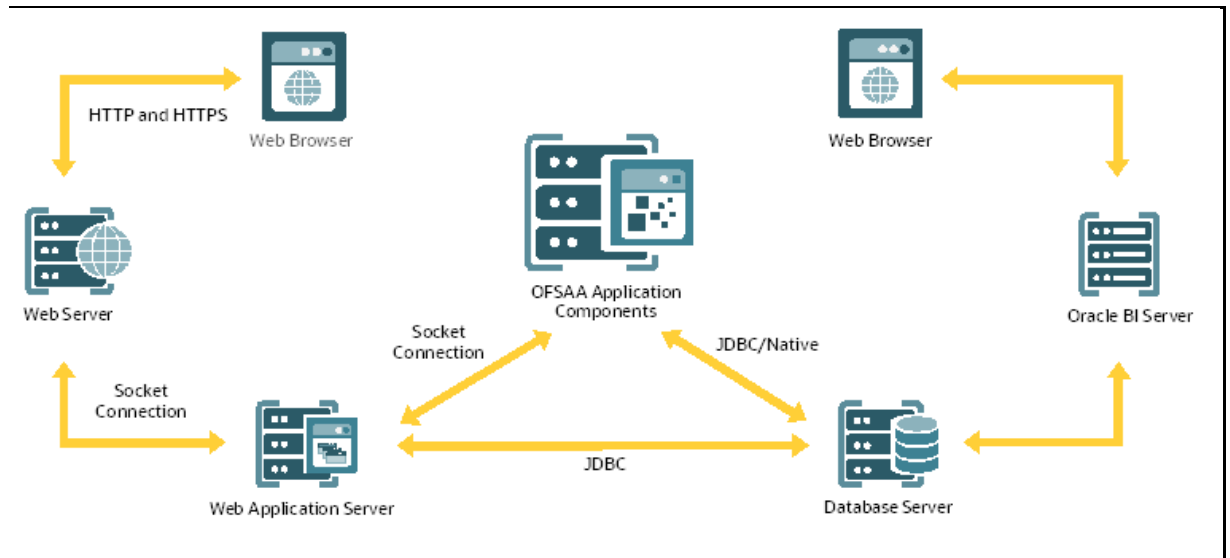
The current release of the OFSAA Infrastructure supports only the "Single Instance" installation for the Infrastructure components. However, the High Availability (HA) for the Database Server and/ or the Web application server clustering and deployment is supported in this release.

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

2.1.3 Deployment Topology

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

Figure 3: Logical Architecture Implemented for OFSAA Application Packs



2.2 About the Oracle Financial Services Data Integration Application Pack

Oracle Financial Services Data Integration (OFS DI) helps financial services institutions loading data from multiple sources via logical interfaces. OFS DI Application Pack includes the following application:

- Financial Services Data Integration Hub:** Data Integration Hub (DIH) enables to load of the data from the source systems to the OFSAA staging tables, through logical interfaces, known as Application Data Interfaces (ADI). DIH provides a set of User Interfaces (UI), which is used to define and maintain External Data D (EDD), Application Data Interfaces, and also map the EDDs and ADIs through Connectors. The mappings can be one to one, one to many, many-to-many, and many to one.
- Accounting Hub Cloud Service (AHCS):** AHCS is an accounting integration and reporting platform in oracle cloud that includes products, such as sub-ledger Accounting, Ledger, and Financial Reporting Center. AHC is an accounting integration platform. It standardizes the accounting from multiple third-party transactional systems to consistently enforce accounting policies and meet multiple reporting requirements in an automated and controlled fashion. AHC includes a rules repository to centrally define and maintain accounting rules, a rules transformation engine to create, validate and store the accounting journals, and a detailed accounting repository that is used to reconcile to the source system.
- Financial Services Oracle FLEXCUBE Universal Banking (FCUBS) Interface:** Oracle FLEXCUBE Universal Banking (FCUBS) supports the changing landscape of retail, corporate, and investment banking needs with strong transaction banking and Islamic banking capabilities. The current FCUBS-OFSAA interfaces transfer all key data elements across various modules within FCUBS to OFSAA Common Staging Area (CSA). The integration between the Oracle FCUBS and the OFSAA enables the financial institutions to:
 - Get insight into customer patterns based on the data captured in core banking.
 - Achieve end-to-end improvement in business delivery.

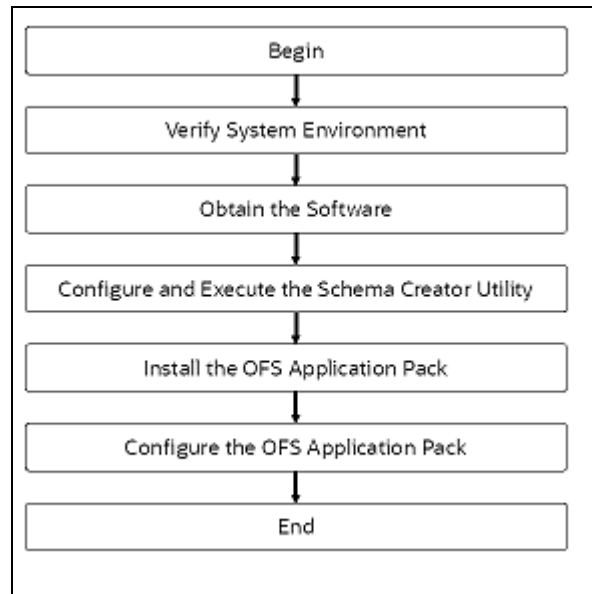
- Achieve effective performance and risk-free management using the available customer data.
- This integration is achieved by handing off FCUBS core banking data with OFSAA through FLEXCUBE Information Server (FIS) and DIH.
- **Financial Services Oracle Banking Platform (OBP) Interface:**
 - Oracle Business Platform (OBP) is designed to help banks respond strategically to today's business challenges and progressively transform their business models through industrialized business processes, driving productivity improvements across front and back offices, and reducing operating costs.
 - It supports banks' growth agenda through new distribution strategies including multi-brand or white labeling to tap new markets and enterprise product origination supporting multi-product and packages to drive an increased customer-to-product ratio.
- **Financial Services Data Relationship Management (DRM) Interface:** Oracle Data Relationship Management (DRM) helps proactively manage changes in master data across operational, analytical, and enterprise performance management silos. Users may make changes in their departmental perspectives while ensuring conformance to enterprise standards.
- **Financial Services Data Integration with Unity:** Unity allows its subscribers to combine customer data from online, offline, and third-party sources to create a single, dynamic, real-time view of each customer. Oracle Unity Customer Data Platform also supports the application of machine learning to prescribe the best next action within any existing business process. It supports a host of functions including unified customer profile, profile enrichment, smart segmentation, customer analytics, and rendering of personalized customer experience. Unity Integration identifies and exchanges data assets for customers or parties, party accounts, products, relationships, and transactions between OFSAA and Unity. This includes customer or party, behavioral intelligence, advertising, marketing, and campaign information, alongside quantified financial metrics and related information. Such financial metrics primarily include retail customer performance and related analytics.

2.3 Installation Overview

To install an OFS DI application pack 8.1.1.0.0 instance, users and administrators must download this installer. The following figure displays the order of procedures you will need to follow to install a new OFS DI Pack 8.1.1.0.0 instance.

NOTE This installer supports both the upgrade and fresh installation of OFS DI 8.1.1.0.0.

Figure 4: Installation Flow



2.4 OFS AAI Extension Pack

The Oracle Financial Services Analytical Applications Infrastructure Extension (OFS AAIE) Pack adds a set of new advanced features for the 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 the procurement of an additional license. For more information, see the OFS AAIE Release Notes and Installation Guide on the [OHC Documentation Library](#).

2.5 Installation and Upgrade Scenarios

Release v8.1.1.0.0 of OFSDI Application Pack supports various installation and upgrade scenarios. A high-level overview of the possible scenarios is provided in the following table. Detailed procedural steps are provided in the succeeding sections of this document.

Table 4: OFSDI Release 8.1.1.0.0 Installation and Upgrade Scenarios

Scenario	Installation and Upgrade Instructions
New Installation	
Installing Release 8.1.1.0.0 application pack for the first time (new installation).	<ol style="list-style-type: none"> 1. Prepare for the Installation. 2. Execute the Schema Creator Utility. 3. Install the OFSDI Application Pack. 4. Perform Post Installation Activities.
<p>Install a new product from OFS DI 8.1.1.0.0 application pack where another application from the same application pack is already installed.</p> <p>You have installed some applications from the Release 8.1.1.0.0 pack and in the future, you decide to include other applications from the same pack.</p> <p>Example: You have installed DI applications using the DI Pack.</p>	<p>If the schema creator output file (OFS_DI_SCHEMA_OUTPUT.xml) EXISTS:</p> <ol style="list-style-type: none"> 1. Update the <code>OFS_DI_PACK.xml</code> file to disable the existing applications and enable the newly licensed applications. 2. Update the <code>Silent.props</code> file present in the Release 8.1.x pack. 3. Trigger the Release 8.1.1.0.0 installation. <p>If the schema creator output file DOES NOT EXIST:</p> <ol style="list-style-type: none"> 1. Run the schema creator utility. <p>ATTENTION: While defining the schema details for the applications, provide the same schema details given in the previous installation. The output file (<code>OFS_DI_SCHEMA_OUTPUT.xml</code>) is generated as a result of the schema creation process.</p> <ol style="list-style-type: none"> 2. Update the <code>OFS_DI_PACK.xml</code> file to disable the existing applications and enable the newly licensed applications. 3. Update the <code>Silent.props</code> file. 4. Trigger the Release 8.1.1.0.0 installation. <p>NOTE: Configuring the OFSAAI InstallConfig.xml file is not required.</p>
<p>Install OFS DI Application Pack v8.1.1.0.0 on an Existing OFSAA Instance</p> <p>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.</p> <p>Example: OFS ALM Pack is already installed and now you want to install OFS DI Pack.</p>	<ol style="list-style-type: none"> 1. Run the schema creator utility ONLY for the new pack. 2. Update the <code>OFS_DI_PACK.xml</code> file for the newly licensed pack. 3. Update the <code>Silent.props</code> file of the newly licensed pack. 4. Trigger the Release 8.1.1.0.0 installation.
Upgrade Installation	
<p>Upgrade from Release v8.0.x of OFSDI or OFSDI on AIX or Solaris x86 Operating System</p>	<p>Release v8.1.1.0.0 of OFSDI is not certified for AIX and Solaris x86 Operating Systems. If you are currently running OFSAA v8.0.x on AIX or Solaris x86 Operating Systems and plan to upgrade to Release v8.1.1.0.0, then you must migrate from AIX or Solaris x86 to Linux or Solaris SPARC. See the MOS Doc ID 2700084.1 for details.</p>
<p>Upgrade an already installed 8.0.6.0.0 or later application and add new applications from the same pack</p>	<ol style="list-style-type: none"> 1. Run the Environment Check Utility tool and ensure that the hardware and software requirements are installed as per the OFS Analytical Applications Technology Matrix. See the OFSAA Environment Check Utility Guide for detailed steps.

Scenario	Installation and Upgrade Instructions
<p>You have two applications from a pack on 8.0.6.0.0 or later. You want two new applications from the same pack on 8.1.1.0.0.</p> <p>Example: You have installed OFSDI from Release 8.0.6.0.0. Now you want to install OFSDI of Release 8.1.1.0.0.</p>	<ol style="list-style-type: none"> 2. Clone your existing environment to the 8.1.1.0.0 OFS Analytical Applications Technology Matrix. 3. Run the schema creator utility. <ul style="list-style-type: none"> IMPORTANT NOTE: While defining the schema details for the newly licensed applications, provide the same schema details given in the previous installation. The output file (OFS_DI_SCHEMA_OUTPUT.xml) is generated as a result of the schema creation process. 4. Update the OFS_DI_PACK.xml file to enable ONLY the newly licensed applications. 5. Update the silent.props file for the sections related to the newly licensed applications. 6. Trigger the Release 8.1.1.0.0 installer. <ul style="list-style-type: none"> NOTE: Configuring the OFSAAI_InstallConfig.xml file is not required. 7. This process upgrades the existing applications and installs the newly licensed applications.

NOTE

If you are upgrading the OFSAA Application Pack to release v8.1.1.0.0, you must upgrade the other packs installed in the same environment to release v8.1.1.0.0, to ensure successful deployment.

3 Complete Installation Checklist

For a successful installation, perform the steps listed in the Complete Installation Checklist. You can use this checklist to have a glance at everything that you 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: Complete Installation Checklist

Sl. No.	Pre-installation Activity
1	<p>Install all the prerequisite hardware and software as per the OFS Analytical Applications Technology Matrix.</p> <ul style="list-style-type: none"> • Configure the Database Instance settings. • Install and configure the web application server. • Configure the HTTP settings on the web server. • Configure the following Operating System and File System settings. • Update the Environment Settings as required for the installation in the .profile file.
2	Verify the System Environment using the Environment Check Utility.
3	Create all the necessary directories.
4	Download and Extract the OFS DI Application Pack installer kit.

Sl. No.	Installation Activity
1	Configure the OFS_DI_PACK.xml file.
2	Configure the OFS_DI_SCHEMA_IN.xml and Configure the OFS_DI_SCHEMA_BIGDATA_IN.xml file.
3	Execute the Schema Creator Utility in Offline , Online , or TCPS modes and verify the Schema Creator Log Files.
4	Configure the OFSAAI_InstallConfig.xml file.
5	Configure the Silent.props file.
6	Trigger the OFSDI Application Pack installation.

Sl. No.	Post-installation Activity
1	Verify the installation logs.
2	Back up the schema creator XML files, OFS_DI_SCHEMA_OUTPUT.xml, and Silent.props files.
3	Deploy the EAR or WAR files.
4	Import the ODI Artifacts.

Sl. No.	Post-installation Activity
5	Start DI Service.
6	Access the OFSAA Application to Create Application Users and Map them to DI User Groups.

4 Pre-installation

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

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

Table 6: Pre-installation Checklist

Sl. No.	Pre-installation Activity
1	<p>Install all the prerequisite hardware and software as per the OFS Analytical Applications Technology Matrix.</p> <ul style="list-style-type: none"> • Configure the Database Instance settings. • Install and configure the web application server. • Configure the HTTP settings on the web server. • Configure the following Operating System and File System settings. • Update the Environment Settings as required for the installation in the .profile file.
2	Verify the System Environment using the Environment Check Utility.
3	Create all the necessary directories.
4	Download and Extract the OFS DI Application Pack installer kit.

4.1 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 Data Integration Application Pack is qualified, see the [OFSAA Technology Matrix](#).

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

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

Table 7: Recommended Software Combination

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

4.1.1 License Information

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

4.1.2 Verify the System Environment

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

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 about the download and usage of this utility, see the [Oracle Financial Services Analytical Applications Infrastructure Environment Check Utility Guide](#).

4.2 Create the Installation, Download, and Metadata Directories

To install the OFSDI Application Pack, create the following directories:

- **OFSDI Download Directory (Optional):** Create a download directory and copy the OFSDI 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.

The directory must exist on the same system as the OFSAA Installation. This directory can be configured on a different mount or under a different user profile. However, the owner of the installation directory must have RWX (775) permissions to this directory.

NOTE Ensure the OFSAA staging directory is not set to the same path as the OFSAA installation directory and is not a subdirectory inside the OFSAA installation directory.

- **OFSDI Hive Directory (Mandatory for Big Data Installation):** Create a directory for the file system stage area of the Hive server. This is commonly referred to as FTPSHAREH or HIVE_SERVER_FTPDRIVE. Ensure the user permission is set to 775 on the Installation Directory.

4.3 Preparing for Installation

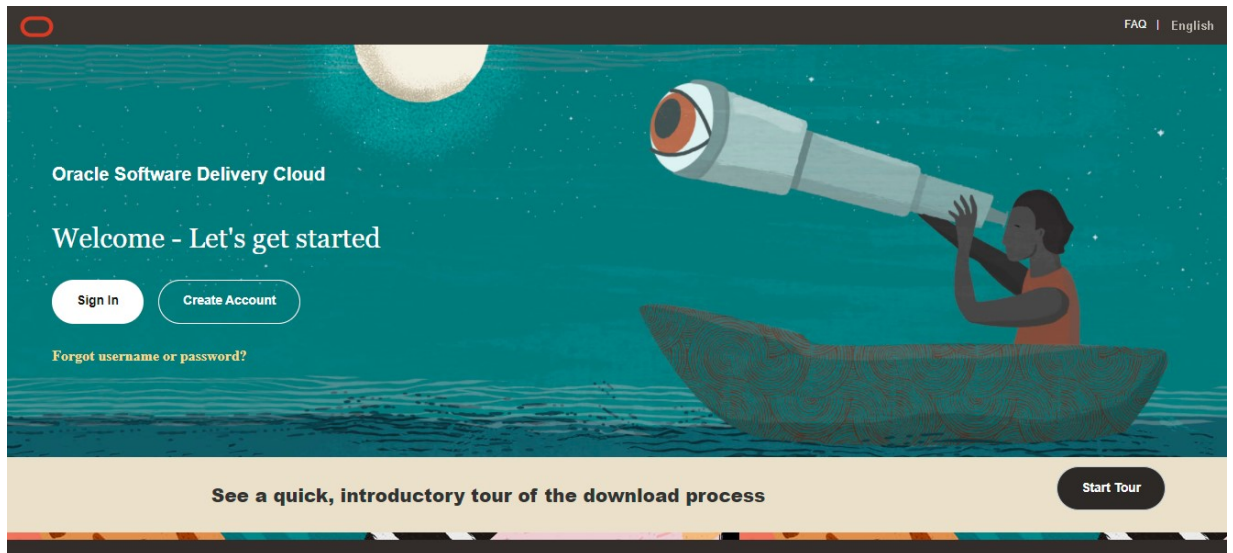
This section describes how to download the installer and the mandatory prerequisites you must ensure installing the OFS DI Application Pack.

