Oracle Financial Services Funds Transfer Pricing Application Pack

Installation and Configuration Guide

Release 8.1.2.0.0

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OFS Funds Transfer Pricing Application Pack Installation and Configuration Guide

Document Control

Version Number	Revision Date	Change Log
1.0	Dec-2021	Created the document with instructions for the installation of the OFS Funds Transfer Pricing Application Pack Release 8.1.2.0.0.
2.0	September 2023	Updated for Bug g 35758248.

Table of Contents

Confidential - Oracle Restricted

1 Preface

This section provides information about the Oracle Financial Services Funds Transfer Pricing Application Pack (OFS FTP Pack) Installation and Configuration Guide.

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

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

Topics:

1.1 Audience

The Oracle Financial Services Funds Transfer Pricing Pack (OFS FTP Pack) Installation and Configuration Guide is intended for administrators, and implementation consultants who are responsible for installing and maintaining the application pack components.

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

- OFS Funds Transfer Pricing Pack (OFS FTP Pack) components
- OFSAA architecture
- UNIX commands
- Database concepts
- Web server or web application server

1.2 How this Guide is Organized

The Installation Guide consists of the following sections:

1.3 Access to Oracle Support

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

1.4 Related Documents

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

- OFS Funds Transfer Pricing Release Notes, Release 8.1.2.0.0
- OFS Funds Transfer Pricing User Guide Release 8.1.2.0.0
- OFS Funds Transfer Pricing Security Guide Release 8.1.x
- OFS Funds Transfer Pricing Cloning Reference Guide Release 8.1.x

OHC Documentation Library for OFS AAAI Application Pack:

- OFS Analytical Applications Infrastructure Installation Guide Release 8.1.2.0.0
- OFS Analytical Applications Infrastructure User Guide Release 8.1.2.0.0
- OFS Analytical Applications Infrastructure Environment Check Utility Guide Release 8.1.x
- OFS Analytical Applications Infrastructure Application Pack Administration and Configuration Guide Release 8.1.x
- OFS AAAI Application Security Guide Release 8.1.x
- OFS Analytical Applications Infrastructure Cloning Guide Release 8.1.x
- OFSAA Licensing User Manual, Release 8.1.2.0.0

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

- OFS Analytical Applications 8.1.2.0.0 Technology Matrix
- OFS Data Model Utilities Guide
- OFS Cash Flow Engine Reference Guide

1.5 Conventions

The following text conventions are used in this document.

Table 1: Document Conventions

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action or terms defined in text or the glossary.

Convention	Meaning
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
`monospace`	Monospace type indicates commands within a paragraph, URLs, code in examples, file names, text that appears on the screen, or text that you enter.
Hyperlink	Hyperlink type indicates the links to external websites and internal document links.

1.6 Abbreviations

The following table lists the abbreviations used in this document:

Table 2: Abbreviations

Abbreviation	Meaning
AIX	Advanced Interactive eXecutive
BDP	Big Data Processing
DBA	Database Administrator
DDL	Data Definition Language
DEFQ	Data Entry Forms and Queries
DML	Data Manipulation Language
EAR	Enterprise Archive
EJB	Enterprise JavaBean
ERM	Enterprise Resource Management
FTP	File Transfer Protocol
HDFS	Hadoop Distributed File System
HTTPS	Hypertext Transfer Protocol Secure
J2C	J2EE Connector
J2EE	Java 2 Enterprise Edition
JCE	Java Cryptography Extension
JDBC	Java Database Connectivity
JDK	Java Development Kit
JNDI	Java Naming and Directory Interface
JRE	Java Runtime Environment
JVM	Java Virtual Machine
LDAP	Lightweight Directory Access Protocol

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

2 About Oracle Financial Services Analytical Applications (OFSAA)

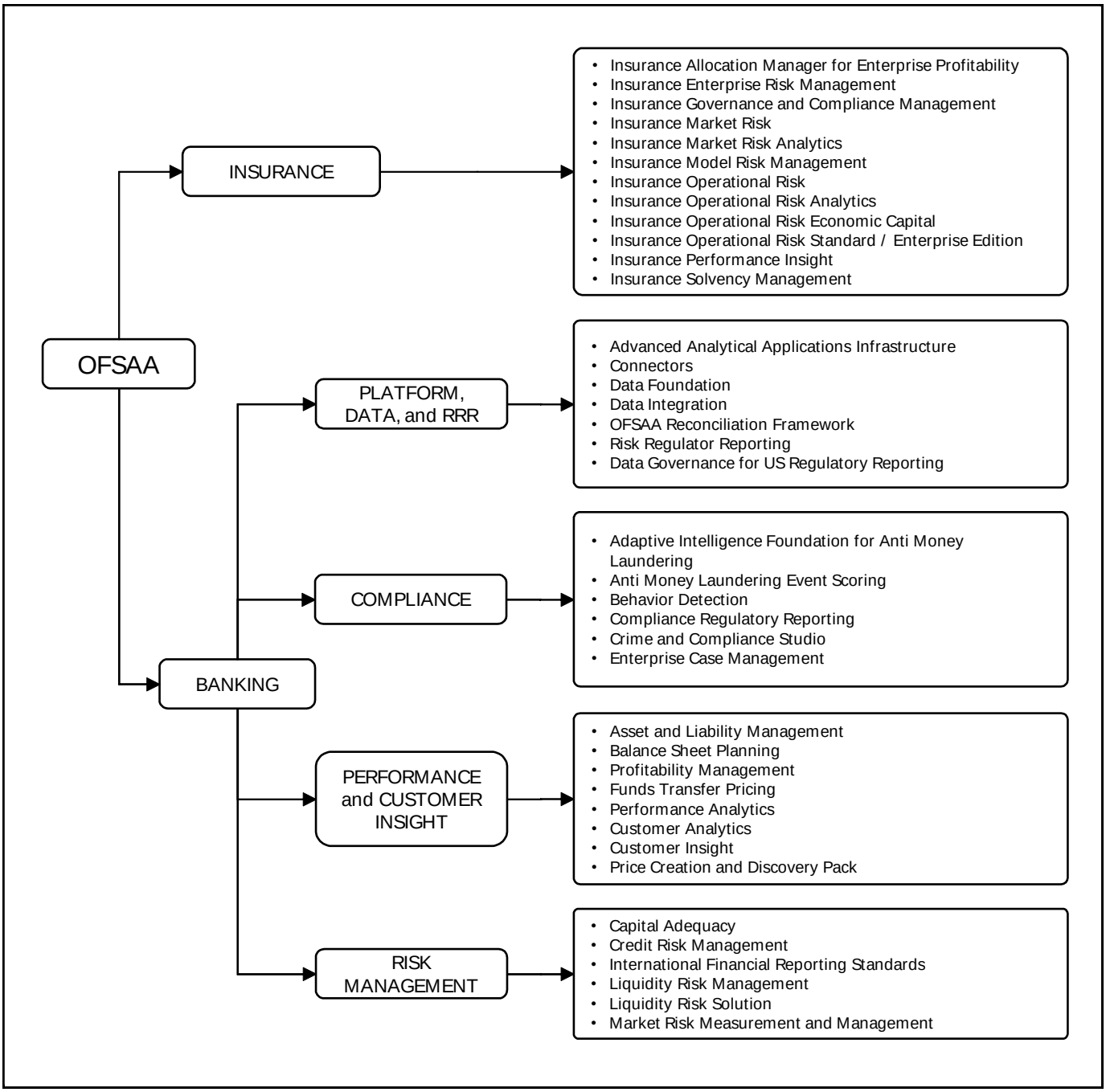
In today's turbulent markets, financial institutions require a better understanding of their risk-return, while strengthening competitive advantage and enhancing long-term customer value. Oracle Financial Services Analytical Applications (OFSAA) enable financial institutions to measure and meet risk-adjusted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

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

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

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

Figure 1: OFSAA Application Packs



Topics:

- Oracle Financial Services Analytical Applications Infrastructure (OFS AAI)
- OFS Funds Transfer Pricing Pack

2.1 Oracle Financial Services Analytical Applications Infrastructure (OFS AAI)

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

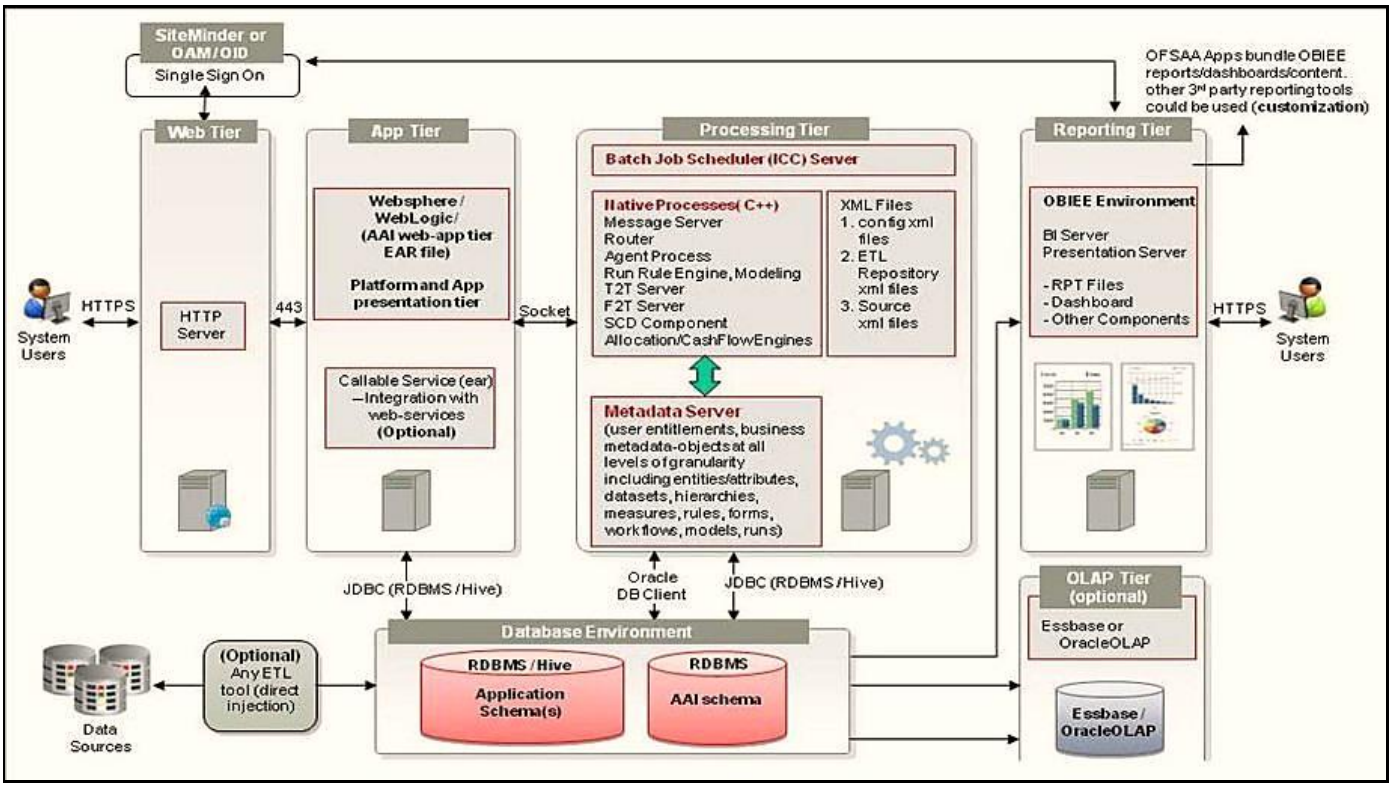
2.1.1 Components of OFSAA Infrastructure

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

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

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

Figure 2: Components of OFSAAI



2.1.2 OFSAA Infrastructure High Availability

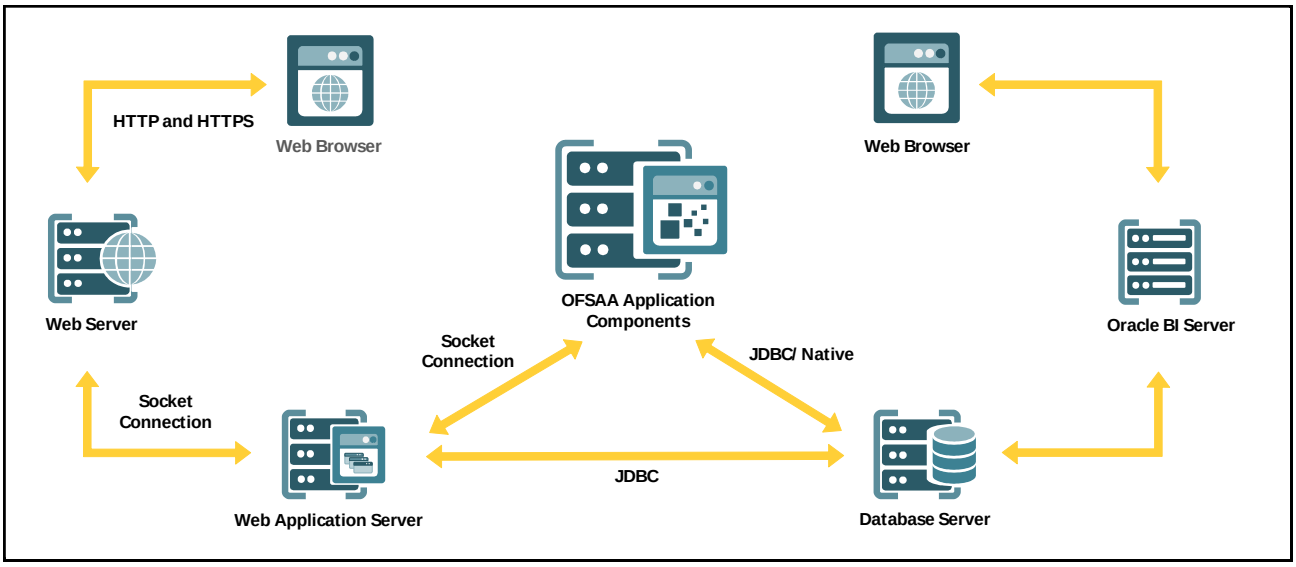
The current release of the OFSAA Infrastructure supports only the "Single Instance" installation for the Infrastructure components. However, the High Availability (HA) for the Database Server and/ or the Web application server clustering and deployment is supported in this release.

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

2.1.3 Deployment Topology

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

Figure 3: Logical Architecture Implemented for OFSAA Application Packs



2.2 OFS AAI Extension Pack

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

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

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

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

2.3 OFS Funds Transfer Pricing Pack

The Oracle Financial Services Funds Transfer Pricing (OFS FTP) Pack includes a significant number of new features in the 8.1.2.0.0 Release. See the OFS Funds Transfer Pricing Release v8.1.2.0.0 Release Notes and OFS Funds Transfer Pricing User Guide for the details.

OFS Funds Transfer Pricing Pack includes the following applications:

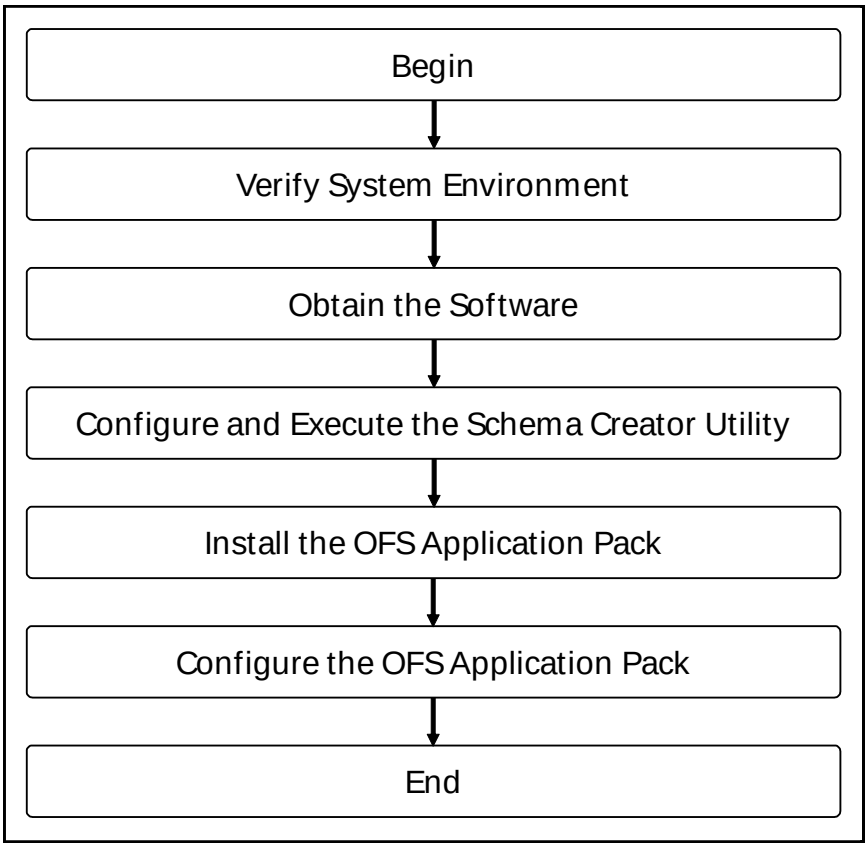
- **Oracle Financial Services Analytical Applications Infrastructure**: Provides the pre-requisite foundation services required to run all OFSAA applications including user and security management, object administration, and other foundational level services.
- **Oracle Financial Services Funds Transfer Pricing**: Enables banks to apply various transfer pricing methods on products to calculate the funds transfer price. It calculates transfer prices across all product types varying in terms of characteristics like fixed-rate or floating rate instruments, bullet or amortizing, or fixed tenor or perpetual instruments. Besides it also supports the calculation of transfer price at both the account level and ledger level including migration of charge or credit to the management ledger and posting of funding offsets to the funding center.

2.4 Installation Overview

Release 8.1.2.0.0 of OFS Funds Transfer Pricing Pack (OFS FTP Pack) supports fresh installation and also upgrades from version 8.1.0.0.0.

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

Figure 4: Installation Flow of OFSAA Application Packs


Begin
Verify System Environment
Obtain the Software
Configure and Execute the Schema Creator Utility
Install the OFS Application Pack
Configure the OFS Application Pack
End

3 Complete Installation Checklist

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

Table 3: Pre-installation Checklist

Sl. No.	Pre-installation Activity
1	Install all the prerequisite hardware and software given in the Tech Stack.
2	Verify the System Environment using the Environment Check Utility.
3	Configure the Database Instance settings.
4	Install and configure the web application server.
5	Configure the HTTP settings on the webserver.
6	Create the Installation, Download, and Metadata Repository Directories: • Installation directory • Temporary directory • Staging Area/Metadata Repository • Download directory
7	Configure the following Operating System and File System settings: • File Descriptor • Total number of processes • Port(s) • `.profile` file permissions • Add FTP/SFTP configuration for file transfer
8	Update the following Environment Settings required for the installation in the `.profile` file: • Java Settings • Oracle Database Server and Client Settings • Add TNS entries in the `tnsnames.ora` file • Oracle Essbase Settings • Time Zone Settings
9	Download the installer kit and erwin data models.
10	Perform prerequisites for installation.

Table 4: Installation Checklist

Sl. No.	Installation Activity
1	Extract the installer kit.
2	Configure the `OFS_FTP_PACK.xml` file.
3	Configure the `OFS_FTP_SCHEMA_IN.xml` file.

Sl. No.	Installation Activity
4	Execute the Schema Creator Utility in Offline, Online, or TCPS modes and verify the log file.
5	Configure the `OFSAAI_InstallConfig.xml` file.
6	Configure the `Silent.props` file.
7	Trigger the application installation.

Table 5: Post-installation Checklist

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

Table 6: Additional Configuration

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

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

4 Hardware and Software Requirements

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

Topics:

> **NOTE** OFS Funds Transfer Pricing Pack (OFS FTP Pack) installation can be performed on both Virtual and Physical servers.

See the OFSAA Technology Matrix for the hardware and software required to install OFS Funds Transfer Pricing Pack (OFS FTP Pack) Release 8.1.2.0.0.

The following software combinations are recommended.

Table 7: Recommended Software Combinations

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

4.1 Third-party Licensing Information

For details on the third-party software tools used in OFS Funds Transfer Pricing Pack (OFS FTP Pack), see the OFSAA Licensing Information User Manual Release 8.1.2.0.0.

Also, ensure that you have the following Python licenses:

- seaborn-0.10.1
- numpy-1.19.4
- pandas-1.2.4
- scikit-learn-0.24.2
- scipy-1.6.3
- statsmodels-0.12.2
- matplotlib-3.2.2
- imbalanced-learn-0.7.0
- cx_oracle-8.1.0
- sqlalchemy-1.3.18

- pmdarima-1.8.2
- arch-4.19

4.2 Verify System Environment

To verify that your system environment meets the minimum requirements for the installation, a Pre-Install Check Utility is available within the Install Kit archive file. This utility notifies you if any requirements are not met.