4.3.1 Download the OFS DI Application Pack Installer and Mandatory Patches

To download the OFS Data Integration Pack Installer Release 8.1.1.0.0, follow these steps:

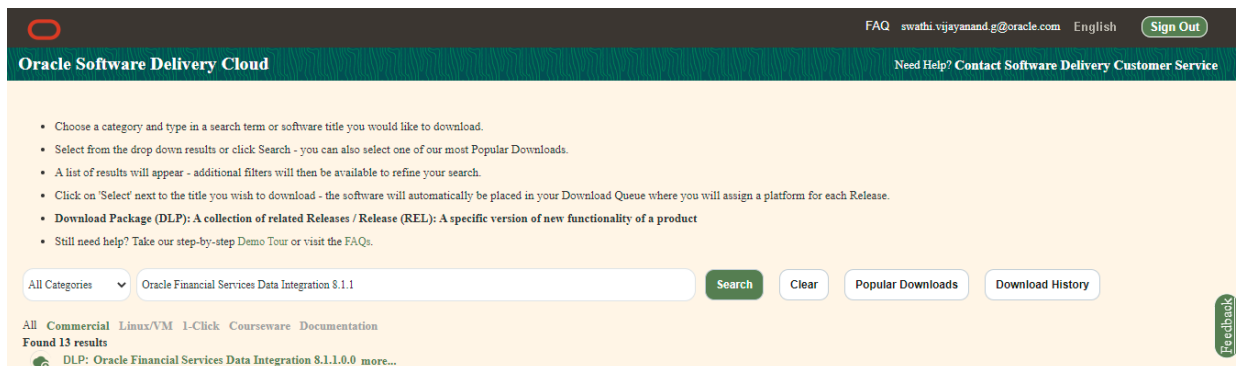
1. Log in to the [Oracle Software Delivery Cloud](#) (OSDC) with a valid Oracle account.

Figure 5: OSDC Login Window



2. Enter **Oracle Financial Services Data Integration** in the search box.

Figure 6: OSDC - Search Results



3. Download the installer archive and copy (in Binary mode) to the download directory that exists in the OFS DI installation setup.
4. Log in to [My Oracle Support](#), search for the **33663417** Mandatory Patch in the **Patches & Updates** Tab and download it.

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.

4.4 Extract the 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. 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.
2. Uncompress the unzip installer file with the following command:

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

NOTE

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

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

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

For example: `chmod 751 unzip_sparc`

4. Extract the contents of the OFS DI Application Release 8.1.1.0.0 installer archive file in the download directory with the following command:

```
unzip OFS_DI_8.1.1.0.0_LINUX.zip
```

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

```
chmod -R 750 OFS_DI_Pack
```

4.4.1 Prerequisites for Installation

This installer has Fresh install capabilities and the following is the prerequisite to install the OFSDI Application Pack:

- Oracle Data Integrator Studio Client is installed in the OFSAA instance.
- ODI_HOME variable is set in the environment.

NOTE

The above prerequisite does not require ODI if the following applications are installed:

- Oracle Financial Services Data Integration with Unity
- Oracle Financial Services Accounting Hub Cloud Service Integration for Insurance
- Oracle Financial Services Accounting Hub Cloud Service Integration for Banking

In case DIH is installed along with the above applications, then this note is not applicable.

5 Installation

This section details the steps to be followed during the OFSDI Application Pack installation.

You can use this checklist to have a 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 8: Installation Checklist

Sl. No.	Installation Activity
1	Configure the OFS_DI_PACK.xml file.
2	Configure the OFS_DI_SCHEMA_IN.xml and Configure the OFS_DI_SCHEMA_BIGDATA_IN.xml file.
3	Execute the Schema Creator Utility in Offline , Online , or TCPS modes and verify the Schema Creator Log Files.
4	Configure the OFSAAI_InstallConfig.xml file.
5	Configure the Silent.props file.
6	Trigger the OFSDI Application Pack installation.

5.1 Configure the OFS_DI_PACK.xml File

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

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

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

Figure 7: Sample OFS_DI_PACK.xml File

```

<APP_PACK_CONFIG>
  <APP_PACK_ID>OFS_DI_PACK</APP_PACK_ID>
  <APP_PACK_NAME>Financial Services Data Integration </APP_PACK_NAME>
  <APP_PACK_DESCRIPTION>Applications for Data Integration</APP_PACK_DESCRIPTION>
  <VERSION>##RELEASE_VERSION##</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>##RELEASE_VERSION##</VERSION>
  </APP>
  <APP>
    <APP_ID PREREQ="OFS_AAI" ENABLE="NO">OFS_DIH</APP_ID>
    <APP_NAME>Financial Services Data Integration Hub</APP_NAME>
    <APP_DESCRIPTION>Application for data integration</APP_DESCRIPTION>
    <VERSION>##RELEASE_VERSION##</VERSION>
  </APP>
  <APP>
    <APP_ID PREREQ="OFS_DIH" ENABLE="NO">OFS_INTF_DRM</APP_ID>
    <APP_NAME>Interface for Oracle Data Relationship Management</APP_NAME>
    <APP_DESCRIPTION>DIH Connector for OFSAA - Oracle Data Relationship Management</APP_DESCRIPTION>
    <VERSION>##RELEASE_VERSION##</VERSION>
  </APP>
  <APP>
    <APP_ID PREREQ="OFS_DIH" ENABLE="NO">OFS_INTF_FCUBS</APP_ID>
    <APP_NAME>Interface for Oracle Flexcube Universal Banking System</APP_NAME>
    <APP_DESCRIPTION>DIH Connector for OFSAA - Oracle Flexcube Universal Banking System</APP_DESCRIPTION>
    <VERSION>##RELEASE_VERSION##</VERSION>
  </APP>
  <APP>
    <APP_ID PREREQ="OFS_DIH" ENABLE="NO">OFS_INTF_OBP</APP_ID>
    <APP_NAME>Interface for Oracle Banking Platform</APP_NAME>
    <APP_DESCRIPTION>DIH Connector for OFSAA - Oracle Banking Platform</APP_DESCRIPTION>
    <VERSION>##RELEASE_VERSION##</VERSION>
  </APP>
  <APP>
    <APP_ID PREREQ="OFS_DIH" ENABLE="NO">OFS_INTF_FAH</APP_ID>
    <APP_NAME>Interface for Oracle Fusion Accounting Hub</APP_NAME>
    <APP_DESCRIPTION>DIH Connector for OFSAA - Oracle Fusion Accounting Hub</APP_DESCRIPTION>
    <VERSION>##RELEASE_VERSION##</VERSION>
  </APP>
  <APP>
    <APP_ID PREREQ="OFS_AAI" ENABLE="NO">OFS_INTF_AH_FSDF</APP_ID>
    <APP_NAME>Oracle Financial Services Accounting Hub Cloud Service Integration for Banking</APP_NAME>
    <APP_DESCRIPTION>DIH Connector for OFSAA Banking - Oracle Financial Services Accounting Hub Cloud</APP_DESCRIPTION>
    <VERSION>##RELEASE_VERSION##</VERSION>
  </APP>
  <APP>
    <APP_ID PREREQ="OFS_AAI" ENABLE="NO">OFS_INTF_AH_OIDF</APP_ID>
    <APP_NAME>Oracle Financial Services Accounting Hub Cloud Service Integration for Insurance</APP_NAME>
    <APP_DESCRIPTION>DIH Connector for OFSAA Insurance - Oracle Financial Services Accounting Hub Cloud</APP_DESCRIPTION>
    <VERSION>##RELEASE_VERSION##</VERSION>
  </APP>
  <APP>
    <APP_ID PREREQ="OFS_AAI" ENABLE="NO">OFS_DICXU</APP_ID>
    <APP_NAME>Oracle Financial Services Data Integration with Unity</APP_NAME>
    <APP_DESCRIPTION>Financial Services Data integration with Unity</APP_DESCRIPTION>
    <VERSION>##RELEASE_VERSION##</VERSION>
  </APP>
</APP_PACK_CONFIG>

```

- Configure the OFS_DI_PACK.xml file as mentioned in the following table.

Table 9: OFS_DI_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

Tag Name or Attribute Name	Description	Mandatory (Y or N)	Comments
APP_PACK_NAME	Unique Application Pack Name	Y	Unique Seeded Value
APP_PACK_DESCRIPTION	Unique Application Pack Description	Y	Unique Seeded Value
VERSION	Unique release version	Y	Unique Seeded Value
APP	Unique Application Entries	Y	Unique Seeded Value
APP_ID	Unique Application Identifier	Y	Unique Seeded Value
APP_ID/ PREREQ	Prerequisite Application/ Product	Y	Unique Seeded Value
APP_ID/ DEF_SEL_FLAG	Default Selected Flag	Y	Default value: YES
APP_ID/ ENABLE	Enable Application/ Product	Y	<p>Default value: YES for Infrastructure NO for Others</p> <p>Permissible value: YES or NO</p> <p>Note: The Application/ Product cannot be disabled once enabled.</p> <p>Only Applications/Products which are enabled are installed. In order to install a licensed Applications/Products, you need to restart the installation process by specifying the ENABLE flag as Y for the application. The execution of Schema Creation Utility must be skipped.</p>
APP_NAME	Unique Application/ Product Name	Y	Unique Seeded Value
APP_DESCRIPTION	Unique Application/ Product Name	Y	Unique Seeded Value
VERSION	Unique release version	Y	Unique Seeded Value

4. Save and close the file.

5.2 Configure the Schema Creator Utility

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

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

5.2.1 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 being installed.
- It is recommended to set the PGA_AGGREGATE_LIMIT database-parameter value sufficiently when Oracle 19c is installed.
- You must add a TNS entry before the installation. For details, see the [Add TNS entries in the TNSNAMES.ORA file](#) section.

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.

5.2.2 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_DI_SCHEMA_IN.xml` file.

You can configure the following types of schemas:

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

5.2.2.1 Configure the OFS_DI_SCHEMA_IN.xml File

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

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

NOTE

This file must be configured only in the case of the OFSDI Application Pack installation for the RDBMS ONLY target. This file is not required to be configured for an HDFS ONLY target installation.

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

1. Log in to the system as a non-root user.
2. Navigate to the `OFS_DI_PACK/schema_creator/conf/` directory.
3. Delete the file `OFS_DI_SCHEMA_BIGDATA_IN.xml`.
4. Edit the `OFS_DI_SCHEMA_IN.xml` file using a text editor.

Figure 8: Sample of the OFS_DI_SCHEMA_IN.xml file

```
<!DOCTYPE APPPACKSCHEMA [
  <APP_PACK_ID>OFS_DI_PACK</APP_PACK_ID>
  <IS_TCPS>FALSE</IS_TCPS>
  <JDBC_URL>jdbc:oracle:thin:@IP:PORT:SID</JDBC_URL>
  <JDBC_DRIVER>oracle.jdbc.driver.OracleDriver</JDBC_DRIVER>
  <HOST>HOSTIP</HOST>
  <SETUPINFO NAME="DEV" PREFIX_SCHEMA_NAME="N" />
  <PASSWORD APPLYSAMEFORALL="Y" DEFAULT="" />
  <SCHEMAS>
    <SCHEMA TYPE="CONFIG" NAME="DIHCONE" PASSWORD="" APP_ID="OFS_AAI" DEFAULTTABLESPACE="USERS" TEMPTABLESPACE="TEMP" QUOTA="10G"/>
    <SCHEMA TYPE="ATOMIC" NAME="DIHATM" PASSWORD="" INFODOM="" APP_ID="OFS_DIH" APP_GRP="1" DEFAULTTABLESPACE="USERS" TEMPTABLESPACE="TEMP" QUOTA="" />
    <SCHEMA TYPE="ATOMIC" NAME="DIHATM" PASSWORD="" INFODOM="" APP_ID="OFS_INTF_DRM" APP_GRP="1" DEFAULTTABLESPACE="USERS" TEMPTABLESPACE="TEMP" QUOTA="" />
    <SCHEMA TYPE="ATOMIC" NAME="DIHATM" PASSWORD="" INFODOM="" APP_ID="OFS_INTF_FCUBS" APP_GRP="1" DEFAULTTABLESPACE="USERS" TEMPTABLESPACE="TEMP" QUOTA="" />
    <SCHEMA TYPE="ATOMIC" NAME="DIHATM" PASSWORD="" INFODOM="" APP_ID="OFS_INTF_OBP" APP_GRP="1" DEFAULTTABLESPACE="USERS" TEMPTABLESPACE="TEMP" QUOTA="" />
    <SCHEMA TYPE="ATOMIC" NAME="DIHATM" PASSWORD="" INFODOM="" APP_ID="OFS_INTF_FAH" APP_GRP="1" DEFAULTTABLESPACE="USERS" TEMPTABLESPACE="TEMP" QUOTA="" />
    <SCHEMA TYPE="ATOMIC" NAME="DIHATM" PASSWORD="" INFODOM="" APP_ID="OFS_INTF_AH_FSDI" APP_GRP="1" DEFAULTTABLESPACE="USERS" TEMPTABLESPACE="TEMP" QUOTA="" />
    <SCHEMA TYPE="ATOMIC" NAME="DIHATM" PASSWORD="" INFODOM="" APP_ID="OFS_INTF_AH_OIDF" APP_GRP="1" DEFAULTTABLESPACE="USERS" TEMPTABLESPACE="TEMP" QUOTA="" />
    <SCHEMA TYPE="ATOMIC" NAME="DIHATM" PASSWORD="" INFODOM="" APP_ID="OFS_DICXU" APP_GRP="1" DEFAULTTABLESPACE="USERS" TEMPTABLESPACE="TEMP" QUOTA="" />
  </SCHEMAS>
</APPPACKSCHEMA>
```

Figure 9: Sample of the OFS_DI_SCHEMA_IN.xml file (APPPACKSCHEMA Block)

```
<APPPACKSCHEMA>
  <APP_PACK_ID>OFS_DI_PACK</APP_PACK_ID>
  <IS_TCPS>FALSE</IS_TCPS>
  <JDBC_URL>jdbc:oracle:thin:@IP:PORT:SID</JDBC_URL>
  <JDBC_DRIVER>oracle.jdbc.driver.OracleDriver</JDBC_DRIVER>
  <HOST>HOSTIP</HOST>
  <SETUPINFO NAME="DEV" PREFIX_SCHEMA_NAME="N" />
  <PASSWORD APPLYSAMEFORALL="Y" DEFAULT="" />
</APPPACKSCHEMA>
```

5. Configure the values as mentioned in the following table.

NOTE

On successful execution of the utility, the passwords entered in the `OFS_DI_SCHEMA_IN.xml` file are nullified.

Table 10: OFS_DI_PACK_SCHEMA_IN.xml file (APPPACKSCHEMA Parameters)

Tag Name or Attribute Name	Description	Mandatory or Optional	Default Value or Permissible Value	Comments
<APP_PACK_ID>	Unique Application Pack Identifier	Y	Unique Seeded Value	DO NOT modify this value.
<JDBC_URL>	Enter the JDBC URL. NOTE: You can enter RAC and NON-RAC enabled database connectivity URL.	Y	Example, jdbc:oracle:thin:@< DBSERVER IP/HOST/ IP>:<PORT>:<SID> or jdbc:oracle:thin:@//[HOST]:[PORT]/SERVICE or jdbc:oracle:thin:@(DESCRIPTION=(ADDRESS_LIST=(ADDRESS=(PROTOCOL=TCP)(HOST=[HOST]))(port=[PORT]))(ADDRESS=(PROTOCOL=TCP)(HOST=[HOST])(PORT=[PORT]))(LOAD_BALANCE=yes)(FAILOVER=yes))(CONNECT_DATA=(SERVICE_NAME=[SERVICE]))) For example, jdbc:oracle:thin:@//dbhost.server.com:1521/service1 or jdbc:oracle:thin:@//dbshost.server.com:1521/scan-1 or jdbc:oracle:thin:@(DESCRIPTION=(ADDRESS_LIST=(ADDRESS=(PROTOCOL=TCP)(HOST=dbhost1.server.com)(port=1521))(ADDRESS=(PROTOCOL=TCP)(HOST=dbhost2.server.com)(PORT=1521))(LOAD_BALANCE=yes)(FAILOVER=yes))(CONNECT_DATA=(SERVICE_NAME=service1)))	Ensure to add an entry (with SID or SERVICE NAME) in the <code>tnsnames.ora</code> file on the OFSAA server. The entry must match with the SID or SERVICE NAME used in the JDBC URL.

Tag Name or Attribute Name	Description	Mandatory or Optional	Default Value or Permissible Value	Comments
<JDBC_DRIVER>	The name of the driver is seeded. NOTE: Do not edit this attribute value.	Y	Example, oracle.jdbc.driver.OracleDriver	Only JDBC Thin Driver is supported. DO NOT modify this value.
<HOST>	Enter the Hostname or IP Address of the system on which you are installing the OFSAA components.	Y	Host Name or IP Address	
<SETUPINFO>/ NAME	Enter the acronym for the type of implementation. This information will be displayed on the OFSAA Home Page. NOTE: On executing the schema creator utility, this value will be prefixed with each schema name. For example: dev_ofsaaconf, uat_ofsaaatm.	Y	Accepts strings with a minimum length of two and a maximum of four. Example, DEV, SIT, PROD	This message appears in the OFSAA Landing Page as <i>Connected To: xxxx</i> . The schemas being created would get this prefix. For example: dev_ofsaaconf, uat_ofsaaconf, and so on.
<SETUPINFO>/ PREFIX_SCHEMA_NAME	Identifies if the value specified in <SETUPINFO>/ NAME attribute must be prefixed to the schema name.	N	YES or NO	Default value is YES.
<PASSWORD>/ APPLYSAMEFORALL	Enter as Y if you want to apply the password specified in the DEFAULT attribute for all the schemas. If you enter as N, you need to provide individual passwords for all schemas. NOTE: In case 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	NOTE: Setting this attribute value is mandatory If the DEFAULT attribute is set.

Tag Name or Attribute Name	Description	Mandatory or Optional	Default Value or Permissible Value	Comments
<PASSWORD>/ DEFAULT*	Enter the password if you want to set a default password for all schemas. NOTE: You also need to 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.	
<SCHEMA>/ TYPE	The different types of schemas that are supported in this release are ATOMIC, CONFIG, SANDBOX, and ADDON. By default, the schemas types are seeded based on the Application Pack. NOTE: Do not edit this attribute value.	Y	ATOMIC, CONFIG, SANDBOX, or ADDON NOTE: SANDBOX AND ADDON schemas are not applicable for OFS AAI Application Pack.	Only One CONFIG schema can exist in the file. This schema identifies as the CONFIGURATION schema that holds the OFSAA setup details and other metadata information. Multiple ATOMIC, SANDBOX, ADDON schemas can exist in the file. ATOMIC schema refers to the Information Domain schema. SANDBOX schema refers to the SANDBOX schema. ADDON schema refers to another miscellaneous schema (not applicable for this Application Pack).
<SCHEMA.>/ NAME	By default, the schema names are seeded based on the Application Pack. You can edit the schema names if required. NOTE: The Schema Name will have a prefix of the SETUPINFO/ NAME attribute. SCHEMA NAME must be the same for all the ATOMIC Schemas of applications within an Application Pack.	Y	The permissible length is 15 characters and only alphanumeric characters allowed. No special characters allowed except underscore '_'.	SETUPINFO/ NAME attribute value would be prefixed to the schema name being created. For example, if the name is set as 'ofsaaatm' and setupinfo as 'uat' then schema being created would be 'uat_ofsaaatm'. NAME must be the same where APP_GRP=1 for all SCHEMA tags (Not applicable for this Application Pack).