It can also be obtained separately by contacting Oracle Support Services.

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

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

4.3 Web Server Settings

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

Table 8: Web Server Settings

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

5 Pre-installation

This section contains the pre-installation requirements to install the OFS Funds Transfer Pricing Pack (OFS FTP Pack).

Topics:

5.1 Pre-installation Checklist

You can use this checklist to have a quick 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 9: Pre-installation Checklist

Pre-installation Checklist

Sl. No.	Pre-installation Activity
1	Install all the prerequisite hardware and software given in the Tech Stack.
2	Verify the System Environment using the Environment Check Utility.
3	Configure the Database Instance settings.
4	Install and configure the web application server.
5	Configure the HTTP settings on the webserver.
6	Create the Installation, Download, and Metadata Repository Directories: • Installation directory • Temporary directory • Staging Area/Metadata Repository • Download directory
7	Configure the following Operating System and File System settings: • File Descriptor • Total number of processes • Port(s) • `.profile` file permissions • Add FTP/SFTP configuration for file transfer
8	Update the following Environment Settings required for the installation in the `.profile` file: • Java Settings • Oracle Database Server and Client Settings • Add TNS entries in the `tnsnames.ora` file • Oracle Essbase Settings • Time Zone Settings

Sl. No.	Pre-installation Activity
9	Download the installer kit and erwin data models.
10	Perform prerequisites for installation.

5.2 Preparing for Installation

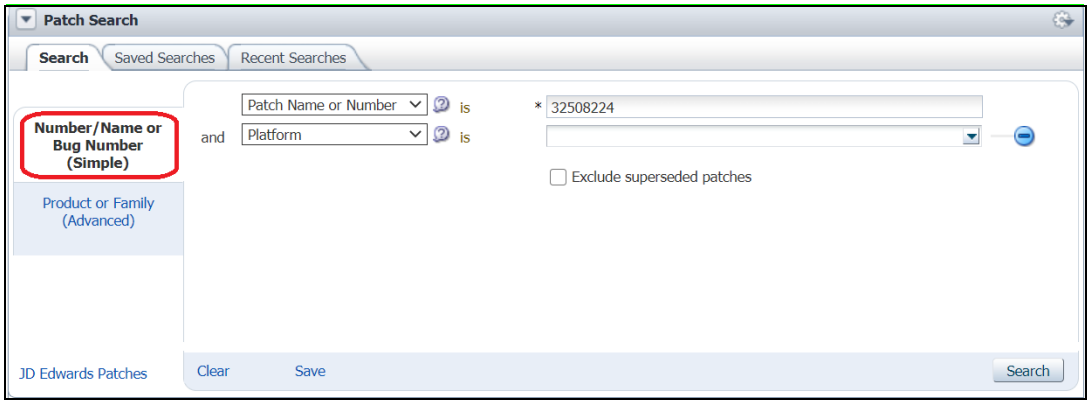
This section describes how to download the installer and the mandatory prerequisites you must ensure installing the OFS Funds Transfer Pricing Pack (OFS FTP Pack).

5.2.1 Download the OFS Funds Transfer Pricing Pack Installer

To download the OFS Funds Transfer Pricing Pack (OFS FTP Pack) Installer Release v8.1.2.0.0, follow these steps:

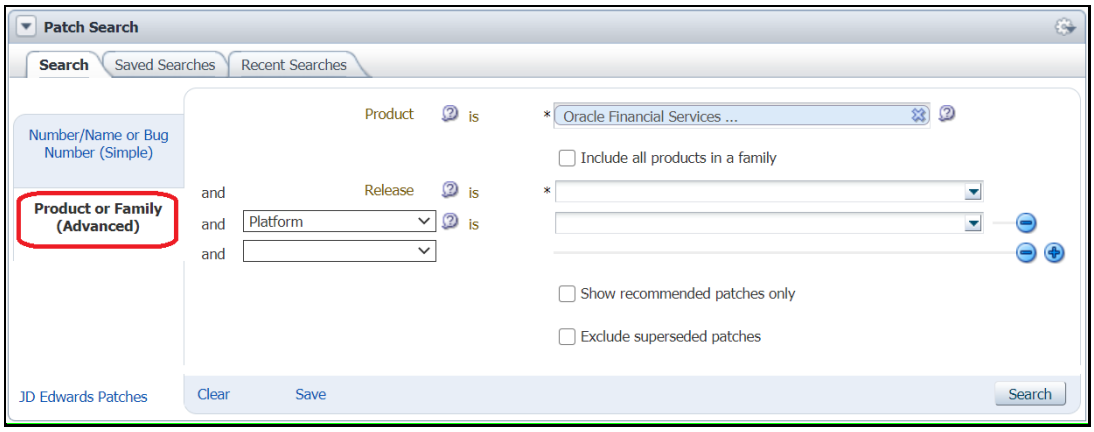
1. Log in to My Oracle Support, and search for Patch ID **33598064** under the **Patches and Updates** tab.
   - To perform a simple search using the **Number/Name or Bug Number (Simple)**, type the Patch ID (**33598064**) in the Patch Name or **Number** field.

Figure 5: Patches and Updates Tab – Simple Search



   - To perform an advanced search using the **Product or Family (Advanced)** name, type the product name (Oracle Financial Services Funds Transfer Pricing Pack) in the Product field, and then select the **Release** number.

Figure 6: Patches & Updates Tab – Advanced Search



2. Click **Search**.
3. Download the installer archive and copy (in Binary mode) to the download directory in the setup identified for OFS Funds Transfer Pricing Pack (OFS FTP Pack) installation.
4. Download the following Erwin Data Model from My Oracle Support:

   OFS Funds Transfer Pricing Pack (OFS FTP Pack) erwin data model: Patch ID **33828535**.

   The erwin data model patch is required only if you are customizing the data model. If you are customizing the data model, then you must update the Silent.Props file with the file name for the customized data model and the location of the file on the server.

   If you are not customizing the data model, you do not need to download the erwin patch.

> **NOTE** Data model patches are now released at the granularity of each application. This is in contrast to the strategy followed for OFS PFT Applications Pack 8.0.x releases, where data model patches were only released at the pack level. Customers must download the data models as per the application licenses they hold and merge them with the custom data model.
>
> - The installer will only upload the data model of the selected applications. Data models of the unselected or unlicensed applications will not be uploaded, that is data model upload is skipped for the unselected or unlicensed applications.
> - The installer will only execute the installer scripts of the selected applications. Scripts of the unselected or unlicensed applications will not be executed and are skipped.
> - If all applications in the pack are selected, then the installer handles both the data model upload and the installation scripts execution.

5. Log in to My Oracle Support, search for the **33794583** Mandatory Patch in the Patches & Updates Tab and download it.
6. Before proceeding with the domain creation, download and install the required one-off Patch or the latest WLS PSU for 14.1.1 from My oracle Support (Doc ID 2806740.2). For more information, refer to Configure WebLogic for Application Deployment in OFS AAI Installation Guide.

5.2.2 Prerequisites for Installation

Before beginning the installation, ensure that:

- You have executed the `.profile` file.
- The FICServer is up and running. For information on restarting the services, see the *Start the Infrastructure Services* section in the OFS Analytical Applications Infrastructure Installation Guide Release 8.1.2.0.0.
- Ensure that you have installed Python 3.9.4 and the libraries required as per the Tech Matrix. For a sample installation procedure, see Appendix A.

5.3 Compatibility Matrix

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

Table 10: Compatibility Matrix

If you are installing	Do not install
OFS_FTP_PACK	OFS Behavior Detection Pack (OFS_BD) OFS Compliance Regulatory Reporting (OFS_CRR)

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

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

6 Installation

This section provides detailed steps to install the OFS Funds Transfer Pricing Pack (OFS FTP Pack).

> **NOTE** Ensure that you install all the Enterprise Performance Management application packs on a single Infodom.

Topics:

6.1 Installation Checklist

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

Table 11: Installation Checklist

Sl. No.	Installation Activity
1	Extract the installer kit.
2	Configure the `OFS_FTP_PACK.xml` file.
3	Configure the `OFS_FTP_SCHEMA_IN.xml` file.
4	Execute the Schema Creator Utility in Offline, Online, or TCPS modes and verify the log file.
5	Configure the `OFSAAI_InstallConfig.xml` file.
6	Configure the `Silent.props` file.
7	Trigger the application installation.

6.2 Extract the Software

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

1. If you already have an unzip utility to extract the contents of the downloaded archive, skip this step.

Download the unzip utility (OS-specific) `unzip_<os>.Z` and copy it in Binary mode to the directory that is included in your PATH variable.

Uncompress the unzip installer file with the command:

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

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

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

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

   For example: `chmod 751 unzip_sparc`

3. Extract the contents of the OFS Funds Transfer Pricing Pack (OFS FTP Pack) Release 8.1.2.0.0 installer archive file in the download directory using the following command:

   ```
   unzip OFS_FTP_8.1.2.0.0_<OS>.zip
   ```

4. Navigate to the download directory and assign 755 permission to the installer directory using the following command:

   ```
   chmod -R 755 OFS_FTP_PACK
   ```

6.3 Configure the OFS_FTP_PACK.xml File

This section provides information about the tags and parameters available in this file and the values you must update before installing the OFS Funds Transfer Pricing Pack (OFS FTP Pack).

To configure the file, follow these steps:

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

Figure 7: Sample OFS_FTP_PACK.xml File

```
<APP_PACK_CONFIG>
    <APP_PACK_ID>OFS_FTP_PACK</APP_PACK_ID>
    <APP_PACK_NAME>Financial Services Funds Transfer Pricing Pack</APP_PACK_NAME>
    <APP_PACK_DESCRIPTION>Pack for Funds Transfer Pricing in the Banking and Financial
    Services Domain</APP_PACK_DESCRIPTION>
    <VERSION>8.1.2.0.0</VERSION>
    <APP>
        <APP_ID PREREQ="" DEF_SEL_FLG="YES" ENABLE="YES">OFS_AAI</APP_ID>
        <APP_NAME>Financial Services Analytical Applications Infrastructure</APP_NAME>
        <APP_DESCRIPTION>Base Infrastructure for Analytical Applications</APP_DESCRIPTION>
        <VERSION>8.1.2.0.0</VERSION>
    </APP>
    <APP>
    <APP_ID PREREQ="OFS_AAI" ENABLE="YES">OFS_FTP</APP_ID>
        <APP_NAME>Financial Services Funds Transfer Pricing</APP_NAME>
        <APP_DESCRIPTION>Application for Funds Transfer Pricing</APP_DESCRIPTION>
        <VERSION>8.1.2.0.0</VERSION>
    </APP>
</APP_PACK_CONFIG>
```

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

Table 12: OFS_FTP_PACK.xml File Parameters

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

4. Save and close the file.

6.4 Configure the Schema Creator Utility

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

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

Topics:

- Configure Schema Creator Utility for RDBMS Installation
- Execute the Schema Creator Utility

6.4.1 Prerequisites

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

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

6.4.2 Configure the Schema Creator Utility for RDBMS Installation

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

You can configure the following schema types:

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

6.4.2.1 Configure the OFS_FTP_SCHEMA_IN.xml File

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

Specify the database schemas required for the installation in the `OFS_FTP_SCHEMA_IN.xml`. Update the required values in this file before executing the Schema Creator Utility.