Tag Name or Attribute Name	Description	Mandatory or Optional	Default Value or Permissible Value	Comments
<SCHEMA>/ PASSWORD*	Enter the password of the schema to be created. NOTE: If this attribute is left blank, then the password specified in the <PASSWORD>/DEFAULT attribute is applied as the Schema Password.	N	The maximum length allowed is 30 characters. Special characters are not allowed.	NOTE: You need to mandatorily enter the password if you have set the <PASSWORD>/APPLYSAMEFORALL attribute as N.
<SCHEMA>/ APP_ID	By default, the Application ID is seeded based on the Application Pack. NOTE: Do not modify this attribute value.	Y	Unique Seeded Value	Identifies the Application or Product for which the schema is being created. DO NOT modify this value.
<SCHEMA>/ DEFAULTTABLESPACE	Enter the available default tablespace for DB User. NOTE: If this attribute is left blank, then USERS is set as the default tablespace.	N	Default value: USERS Permissible value: Any existing valid tablespace name.	Modify this value to associate any valid tablespace with the schema.
<SCHEMA>/ TEMPTABLESPACE	Enter the available temporary tablespace for the DB User. NOTE: If this attribute is left blank, then TEMP is set as the default tablespace.	N	Default value: TEMP Permissible value: Any existing valid temporary tablespace name.	Modify this value to associate any valid tablespace with the schema.
<SCHEMA>/ QUOTA	Enter the quota to be set on the DEFAULTTABLESPACE attribute for the schema 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.
<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 (Optional for Atomic and mandatory for SANDBOX)	Permissible length is 16 characters and only alphanumeric characters allowed. No special characters allowed.	Enter this field in UPPERCASE. If DI media pack is first media pack installation in the setup, then INFODOM must be specified mandatorily otherwise it is optional.

Tag Name or Attribute Name	Description	Mandatory or Optional	Default Value or Permissible Value	Comments
<ADV_SEC_OPTIONS>	Parent tag to hold Advance Security Options.	N		Uncomment the tag and edit if you want to add security options. For example, TDE and Data Redact. For details, see the example following the table.
<ADV_SEC_OPTIONS>/TDE	Tag to enable or disable TDE.	N	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	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. NOTE: 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 or Optional	Default Value or Permissible Value	Comments
<TABLESPACE>/VALUE	Physical Name of the tablespace to be created	Y	NA	Value if specified will be 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.

5.2.3 Configure the Schema Creator Utility for HDFS Schema

To install for Big Data, provide the Pack specific schema details in the `OFS_DI_SCHEMA_BIGDATA_IN.xml` file.

The types of schemas that you can configure are:

- **CONFIG:** This schema holds the entities and other objects required for OFSAA setup configuration information. Only one CONFIG schema per OFSAA instance is permitted. This schema is created only in RDBMS.
- **METADOM:** This schema holds the data model entities. One METADOM schema is attached to one Information Domain. You can have multiple DATADOM schemas for a single OFSAA instance. This schema is created only in RDBMS. It has only platform entities that hold the metadata details. However, it does not hold the data model entities.
- **DATADOM:** This schema holds data model entities. One DATADOM schema is attached to one Information Domain. You can have multiple DATADOM schemas for a single OFSAA instance.

5.2.3.1 Configure the OFS_DI_SCHEMA_BIGDATA_IN.xml File

To create Hive schemas and objects within for the various application schemas, update the values of the various tags and parameters available in the `OFS_DI_SCHEMA_BIGDATA_IN.xml` file before executing the schema creator utility.

NOTE This file must be configured only in case of the OFSDI Application Pack installation for the *HDFS ONLY* target. This file configuration is not required for an *RDBMS ONLY* target installation.

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

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

Figure 10: Sample of the OFS_DI_BIGDATA_SCHEMA_IN.xml file

```

<APPPACKSCHEMA>
  <APP_PACK_ID>OFS_DI_PACK</APP_PACK_ID>
  <IS_TCPS>FALSE</IS_TCPS>
  <JDBC_URL>jdbc:oracle:thin:@IP:PORT:SID</JDBC_URL>
  <JDBC_DRIVER>oracle.jdbc.driver.OracleDriver</JDBC_DRIVER>
  <HOST>HOSTIP</HOST>
  <SETUPINFO NAME="DIH" PREFIX_SCHEMA_NAME="N"/>
  <PASSWORD APPLYSAMEFORALL="Y" DEFAULT="" />
  <SCHEMAS TYPE="RDBMS">
    <SCHEMA TYPE="CONFIG" NAME="DIHCONF" PASSWORD="" APP_ID="OFS_AAI" DEFAULTTABLESPACE="USERS" TEMPTABLESPACE="TEMP" QUOTA="10G"/>
    <SCHEMA TYPE="ATOMIC" NAME="DIHMETA" PASSWORD="" INFODOM="" APP_ID="OFS_DIH" APP_GRP="1" DEFAULTTABLESPACE="USERS" TEMPTABLESPACE="TEMP" QUOTA="" />
    <SCHEMA TYPE="ATOMIC" NAME="DIHMETA" PASSWORD="" INFODOM="" APP_ID="OFS_INTF_DRM" APP_GRP="1" DEFAULTTABLESPACE="USERS" TEMPTABLESPACE="TEMP" QUOTA="" />
    <SCHEMA TYPE="ATOMIC" NAME="DIHMETA" PASSWORD="" INFODOM="" APP_ID="OFS_INTF_FCUBS" APP_GRP="1" DEFAULTTABLESPACE="USERS" TEMPTABLESPACE="TEMP" QUOTA="" />
    <SCHEMA TYPE="ATOMIC" NAME="DIHMETA" PASSWORD="" INFODOM="" APP_ID="OFS_INTF_OBP" APP_GRP="1" DEFAULTTABLESPACE="USERS" TEMPTABLESPACE="TEMP" QUOTA="" />
    <SCHEMA TYPE="ATOMIC" NAME="DIHMETA" PASSWORD="" INFODOM="" APP_ID="OFS_INTF_FAH" APP_GRP="1" DEFAULTTABLESPACE="USERS" TEMPTABLESPACE="TEMP" QUOTA="" />
    <SCHEMA TYPE="ATOMIC" NAME="DIHMETA" PASSWORD="" INFODOM="" APP_ID="OFS_INTF_AH_FSDF" APP_GRP="1" DEFAULTTABLESPACE="USERS" TEMPTABLESPACE="TEMP" QUOTA="" />
    <SCHEMA TYPE="ATOMIC" NAME="DIHMETA" PASSWORD="" INFODOM="" APP_ID="OFS_INTF_AH_OIDE" APP_GRP="1" DEFAULTTABLESPACE="USERS" TEMPTABLESPACE="TEMP" QUOTA="" />
    <SCHEMA TYPE="ATOMIC" NAME="DIHMETA" PASSWORD="" INFODOM="" APP_ID="OFS_DICXU" APP_GRP="1" DEFAULTTABLESPACE="USERS" TEMPTABLESPACE="TEMP" QUOTA="" />
  </SCHEMAS>
  <SCHEMAS TYPE="HDFS">
    <HIVE_SERVER_HOST>##HIVE_SERVER##</HIVE_SERVER_HOST>
    <HIVE_LIB_PATH>##HIVE_LIB_PATH##</HIVE_LIB_PATH>
    <SCHEMA NAME="DIHDATA" TYPE="DATADOM" APP_ID="OFS_DIH" DB_TYPE="HIVE">
      <SCHEMA_PROPERTIES>
        <PROPERTY ID="COMMENT" VALUE="" />
        <PROPERTY ID="LOCATION" VALUE="" />
      </SCHEMA_PROPERTIES>
      <CONNECTION_PROPERTIES>
        <PROPERTY ID="JDBC_DRIVER" VALUE="##HIVE_JDBC##" />
        <PROPERTY ID="JDBC_URL" VALUE="##HIVE_JDBC_URL##" />
        <PROPERTY ID="AUTH_TYPE" VALUE="##AUTH_TYPE##" />
        <PROPERTY ID="AUTH_ALIAS" VALUE="##AUTH_NAME##" />
        <PROPERTY ID="PRINCIPAL" VALUE="##PRINCIPAL##" />
        <PROPERTY ID="PASSWORD" VALUE="" />
        <PROPERTY ID="KRB_GSSJAAS_FILE_NAME" VALUE="##KEYTAB_PATH##" />
        <PROPERTY ID="KRB_REALM_FILE_NAME" VALUE="##KEYTAB_CONF##" />
      </CONNECTION_PROPERTIES>
    </SCHEMA>
  </SCHEMAS>

```

```

<SCHEMA NAME="DIHDATA" TYPE="DATADOM" APP_ID="OFS_INTF_DRM" DB_TYPE="HIVE">
  <SCHEMA_PROPERTIES>
    <PROPERTY ID="COMMENT" VALUE="" />
    <PROPERTY ID="LOCATION" VALUE="" />
  </SCHEMA_PROPERTIES>
  <CONNECTION_PROPERTIES>
    <PROPERTY ID="JDBC_DRIVER" VALUE="##HIVE_JDBC##" />
    <PROPERTY ID="JDBC_URL" VALUE="##HIVE_JDBC_URL##" />
    <PROPERTY ID="AUTH_TYPE" VALUE="##AUTH_TYPE##" />
    <PROPERTY ID="AUTH_ALIAS" VALUE="##AUTH_NAME##" />
    <PROPERTY ID="PRINCIPAL" VALUE="##PRINCIPAL##" />
    <PROPERTY ID="PASSWORD" VALUE="" />
    <PROPERTY ID="KRB_GSSJAAS_FILE_NAME" VALUE="##KEYTAB_PATH##" />
    <PROPERTY ID="KRB_REALM_FILE_NAME" VALUE="##KEYTAB_CONF##" />
  </CONNECTION_PROPERTIES>
</SCHEMA>
<SCHEMA NAME="DIHDATA" TYPE="DATADOM" APP_ID="OFS_INTF_FCUBS" DB_TYPE="HIVE">
  <SCHEMA_PROPERTIES>
    <PROPERTY ID="COMMENT" VALUE="" />
    <PROPERTY ID="LOCATION" VALUE="" />
  </SCHEMA_PROPERTIES>
  <CONNECTION_PROPERTIES>
    <PROPERTY ID="JDBC_DRIVER" VALUE="##HIVE_JDBC##" />
    <PROPERTY ID="JDBC_URL" VALUE="##HIVE_JDBC_URL##" />
    <PROPERTY ID="AUTH_TYPE" VALUE="##AUTH_TYPE##" />
    <PROPERTY ID="AUTH_ALIAS" VALUE="##AUTH_NAME##" />
    <PROPERTY ID="PRINCIPAL" VALUE="##PRINCIPAL##" />
    <PROPERTY ID="PASSWORD" VALUE="" />
    <PROPERTY ID="KRB_GSSJAAS_FILE_NAME" VALUE="##KEYTAB_PATH##" />
    <PROPERTY ID="KRB_REALM_FILE_NAME" VALUE="##KEYTAB_CONF##" />
  </CONNECTION_PROPERTIES>
</SCHEMA>

```

Description of Sample OFS_DI_BIGDATA_SCHEMA_IN.xml File follows:

This illustration shows a sample of the OFS_DI_BIGDATA_SCHEMA_IN.xml file.


```
<SCHEMA NAME="DIHDATA" TYPE="DATADOM" APP_ID="OFS_INTF_OBP" DB_TYPE="HIVE">
  <SCHEMA_PROPERTIES>
    <PROPERTY ID="COMMENT" VALUE="" />
    <PROPERTY ID="LOCATION" VALUE="" />
  </SCHEMA_PROPERTIES>
  <CONNECTION_PROPERTIES>
    <PROPERTY ID="JDBC_DRIVER" VALUE="##HIVE_JDBC##" />
    <PROPERTY ID="JDBC_URL" VALUE="##HIVE_JDBC_URL##" />
    <PROPERTY ID="AUTH_TYPE" VALUE="##AUTH_TYPE##" />
    <PROPERTY ID="AUTH_ALIAS" VALUE="##AUTH_NAME##" />
    <PROPERTY ID="PRINCIPAL" VALUE="##PRINCIPAL##" />
    <PROPERTY ID="PASSWORD" VALUE="" />
    <PROPERTY ID="KRB_GSSJAAS_FILE_NAME" VALUE="##KEYTAB_PATH##" />
    <PROPERTY ID="KRB_REALM_FILE_NAME" VALUE="##KEYTAB_CONF##" />
  </CONNECTION_PROPERTIES>
</SCHEMA>
<SCHEMA NAME="DIHDATA" TYPE="DATADOM" APP_ID="OFS_INTF_FAH" DB_TYPE="HIVE">
  <SCHEMA_PROPERTIES>
    <PROPERTY ID="COMMENT" VALUE="" />
    <PROPERTY ID="LOCATION" VALUE="" />
  </SCHEMA_PROPERTIES>
  <CONNECTION_PROPERTIES>
    <PROPERTY ID="JDBC_DRIVER" VALUE="##HIVE_JDBC##" />
    <PROPERTY ID="JDBC_URL" VALUE="##HIVE_JDBC_URL##" />
    <PROPERTY ID="AUTH_TYPE" VALUE="##AUTH_TYPE##" />
    <PROPERTY ID="AUTH_ALIAS" VALUE="##AUTH_NAME##" />
    <PROPERTY ID="PRINCIPAL" VALUE="##PRINCIPAL##" />
    <PROPERTY ID="PASSWORD" VALUE="" />
    <PROPERTY ID="KRB_GSSJAAS_FILE_NAME" VALUE="##KEYTAB_PATH##" />
    <PROPERTY ID="KRB_REALM_FILE_NAME" VALUE="##KEYTAB_CONF##" />
  </CONNECTION_PROPERTIES>
</SCHEMA>
```

```

<SCHEMA NAME="DIHDATA" TYPE="DATADOM" APP_ID="OFS_INTF_AH_FSDF" DB_TYPE="HIVE">
  <SCHEMA_PROPERTIES>
    <PROPERTY ID="COMMENT" VALUE="" />
    <PROPERTY ID="LOCATION" VALUE="" />
  </SCHEMA_PROPERTIES>
  <CONNECTION_PROPERTIES>
    <PROPERTY ID="JDBC_DRIVER" VALUE="##HIVE_JDBC##" />
    <PROPERTY ID="JDBC_URL" VALUE="##HIVE_JDBC_URL##" />
    <PROPERTY ID="AUTH_TYPE" VALUE="##AUTH_TYPE##" />
    <PROPERTY ID="AUTH_ALIAS" VALUE="##AUTH_NAME##" />
    <PROPERTY ID="PRINCIPAL" VALUE="##PRINCIPAL##" />
    <PROPERTY ID="PASSWORD" VALUE="" />
    <PROPERTY ID="KRB_GSSJAAS_FILE_NAME" VALUE="##KEYTAB_PATH##" />
    <PROPERTY ID="KRB_REALM_FILE_NAME" VALUE="##KEYTAB_CONF##" />
  </CONNECTION_PROPERTIES>
</SCHEMA>
<SCHEMA NAME="DIHDATA" TYPE="DATADOM" APP_ID="OFS_INTF_AH_OIDE" DB_TYPE="HIVE">
  <SCHEMA_PROPERTIES>
    <PROPERTY ID="COMMENT" VALUE="" />
    <PROPERTY ID="LOCATION" VALUE="" />
  </SCHEMA_PROPERTIES>
  <CONNECTION_PROPERTIES>
    <PROPERTY ID="JDBC_DRIVER" VALUE="##HIVE_JDBC##" />
    <PROPERTY ID="JDBC_URL" VALUE="##HIVE_JDBC_URL##" />
    <PROPERTY ID="AUTH_TYPE" VALUE="##AUTH_TYPE##" />
    <PROPERTY ID="AUTH_ALIAS" VALUE="##AUTH_NAME##" />
    <PROPERTY ID="PRINCIPAL" VALUE="##PRINCIPAL##" />
    <PROPERTY ID="PASSWORD" VALUE="" />
    <PROPERTY ID="KRB_GSSJAAS_FILE_NAME" VALUE="##KEYTAB_PATH##" />
    <PROPERTY ID="KRB_REALM_FILE_NAME" VALUE="##KEYTAB_CONF##" />
  </CONNECTION_PROPERTIES>
</SCHEMA>
<SCHEMA NAME="DIHDATA" TYPE="DATADOM" APP_ID="OFS_DICXU" DB_TYPE="HIVE">
  <SCHEMA_PROPERTIES>
    <PROPERTY ID="COMMENT" VALUE="" />
    <PROPERTY ID="LOCATION" VALUE="" />
  </SCHEMA_PROPERTIES>
  <CONNECTION_PROPERTIES>
    <PROPERTY ID="JDBC_DRIVER" VALUE="##HIVE_JDBC##" />
    <PROPERTY ID="JDBC_URL" VALUE="##HIVE_JDBC_URL##" />
    <PROPERTY ID="AUTH_TYPE" VALUE="##AUTH_TYPE##" />
    <PROPERTY ID="AUTH_ALIAS" VALUE="##AUTH_NAME##" />
    <PROPERTY ID="PRINCIPAL" VALUE="##PRINCIPAL##" />
    <PROPERTY ID="PASSWORD" VALUE="" />
    <PROPERTY ID="KRB_GSSJAAS_FILE_NAME" VALUE="##KEYTAB_PATH##" />
    <PROPERTY ID="KRB_REALM_FILE_NAME" VALUE="##KEYTAB_CONF##" />
  </CONNECTION_PROPERTIES>
</SCHEMA>
</SCHEMAS>
</APPPACKSCHEMA>

```

Table 11: OFS_DI_BIGDATA_SCHEMA_IN.xml file (APPPACKSCHEMA Parameters)

Tag Name/ Attribute Name	Description	Mandatory (Y/N)	Default Value/ Permissible Value	Comments
<APP_PACK_ID>	Seeded unique ID for the OFSAA Application Pack.	Y	Seeded	DO NOT modify this value.
<JDBC_URL>	Enter the JDBC URL. NOTE: You can enter the RAC/ NON-RAC enabled database connectivity URL.	Y	Example, jdbc:oracle:thin:@<HOST/ IP>:<PORT>:<SID> or jdbc:oracle:thin:@//[HOST]:<PORT>/SERVICE or jdbc:oracle:thin:@(DESCRIPTION=(ADDRESS_LIST=(ADDRESS=(PROTOCOL=TCP)(HOST=[HOST])(port=[PORT]))(ADDRESS=(PROTOCOL=TCP)(HOST=[HOST])(PORT=[PORT]))(LOAD_BALANCE=yes)(FAILOVER=yes))(CONNECT_DATA=(SERVICE_NAME=[SERVICE]))) For example, jdbc:oracle:thin:@//dbhost.server.com:1521/service 1 or jdbc:oracle:thin:@//dbhost1.server.com:1521/scan-1 or jdbc:oracle:thin:@(DESCRIPTION=(ADDRESS_LIST=(ADDRESS=(PROTOCOL=TCP)(HOST=dbhost1.server.com)(port=1521))(ADDRESS=(PROTOCO	For an HDFS ONLY target installation, this URL must be of the RDBMS instance that hosts the Application's METADOM.

Tag Name/ Attribute Name	Description	Mandatory (Y/N)	Default Value/ Permissible Value	Comments
			L=TCP)(HOST=dbhost2.server.com)(PORT=1521))(LOAD_BALANCE=yes)(FAILOVER=yes))(CONNECT_DATA=(SERVICE_NAME=service1)))	
<JDBC_DRIVER>	By default, this driver name is seeded. NOTE: Do not modify this attribute value.	Y	Example, oracle.jdbc.driver.OracleDriver	Only JDBC Thin Driver is supported. DO NOT modify this value.
<HOST>	Enter the Hostname 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 if the value specified in<SETUPINFO>/ NAME attribute must be prefixed to the schema name.	N	YES or NO	Default value is YES.
<SETUPINFO>/ NAME	Enter the acronym for the type of implementation. This information will be displayed on the OFSAA Home Page. NOTE: On executing the schema creator utility, this value will be prefixed with each schema name. For example, dev_ofsaaconf, uat_ofsaaconf.	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 <i>Connected To: xxxx</i> . The schemas being created would 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. NOTE: You also need to 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.	Applies only to the RDBMS type METADOM schema (or schemas).

Tag Name/ Attribute Name	Description	Mandatory (Y/N)	Default Value/ Permissible Value	Comments
<PASSWORD>/ APPLYSAMEFORALL	Enter as Y if you want to apply the password specified in the DEFAULT attribute for all the schemas. If you enter as N, you need to provide individual passwords for all schemas. NOTE: 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	NOTE: Setting this attribute value is mandatory if the DEFAULT attribute is set. Applies only to the RDBMS type METADOM schema (or schemas).
<SCHEMAS>/ TYPE=RDBMS	Identifies the RDBMS schema details.	Y	Default names for schemas within the pack would be derived in absence of any value specified.	In an HDFS ONLY target installation, the Application's METADOM (that hosts the metadata) for an application is stored in RDBMS schema and the data model entities of the application are stored in the DATADOM (which would be on Hive).
<SCHEMA>/ TYPE	The different types of schemas that are supported in this release are ATOMIC, CONFIG, SANDBOX, and ADDON. By default, the schemas types are seeded based on the Application Pack. NOTE: Do not edit this attribute value.	Y	ATOMIC, CONFIG, SANDBOX, or ADDON. NOTE: SANDBOX AND ADDON schemas are not applicable for OFS AAAI Application Pack.	Only One CONFIG schema can exist in the file. This schema identifies as the CONFIGURATION a schema that holds the OFSAA setup details and other metadata information. Multiple ATOMIC, SANDBOX, ADDON schemas can exist in the file. ATOMIC schema refers to the METADOM within the Information Domain schema. SANDBOX schema refers to the SANDBOX schema. ADDON schema refers to other miscellaneous schemas (not applicable for this Application Pack).

Tag Name/ Attribute Name	Description	Mandatory (Y/N)	Default Value/ Permissible Value	Comments
<SCHEMA>/ NAME	<p>By default, the schemas names are seeded based on the Application Pack.</p> <p>You can edit the schema names if required.</p> <p>NOTE: The Schema Name will have a prefix of the SETUPINFO/ NAME attribute.</p> <p>SCHEMA NAME must be the same for all the ATOMIC Schemas of applications within an Application Pack.</p>	Y	The permissible length is 15 characters and only alphanumeric characters are allowed. No special characters allowed except underscore '_'.	<p>SETUPINFO/ NAME attribute value would be prefixed to the schema name being created.</p> <p>For example, if the name is set as 'ofsaaatm' and setupinfo as 'uat' then schema being created would be 'uat_ofsaaatm'.</p> <p>NAME must be the same where APP_GRP=1 for all SCHEMA tags (not applicable for this Application Pack).</p>
<SCHEMA>/ PASSWORD	<p>Enter the password of the schema to be created.</p> <p>NOTE: If this attribute is left blank, then the password specified in the <PASSWORD>/DEFAULT attribute is applied as the Schema Password.</p>	N	The maximum length allowed is 30 characters. Special characters are not allowed.	NOTE: You need to mandatorily enter the password if you have set the <PASSWORD>/ APPLYSAMEFORALL attribute as N.
<SCHEMA>/ APP_ID	<p>By default, the Application ID is seeded based on the Application Pack.</p> <p>NOTE: Do not edit this attribute value.</p>	Y	Unique Seeded Value.	Identifies the Application or Product for which the schema is being created. DO NOT modify this value.
<SCHEMA>/ DEFAULTTABL ESPACE	<p>Enter the available default tablespace for DB User.</p> <p>NOTE: If this attribute is left blank, then USERS is set as the default tablespace.</p>	N	<p>Default value: USERS</p> <p>Permissible value: Any existing valid tablespace name.</p>	Modify this value to associate any valid tablespace with the schema.

Tag Name/ Attribute Name	Description	Mandatory (Y/N)	Default Value/ Permissible Value	Comments
<SCHEMA>/ TEMPTABLESPACE	If this attribute is left blank, then TEMP is set as the default tablespace.	N	Default value: TEMP Permissible value: Any existing valid temporary tablespace name.	Modify this value to associate any valid tablespace with the schema.
<SCHEMA>/ QUOTA	Enter the quota to be set on DEFAULTTABLESPACE attribute for the schema or user. By default, the quota size is set to 500M. Minimum: 500M or Unlimited on default Tablespace.	N	For example, 600M/m 20G/g UNLIMITED/unlimited	Modify this value to grant the specified quota on the mentioned tablespace to the user.
<SCHEMAS>/ TYPE=HDFS	Type of schemas being created.	Y		Refers to the DATADOM of the Application Pack being installed.
<HIVE_SERVER_HOST>	IP or HostName of the server where HIVE is installed	Y		
<HIVE_LIB_PATH>	Folder path where HIVE related drivers or jar files are copied	Y		Should contain the list of jars mentioned in the section Error! Reference source not found. and krb5.conf, keytab files. Manually copy the preceding listed files from CDH distribution to this identified folder.
<SCHEMA>/ NAME	By default, the schemas names are seeded based on the Application Pack. You can edit the schema names if required. NOTE: The Schema Name will have a prefix of the SETUPINFO/ NAME attribute.	Y	The permissible length is 20 characters and only alphanumeric characters allowed.	Schema Name must not be the same as Schema Name specified for Schema Type ATOMIC.
<SCHEMA>/ TYPE	Identifies the type of schema where the data model entities would reside.	Y	By default, the TYPE attribute in this tag is set to DATADOM.	DO NOT modify this value.
<SCHEMA>/ DB TYPE	Identifies the type of driver to be used for the connection.	Y	By default, the only supported type is HIVE in this release.	In the upcoming releases, the type value can be HIVE or IMPALA and so on.

Tag Name/ Attribute Name	Description	Mandatory (Y/N)	Default Value/ Permissible Value	Comments
<SCHEMA>/<PROPERTY>/COMMENT	COMMENTS for HIVE schema.	N		
<SCHEMA>/<PROPERTY>/LOCATION	You can optionally specify a location for the table data.	N		
<CONNECTION_PROPERTY>/<PROPERTY>/JDBC_DRIVER	HIVE JDBC driver details.	Y	com.cloudera.hive.jdbc4.HS2Driver	The default cloudera HiveServer 2 driver name.
<CONNECTION_PROPERTY>/<PROPERTY>/JDBC_URL	Enter the HIVE JDBC URL.	Y	Valid Hive JDBC URL to be specified.	Specify the Hive JDBC URL to connect to the Hive Server.
<CONNECTION_PROPERTY>/<PROPERTY>/AUTH_TYPE	Authentication Type.	Y	Permissible values: KERBEROS_WITH_KEYTAB	Only “Kerberos with keytab” based authentication supported in this release.
<CONNECTION_PROPERTY>/<PROPERTY>/AUTH_ALIAS	Alias name for authentication credentials.	Y		An Alias name mapping to a principal and password combination specified in the following tags.
<CONNECTION_PROPERTY>/<PROPERTY>/PRINCIPAL	Authentication principal name.	Y		Principal name used in authentication to connect to the Hive Server.
<CONNECTION_PROPERTY>/<PROPERTY>/PASSWORD	Authentication password.	Y		Password used in authentication to connect to the Hive Server.
<CONNECTION_PROPERTY>/<PROPERTY>/KRB_GSSJAAS_FILE_NAME	A keytab file containing pairs of Kerberos principals and an encrypted copy of that principal's key.	Y		This file must be copied to the location specified in <HIVE_LIB_PATH>.
<CONNECTION_PROPERTY>/<PROPERTY>/KRB_REALM_FILE_NAME	REALM configuration file.	Y		This file must be copied to the location specified in <HIVE_LIB_PATH>.

4. Save the file.

5.3 Execute the Schema Creator Utility

Depending on the option selected to run the OFSAA Application Pack installer, you must select the appropriate schema creator utility execution mode from the following options:

- [Execute the Schema Creator Utility in Offline Mode](#)
- [Execute the Schema Creator Utility in Online Mode](#)
- [Execute the Schema Creator Utility in TCPS Mode](#)
- [Execute the Schema Creator Utility while Installing Subsequent Applications Pack](#)

After creating the schema, proceed to [Configure the OFSAAI InstallConfig.xml File](#).

5.3.1 Execute the Schema Creator Utility in Offline Mode

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

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

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

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

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

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

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

The following message is displayed:

*You have chosen OFFLINE mode. Triggering the utility in OFFLINE mode will generate the script.
Do you wish to proceed? (Y/y or N/n).*

4. Enter **Y** to proceed.
5. Enter the DB Username with `SELECT` privileges.

6. Enter the User Password.
7. The console runs the initial validation checks and displays the following message:
You have chosen to install this Application Pack on <Name of the Atomic Schema> ATOMIC schema. Do you want to proceed? (Y/N).

Figure 11: Schema Creation in the Offline Mode - Script Generation

```

ofsaadb1@whf00bin
.profile executed
=====
You have chosen ONLINE mode
=====
Triggering the utility in ONLINE mode will execute the DDLs directly on the Database. Do you wish to proceed? (Y/N):
y
=====
Java Validation Started ...
Java Found in : /scratch/weblogic/Software/jdk1.8.0_181/bin
JAVA Version found : 1.8.0_181
JAVA Bit Version found : 64-bit
Java Validation Completed. Status : SUCCESS
=====
DATABASENAME = DIH18PDB
DB specific Validation Started ...
Enter the DB User Name With SYSDBA Privileges:
sys as sysdba
Enter the User Password:
user name is sys
Oracle Client version : 19.0.0.0.0. Status : SUCCESS
Oracle Server version Current value : 18.0.0.0.0. Status : SUCCESS
DB specific Validation Completed. Status : SUCCESS
=====
Schema Creation Started
=====
Checking OFSAA installation...
Found OFSAA installation at /scratch/ofsaadb1/OFSAA810
Validating the dat file OFS_DI_CFG.dat started...
The path is:/scratch/ofsaadb1/kit/81/mock/OFS_DI_PACK/schema_creator/conf
Successfully validated OFS_DI_CFG.dat file
Parsing /scratch/ofsaadb1/OFSAA810/conf/DynamicServices.xml
Connection jdbc:oracle:thin:@whf00dny.in.oracle.com:1521/DIH18PDB
Successfully connected to User - sldi807conf URL - jdbc:oracle:thin:@whf00dny.in.oracle.com:1521/DIH18PDB
Validating the input XML file - /scratch/ofsaadb1/kit/81/mock/OFS_DI_PACK/schema_creator/conf/OFS_DI_SCHEMA_IN.xml
Input XML file validated successfully.
=====
Validating Connection URL ...jdbc:oracle:thin:@whf00dny.in.oracle.com:1521/DIH18PDB
Connection jdbc:oracle:thin:@whf00dny.in.oracle.com:1521/DIH18PDB
Successfully connected to User - sys as sysdba URL - jdbc:oracle:thin:@whf00dny.in.oracle.com:1521/DIH18PDB
Connection URL successfully validated...
Upgrading the Config Schema...
Executing script config_8.0.7.3.0.sql on config schema

```

8. Enter **Y** to start the script generation. The following message is displayed:
You have chosen to install this Application Pack on <Name of the Infodom>. Do you want to proceed? (Y/N).

Figure 12: Schema Creation in the Offline Mode - Successful

```

ofsaadb1@whf00bin
The following Application Packs are already installed in this OFSAA setup:

sldi807atm-        DIHINFO-        "OFS_BFND_PACK,OFS_DI_PACK"

You have selected to install this Application Pack on "sldi807atm" ATOMIC schema. To proceed enter (Y/y). To change the selection, enter (N/n).
/
You have chosen to install this Application Pack on INFODOM "dihinfo". Do you want to proceed? (Y/N)
/
=====
Executing TableSpace Scripts started...
Executing TableSpace Scripts completed...
=====
Creating Schemas started...
Skipping the creation of CONFIG user sldi807conf as OFSAAI is already installed on sldi807conf
User sldi807atm already exists in dbmaster table.
Ofsaainstalled and isdefaultSchema is true
User sldi807atm already exists in dbmaster table.
Ofsaainstalled and isdefaultSchema is true
User sldi807atm already exists in dbmaster table.
Ofsaainstalled and isdefaultSchema is true
User sldi807atm already exists in dbmaster table.
Ofsaainstalled and isdefaultSchema is true
User sldi807atm already exists in dbmaster table.
Ofsaainstalled and isdefaultSchema is true
User sldi807atm already exists in dbmaster table.
Ofsaainstalled and isdefaultSchema is true
User sldi807atm already exists in dbmaster table.
Ofsaainstalled and isdefaultSchema is true
User sldi807atm already exists in dbmaster table.
Ofsaainstalled and isdefaultSchema is true
User sldi807atm already exists in dbmaster table.
Ofsaainstalled and isdefaultSchema is true
Creating Schemas completed ...
=====
Roles creation scripts execution started ...
Roles creation scripts execution completed ...
the value of redaction flag in atomic schema isfalse
=====
Grants creation scripts execution started...
Grants creation scripts execution completed...
=====
Schemas Creation Completed
=====
Schema Creator executed Successfully.Please proceed with the installation.
/scratch/ofsaadb1/kit/81/mock/OFS_DI_PACK/schema_creator/bin>

```

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

Schema Creator executed successfully. Execute the OFS_DI_PACK/schema_creator/sysdba_output_scripts.sql file before proceeding with the installation.

Additionally, if you have configured the OFS_DI_SCHEMA_BIGDATA_IN.xml file, a file called hive_output_scripts.hql is also created in the OFS_DI_PACK/schema_creator/ directory.

NOTE If there are any errors during the SQL script execution, reconfigure the OFS_DI_SCHEMA_IN.xml and (or) OFS_DI_SCHEMA_BIGDATA_IN.xml files and repeat steps in this procedure to execute the utility. This regenerates the scripts with the correct information.

9. Navigate to the OFS_DI_Pack/schema_creator/ directory.
10. Log in to the database using credentials with SYSDBA privileges.

Figure 13: Schema Creation in Offline Mode – Execute sysdba_output_scripts.sql

```
SQL*Plus: Release 18.0.0.0.0 - Production on Tue Mar 10 10:50:36 2020
Version 18.3.0.0.0

Copyright (c) 1982, 2018, Oracle. All rights reserved.

Enter user-name: sys
Enter password:
ERROR:
ORA-12162: TNS:net service name is incorrectly specified

Enter user-name: TESTDB
Enter password:
ERROR:
ORA-12162: TNS:net service name is incorrectly specified

Enter user-name: sys
Enter password:
ERROR:
ORA-12162: TNS:net service name is incorrectly specified

SP2-0157: unable to CONNECT to ORACLE after 3 attempts, exiting SQL*Plus
/scratch/test81/OFS_AAAI_PACK/schema_creator>sys@RUBY18STD as sysdba
-ksh: sys@RUBY18STD: not found [No such file or directory]
/scratch/test81/OFS_AAAI_PACK/schema_creator>sqlplus sys@RUBY18STD as sysdba

SQL*Plus: Release 18.0.0.0.0 - Production on Tue Mar 10 10:53:24 2020
Version 18.3.0.0.0

Copyright (c) 1982, 2018, Oracle. All rights reserved.

Enter password:

Connected to:
Oracle Database 18c Enterprise Edition Release 18.0.0.0.0 - Production
Version 18.3.0.0.0

SQL> @/scratch/test81/OFS_AAAI_PACK/schema_creator/sysdba_output_scripts.sql
Disconnected from Oracle Database 18c Enterprise Edition Release 18.0.0.0.0 - Production
Version 18.3.0.0.0
/scratch/test81/OFS_AAAI_PACK/schema_creator>
```

11. 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.

12. 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.

As a result of this procedure, the `OFS_DI_SCHEMA_OUTPUT.xml` file is generated. Do not modify this file.

After creating the schema, proceed to [Configure the OFSAAI InstallConfig.xml File](#) section.