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

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

Figure 8: Sample OFS_FTP_SCHEMA_IN.xml File

```
<APPPACKSCHEMA>
    <APP_PACK_ID>OFS_FTP_PACK</APP_PACK_ID>
    <IS_TCPS>FALSE</IS_TCPS>
    <JDBC_URL></JDBC_URL>
    <JDBC_DRIVER>oracle.jdbc.driver.OracleDriver</JDBC_DRIVER>
    <HOST><<HOST NAME>></HOST>
    <SETUPINFO NAME="DEV" PREFIX_SCHEMA_NAME="Y"/>
    <PASSWORD APPLYSAMEFORALL="Y" DEFAULT="" />
    <!-- Uncomment for data encryption and redaction -->
<!--
    <ADV_SEC_OPTIONS>
        <OPTION NAME="TDE" VALUE="FALSE"/>
        <OPTION NAME="DATA_REDACT" VALUE="TRUE" />
    </ADV_SEC_OPTIONS>
-->
    <TABLESPACES>
        <TABLESPACE NAME="OFSAA_CONF_TBSP" VALUE="OFSAA_CONF" DATAFILE="" SIZE="128M" AUTOEXTEND="ON"
        ENCRYPT="OFF" />
        <TABLESPACE NAME="OFSAA_DATA_TBSP" VALUE="OFSAA_DATA" DATAFILE="" SIZE="512M" AUTOEXTEND="ON"
        ENCRYPT="OFF" />
    </TABLESPACES>
    <SCHEMAS>
        <SCHEMA TYPE="CONFIG" NAME="" PASSWORD="" APP_ID="OFS_AAI" DEFAULTTABLESPACE=
        "##OFSAA_CONF_TBSP##" TEMPTABLESPACE="TEMP" QUOTA="UNLIMITED" />
        <SCHEMA TYPE="ATOMIC" NAME="" PASSWORD="" APP_ID="OFS_FTP" APP_GRP="1" INFODOM=""
        DEFAULTTABLESPACE="##OFSAA_DATA_TBSP##" TEMPTABLESPACE="TEMP" QUOTA="UNLIMITED" />
    </SCHEMAS>
</APPPACKSCHEMA>
```

Table 13: OFS_FTP_SCHEMA_IN.xml file (APPPACKSCHEMA Parameters)

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

Tag Name and Attribute Name	Description	Mandatory (Y or N)	Default Value or Permissible Value	Comments
<JDBC_URL>	Enter the JDBC URL. You can enter the RAC/ NON-RAC enabled database connectivity URL.	Y	Example: jdbc:oracle:thin:@< DBSERVER IP/ HOST/ IP>:<PORT>:<SID> or jdbc:oracle:thin:@//[HOS T][:PORT]/ SERVICE or jdbc:oracle:thin:@(DESCRI PTION=(ADDRESS_ LIST=(ADDRESS=(PROT OCOL=TCP)(HOST=[HO ST])(port=[PORT]))(ADD RESS=(PROTOCOL=TCP) (HOST=[HOST])(PORT=[PORT]))(LOAD_ BALANCE=yes)(FAILOV ER=yes))(CONNECT_ DATA=(SERVICE_ NAME=[SERVICE]))) For example: jdbc:oracle:thin:@//dbhos t.server.com:1521/service 1 or jdbc:oracle:thin:@//dbsho st.server.com:1521/scan-1 or jdbc:oracle:thin:@(DESCRI PTION=(ADDRESS_ LIST=(ADDRESS=(PROT OCOL=TCP)(HOST=dbho st1.server.com)(port=1521))(ADDRESS=(PROTOCO L=TCP)(HOST=dbhost2.s erver.com)(PORT=1521))(LOAD_ BALANCE=yes)(FAILOV ER=yes))(CONNECT_ DATA=(SERVICE_ NAME=service1)))	Ensure that you add an entry (with SID/ SERVICE NAME) in the `tnsnames.ora` file on the OFSAA server. The entry must match the SID/ SERVICE NAME used in the JDBC URL. Ensure that you have configured: 1. The correct Oracle Wallet with the credentials for stored Sys, Config, and Atomic Users. 2. The JDBC URL as follows: `jdbc:oracle:thin:/@` For more information on how to configure Oracle Wallets for OFSAA Installation and Data Sources, see the OFS Analytical Applications Infrastructure Administration Guide.
<JDBC_DRIVER>	The name of the driver is seeded.	Y	Example: oracle.jdbc.driver.OracleDriver	Only JDBC Thin Driver is supported. Do not modify this value.

Tag Name and Attribute Name	Description	Mandatory (Y or N)	Default Value or Permissible Value	Comments
<HOST>	Enter the Hostname/ IP Address of the system on which you are installing the OFSAA components.	Y	Host Name/IP Address	
<SETUPINFO>/PREFIX_SCHEMA_NAME	Identifies whether the value specified in <SETUPINFO>/NAME attribute must be prefixed to the schema name.	N	YES or NO	The default value is YES.
<SETUPINFO>/NAME	Enter the acronym for the type of implementation. This information is displayed on the OFSAA Home Page. On executing the schema creator utility, this value is prefixed with each schema name. For example: dev_ofsaaconf, uat_ofsaatm.	Y	Accepts strings with a minimum length of two and a maximum of four. Example: DEV, SIT, PROD	This message appears in the OFSAA Landing Page as "Connected To: DEV". The schemas being created get this prefix. For example, dev_nameconf, uat_nameconf, and so on.
<PASSWORD>/ DEFAULT*	Enter the password if you want to set a default password for all schemas. You also must set the APPLYSAMEFORALL attribute as Y to apply the default password for all the schemas.	Y	The maximum length allowed is 30 characters. Special characters are not allowed.	On successful execution of the utility, the entered password in the `OFS_FTP_SCHEMA_IN.xml` file is nullified.

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

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

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

Tag Name and Attribute Name	Description	Mandatory (Y or N)	Default Value or Permissible Value	Comments
<TABLESPACES>	Parent tag to hold <TABLESPACE> elements	N	NA	By default, this tag is uncommented. Edit only if tablespaces are to be created as part of the installation. Else, comment on this tag section. For details, see the example that follows the table. When TDE is TRUE in ADV_SEC_OPTIONS, the <TABLESPACES> tag must be present in the XML file.
<TABLESPACE>/NAME	Logical Name of the tablespace to be created.	Y	OFSAA_CONF_TBSP OFSAA_DATA_TBSP	Name, if specified, must be referred in the <SCHEMA DEFAULTTABLESPACE= "##NAME##"> attribute. Note the ## syntax.
<TABLESPACE>/VALUE	Physical Name of the tablespace to be created.	Y	NA	Value, if specified, is the actual name of the TABLESPACE.
<TABLESPACE>/DATAFILE	Specifies the location of the data file on the server.	Y	NA	Enter the absolute path of the file to be created.
<TABLESPACE>/AUTOEXTEND	Specifies if the tablespace must be extensible or have a hard limit.	Y	ON or OFF	Set to ON to ensure that the tablespace does not run out of space when full.
<TABLESPACE>/ENCRYPT	Specifies if the tablespace (or tablespaces) must be encrypted using TDE.	Y	ON or OFF	Set to ON to ensure that the tablespaces when created are encrypted using TDE. **NOTE**: Encryption of tablespaces requires enabling Transparent Data Encryption (TDE) on the Database Server.

4. Save and close the file.

Example: The following snippet shows that TDE is enabled and hence the tablespace is shown with encryption ON.

```
-----------------------------------------------------------------------------------------------
<ADV_SEC_OPTIONS>
<OPTION NAME="TDE" VALUE="TRUE"/>
<OPTION NAME="DATA_REDACT" VALUE="TRUE" />
</ADV_SEC_OPTIONS>
<TABLESPACES>
<TABLESPACE NAME="OFS_AAI_TBSP_1" VALUE="TS_USERS1" DATAFILE="/
scratch/ora12c/app/oracle/oradata/OFSPQA12CDB/ts_users1.dbf" SIZE="500M" AUTOEXTEND="ON"
ENCRYPT="ON" />
<TABLESPACE NAME="OFS_AAI_TBSP_2" VALUE="TS_USERS2" DATAFILE="/
scratch/ora12c/app/oracle/oradata/OFSPQA12CDB/ts_users2.dbf" SIZE="500M" AUTOEXTEND="ON"
ENCRYPT="ON" />
</TABLESPACES>


<SCHEMAS>
<SCHEMA TYPE="CONFIG" NAME="ofsaaconf" PASSWORD="" APP_ID="OFS_AAI"
DEFAULTTABLESPACE="##OFS_AAI_TBSP_1##" TEMPTABLESPACE="TEMP"
QUOTA="unlimited"/>
<SCHEMA TYPE="ATOMIC" NAME="ofsaaatm" PASSWORD="" APP_ID="OFS_AAAI"
DEFAULTTABLESPACE="##OFS_AAI_TBSP_2##" TEMPTABLESPACE="TEMP" QUOTA="unlimited"
INFODOM="OFSAAAIINFO"/>
</SCHEMAS>
-----------------------------------------------------------------------------------------------------------------------------
```

6.5 Execute the Schema Creator Utility

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

Topics:

6.5.1 Execute the Schema Creator Utility in Offline Mode

Choose the Offline Mode option if you do not have login credentials to the database with SYSDBA privileges.

In this mode, the utility generates an SQL script with all the required DDLs for Users, Objects, and Grants. That script must be executed by the DBA on the appropriate database identified for OFSAA usage.