5.3.2 Execute the Schema Creator Utility in Online Mode

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

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

Figure 14: Schema Creation in Online Mode

```

ofsaadb1@whf00bin
=====
.profile executed
=====
You have chosen ONLINE mode
=====
Triggering the utility in ONLINE mode will execute the DDLs directly on the Database. Do you wish to proceed? (Y/N):
Y
=====
Java Validation Started ...
Java found in : /scratch/weblogic/Software/jdk1.8.0_181/bin
JAVA Version found : 1.8.0_181
JAVA Bit Version found : 64-bit
Java Validation Completed. Status : SUCCESS
=====
DATABASENAME = DIH18PDB
DB specific Validation Started ...
Enter the DB User Name With SYSDBA Privileges:
sys as sysdba
Enter the User Password:
user name is sys
Oracle Client version : 19.0.0.0.0. Status : SUCCESS
Oracle Server version Current value : 18.0.0.0.0. Status : SUCCESS
DB specific Validation Completed. Status : SUCCESS
=====
Schema Creation Started
=====
Checking OFSAA installation...
Found OFSAA installation at /scratch/ofsaadb1/OFSAA810
Validating the dat file OFS_DI_CFG.dat started...
The path is:/scratch/ofsaadb1/Kit/81/mock/OFS_DI_PACK/schema_creator/conf
Successfully validated OFS_DI_CFG.dat file
Parsing /scratch/ofsaadb1/OFSAA810/conf/DynamicServices.xml
Connection jdbc:oracle:thin:@whf00dny.in.oracle.com:1521/DIH18PDB
Successfully connected to User - sld1807conf URL - jdbc:oracle:thin:@whf00dny.in.oracle.com:1521/DIH18PDB
Validating the input XML file.../scratch/ofsaadb1/kit/81/mock/OFS_DI_PACK/schema_creator/conf/OFS_DI_SCHEMA_IN.xml
Input XML file validated successfully.
=====
Validating Connection URL ...jdbc:oracle:thin:@whf00dny.in.oracle.com:1521/DIH18PDB
Connection jdbc:oracle:thin:@whf00dny.in.oracle.com:1521/DIH18PDB
Successfully connected to User - sys as sysdba URL - jdbc:oracle:thin:@whf00dny.in.oracle.com:1521/DIH18PDB
Connection URL successfully validated...
Upgrading the Config Schema...
Executing script config_8.0.7.3.0.sql on config schema

```

4. 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).

5. Enter **Y** to proceed.

Figure 15: Schema Creation in Online Mode – DDL Execution

```

ofsaadb1@whf00bin
=====
.profile executed
=====
You have chosen ONLINE mode
=====
Triggering the utility in ONLINE mode will execute the DDLs directly on the Database. Do you wish to proceed? (Y/N):
Y
=====
Java Validation Started ...
Java found in : /scratch/weblogic/Software/jdk1.8.0_181/bin
JAVA Version found : 1.8.0_181
JAVA Bit Version found : 64-bit
Java Validation Completed. Status : SUCCESS
=====
DATABASENAME = DIH18PDB
DB specific Validation Started ...
Enter the DB User Name With SYSDBA Privileges:
sys as sysdba
Enter the User Password:
user name is sys
Oracle Client version : 19.0.0.0.0. Status : SUCCESS
Oracle Server version Current value : 18.0.0.0.0. Status : SUCCESS
DB specific Validation Completed. Status : SUCCESS
=====
Schema Creation Started
=====
Checking OFSAA installation...
Found OFSAA installation at /scratch/ofsaadb1/OFSAA810
Validating the dat file OFS_DI_CFG.dat started...
The path is:/scratch/ofsaadb1/Kit/81/mock/OFS_DI_PACK/schema_creator/conf
Successfully validated OFS_DI_CFG.dat file
Parsing /scratch/ofsaadb1/OFSAA810/conf/DynamicServices.xml
Connection jdbc:oracle:thin:@whf00dny.in.oracle.com:1521/DIH18PDB
Successfully connected to User - sld1807conf URL - jdbc:oracle:thin:@whf00dny.in.oracle.com:1521/DIH18PDB
Validating the input XML file.../scratch/ofsaadb1/kit/81/mock/OFS_DI_PACK/schema_creator/conf/OFS_DI_SCHEMA_IN.xml
Input XML file validated successfully.
=====
Validating Connection URL ...jdbc:oracle:thin:@whf00dny.in.oracle.com:1521/DIH18PDB
Connection jdbc:oracle:thin:@whf00dny.in.oracle.com:1521/DIH18PDB
Successfully connected to User - sys as sysdba URL - jdbc:oracle:thin:@whf00dny.in.oracle.com:1521/DIH18PDB
Connection URL successfully validated...
Upgrading the Config Schema...
Executing script config_8.0.7.3.0.sql on config schema

```

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 16: Schema Creation in Online Mode – Infodom Confirmation

5.3.3.1 Prerequisites

The following are the prerequisites for this configuration:

1. UNIX user credentials with which OFSAA was installed.
2. UNIX user credentials with which Web Application Server (Oracle WebLogic (WLS)/Apache Tomcat/ IBM WebSphere) was installed.
3. OFSAAI version should be 8.1.1.0.0 and later.
4. Ensure OFSAA installed and deployed is having JAVA 8 (Java version must support Java unlimited cryptographic policy. Java version 1.8.0_161+ supports the unlimited cryptographic policy.)
5. Create Oracle Wallet on the OFSAA processing tier.

For information on Creating and Managing Oracle Wallet, see

<https://blogs.oracle.com/dev2dev/ssl-connection-to-oracle-db-using-jdbc,-tlsv12,-jks-or-oracle-wallets> and <https://blogs.oracle.com/weblogicserver/weblogic-jdbc-use-of-oracle-wallet-for-ssl>.

6. Configure the Oracle Wallet with trusted certificates between the database server with TCPS configured and the database client to enable communication through the SSL protocol. For example, all the database utils such as sqlplus, tnsping, and sqlldr must work between the Client and the Server.
7. Configure OFSAA to Store Config Schema, Atomic Schema, and SysDBA Credentials with Oracle Wallet. For details, see the [Configure OFSAA to Store Config Schema, Atomic Schema, and SysDBA Credentials with Oracle Wallet](#) section.

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

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

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

```
$ORACLE_HOME/bin/mkstore -wrl <WALLET_HOME> -createCredential -nologo
CONFIG <CONFIG_DATABASE_USERNAME> <CONFIG_DATABASE_PASSWORD>
```

3. Execute the following command to configure the Atomic Schema credentials, Enter the password to store the credentials in the Wallet when prompted.
4. `$ORACLE_HOME/bin/mkstore -wrl <WALLET_HOME> -createCredential -nologo <ATOMICALIASNAME> <ATOMIC_DATABASE_USERNAME> <ATOMIC_DATABASE_PASSWORD>`
5. Configure SysDBA credentials. Execute the following command to configure SysDBA Schema credentials. Enter the password to store the credentials in the Wallet when prompted.

```
$ORACLE_HOME/bin/mkstore -wrl <WALLET_HOME> -createCredential -nologo
SYS <SYS_DATABASE_USERNAME> <SYS_DATABASE_PASSWORD>
```

NOTE

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

For example, if the Atomic Schema Name is PROD_OFSAATM, then the value for ATOMIC_ALIASNAME must be entered as PRODOFSAATM.

5.3.3.2 Execute the Utility

To execute the utility, follow these steps:

1. Edit the file OFS_DI_PACK/schema_creator/conf/OFS_DI_SCHEMA_IN.xml in the text editor. See the tables in [Configure the OFS_DI_SCHEMA_IN.xml File](#) for values to modify in the XML file.
2. Execute the utility with -s option.

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

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

Figure 18: Schema Creation in the TCPS Mode

```
/scratch/aa181ssl>cd /scratch/aa181ssl/OFS_AA1_PACK/schema_creator/bin
/scratch/aa181ssl/OFS_AA1_PACK/schema_creator/bin>./osc.sh TCPS /scratch/aa181ssl/wallet
Error: - Please provide proper arguments
/scratch/aa181ssl/OFS_AA1_PACK/schema_creator/bin>./osc.sh -s TCPS /scratch/aa181ssl/wallet
-s
TCPS
/scratch/aa181ssl/wallet
-Doracle.net.tns_admin=/scratch/aa181ssl -Doracle.net.wallet_location=(SOURCE=(METHOD=file) (METHOD_DATA=(DIRECTORY=/scratch/aa181ssl/wallet))) -Doracle.net.ssl_server_dn_match=true -Djavax.net.ssl.trustStoreType=SSO -Djavax.net.ssl.trustStore=wallet.sso -Doracle.net.ssl_version=1.2
exporting wallet FALSE
##Entries created by schema creator ##
=====
You have chosen ONLINE mode
=====
Triggering the utility in ONLINE mode will execute the DDLs directly on the Database. Do you wish to proceed? (Y/N):
Y
```

3. The following message is displayed:

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

4. Enter Y to proceed.
5. The following message is displayed:

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

Figure 19: Schema Creation in the TCPS Mode – Install on Atomic Schema

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

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

Figure 20: Schema Creation in the TCPS Mode


```

0030: 05 02 24 2C 00 00 00 00 01 10 00 2B 00 00 00 00 ..$,.....+....
0040: 00 00 00 00 00 00 00 00 58 00 01 01 00 00 00 00 .....X.....
0050: 00 00 EE 63 D9 C7 F0 3C A2 23 E1 34 68 01 68 96 ...c...<#.4h.h.
0060: 4F 69 FD 59 9F 23 09 09 09 09 09 09 09 09 09 09 Oi.Y.#.....
Grants creation scripts execution completed...
=====
                          Schemas Creation Completed
=====
Schema Creator executed Successfully.Please proceed with the installation.
/scratch/aai8lssl/OFS AAI PACK/schema_creator/bin>

```

As a result of this procedure, the `OFS_DI_SCHEMA_OUTPUT.xml` file is generated. Do not modify this file.

5.3.4 Execute the Schema Creator Utility while Installing Subsequent Applications Pack

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

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

1. Execute the utility with `-s` option.

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

Figure 21: Execute the Schema Creator Utility to Install Subsequent Applications Pack

```

/scratch/test81/OFS_AAI_PACK/schema_creator/bin>./osc.sh -s -o
hello!
=====
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 AAI_CFG.dat started...
The path is:/scratch/test81/OFS_AAI_PACK/schema_creator/conf
Successfully validated OFS AAI_CFG.dat file
Validating the input XML file.../scratch/test81/OFS_AAI_PACK/schema_creator/conf/OFS_AAI_SCHEMA_IN.xml
Input XML file validated successfully.
=====
Validating Connection URL ...jdbc:
Connection URL successfully validated...

```

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

Figure 22: Install Subsequent Applications Pack– Execute sysdba_output_scripts.sql

```

INT LB_HOST not there in schema
IS_HYBRID not there in schema
Parsing file: /scratch/test81/OFS_AAAI_PACK/schema_creator../conf/OFS_AAAI_Pack.xml
Enabled applList: [OFS_AAIB, OFS_AAAI]
Enabled applList: [OFS_AAIB, OFS_AAAI]
Checking: app: OFS_AA1 schema_name: UAVY_ofsaacnf schema_type: CONFIG
Checking: app: OFS_AA1 schema_name: UAVY_ofsaatm schema_type: ATOMIC
You have chosen to install this Application Pack on "uavy_ofsaatm" ATOMIC schema. Do you want to proceed? (Y/N)
Y
You have chosen to install this Application Pack on INFODOM "ofsaaiinfo". Do you want to proceed? (Y/N)
Y
=====
Generating TableSpace creation Scripts started...
Generating TableSpace creation Scripts completed...
=====
Generating Schema creation scripts started...
CONFIG User uavy_ofsaacnf creation script generated successfully on Default TableSpace : USERS on Temp TableSpace : TEMP
Generation of grants creation scripts started...
Generation of grants creation scripts completed...
Scripts Generation for CONFIG schema started ...
Scripts Generation for CONFIG schema completed ...
User uavy_ofsaacnf details updated into the dbmaster table
User uavy_ofsaacnf details updated into the I18NMASTER table
User uavy_ofsaacnf details updated into the aai_db_detail table
User uavy_ofsaacnf details updated into the aai_db_auth_alias table
User uavy_ofsaatm details updated into the dbmaster table
User uavy_ofsaatm details updated into the I18NMASTER table
User uavy_ofsaatm details updated into the aai_db_detail table
User uavy_ofsaatm details updated into the aai_db_auth_alias table
User uavy_ofsaatm creation script generated successfully on Default TableSpace : USERS on Temp TableSpace : TEMP
Generating Schema creation scripts completed...
=====
Generating Roles creation Scripts started...
Generating Roles creation Scripts completed...
the value of redaction flag in atomic schema isfalse
=====
Generating Grants creation scripts started...
Generating Grants creation scripts completed...
=====
Generating Schema Creation Scripts Completed
=====
Schema Creator executed Successfully.Please execute /scratch/test81/OFS_AAAI_PACK/schema_creator/sysdba_output_scripts.sql before proceeding with the install
ation.
/scratch/test81/OFS_AAAI_PACK/schema_creator/bin>

```

NOTE You must use the same config schema user name as the previous Application Pack.

- 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 23: Install Subsequent Applications Pack– Select Atomic Schema and Infodom

```

=====
Schema Creation Started
=====
Checking OFSAA installation...
Found OFSAA installation at /scratch/ofsaadbl/OFSAA810
Validating the dat file OFS_DI_CFG.dat started...
The path is:/scratch/ofsaadbl/kit/81/mock/OFS_DI_PACK/schema_creator/conf
Successfully validated OFS_DI_CFG.dat file
Parsing /scratch/ofsaadbl/OFSAA810/conf/DynamicServices.xml
Connection jdbc:oracle:thin:@whf00dny.in.oracle.com:1521/DIH18PDB
Successfully connected to User - sld1807conf URL - jdbc:oracle:thin:@whf00dny.in.oracle.com:1521/DIH18PDB
Validating the input XML file.../scratch/ofsaadbl/kit/81/mock/OFS_DI_PACK/schema_creator/conf/OFS_DI_SCHEMA_IN.xml
Input XML file validated successfully.
=====
Validating Connection URL ...jdbc:oracle:thin:@whf00dny.in.oracle.com:1521/DIH18PDB
Connection jdbc:oracle:thin:@whf00dny.in.oracle.com:1521/DIH18PDB
Successfully connected to User - sys as sysdba URL - jdbc:oracle:thin:@whf00dny.in.oracle.com:1521/DIH18PDB
Connection URL successfully validated...
Upgrading the Config Schema...
Executing script config_8.0.7.3.0.sql on config schema

```

- Enter Y/y to start the schema creation.
- If you enter N/n, the list of Atomic Users is displayed.
- Select the Atomic User on which you want to install the Application Pack.

Figure 24: Install Subsequent Applications Pack – Select Atomic Schema and Infodom

```

You have selected to install this Application Pack on "sldi807atm" ATOMIC schema. To proceed enter (Y/y). To change the selection, enter (N/n).
You have chosen to install this Application Pack on INFODOM "dihinfo". Do you want to proceed? (Y/N)

=====
Executing TableSpace Scripts started...
Executing TableSpace Scripts completed...
=====
Creating Schemas started...
Skipping the creation of CONFIG user sldi807conf as OFSAAI is already installed on sldi807conf
User sldi807atm already exists in dbmaster table.
Ofsaainstalled and isdefaultSchema is true
User sldi807atm already exists in dbmaster table.
Ofsaainstalled and isdefaultSchema is true
User sldi807atm already exists in dbmaster table.
Ofsaainstalled and isdefaultSchema is true
User sldi807atm already exists in dbmaster table.
Ofsaainstalled and isdefaultSchema is true
User sldi807atm already exists in dbmaster table.
Ofsaainstalled and isdefaultSchema is true
User sldi807atm already exists in dbmaster table.
Ofsaainstalled and isdefaultSchema is true
User sldi807atm already exists in dbmaster table.
Ofsaainstalled and isdefaultSchema is true
User sldi807atm already exists in dbmaster table.
Ofsaainstalled and isdefaultSchema is true
User sldi807atm already exists in dbmaster table.
Ofsaainstalled and isdefaultSchema is true
Creating Schemas completed ...
=====
Roles creation scripts execution started ...
Roles creation scripts execution completed ...
The value of redaction flag in atomic schema is false
=====
Grants creation scripts execution started...

```

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

Success. Please proceed with the installation.

NOTE

See If there are any errors, contact [My Oracle Support](#).

After creating the schema, proceed to [Configure the OFSAAI InstallConfig.xml File8 Install the OFS AAI Application Pack](#) section.

5.4 Verify the Schema Creator Log Files

See the following logs directory for more information:

- The OFS_DI_PACK/schema_creator/logs/ directory.
- The log file sysdba_output_scripts.log in the OFS_DI_PACK/schema_creator/logs/ directory for execution status if executed in offline mode. This log will be empty if there are no errors in the execution.