To execute the schema creator utility in the offline mode, you must have the following privileges:

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

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

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

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

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

   The following message is displayed:

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

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

   The console runs the initial validation checks and displays the following message:

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

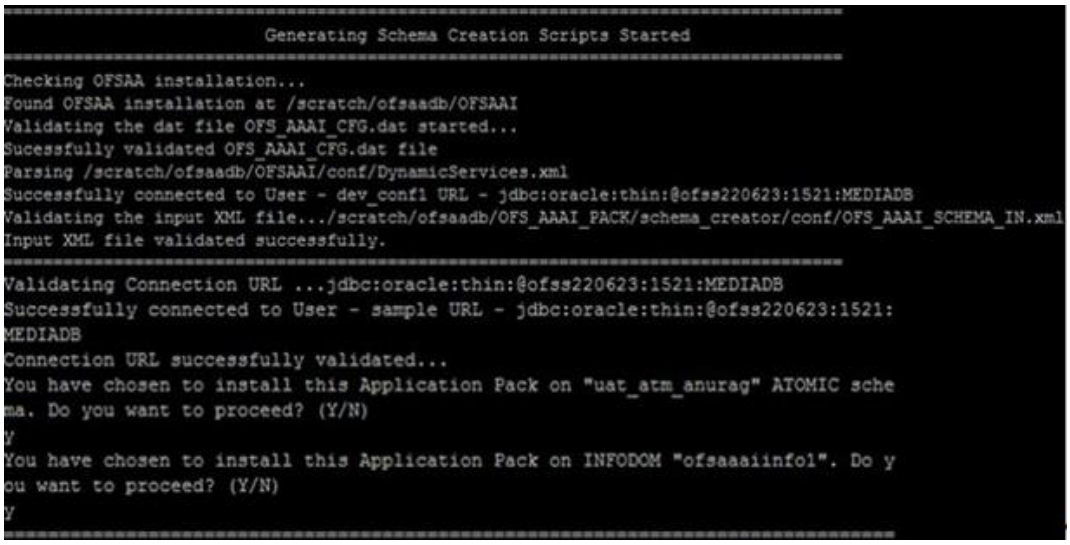
6. Enter **Y** to start the script generation.

   The following message is displayed:

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

   Enter **Y** to proceed.

Figure 9: Schema Creation in Offline Mode – Script Generation



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

Schema Creator executed successfully. Execute the file `scratch/ofsaaapp/OFS_FTP_PACK/schema_creator/sysdba_output_scripts.sql` *before proceeding with the installation.*

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

7. Navigate to the `OFS_FTP_PACK/schema_creator` directory.
8. Log in to the database using credentials with SYSDBA privileges.
9. Execute the `sysdba_output_scripts.sql` file using the following command:

   ```
   @sysdba_output_scripts.sql
   ```

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

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

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

6.5.2 Execute the Schema Creator Utility in Online Mode

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

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

1. Log in to the system as a non-root user.
2. Navigate to the `OFS_FTP_PACK/schema_creator/bin` directory.
3. Execute the utility.

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

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

6.5.3 Execute the Schema Creator Utility in TCPS Mode

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

6.5.3.1 Prerequisites

The following are the prerequisites for this configuration:

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

   For information on Creating and Managing Oracle Wallet, see https://blogs.oracle.com/dev2dev/ssl-connection-to-oracle-db-using-jdbc,-tlsv12,-jks-or-oracle-wallets and https://blogs.oracle.com/weblogicserver/weblogic-jdbc-use-of-oracle-wallet-for-ssl.
6. Configure the Oracle Wallet with trusted certificates between the database server with TCPS configured and the database client to enable communication through the SSL protocol. For example, all the database utils such as sqlplus, tnsping, and sqlldr must work between the Client and the Server.

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

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

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

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

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

   ```
   $ORACLE_HOME/bin/mkstore -wrl <WALLET_HOME> -createCredential  -nologo
   <ATOMICALIASNAME>  <ATOMIC_DATABASE_USERNAME>
   <ATOMIC_DATABASE_PASSWORD>
   ```

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

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

> **NOTE** ATOMICALIASNAME value is a TNS alias for Atomic Schema and must not contain underscores.
>
> For example, if the Atomic Schema Name is PROD_OFSAAATM, then the value for ATOMICALIASNAME must be entered as PRODOFSAAATM.

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

6.5.3.2 Execute the Schema Creator Utility

To execute the utility, follow these steps:

1. Edit the `OFS_FTP_PACK/schema_creator/conf/OFS_FTP_SCHEMA_IN.xml` file in a text editor. See the tables in Configure the OFS_FTP_SCHEMA_IN.xml File for the values that you must modify in the XML file.
2. Execute the utility with the -s option.

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

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

Figure 10: Schema Creation in the TCPS Mode

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

The following message is displayed:

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

3. Enter `Y` to proceed.

   The following message is displayed:

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

Figure 11: 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 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 09 09  ....,...........
You have chosen to install this Application Pack on "t81s_ofsaaatm" ATOMIC schema. Do you want to proceed? (Y/N)
Y
```

4. Enter `Y` to proceed.
5. After Schema creation is successful, proceed to Configure the OFSAAI_InstallConfig.xml File.

Figure 12: 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/aai81ssl/OFS_AAAI_PACK/schema_creator/bin>
```

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

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

6.5.4 Execute the Schema Creator Utility when Installing the Subsequent Applications Pack

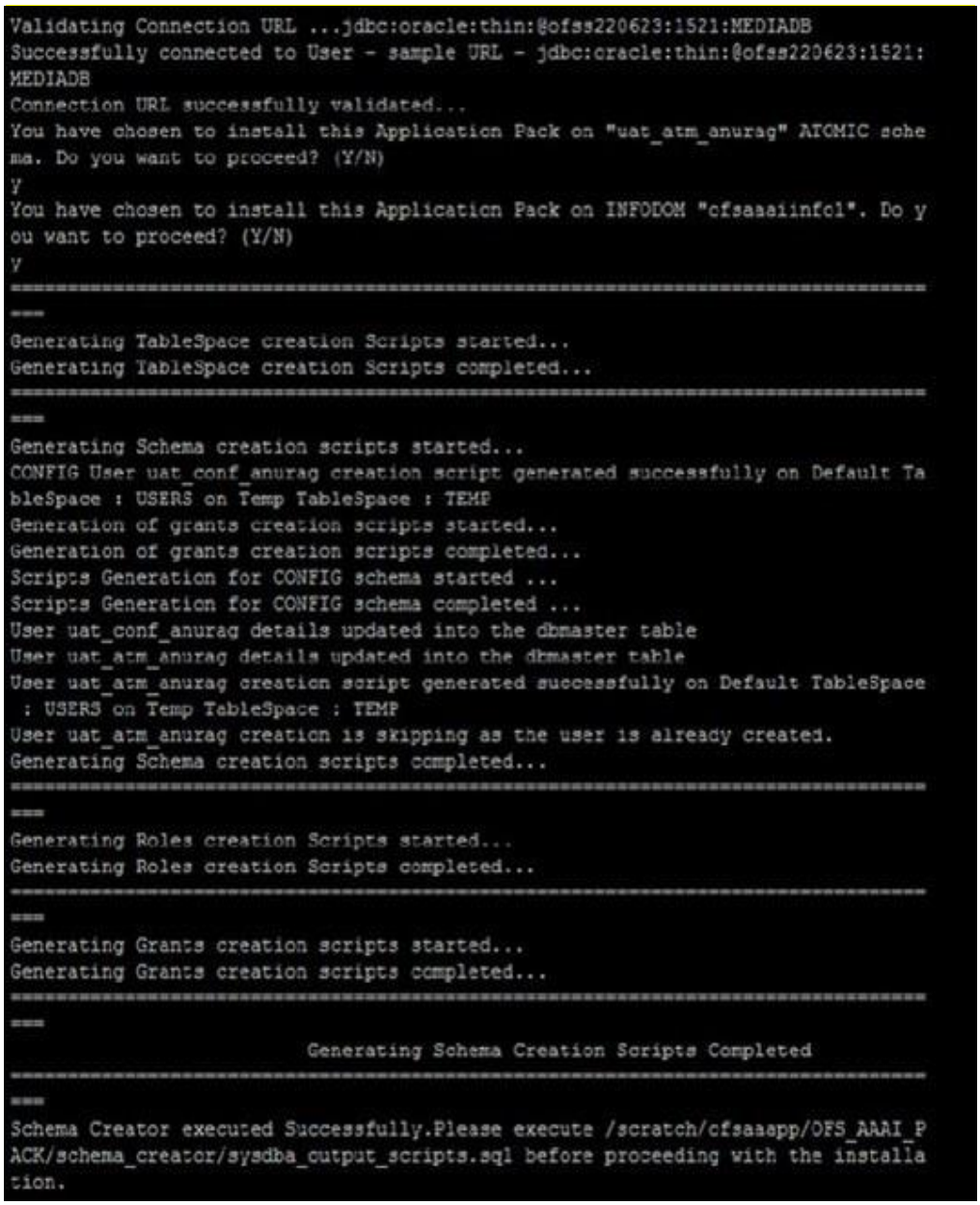
You can execute the Schema Creator Utility either in the Online or Offline modes.

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

1. Edit the `OFS_FTP_PACK/schema_creator/conf/OFS_FTP_SCHEMA_IN.xml` file in a text editor. See the OFS_FTP_SCHEMA_IN.xml file for values you must modify in the XML file.
2. Execute the utility.

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

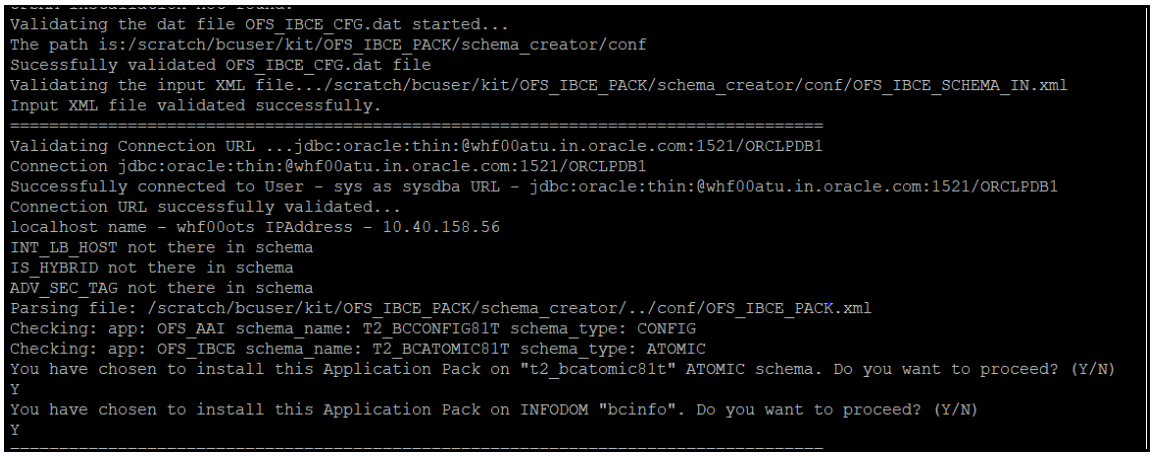
Figure 13: Schema Creator Utility



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

3. The utility identifies the application packs that are already installed on the current OFSAA setup and displays the following on the console:
   - Atomic schema of the existing application pack
   - Information Domain Name of the existing pack
   - List of installed application packs
4. Select the Atomic User on which you want to install the application pack.

Figure 14: Select the Atomic User



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

Success. Please proceed with the installation.

NOTE

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

6.6 Configure the OFSAAI_InstallConfig.xml File

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

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

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

Table 14: OFSAA Infrastructure Installation Tasks and Descriptions

InteractionVariable Name	Significance and Expected Value	Mandatory
<Layer name="GENERAL">		
InteractionGroup name="WebServerType"		
WEBAPPSERVERTYPE	Identifies the web application server on which the OFSAA infrastructure web components are deployed. Set the following numeric value depending on the type of web application server: • Apache Tomcat = 1 • IBM WebSphere Application Server = 2 • Oracle WebLogic Server = 3 For example, `<InteractionVariable name="WEBAPPSERVERTYPE">3</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 exactly the same as it is mentioned in `JDBC_URL`. For example, `<InteractionVariable name="ORACLE_SID/SERVICE_ NAME">ofsaser</InteractionVariable>`	Yes
ABS_DRIVER_PATH	Identifies the directory where the JDBC driver (`ojdbc<version>.jar`) exists. This would typically be the `$ORACLE_HOME/jdbc/lib` directory. For example, `<InteractionVariable name="ABS_DRIVER_ PATH">">/oradata6/revwb7/ oracle </InteractionVariable>`	Yes

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

InteractionVariable Name	Significance and Expected Value	Mandatory
	For example, <InteractionVariable name="LOCALE">en_US</InteractionVariable>	
InteractionGroup name=”OFSAA Infrastructure Communicating ports" **Note:** The following ports are used internally by the various OFSAA infrastructure services. The default values mentioned are set in the installation. If you intend to specify a different value, update the parameter value accordingly, ensure that the port value is in the range 1025 to 65535, and the respective port is enabled.		
JAVAPORT	9999	Yes
NATIVEPORT	6666	Yes
AGENTPORT	6510	Yes
ICCPORT	6507	Yes
ICCNATIVEPORT	6509	Yes
OLAPPORT	10101	Yes
MSGPORT	6501	Yes
ROUTERPORT	6500	Yes
AMPORT	6505	Yes
InteractionGroup name="Web Details" **Note:** If the value for HTTPS_ENABLE is set to **1**, ensure that you have a valid certificate available from a trusted CA and it is configured on your web application server. For more details on configuring your setup for HTTPS.		
HTTPS_ENABLE	Identifies whether the UI must be accessed using HTTP or HTTPS scheme. The default value is set to **0**. The numeric value must be set depending on the following options: • YES: 1 • NO: 0 For example, <InteractionVariable name="HTTPS_ENABLE">0</InteractionVariable>	Yes
WEB_SERVER_IP	Identifies the HTTP Server IP/ Hostname or Web Application Server IP/ Hostname, to be used to access the UI. This IP is typically the HTTP Server IP. If a separate HTTP Server is not available, then the value must be Web Application Server IP/Hostname.	No

InteractionVariable Name	Significance and Expected Value	Mandatory
	For example, <InteractionVariable name="WEB_SERVER_IP">10.11.12.13</InteractionVariable> or <InteractionVariable name="WEB_SERVER_IP">myweb.server.com</InteractionVariable>	
WEB_SERVER_PORT	Identifies the webserver port, which is typically 80 for non SSL and 443 for SSL. If a separate HTTP server exists, the port value must be the value configured for the webserver. **Warning:** The installer will not accept the port value as: • 80, if the HTTPS_ENABLE variable is 1 • 443, if the HTTPS_ENABLE variable is 0 For example, <InteractionVariable name="WEB_SERVER_PORT">80</InteractionVariable>	No
CONTEXT_NAME	Identifies the web application context name which is used to build the URL to access the OFSAA application. You can identify the context name from the following URL format: <scheme>://<host>:<port>/<context-name>/login.jsp For example: https://myweb:443/ofsaadev/login.jsp For example, <InteractionVariable name="CONTEXT_ NAME">ofsaadev</InteractionVariable>	Yes
WEBAPP_CONTEXT_PATH	Identifies the absolute path of the exploded EAR file on the web application server. • For Tomcat, specify the Tomcat directory path till /webapps. For example: /oradata6/revwb7/tomcat/webapps/. • For WebSphere, specify the WebSphere path as <WebSphere profile directory>/installedApps/<NodeCellName>. For example: /data2/test//WebSphere/AppServer/profiles/<Profile_Name>/installedApps/aiximfNode01Cell, where aix-imf is the Host name. • For WebLogic, specify the WebLogic home directory path. For example: /<WebLogic home directory path>/bea/wlserver_10.3 **Note:** For WebLogic, the value specified for this attribute is ignored and the value provided against the attribute WEBLOGIC_DOMAIN_HOME is considered.	Yes
WEB_LOCAL_PATH	Identifies the absolute path to any directory on the web application server that can hold temporary files, which are uploaded as part of the application's usage.	Yes

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

InteractionVariable Name	Significance and Expected Value	Mandatory
	`InteractionVariable name="OFSAAI_SFTP_PASSPHRASE">enter a pass phrase here</InteractionVariable>` By default, the value is **NA**. If the `OFSAAI_SFTP_PRIVATE_KEY` value is given and the `OFSAAI_SFTP_PASSPHRASE` value is **NA**, then the passphrase is identified as empty.	

6.6.1 Set Up the SFTP Private Key

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

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

```
ssh-keygen -t rsa
Generating public/private rsa key pair.
Enter file in which to save the key (/home/ofsaapp/.ssh/id_rsa):
Created directory '/home/ofsaapp/.ssh'.
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /home/ofsaapp/.ssh/id_rsa.
Your public key has been saved in /home/ofsaapp/.ssh/id_rsa.pub.
The key fingerprint is:
3e:4f:05:79:3a:9f:96:7c:3b:ad:e9:58:37:bc:37:e4
ofsaapp@OFSASERVER:~> cat /home/ofsaapp/.ssh/id_rsa.pub >>
/home/ofsaapp/.ssh/authorized_keys
```

Ensure the following permissions exist for the given directories:

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

6.7 Configure the Silent.props File

This section is applicable for a new installation of OFS FTP Pack Release 8.1.2.0.0. In the installer kit path `OFS_FTP_PACK/appsLibConfig/conf/`, rename the `Silent.template` file to `Silent.props`. Edit the `Silent.props` file and modify only the following parameters.

> **NOTE** In the pack-on-pack scenario, the parameters `OFS_FTP_SEGMENT_1_CODE` must be the same as the parameters `SEGMENT_1_CODE` of the previously installed application pack.
>
> Do not modify these parameters if there are no other packs than the OFS FTP Pack installed.

Figure 15: Sample Silent.props file

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

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

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

# Specify the path(DM_DIRECTORY) and file(DATAMODEL) name for the cutomized datamodel
# Mandatory only if you want to upload the customized datamodel
# i.e you have specified MODEL_TYPE=1
DATAMODEL=
DM_DIRECTORY=
#######################################
### END OF PACK_LEVEL_INPUTS ##########
#######################################

#######################################
### START OF OFS_FTP ##########
#######################################
# Specify the Profitability Management Segment Code
OFS_FTP_SEGMENT_1_CODE=COMMON

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

# Please give description for the ETL Sources
# Mandatory if you want to create new ETL Sources
#i.e you have specified ETL_APPSRC_TYPE=0

#ETL Staging source description
OFS_FTP_ETL_SRC_1_DESC=Staging
#ETL Processing source description
OFS_FTP_ETL_SRC_2_DESC=Processing

# Specify the ETL Source Name into ETL Area Definitions will be deployed
#ETL Staging source name
OFS_FTP_ETL_SRC_1_NAME=STAGING
#ETL Processing source name
OFS_FTP_ETL_SRC_2_NAME=PROCESSING