5.5 Configure the OFSAAI_InstallConfig.xml File

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

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

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

Table 12: OFSAAI_InstallConfig.xml file Parameters

InteractionVariable Name	Significance and Expected Value	Mandatory
<Layer name="GENERAL">		
InteractionGroup name="WebServerType"		
WEBAPPSERVERTYPE	Identifies the web application server on which the OFSAA Infrastructure web components are deployed. Set the following numeric value depending on the type of web application server: <ul style="list-style-type: none"> • Apache Tomcat = 1 • IBM WebSphere Application Server = 2 • Oracle WebLogic Server = 3 For example, <InteractionVariable name="WEBAPPSERVERTYPE">3</InteractionVariable>	Yes
InteractionGroup name="OFSAA Infrastructure Server Details"		
DBSERVER_IP	Identifies the hostname or IP address of the system on which the Database Engine is hosted. NOTE: For RAC Database, the value must be NA. For example, <InteractionVariable name="DBSERVER_IP">14.15.16.17</InteractionVariable> or <InteractionVariable name="DBSERVER_IP">dbhost.server.com</InteractionVariable>	Yes
InteractionGroup name="Database Details"		
ORACLE_SID/SERVICE_NAME	Identifies the Oracle DB Instance SID or SERVICE_NAME. NOTE: The Oracle_SID value must be the same as it is mentioned in JDBC_URL. For example, <InteractionVariable name="ORACLE_SID/SERVICE_NAME">ofsaser</InteractionVariable>	Yes
ABS_DRIVER_PATH	Identifies the directory where the JDBC driver (ojdbc<version>.jar) exists. This is typically the \$ORACLE_HOME/jdbc/lib directory. For example, <InteractionVariable name="ABS_DRIVER_PATH">"/oradata6/revwb7/oracle</InteractionVariable> NOTE: See the Hardware and Software Requirements section 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 the choice: <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • ARBORPATH 	No

InteractionVariable Name	Significance and Expected Value	Mandatory
	<ul style="list-style-type: none"> • HYPERION_HOME • ESSBASEPATH 	
InteractionGroup name="SFTP Details"		
SFTP_ENABLE	Identifies if the Secure File Transfer Protocol (SFTP) feature is to be enabled. The following numeric value must be set depending on the choice: <ul style="list-style-type: none"> • SFTP: 1 • FTP: 0 	Yes
<p>NOTE: The default value for SFTP_ENABLE is 1, which signifies that SFTP is used. Oracle recommends using SFTP instead of FTP because SFTP is more secure. However, you can ignore this recommendation and use FTP by setting SFTP_ENABLE to 0. You can change this selection later from the OFSAAI administration interface.</p> <p>Set SFTP_ENABLE to -1 to configure ftpshare and weblocal path as a local path mounted for the OFSAAI server.</p>		
FILE_TRANSFER_PORT	Identifies the port used for the file transfer service. The default value specified is 22 (SFTP). Specify the value like 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"		
<p>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.</p>		
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"		
<p>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.</p>		

InteractionVariable Name	Significance and Expected Value	Mandatory
HTTPS_ENABLE	<p>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:</p> <ul style="list-style-type: none"> • YES: 1 • NO: 0 <p>For example, <code><InteractionVariable name="HTTPS_ENABLE">0</InteractionVariable></code></p>	Yes
WEB_SERVER_IP	<p>Identifies the HTTP server IP or Hostname or web application server IP or Hostname, to be used to access the UI. This IP is typically the HTTP Server IP.</p> <p>If a separate HTTP server is not available, then the value must be Web application server IP or Hostname.</p> <p>For example, <code><InteractionVariable name="WEB_SERVER_IP">10.11.12.13</InteractionVariable></code></p> <p>or</p> <p><code><InteractionVariable name="WEB_SERVER_IP">myweb.server.com</InteractionVariable></code></p>	No
WEB_SERVER_PORT	<p>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.</p> <p>Warning: The installer will not accept the port value as:</p> <ul style="list-style-type: none"> • 80, if the HTTPS_ENABLE variable is 1 • 443, if the HTTPS_ENABLE variable is 0 <p>For example, <code><InteractionVariable name="WEB_SERVER_PORT">80</InteractionVariable></code></p>	No
CONTEXT_NAME	<p>Identifies the web application context name which is used to build the URL to access the OFSAA application. You can identify the context name from the following URL format:</p> <p><code><scheme>://<host>:<port>/<context-name>/login.jsp</code></p> <p>The following is an example:</p> <p><code>https://myweb:443/ofsaadev/login.jsp</code></p> <p>For example, <code><InteractionVariable name="CONTEXT_NAME">ofsaadev</InteractionVariable></code></p>	Yes

InteractionVariable Name	Significance and Expected Value	Mandatory
WEBAPP_CONTEXT_PATH	<p>Identifies the absolute path of the exploded EAR file on the web application server.</p> <ul style="list-style-type: none"> For Tomcat, specify the Tomcat directory path till /webapps. For example, /oradata6/ revwb7/tomcat/webapps/. For WebSphere, specify the WebSphere path as <WebSphere profiledirectory>/installedApps/<NodeCellName> . For example, /data2/test//WebSphere/AppServer/profiles/<Profile_Name>/installedApps/aiximfNode01Cell, where aix-imf is the Hostname. For WebLogic, specify the WebLogic home directory path. For example, /<WebLogic home directory path>/bea/wlserver_10.3 <p>NOTE: For WebLogic, the value specified for this attribute is ignored and the value provided against the attribute WEBLOGIC_DOMAIN_HOME is considered.</p>	Yes
WEB_LOCAL_PATH	<p>Identifies the absolute path to any directory on the web application server that can hold temporary files, which are uploaded as part of the usage of the application.</p> <p>Set this in the FTPSHARE location.</p> <p>NOTE: During a clustered deployment, ensure that this path and the directory are the same on all the nodes.</p>	Yes
InteractionGroup name="Weblogic Setup Details"		
WEBLOGIC_DOMAIN_HOME	<p>Identifies the WebLogic Domain Home.</p> <p>For example, <InteractionVariable name="WEBLOGIC_DOMAIN_HOME"/>/home/weblogic/bea/user_projects/domains/mydomain</InteractionVariable></p>	Yes. Specify the value only if WEBAPPSERVERTYPE is set as 3 (WebLogic).
InteractionGroup name="OFSAAI FTP Details"		
OFSAAI_FTPSHARE_PATH	<p>Identifies the absolute path of the directory that is identified as the file system stage area.</p> <p>NOTE: The directory must exist on the same system on which the OFSAAI 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.</p> <p>For example, <InteractionVariable name="APP_FTPSHARE_PATH"/>/oradata6/revwb7/ftpshare</InteractionVariable></p>	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	<p>Identifies the SFTP private key for OFSAAI.</p> <p>For example, <InteractionVariable name="OFSAAI_SFTP_PRIVATE_KEY"/>/home/ofsaapp/.ssh/id_rsa</InteractionVariable></p>	No

InteractionVariable Name	Significance and Expected Value	Mandatory
	<p>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>.</p> <p>For more information on how to generate an SFTP Private key, see the Set Up SFTP Private Key section.</p>	
OFSAAI_SFTP_PASSPHRASE	<p>Identifies the passphrase for the SFTP private key for OFSAAI.</p> <p>For example,</p> <pre>InteractionVariable name="OFSAAI_SFTP_PASSPHRASE">enter a pass phrase here</InteractionVariable></pre> <p>By default, the value is NA.</p> <p>If the OFSAAI_SFTP_PRIVATE_KEY value is given and the OFSAAI_SFTP_PASSPHRASE value is NA, then the passphrase is identified as empty.</p>	No
<p>InteractionGroup name="Hive Details"</p> <p>The default value set for the interaction variables under this group is NA.</p> <p>NOTE: The following values are required only for Hive Configuration.</p>		
HIVE_SERVER_PORT	<p>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.</p> <p>For example,</p> <pre><InteractionVariable name="HIVE_SERVER_PORT">22</InteractionVariable></pre>	Yes
HIVE_SERVER_FTPDRIVE	<p>Identifies the absolute path to the directory identified as the file system stage area of the HIVE server.</p> <p>For example,</p> <pre><InteractionVariable name="HIVE_SERVER_FTPDRIVE">/scratch/ofsaai/ftpshare</InteractionVariable></pre>	Yes
HIVE_SERVER_FTP_USERID	<p>Identifies the user who has RWX permissions on the directory identified under the parameter HIVE_SERVER_FTPDRIVE.</p> <p>For example,</p> <pre><InteractionVariable name="HIVE_SERVER_FTP_USERID">ofsaai</InteractionVariable></pre>	Yes
HIVE_SERVER_FTP_PROTOCOL	<p>If the HIVE_SERVER_PORT is 21, then set the value to FTP. If not, set it to SFTP.</p> <p>For example,</p> <pre><InteractionVariable name="HIVE_SERVER_FTP_PROTOCOL">SFTP</InteractionVariable></pre>	Yes

InteractionVariable Name	Significance and Expected Value	Mandatory
HIVE_SFTP_PRIVATE_KEY	<p>Identifies the SFTP private key for the HIVE server.</p> <p>For example,</p> <pre><InteractionVariable name="HIVE_SFTP_PRIVATE_KEY"/>/scratch/testuser/.ssh/id_rsa</InteractionVariable></pre> <p>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>.</p> <p>For more information on generating SFTP Private key, see the Set Up SFTP Private Key section.</p>	
HIVE_SFTP_PASSPHRASE	<p>Identifies the passphrase for the SFTP private key for HIVE.</p> <p>For example,</p> <pre><InteractionVariable name="HIVE_SFTP_PASSPHRASE">NA</InteractionVariable></pre> <p>By default, the value is NA.</p> <p>If the HIVE_SFTP_PRIVATE_KEY value is NA, then the passphrase is identified as empty.</p>	

5.5.1 Set Up the SFTP Private Key

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

To generate a private key, execute the following commands:

```
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.

5.6 Configure the Silent.props file

This section is for the fresh installation of OFS DI Release 8.1.1.0.0.

1. In the installer kit path `OFS_DI_PACK/appsLibConfig/conf`:
 - For RDBMS installation, rename the `Silent.template` file to `Silent.props`. Edit the `Silent.props` file.
 - For BIGDATA installation, rename the `Silent.BIGDATA.template` file to `Silent.props`. Edit the `Silent.props` file.
2. Modify only the following parameters.

Table 13: Parameters for the Silent.props File

Property Name	Description of Property	Comments	Applicable For
APFTP_P_LOG_PATH=	Infodom Maintenance log path (to be created) for the new Infodom for the app layer.	# Mandatory if this an App Layer Installation and if you want to create a new infodom.	RDBMS
DBFTP_LOG_PATH	Infodom Maintenance log path (to be created) for the new Infodom for the DB layer.	# Mandatory if this a DB Layer Installation and if you want to create a new infodom.	RDBMS
HIVE_APPFTP_LOG_PATH	Infodom Maintenance log path (to be created) for the new Infodom for the app layer.	# Mandatory if this an App Layer Installation and if you want to create a new infodom.	BIGDATA
HIVE_DBFTP_LOG_PATH	Infodom Maintenance log path (to be created) for the new Infodom for the DB layer.	# Mandatory if this a DB Layer Installation and if you want to create a new infodom.	BIGDATA

5.7 Install the OFSDI 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_DI_PACK.xml File](#)
3. [Configure the OFS_DI_SCHEMA_IN.xml File](#) (For RDBMS installation) or [Configure the OFS_DI_SCHEMA_BIGDATA_IN.xml File](#) (For Big Data installation)
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 Silent.props File](#) (Silent.template file for RDBMS installation and Silent.BIGDATA.template file for BIGDATA)

To install the OFSDI Application Pack v8.1.1.0.0, 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 using the command:


```
./profile
```
4. For the BIGDATA installation, give access permission using the following command:


```
chmod -R 775 ftpshare ftpshareh $FIC_HOME libs
```
5. If you are installing on the BIGDATA infodom, then navigate to the `OFS_DI_PACK/OFS_DIH/conf/` directory, and perform these steps:
 - a. Delete the `default.properties` file.
 - b. Rename the `default.properties.BIGDATA.template` to `default.properties`.
 - c. Perform the same step in each enabled application folder.

For example, `OFS_DI_PACK/OFS_DIH/conf` and `OFS_DI_PACK/OFS_INTF_FCUBS/conf`
 If `OFS_DIH` and `OFS_INTF_FCUBS` are enabled for installation.

NOTE

This step is not required if you are installing it on the RDBMS environment.

6. Navigate to the `OFS_DI_Pack/bin/` directory:
7. Enter the following command in the console to execute the OFSDI Application Pack installer with the Silent option.


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

Figure 25: Execute the OFSDI installer in the SILENT mode

```
/scratch/ofsaadb1/kit/81/mock/OFS_DI_PACK/bin>./setup.sh SILENT
.profile executed
Current OS Type ---- SunOS
Last Installed AAI Version ---- 8.0.7.2.0
Current pack AAI Version ---- 8.1.0.0.0
heapsize == 47104
/scratch/ofsaadb1/kit/81/mock/OFS_DI_PACK/bin
datamodel file = ../DataModel/*.xml
.profile executed
```

8. The installer proceeds with Pre-Installation Checks.

Figure 26: Silent Mode of Installation

```

Environment Variables Validation Completed. Status : SUCCESS
=====
OS specific Validation Started ...
Checking en_US.utf8 locale. Status : SUCCESS
Unix shell found : /bin/ksh. Status : SUCCESS
Total file descriptors : 65535. Status : SUCCESS
Total number of process : 4096. Status : SUCCESS
OS version : 7. Status : SUCCESS
OS specific Validation Completed. Status : SUCCESS
=====
DB specific Validation Started ...
Oracle Client version : 18.0.0.0.0. Status : SUCCESS
client version 18.0
Successfully connected to schema fsdf8latm. 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 : 1000. 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
=====

```

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

Figure 27: OFSAA Processing Tier FTP/SFTP Password Prompt

```

*****
* Welcome to Oracle Financial Services Analytical Applications Infrastructure (OFS AAI) Installation *
*****
Checking Infrastructure installation status ...
Infrastructure installation does not exist. Proceeding with Infrastructure installation ...
Triggering Infrastructure installation ...

Please enter Infrastructure Application/Database component FTP/SFTP password : █

```

NOTE

Enter the password to access the Product Staging/Metadata repository directory FTPSHARE in the application server.

10. For the Big Data installation, enter the Hive Server SFTP/FTP password value, when prompted at the command prompt.

NOTE

Enter the password to access the OFSDI Hive directory FTPSHAREH in the application server.

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

Figure 28: Accept the OFSAA License Agreement

```

*****
OFSAA APPLICATION PACK LICENSE AGREEMENT
*****
* Oracle Financial Services Analytical Applications (OFSAA) application packs are groups of OFSAA products packaged together into a single installer. Each application pack contains OFSAA applications that address specific functional domains.*
* Every application pack also includes the following OFSAA infrastructure application options which are automatically installed by every application pack installer:
  1. Oracle Financial Services Analytical Applications Infrastructure
  2. Oracle Financial Services Enterprise Modeling
  3. Oracle Financial Services Big Data Processing
* Oracle Financial Services Analytical Applications Infrastructure (OFS AAI) is the base infrastructure for all OFSAA applications and is therefore automatically installed and enabled by the application pack installer.*
* The application pack installer always installs Oracle Financial Services Enterprise Modeling, Oracle Financial Services In-line Processing Engine and Oracle Financial Services Big Data Processing application options along with the application pack applications, but enables them only if any application that requires their functionality is enabled.*
* Any OFSAA application that is enabled must be licensed for use. Oracle Financial Services Analytical Applications Infrastructure, Oracle Financial Services Enterprise Modeling, Oracle Financial Services In-line Processing Engine and Oracle Financial Services Big Data Processing are individually licensable application options.*
* Application products once enabled cannot be disabled. Application products not enabled on installation, may later be enabled using the "Manage OFSAA Product License(s)" feature of the platform.*
*****
Are you accepting the terms and conditions mentioned above? [Y/N]:
Y
  
```

- 12. The installer installs the OFSAAAI application.

Figure 29: OFS AAI Silent Mode Installation

```

installer:
  1. Oracle Financial Services Analytical Applications Infrastructure
  2. Oracle Financial Services Enterprise Modeling
  3. Oracle Financial Services Big Data Processing
* Oracle Financial Services Analytical Applications Infrastructure (OFS AAI) is the base infrastructure for all OFSAA applications and is therefore automatically installed and enabled by the application pack installer.*
* The application pack installer always installs Oracle Financial Services Enterprise Modeling, Oracle Financial Services In-line Processing Engine and Oracle Financial Services Big Data Processing application options along with the application pack applications, but enables them only if any application that requires their functionality is enabled.*
* Any OFSAA application that is enabled must be licensed for use. Oracle Financial Services Analytical Applications Infrastructure, Oracle Financial Services Enterprise Modeling, Oracle Financial Services In-line Processing Engine and Oracle Financial Services Big Data Processing are individually licensable application options.*
* Application products once enabled cannot be disabled. Application products not enabled on installation, may later be enabled using the "Manage OFSAA Product License(s)" feature of the platform.*
*****
Are you accepting the terms and conditions mentioned above? [Y/N]:
Y
log4j:WARN No appenders could be found for logger (org.apache.commons.vfs2.impl.StandardFileSystemManager).
log4j:WARN Please initialize the log4j system properly.
log4j:WARN See http://logging.apache.org/log4j/1.2/faq.html#noconfig for more info.
hostname is [redacted] oracle.com
hostname is [redacted] oracle.com
Starting installation...
Preparing to install...
Extracting the installation resources from the installer archive...
Configuring the installer for this system's environment...

Launching installer...

Preparing SILENT Mode Installation...

=====
OFSAAInfrastructure                          (created with InstallAnywhere)
=====