#######################################
### END OF OFS_FTP ##########
#######################################
```

Table 15: Parameters for the Silent.props File

Property Name	Description of Property	Permissible Values	Comments
LOG_MODE	Mode for logging	0 = Debug (Passwords will not be printed in the log file) 1 = General (Password will be printed in the log file)	Default: 0 This is optional.

Property Name	Description of Property	Permissible Values	Comments
SEGMENT_1_CODE	Segment Code	Not Applicable	Mandatory **NOTE**: The Segment Code should be in upper case.
APPFTP_LOG_PATH	Infodom Maintenance log path (to be created) for the new Infodom for applayer	Not Applicable	# Mandatory if this is an App Layer Installation and if you want to create a new infodom. # That is, you have specified INSTALL_APP=1 and INFODOM_TYPE=0
DBFTP_LOG_PATH	Infodom Maintenance log path (to be created) for the new Infodom for DBLayer	Not Applicable	# Mandatory if this is an App Layer Installation and if you want to create a new infodom. # That is, you have specified INSTALL_APP=1 and INFODOM_TYPE=0
UPLOAD_MODEL	To perform the Model Upload.	0: No 1: Yes	Mandatory
MODEL_TYPE	The released data model or a customized data model.	0: Released 1: Customized	Mandatory only if you want to upload the data model.
DATAMODEL	The path for the customized data model.	Not Applicable	Mandatory only if you want to upload the customized data model.
DM_DIRECTORY	The file name for the customized data model.	Not Applicable	Mandatory only if you want to upload the customized data model.
ETL_APPSRC_TYPE	Create a new ETL App or Src pair or use an existing one	0 = New 1 = Existing	#Mandatory if this is an App layer installation. # That is, you have specified INSTALL_APP=1. # 0 = If you want to create a new ETL app or src pair # 1 = If you want to use an existing pair
ETL_APP_1_DESC	Description for the ETL App	Not Applicable	# Mandatory if you want to create a new ETL app or src pair. #That is, you have specified ETL_APPSRC_TYPE=0

Property Name	Description of Property	Permissible Values	Comments
ETL_SRC_1_1_DESC	Description for the ETL Staging source description	Not Applicable	# Mandatory if you want to create a new ETL app or src pair. #That is, you have specified ETL_APPSRC_TYPE=0
ETL_SRC_1_2_DESC	Description for the ETL Processing source description	Not Applicable	# Mandatory if you want to create a new ETL app or src pair. #That is, you have specified ETL_APPSRC_TYPE=0
ETL_APP_1_NAME	ETL application name	Not Applicable	This is for the App Layer installation.
ETL_SRC_1_1_NAME	ETL Staging source name	Not Applicable	This Source must be mapped to the above ETL Application.
ETL_SRC_1_2_NAME	ETL Processing source name	Not Applicable	This Source must be mapped to the above ETL Application.

6.8 Install the OFS FTP Pack

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

1. Configure the OS File System Settings and Environment Settings in .profile File
2. Configure the OFS_FTP_PACK.xml File
3. Configure the OFS_FTP_SCHEMA_IN.xml File
4. Configure the OFSAAI_InstallConfig.xml File (Do not configure this file if an installation of OFSAAI 8.1.2 already exists.)
5. Execute the Schema Creator Utility
6. Configure the Silent.props File

To install the OFS FTP Pack, follow these steps:

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

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

3. Execute the user `.profile` file.

   ```
   . ./.profile
   ```

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

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

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

   `./setup.sh SILENT`

   The installer proceeds with the pre-installation checks.

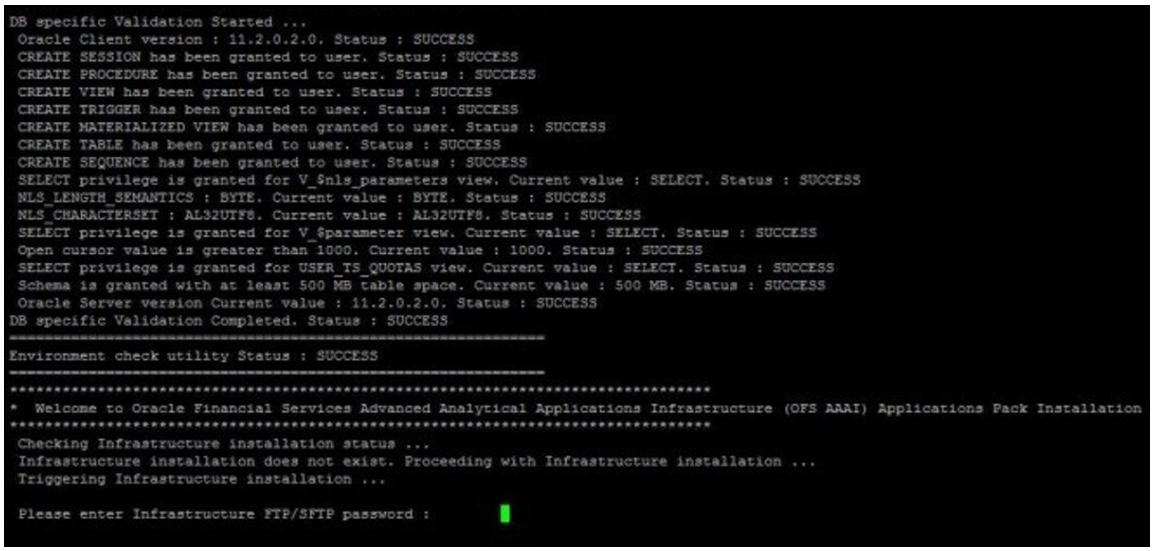
Figure 16: Installation

```
OS specific Validation Started ...
 Checking en_US.utf8 locale. Status : SUCCESS
 Unix shell found : /bin/ksh. Status : SUCCESS
 Total file descriptors : 65536. Status : SUCCESS
 Total number of process : 4096. Status : SUCCESS
 OS version : 7. Status : SUCCESS
OS specific Validation Completed. Status : SUCCESS
============================================================
DB specific Validation Started ...
 Oracle Client version : 19.0.0.0.0. Status : SUCCESS
client version 19.0
 Successfully connected to schema t2_bcatomic81t. Status : SUCCESS
 CREATE SESSION has been granted to user. Status : SUCCESS
 CREATE PROCEDURE has been granted to user. Status : SUCCESS
 CREATE VIEW has been granted to user. Status : SUCCESS
 CREATE TRIGGER has been granted to user. Status : SUCCESS
 CREATE MATERIALIZED VIEW has been granted to user. Status : SUCCESS
 CREATE TABLE has been granted to user. Status : SUCCESS
 CREATE SEQUENCE has been granted to user. Status : SUCCESS
 SELECT privilege is granted for NLS_INSTANCE_PARAMETERS view. Current value : READ. Status : SUCCESS
 NLS_LENGTH_SEMANTICS : BYTE. Current value : BYTE. Status : SUCCESS
 NLS_CHARACTERSET : AL32UTF8. Current value : AL32UTF8. Status : SUCCESS
 SELECT privilege is granted for V_$parameter view. Current value : SELECT. Status : SUCCESS
 Open cursor value is greater than 1000. Current value : 4000. Status : SUCCESS
 SELECT privilege is granted for USER_TS_QUOTAS view. Current value : READ. Status : SUCCESS
 Schema is granted with at least 500 MB table space for user : t2_bcconfig81t. Current value : 500 MB. Status : SUCCESS
Oracle db version 19
Oracle db R2 version 19.0
 Oracle Server version Current value : 19.0.0.0.0. Status : SUCCESS
DB specific Validation Completed. Status : SUCCESS
============================================================
find: '/scratch/bcuser/OFSAA/ext/lib': No such file or directory
Environment check utility Status : SUCCESS
============================================================
*******************************************************************************
*  Welcome to Oracle Financial Services Analytical Applications Infrastructure (OFS AAI) Installation  *
*******************************************************************************
 Checking Infrastructure installation status ...
 Infrastructure installation does not exist. Proceeding with Infrastructure installation ...
 Triggering Infrastructure installation ...

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

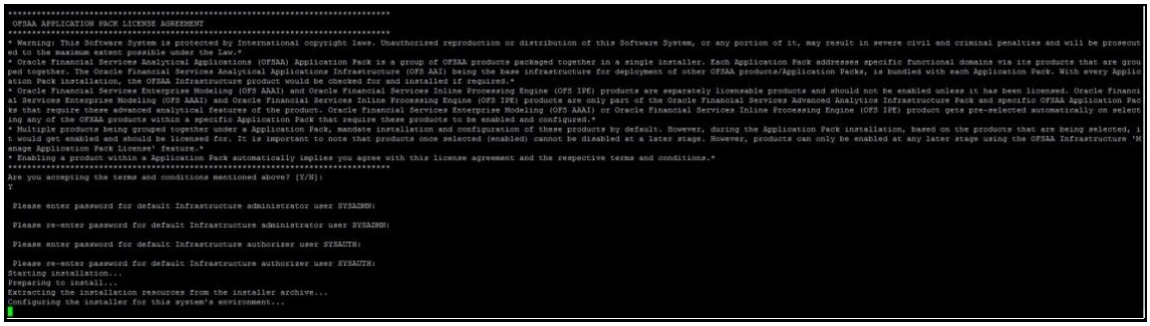
6. Enter the OFSAA Processing Tier FTP/SFTP password value when prompted in the Command Prompt and proceed.

Figure 17: OFSAA Processing Tier FTP/SFTP password



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

Figure 18: OFSAA License Agreement



8. The installer installs the OFS AAI application.

Figure 19: OFS AAI Installation

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

 Please enter password for default Infrastructure administrator user SYSADMN:

 Please re-enter password for default Infrastructure administrator user SYSADMN:

 Please enter password for default Infrastructure authorizer user SYSAUTH:

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

Launching installer...

Preparing SILENT Mode Installation...

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




===============================================================================
Installing...
-------------

 [==================|==================|==================|==================]
 [------------------|------------------|------------------|------------
```

9. After OFS AAAI is installed, the OFS FTP Pack installation begins.

Figure 20: OFS FTP Installation

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

Launching installer...

Preparing SILENT Mode Installation...

===============================================================================
pack_installsilent                               (created with InstallAnywhere)
-------------------------------------------------------------------------------




===============================================================================
Installing...
-------------

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

Installation Complete.
failurecount --- 1
Pack Name found is:  OFS_IBCE_PACK
[DynamicServiceManager][GlobalParameters.ISWEB]false
FIC_HOME:/scratch/bcuser/OFSAA/
Pack ID got for Synch is OFS_IBCE_PACK
SLF4J: Failed to load class "org.slf4j.impl.StaticLoggerBinder".
SLF4J: Defaulting to no-operation (NOP) logger implementation
SLF4J: See http://www.slf4j.org/codes.html#StaticLoggerBinder for further details.
```

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

The following message is displayed in the console: *Installation completed*

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

7 Post-installation

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

Topics:

7.1 Post-installation Checklist

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

> **NOTE** See the *Post-Installation* section in the OFS Analytical Applications Infrastructure Installation Guide Release 8.1.2.0.0 to complete these procedures.

Table 16: Post-installation Checklist

Sl. No.	Post-installation Activity
1	Verify the installation logs.
2	Back up the `SCHEMA_CREATOR.xml`, `OFS_FTP_SCHEMA_OUTPUT.xml`, and `Silent.props` files.
3	Stop the OFSAA Infrastructure services.
4	Create and deploy EAR/WAR files.
5	Start the OFSAA Infrastructure services.
6	Configure the webserver.
7	Configure the Resource Reference in web application servers.
8	Configure the Work Manager in the Web Application Servers.
9	Access the OFSAA application.
10	OFSAA Landing Page
11	Configure the `excludeURLList.cfg` file.
12	Change the ICC batch ownership.

Sl. No.	Post-installation Activity
13	Create Application Users.
14	Map the Application User(s) to User Groups.
15	Set TDE and Data Redaction in OFSAAI.
16	Implement Data Protection in OFSAA.