Installing..
-----
[-----]
[-----]
[-----]
[-----]
  
```

- 13. After OFSAAAI is installed, the OFSDI Application Pack installation begins.

5.8 Install OFSDI Application Pack v8.1.1.0.0 on an Existing OFSAA Instance

This is an installation scenario, where you have already installed an application pack from Release v8.1.1.0.0 and now you want to install OFSDI Application Pack from Release v8.1.1.0.0. For example, the OFS ALM Application Pack is already installed and now you want to install the OFSDI Application Pack.

1. [Configure the OFS_DI_PACK.xml File](#)
2. Configure the Schema Creator Utility:
 - [Configure the OFS_DI_SCHEMA_IN.xml File](#) (for the RDBMS installation)
 - [Configure the OFS_DI_SCHEMA_BIGDATA_IN.xml File](#) (for the Big Data installation)
3. [Execute the Schema Creator Utility](#)

NOTE

While defining the schema details for the application packs, provide the same schema details given in the previous v8.1.1.0.0 installation of the other application pack. The output file `OFS_DI_SCHEMA_OUTPUT.xml` is generated as a result of the schema creation process.

4. Configuring the `OFSAAI_InstallConfig.xml` file is not required in this scenario.
5. [Configure the Silent.props File](#)
6. [Trigger the Installation](#)
7. [Verify the Log File Information](#)
8. [Post-installation](#)

6 Post-installation

You can use this checklist to have a 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 14: Post-installation Checklist

SI. No.	Post-installation Activity
1	Patch OFSAA Infrastructure Installation
2	Verify the installation logs.
3	Back up the schema creator XML files, OFS_DI_SCHEMA_OUTPUT.xml, and Silent.props files.
4	Deploy the EAR or WAR files.
5	Import the ODI Artifacts.
6	Start DI Service.
7	Access the OFSAA Application to Create Application Users and Map them to DI User Groups.
8	Configure Tomcat for User Group Authorization, Data Mapping, and Disable WADL for the Web Service (Applies only to Tomcat Server).

6.1 Patch OFSAA Infrastructure Installation

Oracle strongly recommends installing the latest available patch set to be up-to-date with the various releases of the OFSAA product.

Apply the following mandatory patch:

- 33663417

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.

For patch download information, see the **Download the OFSAAI Applications Pack Installer and Patches** section in [Pre-installation](#) for a new installation and in [Upgrade](#) for an upgrade installation.

See [My Oracle Support](#) for more information on the latest release.

6.2 Verify the Log File Information

See the following logs files for more information:

- The `Pack_Log.log` file is in the `OFS_DI_PACK/logs/` directory.
- The Infrastructure installation log files are in the `OFS_DI_PACK/OFS_AAI/logs/` directory.
- The DIH installation log files are in the `OFS_DI_PACK/OFS_DIH/logs/` directory.

NOTE

If you have enabled applications other than DIH during installation, verify the logs in the respective application path.

For example, If `OFS_DIH` and `OFS_INTF_FCUBS` are enabled for installation, see `OFS_DI_PACK/OFS_DIH/logs` and `OFS_DI_PACK/OFS_INTF_FCUBS/logs` directories.

- Ignore the following warning message in the log files:
 - **** FICDB LIBRARIES WILL NOT BE DEPLOYED AS FOLLOWING COMBINATION [linux7/oracle19.3, linux7/oracle19.0, linux7/oracle19.0] ARE NOT AVAILABLE IN KIT ****

6.3 Backup the Schema Creator XML files, OFS_DI_SCHEMA_OUTPUT.xml, and Silent.props Files

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

Table 15: Directory of Files to Backup

File Name	Directory
<code>OFS_DI_SCHEMA_IN.xml</code> and <code>OFS_DI_SCHEMA_BIGDATA_IN.xml</code>	<code>OFS_DI_PACK/schema_creator/conf</code>
<code>OFS_DI_SCHEMA_OUTPUT.xml</code>	<code>OFS_DI_PACK/schema_creator/</code>
<code>Silent.props</code>	<code>OFS_DI_PACK/appsLibConfig/conf</code>

6.4 Importing ODI Artifacts

As part of the integration with ODI installation, perform the following steps:

NOTE

The post-installation activities in this section are not applicable for the following applications:

- Oracle Financial Services Data Integration with Unity
- Oracle Financial Services Accounting Hub Cloud Service Integration for Insurance
- Oracle Financial Services Accounting Hub Cloud Service Integration for Banking

In case DIH is installed along with the above applications, then this note is not applicable.

1. Copy the `odikmvarstore.jar` from the `$FIC_WEB_HOME/webroot/WEB-INF/lib` directory to the ODI installation directory.
 - For standalone ODI agent, copy to `<ODI_HOME>/odi/agent/lib` directory.
 - For J2EE ODI agent, copy to `<ODI_DOMAIN>/lib` directory.
2. Obtain the following XMLs from the `$FIC_HOME/$FIC_HOME/ODI/Knowledge_Modules/` directory:
 - `KM_IKM_Hive_Control_Append.xml`
 - `KM_IKM_MultiFiles_to_Oracle__SQLLDR_with_EBCDIC__Direct_Target.xml`
 - `KM_IKM_MultiFiles_to_Oracle__SQLLDR__Direct_Target.xml`
 - `KM_IKM_Oracle_Extract.xml`
 - `KM_IKM_Oracle_Insert_Only.xml`
 - `KM_IKM_Oracle_Insert_Only__Ext_Tab_and_DB_.xml`
 - `KM_IKM_Oracle_Multi_Table_Insert_NonDirect.xml`
 - `KM_IKM_Oracle_Multi_Table_Insert_NonDirect__Ext_Tab_and_DB_.xml`
 - `KM_IKM_Oracle_Multi_Table_Insert__SQLLDR_with_EBCDIC__Direct_Target.xml`
 - `KM_IKM_Oracle_Multi_Table_Insert__SQLLDR__Direct_Target.xml`
 - `KM_IKM_SQL_to_File_Append.xml`
 - `KM_LKM_File_Hive_to_Oracle_Multi_Insert__OLH_.xml`
 - `KM_LKM_File_Hive_to_Oracle__OLH_.xml`
 - `KM_LKM_File_to_SQL.xml`
 - `KM_LKM_Hive_to_Oracle__Big_Data_SQL_.xml`
 - `KM_LKM_MultiFiles_to_Hive__EXTERNAL_TABLE_.xml`
 - `KM_LKM_MultiFiles_to_Oracle_Multi_Insert__EXTERNAL_TABLE_.xml`
 - `KM_LKM_MultiFiles_to_Oracle_Multi_Insert__SQLLDR_.xml`
 - `KM_LKM_MultiFiles_to_Oracle_Multi_Insert__SQLLDR_with_EBCDIC_.xml`
 - `KM_LKM_MultiFiles_to_Oracle__EXTERNAL_TABLE_.xml`
 - `KM_LKM_MultiFiles_to_Oracle__SQLLDR_.xml`
 - `KM_LKM_MultiFiles_to_Oracle__SQLLDR_with_EBCDIC_.xml`
 - `KM_LKM_Oracle_to_Oracle_Datapump__DBLINK_.xml`

- KM_LKM_Oracle_to_Oracle_Multi_Insert__DBLINK_No_Source_View__.xml
- KM_LKM_Oracle_to_Oracle__DBLINK_No_Source_View__.xml
- KM_LKM_SQL_to_Oracle.xml
- KM_LKM_SQL_to_SQL.xml
- KM_LKM_XML_to_Oracle.xml
- KM_LKM_XML_to_Oracle_Multi_Table_Insert.xml

NOTE In case of an upgrade, the following steps must be completed before importing the Knowledge Modules:

1. Unpublish all the Connectors in DI.
2. Delete all the Knowledge Modules from an ODI project referred to in DIH.

3. Obtain the following XMLs from standard ODI installation directory <ODI_INSTALL_DIR>/odi/sdk/xml-reference.
 - KM_CKM_Oracle.xml
4. Obtain the following procedure XMLs from the \$FIC_HOME/ODI/Procedures directory.
 - TRT_ControlFromHive.xml
 - TRT_Recon.xml
5. After successful installation, perform these steps:
 - a. Clear the application cache. Navigate to the following path depending on the configured web application server and delete the files:
 - **WebLogic**

<Weblogic installation location>/domains/<Domain name>/servers/<Server name>/tmp/_WL_user/<Application name>/<auto generated folder>/jsp_servlet
 - **WebSphere**

<Websphere installation directory>/AppServer/profiles/<Profile name>/temp/<Node name>/server1/<Application name>/<.war file name>
 - b. Put a TNS Entry named the same as INFODOM in the ODI Agent machine (if ODI Agent is not running in the same machine as OFSAAI). This must point to the atomic schema.


```
<INFODOM> = (DESCRIPTION = (ADDRESS_LIST = (ADDRESS = (PROTOCOL = TCP) (HOST = <Atomic DB Server>) (PORT = <Port Number>))) )
(CONNECT_DATA = (SERVER = DEDICATED) (SERVICE_NAME = <Service Name>)) )
```

6.5 Start the DIH Services

Navigate to `$FIC_HOME/ficdb/bin` and execute `StartDIHWS.sh`.

Figure 32: Starting DIH Service

```

/scratch/ofsaadb1/OFSAA810/ficdb/bin>./StartDIHWS.sh

-----
Starting DIH Service
-----

.profile executed
ODI_HOME [/scratch/ofsaaoibel/ODI12213]
/scratch/ofsaadb1/OFSAA810/ficdb/bin
/scratch/ofsaadb1/OFSAA810/ficdb/bin
/scratch/ofsaadb1/OFSAA810/ficdb/bin
/scratch/ofsaadb1/OFSAA810/ficdb/bin
[DynamicServiceManager][GlobalParameters.ISWEB]false
FIC_HOME:/scratch/ofsaadb1/OFSAA810/
Port number for Webservice [31000]
Port [31000] is available
Logs file path -> /scratch/ofsaadb1/ftpshare//DIH/logs/DIH.log
Log configuration file path -> /scratch/ofsaadb1/OFSAA810/conf/DIHLog4j.xml
Successfully verified the ODI connection
Started DIH Service

```

NOTE

DIH service uses 10000 as the default port number. In case the port is unavailable, the console prompts for an available port number. Specify a valid and available port number and proceed.

6.6 Map the Application DI User (or Users) to User Group

User *UserGroup Map* facilitates you to map a user (or users) to a specific user group which in turn is mapped to a specific Information Domain and role. Every user group mapped to the Information Domain needs to be authorized. Else, it cannot be mapped to users.

User **UserGroup Map** screen displays details such as User ID, Name, and the corresponding Mapped Groups. You can view and modify the existing mappings within the **User UserGroup Maintenance** screen.

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

You can access the **User UserGroup Map** by expanding the **Identity Management** pane within the tree structure of the LHS menu.

Table 16: Seeded User Groups

Name	Description
DI Admin	A user mapped to this group will have access to all the menu items for the entire DI Application. The exclusive menu's which are available only to this group of users are Application Preference and Global Preference under the Settings Menu .

Name	Description
DI Data Modeler	A user mapped to this group will have access only to Data Model Management and Metadata Browser Menus .
DI Analyst	A user mapped to this group will have access to Data Management Framework , Dimension Management , and Metadata Browser Menus .
DI Operator	A user mapped to this group will have access to Rule Run Framework and Operations Menus .

6.7 Configure Tomcat for User Group Authorization, Data Mapping, and Disable WADL for the Web Service

This section applies only if the Web Application Server Type is Tomcat.

Users with System Authorization Roles can access User Group Authorization. However, to make it available on the Tomcat Web Server, you have to perform the following configuration steps:

1. Navigate to the `$FIC_WEB_HOME/webroot/WEB-INF/` Directory and open the `web.xml` File.
2. Enter the following in the `web.xml` File.

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

3. To disable the WADL for the Web Service, navigate to the following snippet in the `web.xml` file.

```
<servlet>
<servlet-name>CommonRETServlet</servlet-name>
<servlet-class>org.glassfish.jersey.servlet.ServletContainer</servlet-
class>
<init-param>
<param-name>javax.ws.rs.Application</param-name>
<param-
value>com.ofs.fsapps.commonapps.util.ApplicationResourceConfig</param-
value>
</init-param>
<load-on-startup>1</load-on-startup>
</servlet>
```

4. Add the following snippet before the `<load-on-startup>1</load-on-startup>` Attribute:

```
<init-param>
<param-name>jersey.config.server.wadl.disableWadl</param-name>
<param-value>>true</param-value>
</init-param>
```

5. Save and close the file.

6. If the Tomcat Server is already running, it requires a re-start after the preceding configuration is done.

Part II

Topics:

- [Upgrade](#)

7 Upgrade

This section includes the procedures for the various upgrade scenarios supported by OFS DI Release 8.1.1.0.0.

7.1 Upgrade Scenarios

This section includes the procedures for the various upgrade scenarios supported by OFS DI Release 8.1.1.0.0.

ATTENTION Always ensure that you run the upgrade installer only on the cloned environment.

Table 17: OFSDI Release 8.1.1.0.0 Upgrade Scenarios

Scenario	Upgrade Instructions
<p>Upgrade from Release v8.0.x of OFSDI or OFSDI on AIX or Solaris x86 Operating System</p>	<p>Release v8.1.1.0.0 of OFSDI is not certified for AIX and Solaris x86 Operating Systems. If you are currently running OFSAA v8.0.x on AIX or Solaris x86 Operating Systems and plan to upgrade to Release v8.1.1.0.0, then you must migrate from AIX or Solaris x86 to Linux or Solaris SPARC. See the MOS Doc ID 2700084.1 for details.</p>
<p>Upgrade from OFSDI v8.0.6.0.0 or a later version to OFSDI v8.1.1.0.0</p> <p>In this scenario, you are upgrading the OFSDI application pack from Release v8.0.6.1.0 or a later version to Release v8.1.1.0.0.</p> <p>Example: You are on the OFSDI v8.0.7.0.0 and now want to upgrade it to the OFSDI v8.1.1.0.0.</p>	<ol style="list-style-type: none"> 1. Clone your existing environment to the v8.1.1.0.0 of OFS Analytical Applications Technology Matrix. 2. Run the Environment Check Utility tool and ensure that the hardware and software requirements are installed as per the OFS Analytical Applications Technology Matrix. See the OFSAA Environment Check Utility Guide for detailed steps. 3. Update the <code>OFS_DI_PACK.xml</code> file to enable ONLY the existing installed applications. 4. Update the <code>Silent.props</code> file present in the OFSDI v8.1.1.0.0 installer pack. 5. Trigger the upgrade installation.
<p>Install OFSDI Application Pack v8.1.1.0.0 on an Existing OFSAA Instance</p> <p>In this scenario, you have already installed an application pack versioned v8.1.1.0.0 and now you want to install the OFSDI application pack versioned v8.1.1.0.0.</p> <p>Example: OFS ALM Pack is already installed and now you want to install OFSDI Pack.</p>	<ol style="list-style-type: none"> 1. Update the <code>OFS_DI_PACK.xml</code> file to enable ONLY the existing installed applications. 2. Update the <code>Silent.props</code> file present in the OFSDI v8.1.1.0.0 installer pack. 3. Trigger the upgrade installation.

7.2 Prepare for Upgrade

Before you plan to install or upgrade any of your application packs to Release 8.1.1.0.0, ensure that all the application packs in your current OFSAA instance are available for download and installation in

Release 8.1.1.0.0 version. Contact [My Oracle Support](#) for more information about the 8.1.1.0.0 release details for the required applications.

NOTE

- The user profile executing the installation must have permission on `/tmp` before installation.
- Enough space must be available in `/tmp` before installation, else the installation terminates, without log files.

1. [Download](#) and [Extract](#) the OFSDI Application Pack installer kit.
2. See the [OFS Analytical Applications Technology Matrix](#) for the hardware and software required to upgrade to the OFSDI Application Pack Release 8.1.1.0.0.
3. Enable unlimited cryptographic policy for Java. For more information, see the *Enabling Unlimited Cryptographic Policy* section in the [OFS Analytical Applications Infrastructure Administration Guide](#).
4. Clone your environment. For more information, see the [Clone your Existing Environment](#) section.
5. Execute the following SQL query on the Atomic Schema:

```
update rev_tables_b set version=0 where version is null;
commit;
```

7.3 Download the OFSAAAI Applications Pack Installer and Mandatory Patches

To download the OFSAAAI Applications Pack Installer Release 8.1.1.0.0, follow these steps:

1. Log in to the [Oracle Software Delivery Cloud](#) (OSDC) with a valid Oracle account.
2. Download the installer archive and copy (in Binary mode) to the download directory that exists in the OFSAAAI installation setup.

NOTE

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

3. Log in to [My Oracle Support](#), search for the **33663417** Mandatory Patch in the **Patches & Updates** Tab and download it.

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.

7.4 Upgrade from OFSDI v8.0.6.0.0 or a later version to OFSDI v8.1.1.0.0

You are upgrading the OFSDI Application Pack from Release v8.0.6.0.0 or later versions to Release v8.1.1.0.0.

For example, you are using OFSDI v8.0.7.0.0 and now want to upgrade to the OFSDI v8.1.1.0.0 or you want to upgrade from OFSDI v8.1.0.0.0 to OFSDI v8.1.1.0.0.

NOTE If upgrading OFSDI Application Pack from a version before OFSDI v8.0.6.0.0, then first upgrade to OFSDI v8.0.6.0.0 or later versions. To upgrade to OFSDI v8.0.6.0.0 or later versions, see the corresponding version-specific [OFS Data Integration Installation and Configuration Guide](#).

NOTE Ensure to log in to OFSAA Infrastructure Config Schema and execute the following SQL query:

```
ALTER TABLE CONFIGURATION MODIFY PARAMNAME VARCHAR2  
(100 CHAR);
```

7.5 Clone Your Existing Environment

Clone your existing environment to the v8.1.1.0.0 [OFS Analytical Applications Technology Matrix](#). For more information, see the OFSAA Cloning Reference Guide for:

- [Release 8.0.x](#): If you are upgrading from a version before OFS DI Release 8.0.6.0.0 to version OFS DI 8.0.6.0.2.
- [Release 8.1.x](#): If you are upgrading from OFS DI Release 8.0.6.0.0 or later to OFS DI version 8.1.1.0.0.

7.6 Update the OFS_DI_PACK.xml File

Update the `OFS_DI_PACK.xml` file and enable only the existing installed Application Packs.

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

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

Figure 33: Sample OFS_DI_PACK.xml File

```

<APP_PACK_CONFIG>
  <APP_PACK_ID>OFS_DI_PACK</APP_PACK_ID>
  <APP_PACK_NAME>Financial Services Data Integration </APP_PACK_NAME>
  <APP_PACK_DESCRIPTION>Applications for Data Integration</APP_PACK_DESCRIPTION>
  <VERSION>##RELEASE_VERSION##</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>##RELEASE_VERSION##</VERSION>
  </APP>
  <APP>
    <APP_ID PREREQ="OFS_AAI" ENABLE="NO">OFS_DIH</APP_ID>
    <APP_NAME>Financial Services Data Integration Hub</APP_NAME>
    <APP_DESCRIPTION>Application for data integration</APP_DESCRIPTION>
    <VERSION>##RELEASE_VERSION##</VERSION>
  </APP>
  <APP>
    <APP_ID PREREQ="OFS_DIH" ENABLE="NO">OFS_INTF_DRM</APP_ID>
    <APP_NAME>Interface for Oracle Data Relationship Management</APP_NAME>
    <APP_DESCRIPTION>DIH Connector for OFSAA - Oracle Data Relationship Management</APP_DESCRIPTION>
    <VERSION>##RELEASE_VERSION##</VERSION>
  </APP>
  <APP>
    <APP_ID PREREQ="OFS_DIH" ENABLE="NO">OFS_INTF_FCUBS</APP_ID>
    <APP_NAME>Interface for Oracle Flexcube Universal Banking System</APP_NAME>
    <APP_DESCRIPTION>DIH Connector for OFSAA - Oracle Flexcube Universal Banking System</APP_DESCRIPTION>
    <VERSION>##RELEASE_VERSION##</VERSION>
  </APP>
  <APP>
    <APP_ID PREREQ="OFS_DIH" ENABLE="NO">OFS_INTF_OBP</APP_ID>
    <APP_NAME>Interface for Oracle Banking Platform</APP_NAME>
    <APP_DESCRIPTION>DIH Connector for OFSAA - Oracle Banking Platform</APP_DESCRIPTION>
    <VERSION>##RELEASE_VERSION##</VERSION>
  </APP>
  <APP>
    <APP_ID PREREQ="OFS_DIH" ENABLE="NO">OFS_INTF_FAH</APP_ID>
    <APP_NAME>Interface for Oracle Fusion Accounting Hub</APP_NAME>
    <APP_DESCRIPTION>DIH Connector for OFSAA - Oracle Fusion Accounting Hub</APP_DESCRIPTION>
    <VERSION>##RELEASE_VERSION##</VERSION>
  </APP>
  <APP>
    <APP_ID PREREQ="OFS_AAI" ENABLE="NO">OFS_INTF_AH_FSDF</APP_ID>
    <APP_NAME>Oracle Financial Services Accounting Hub Cloud Service Integration for Banking</APP_NAME>
    <APP_DESCRIPTION>DIH Connector for OFSAA Banking - Oracle Financial Services Accounting Hub Cloud</APP_DESCRIPTION>
    <VERSION>##RELEASE_VERSION##</VERSION>
  </APP>
  <APP>
    <APP_ID PREREQ="OFS_AAI" ENABLE="NO">OFS_INTF_AH_OIDF</APP_ID>
    <APP_NAME>Oracle Financial Services Accounting Hub Cloud Service Integration for Insurance</APP_NAME>
    <APP_DESCRIPTION>DIH Connector for OFSAA Insurance - Oracle Financial Services Accounting Hub Cloud</APP_DESCRIPTION>
    <VERSION>##RELEASE_VERSION##</VERSION>
  </APP>
  <APP>
    <APP_ID PREREQ="OFS_AAI" ENABLE="NO">OFS_DICXU</APP_ID>
    <APP_NAME>Oracle Financial Services Data Integration with Unity</APP_NAME>
    <APP_DESCRIPTION>Financial Services Data integration with Unity</APP_DESCRIPTION>
    <VERSION>##RELEASE_VERSION##</VERSION>
  </APP>
</APP_PACK_CONFIG>

```

Table 18: OFS_DI_PACK.xml file Parameters

Tag Name	Attribute Name	Description	Mandatory (Y/ N)	Comments
APP_ID	ENABLE	Enable Application or Product	YES if installing in the SILENT mode.	<p>The default value is YES for Infrastructure. The default value is NO for Others. Permissible values are YES and NO.</p> <p>Set this attribute- value to YES against every APP_ID which is licensed and must be enabled for use.</p> <p>NOTE: Application or Product once enabled cannot be disabled. However, the Application or Product not enabled during installation</p>

Tag Name	Attribute Name	Description	Mandatory (Y/ N)	Comments
				can be enabled later through the Administration UI.

4. Save the file.

7.7 Update the Silent.props File in Release 8.1.1.0.0 Pack

Update the `Silent.props` file present in the Release 8.1.1.0.0 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 them as required.

1. Navigate to the `OFS_DI/appsLibConfig/conf` directory.
2. From Release 8.1.1 onwards, DI supports a single `Silent.template` file available in the `OFS_DI_PACK/appsLibConfig/conf` directory. The `Silent.template` is populated with default values.
3. Ensure to modify the template in the directory. Create a copy of this file and rename the copy as `Silent.props`.
4. Edit the `Silent.props` file and specify the parameters as per the requirements.

SILENT installation is achieved through a properties file (`Silent.props`) that must be updated with proper values, before attempting to install using the silent mode. The following table lists all the properties that need to be specified.

5. Configure the `Silent.props` file as mentioned in the [table](#) in the [Install the OFS DI Application Pack](#) section.
6. Open the `Silent.props` file and edit only the following parameters:

Table 19: Parameters for the Silent.props File

Property Name	Description of Property	Permissible Values	Comments
APFTP_P_LOG_PATH=	Infodomain Maintenance log path (to be created) for the new Infodomain for the app layer.	Not applicable	# Mandatory if this is an App Layer Installation and if you want to create a new infodomain.
DBFTP_LOG_PATH	Infodomain Maintenance log path (to be created) for the new Infodomain for the DB layer.	Not applicable	# Mandatory if this is a DB Layer Installation and if you want to create a new infodomain.

7.8 Trigger the Upgrade Installation

You are upgrading the OFSDI Application Pack from Release 8.0.6.0.0 or later to Release 8.1.1.0.0.

For example, you are using OFSDI v8.0.7.0.0 and now want to upgrade to the OFSDI v8.1.1.0.0 or you want to upgrade from OFSDI v8.1.0.0.0 to OFSDI v8.1.1.0.0.

To install the OFSDI Application Pack, follow these steps:

1. Enter the following command in the console to execute the OFSDI Application Pack installer with the Silent option:

```
./setup.sh SILENT
```
2. The installer proceeds with the Pre-installation Checks.
3. Enter the OFSAA Processing Tier FTP/SFTP password value and proceed, when prompted in the command prompt.

Figure 34: OFSAA Processing Tier FTP/SFTP Password Prompt

```
*****
* Welcome to Oracle Financial Services Analytical Applications Infrastructure (OFS AAI) Installation *
*****
Checking Infrastructure installation status ...
Infrastructure installation does not exist. Proceeding with Infrastructure installation ...
Triggering Infrastructure installation ...

Please enter Infrastructure Application/Database component FTP/SFTP password : █
```

NOTE

Enter the password to access the Product Staging/Metadata repository directory FTPSHARE in the application server.

4. If you are performing the Big Data installation, then enter the Hive Server SFTP/FTP password value, when prompted at the command prompt.

NOTE

Enter the password to access the OFSDI Hive directory FTPSHAREH in the application server.

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

Figure 35: Accept the OFSAA License Agreement

```
*****
OFSAA APPLICATION PACK LICENSE AGREEMENT
*****
* Oracle Financial Services Analytical Applications (OFSAA) application packs are groups of OFSAA products packaged together into a single installer. Each application pack contains OFSAA applications that address specific functional domains.*
* Every application pack also includes the following OFSAA infrastructure application options which are automatically installed by every application pack installer:
1. Oracle Financial Services Analytical Applications Infrastructure
2. Oracle Financial Services Enterprise Modeling
3. Oracle Financial Services Big Data Processing
* Oracle Financial Services Analytical Applications Infrastructure (OFS AAI) is the base infrastructure for all OFSAA applications and is therefore automatically installed and enabled by the application pack installer.*
* The application pack installer always installs Oracle Financial Services Enterprise Modeling, Oracle Financial Services In-line Processing Engine and Oracle Financial Services Big Data Processing application options along with the application pack applications, but enables them only if any application that requires their functionality is enabled.*
* Any OFSAA application that is enabled must be licensed for use. Oracle Financial Services Analytical Applications Infrastructure, Oracle Financial Services Enterprise Modeling, Oracle Financial Services In-line Processing Engine and Oracle Financial Services Big Data Processing are individually licensable application options.*
* Application products once enabled cannot be disabled. Application products not enabled on installation, may later be enabled using the "Manage OFSAA Product License(s)" feature of the platform.*
*****
Are you accepting the terms and conditions mentioned above? [Y/N]: █
```

6. The installer installs the OFSAAAI application.

Figure 36: OFS AAI Silent Mode Installation

```

taller:
1. Oracle Financial Services Analytical Applications Infrastructure
2. Oracle Financial Services Enterprise Modeling
3. Oracle Financial Services Big Data Processing
* Oracle Financial Services Analytical Applications Infrastructure (OFS AAI) is the base infrastructure for all OFSAA applications and is therefore automatically installed and enabled by the application pack installer.*
* The application pack installer always installs Oracle Financial Services Enterprise Modeling, Oracle Financial Services In-line Processing Engine and Oracle Financial Services Big Data Processing application options along with the application pack applications, but enables them only if any application that requires their functionality is enabled.*
* Any OFSAA application that is enabled must be licensed for use. Oracle Financial Services Analytical Applications Infrastructure, Oracle Financial Services Enterprise Modeling, Oracle Financial Services In-line Processing Engine and Oracle Financial Services Big Data Processing are individually licensable application options.*
* Application products once enabled cannot be disabled. Application products not enabled on installation, may later be enabled using the "Manage OFSAA Product License(s)" feature of the platform.*
*****
Are you accepting the terms and conditions mentioned above? [Y/N]:
Y
log4j:WARN No appenders could be found for logger (org.apache.commons.vfs2.impl.StandardFileSystemManager).
log4j:WARN Please initialize the log4j system properly.
log4j:WARN See http://logging.apache.org/log4j/1.2/faq.html#noconfig for more info.
hostname is [redacted].oracle.com
hostname is [redacted].oracle.com
Starting installation...
Preparing to install...
Extracting the installation resources from the installer archive...
Configuring the installer for this system's environment...

Launching installer...

Preparing SILENT Mode Installation...

=====
OFSAAInfrastructure                               (created with InstallAnywhere)
=====

Installing...

[=====]
[-----]

```

7. After OFSAAAI is installed, the OFSDI Application Pack installation begins.

Figure 37: OFSDI Application Pack Installation

```

ofsaadb1@whf00bin
.profile executed
=====
You have chosen ONLINE mode
=====
Triggering the utility in ONLINE mode will execute the DDLs directly on the Database. Do you wish to proceed? (Y/N):
Y
=====
Java Validation Started ...
Java found in : /scratch/weblogic/Software/jdk1.8.0_181/bin
JAVA Version found : 1.8.0_181
JAVA Bit Version found : 64-bit
Java Validation Completed. Status : SUCCESS
=====
DATABASENAME = DIH18PDB
DB specific Validation Started ...
Enter the DB User Name With SYSDBA Privileges:
sys as sysdba
Enter the User Password:
user name is sys
Oracle Client version : 19.0.0.0.0. Status : SUCCESS
Oracle Server version Current value : 18.0.0.0.0. Status : SUCCESS
DB specific Validation Completed. Status : SUCCESS
=====
Schema Creation Started
=====
Checking OFSAA installation...
Found OFSAA installation at /scratch/ofsaadb1/OFSAA010
Validating the dat file OPS_DI_CFG.dat started...
The path is:/scratch/ofsaadb1/Kit/81/mock/OFS_DI_PACK/schema_creator/conf
Successfully validated OPS_DI_CFG.dat file
Parsing /scratch/ofsaadb1/OFSAA010/conf/DynamicServices.xml
Connection jdbc:oracle:thin:@whf00dny.in.oracle.com:1521/DIH18PDB
Successfully connected to User - sld1807conf URL - jdbc:oracle:thin:@whf00dny.in.oracle.com:1521/DIH18PDB
Validating the input XML file.../scratch/ofsaadb1/kit/81/mock/OFS_DI_PACK/schema_creator/conf/OFS_DI_SCHEMA_IN.xml
Input XML file validated successfully.
=====
Validating Connection URL ...jdbc:oracle:thin:@whf00dny.in.oracle.com:1521/DIH18PDB
Connection jdbc:oracle:thin:@whf00dny.in.oracle.com:1521/DIH18PDB
Successfully connected to User - sys as sysdba URL - jdbc:oracle:thin:@whf00dny.in.oracle.com:1521/DIH18PDB
Connection URL successfully validated...
Upgrading the Config Schema...
Executing script config_8.0.7.3.0.sql on config schema

```

Figure 38: OFSDI Application Pack Installation Complete

```

Creating backup file /scratch/ofsaadb1/OFSAA810/ficweb/webroot/WEB-INF/web.xml.8.0.8.0.0.bak
Updating /scratch/ofsaadb1/OFSAA810/ficweb/webroot/WEB-INF/web.xml
Creating backup file /scratch/ofsaadb1/OFSAA810/ficweb/webroot/WEB-INF/sun-jaxws.xml.8.0.8.0.0.bak
Updating /scratch/ofsaadb1/OFSAA810/ficweb/webroot/WEB-INF/sun-jaxws.xml
Applying configuration changes from patchconf.8.1.0.0.0.xml
Creating backup file /scratch/ofsaadb1/OFSAA810/ficweb/webroot/WEB-INF/web.xml.8.1.0.0.0.bak
Updating /scratch/ofsaadb1/OFSAA810/ficweb/webroot/WEB-INF/web.xml
Updating place holders in Configuration Files.
Updating Configuration Files
Replacing Services Files
outfile path-OFS_DI_SCHEMA_OUTPUT.xml
OUTXML val = false
Unmapping the TRANS_OWN Function code
New Pattern for $DBUSER$ : sldi807conf
Replacing $DBUSER$ with Config User in AtomicScript : /scratch/ofsaadb1/kit/81/mock/OFS_DI_PACK/OFS_AAAI_PACK/SQLScripts/atomic_8.0.7.3.0.sql
Replacing $DBUSER$ with Config User in AtomicScript : /scratch/ofsaadb1/kit/81/mock/OFS_DI_PACK/OFS_AAAI_PACK/SQLScripts/atomic_8.0.8.0.0.sql
Replacing $DBUSER$ with Config User in AtomicScript : /scratch/ofsaadb1/kit/81/mock/OFS_DI_PACK/OFS_AAAI_PACK/SQLScripts/atomic_8.0.8.1.0.sql
Replacing $DBUSER$ with Config User in AtomicScript : /scratch/ofsaadb1/kit/81/mock/OFS_DI_PACK/OFS_AAAI_PACK/SQLScripts/atomic_8.0.9.0.0.sql
Replacing $DBUSER$ with Config User in AtomicScript : /scratch/ofsaadb1/kit/81/mock/OFS_DI_PACK/OFS_AAAI_PACK/SQLScripts/atomic_8.0.9.1.0.sql
Replacing $DBUSER$ with Config User in AtomicScript : /scratch/ofsaadb1/kit/81/mock/OFS_DI_PACK/OFS_AAAI_PACK/SQLScripts/atomic_8.1.0.0.0.sql
Updating the Atomic Schema
Executing script atomic_8.0.7.3.0.sql for DB User : sldi807atm
Executing script atomic_8.0.8.0.0.sql for DB User : sldi807atm
Executing script atomic_8.0.8.1.0.sql for DB User : sldi807atm
Executing script atomic_8.0.9.0.0.sql for DB User : sldi807atm
Executing script atomic_8.0.9.1.0.sql for DB User : sldi807atm
Executing script atomic_8.1.0.0.0.sql for DB User : sldi807atm
Atomic Schema updated
Updating web.xml
Updating web.xml
check1...FIC_WEBSERVER_PORT name is param-name [Element: <context-param [Namespace: http://java.sun.com/xml/ns/javaee]/>]
check5...
check2...
check3...
check4...
check6...Removing ICC_SERVLET_LOG_FILE param from web.xml
writing output
OFSAAI post patch execution started
OFSAAI post patch execution completed successfully
-----
OFSAAI Upgrade Completed Successfully
-----

```

8. The following message is displayed in the console:
Installation completed...
9. The OFSAA Infrastructure installation performs a post-install health check automatically on the successful installation of the product.
10. To verify if the release is applied successfully, check the log files mentioned in the [Verify the Log File Information for Upgrade](#) section.
11. For more information on securing your OFSAA Infrastructure, see the [OFSAA Security Guide](#).

NOTE

The DMT screens are no more managed with a generic function since OFSAAI v8.1.0.0.0. Starting from OFSAAI v8.0.6.0.0, each action performed in the DMT screens requires specific user roles and functions for various operations. Therefore, OFSDI has up taken the user roles and functions available for the OFSAAI v8.1.0.0.0 DMT screens. From v8.1.0.0.0, OFSDI and OFSAAI support only new functions and the new user roles mapped to the user groups.

7.9 Verify the Log File Information

See the following logs files for more information:

- The Pack_Log.log file is in the OFS_DI_PACK/logs/ directory.
- The OFS_DIH_installation.log file and the OFS_DIH_installation.err file are in the OFS_DI_PACK/OFS_DIH/logs directory.

NOTE

If you have enabled applications other than DIH during installation, verify the logs in the respective application path.

For example, If OFS_DIH and OFS_INTF_FCUBS are enabled for installation, see the `OFS_DI_PACK/OFS_DIH/logs` and `OFS_DI_PACK/OFS_INTF_FCUBS/logs` directories.

- The Infrastructure installation log files are in the `OFS_DI_PACK/OFS_AAI/logs/` directory.
- The `OFSAAInfrastructure_Install.log` file is in the `$FIC_HOME` directory.
- Ignore the following error messages in the log files:

For 8.1.0.0.0 to 8.1.1.0.0 upgrade path:

- [ERROR] Query:-- Create table...
Error:Object already exists
- [ERROR] Query:-- Create/Recreate primary, unique and foreign key constraints...
Error:Table already has a primary key

For other paths:

- Error:ORA-00001: unique constraint
- Query:-- Create table...
Error:Object already exists

7.10 Post-installation Steps

Follow the steps mentioned in the [Post-installation Steps](#) section.

Part III

Topics:

- [Additional Configurations](#)
- [FAQs](#)

8 Additional Configuration

This section provides information for additional configuration required for the OFSDI Application Pack.

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

NOTE See the [Oracle Financial Services Installation and Configuration Guide](#) Chapters to complete these procedures.

Table 20: Additional Configuration Checklist

Sl. No.	Additional Configuration Activity
1	Configure the Web Server. Additionally, to Configure Tomcat for User Group Authorization, Data Mapping, and Disable WADL for the Web Service , see the section that appears later in this topic.
2	Configure the Resource Reference in web application servers.
3	Configure the Work Manager in the web application servers.
4	Add FTP/SFTP Configuration for File Transfer.
5	Configure the Infrastructure Server Memory.
6	Change IP or Hostname, Ports, Deployed Paths of the OFSAA Instance.
7	Configure the Infrastructure LDAP Configuration.
8	Configure and deploy the OFSAAI web services.
9	Enable the Parallel Execution of DML statements.
10	Configure the Message Details in the Forms Designer.
11	Clear the application cache.
12	Configure password changes.

8.1 Configure Tomcat for User Group Authorization, Data Mapping, and Disable WADL for the Web Service

This section applies only if the Web Application Server Type is Tomcat.

Users with System Authorization Roles can access User Group Authorization. However, to make it available on the Tomcat Web Server, you have to perform the following configuration steps:

1. Navigate to the `$FIC_WEB_HOME/webroot/WEB-INF/` Directory and open the `web.xml` File.
2. Enter the following in the `web.xml` File.

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

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

3. To disable the WADL for the Web Service, navigate to the following snippet in the `web.xml` file.

```
<servlet>
<servlet-name>CommonRETServlet</servlet-name>
<servlet-class>org.glassfish.jersey.servlet.ServletContainer</servlet-
class>
<init-param>
<param-name>javax.ws.rs.Application</param-name>
<param-
value>com.ofs.fsapps.commonapps.util.ApplicationResourceConfig</param-
value>
</init-param>
<load-on-startup>1</load-on-startup>
</servlet>
```

4. Add the following snippet before the `<load-on-startup>1</load-on-startup>` Attribute:

```
<init-param>
<param-name>jersey.config.server.wadl.disableWadl</param-name>
<param-value>>true</param-value>
</init-param>
```

5. Save and close the file.
6. If the Tomcat Server is already running, it requires a re-start after the preceding configuration is done.

9 Frequently Asked Questions (FAQs) and Error Dictionary

For General FAQs and installation error-related information, see the following sections:

[Frequently Asked Questions \(FAQs\) and Error Dictionary](#) in the [OFS AAI Installation and Configuration Guide](#).

9.1 DIH Application Pack FAQ

How do I upgrade the Java version to JDK 11?

See the [Update the OFSAA 8.1.1.x Java 8 Instance to Java 11](#) section in the [OFS AAI Installation and Configuration Guide](#).

OFSAA Support

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

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