7.2 Verify the Log File Information

See the following logs files for more information:

- `Pack_Install.log` file in the `OFS_FTP_PACK/logs/` directory.
- Infrastructure installation log files in the `OFS_FTP_PACK/OFS_AAI/logs/` directory.
- `OFS_FTP_installation.log` file in the `OFS_FTP_PACK/OFS_FTP/logs` directory

7.3 Backup SCHEMA_CREATOR_IN.xml, OFS_FTP_SCHEMA_OUTPUT.xml, and Silent.props Files

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

Table 17: Directory of Files to Backup

File Name	Directory
OFS_FTP_SCHEMA_IN.xml	OFS_FTP_PACK/schema_creator/conf
OFS_FTP_SCHEMA_OUTPUT.xml	OFS_FTP_PACK/schema_creator/
Silent.props	OFS_FTP_PACK/appsLibConfig/conf

7.4 Access the OFSAA Application

To access the OFSAA application, follow these steps:

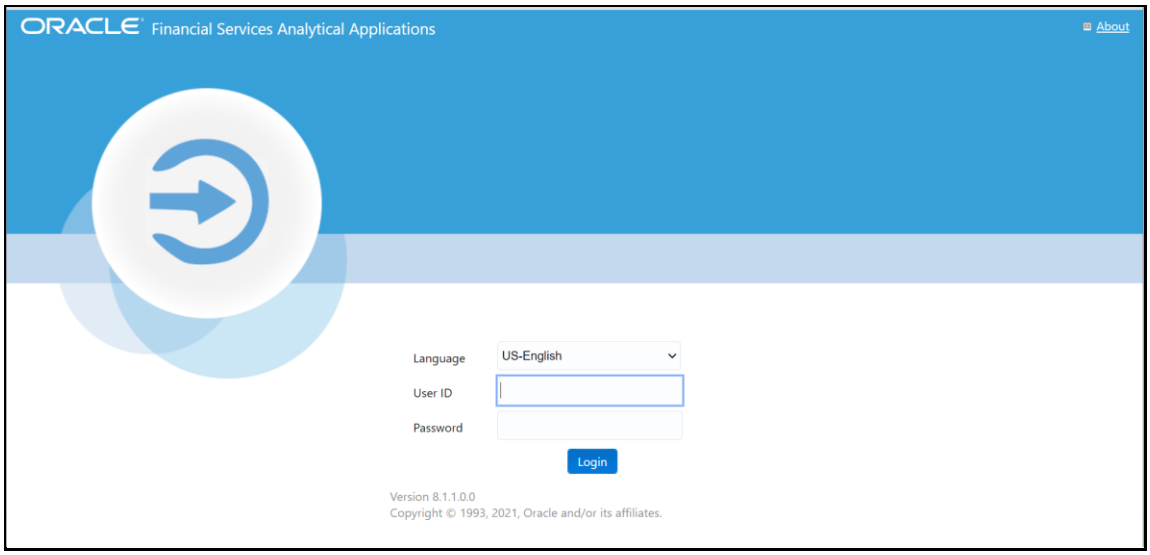
1. Open a browser and enter the URL in the following format:

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

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

   The OFSAA Login window is displayed.

Figure 21: OFSAA Login Window



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

- SYSADMN System Administrator
- SYSAUTH System Authorizer

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

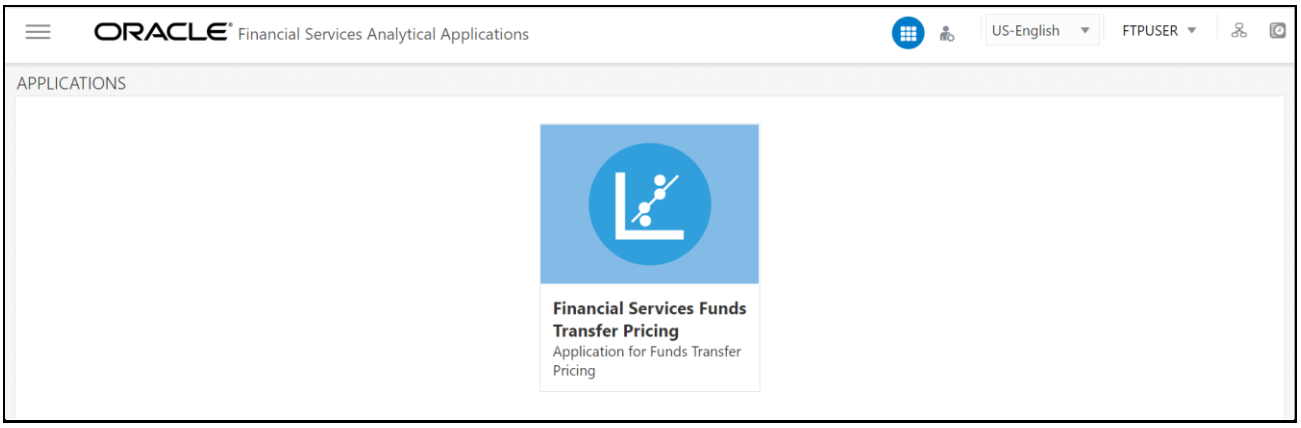
2. Log in to the application using the "SYSADMN" User ID and the default password. After the first login, you are prompted to change the password.

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

7.5 OFSAA Landing Page

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

Figure 22: OFSAA Landing Page



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

7.6 View OFSAA Product Licenses after Installation of Application Pack

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

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

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

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

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

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

```
<servlet>
    <servlet-name>CommonRESTServlet</servlet-name>
    <servlet-
    class>org.glassfish.jersey.servlet.ServletContainer</servlet-class>
    <init-param>
```

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

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

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

5. Save and close the file.
6. Restart the server.

7.8 Python Configuration

7.8.1 Pre-installation Check

Please ensure the availability of below libraries before installing python

- libffi.i686
- libffi.x86_64
- libffi-devel.i686
- libffi-devel.x86_64
- bzip2-devel
- xz-devel
- openssl
- openssl-devel
- freetype-devel
- gcc-c++

> **NOTE** Above libraries are dependence for python packages and not python, but it is done here so that python reinstallation is not needed if any of these are missing.
>
> Depending on provisioning etc. some more libraries may be found missing, which will reflect during 'make' step or package install step. These are list of libs found missing commonly. Any further missing libraries found and installed after python build will need rebuilding of python.

Verify these libraries using the yum list as shown in the following command:

```
yum list installed | grep libffi
```

Sample Output

```
$ yum list installed | grep libffi
libffi.i686                             3.0.13-19.el7              @ol7_latest
libffi.x86_64                           3.0.13-19.el7              @ol7_latest
libffi-devel.i686                       3.0.13-19.el7              @ol7_latest
libffi-devel.x86_64                     3.0.13-19.el7              @ol7_latest
```

If not installed install using below yum command with super user login. If it is available for anaconda, reinstall it for ole.

```
yum install libffi.i686
yum install libffi.x86_64
yum install libffi-devel.i686
yum install libffi-devel.x86_64
yum install bzip2-devel
yum install xz-devel
yum install openssl
yum install openssl-devel
yum install freetype-devel
yum install gcc-c++
```

> **NOTE** If proxy is not set, please use /etc/yum.conf to set proxy.
>
> Also make sure system proxy setting is present. Exit super user login and login as application user-specific credentials.

7.8.2 Python Installation

Following steps are applicable to Oracle Enterprise Linux. For other platforms, equivalent platform specific commands need to be used.

> **NOTE** All the commands are based on bash shell.

1. Log on to the server by using application user-specific credentials.
2. Ensure that the operating system in your server supports python 3.9.
3. Download python from:

   ```
   wget http://python.org/ftp/python/3.9.4/Python3.9.4.tgz
   ```

   Or

```
wget https://www.python.org/ftp/python/3.9.4/Python3.9.4.tar.xz
```

> **NOTE** If proxy is not set, please use http_proxy, https_proxy env variables to:
>
> ```
> set proxy
> export http_proxy=www-proxy-idc.in.oracle.com:80
> export https_proxy=www-proxy-idc.in.oracle.com:80
> ```

4. Unzip the downloaded file using the commands for the required file type from the following table:

Table 18:File types and their commands

File type	Command
.tgz	tar -zxvf Python-3.9.4.tgz
.tar	tar -xvf Python-3.9.4.tar.xz

5. Navigate to the Python-3.9.4 directory and execute the configure file.
   - To install python in the default directory, use the following command :

     ```
     ./configure --prefix=<custom folder> --enable-optimizations
     ```

> **NOTE** Custom folder to be accessible by application user like $HOME/Python3.9.4.
>
> Example:
>
> ```
> ./configure --prefix=$HOME/Python-3.9.4 --enableoptimizations
> ```

6. Make using the command:

   ```
   make
   ```

> **NOTE** In case of error in make command, please execute the below command to clean and re-execute:
>
> `make clean`
>
> Some systems may not support --enable-optimizations in previous step, use following command, if error is found during 'make' step subsequently.
>
> `./configure --prefix=<custom folder>`
>
> `make clean`
>
> `make`

7. Make install using the command:

   `make install`

8. Edit . profile file and add variable PYTHON_HOME with python directory.

   ```
   export PYTHON_HOME=/scratch/causer/Python-3.9.4
   ```

9. Edit. profile file and Update the PATH Variable with PYTHON_HOME. Path should be updated after PYTHON_HOME is defined as provided in the previous step.

   `export PATH=$PYTHON_HOME:$PYTHON_HOME/bin:$PATH`

   Verify with

   `echo $PATH`

10. Navigate to `<custom_folder>/bin` and ensure if the python 3.9 file is present here.

    `cd $HOME/Python-3.9.4/bin`

11. Invoke python3 and ensure it points to Python 3.9.4 as shown below.

    `python3`

Figure 23: Python prompt

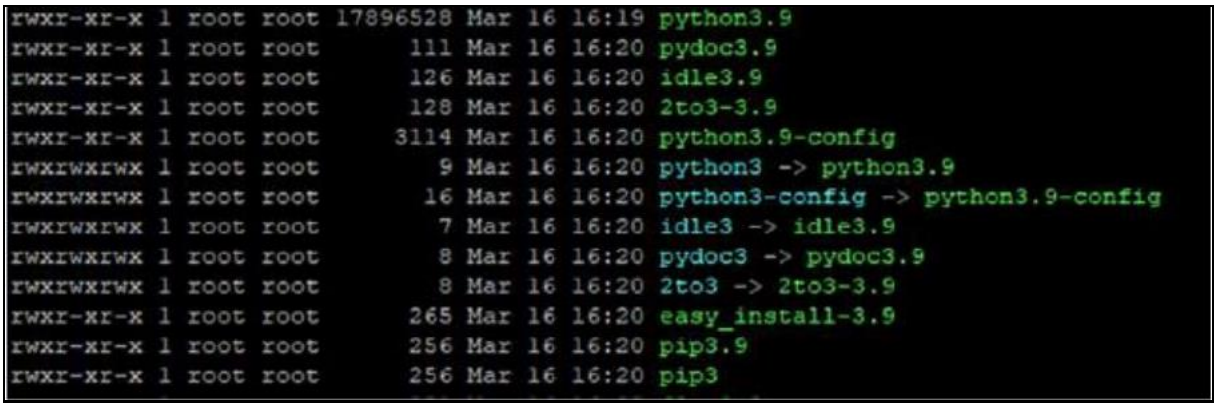
```
[vulbaseuser@ofss-mum-2655 ~]$ python3
Python 3.9.4 (default, Feb 21 2023, 11:21:20)
[GCC 8.5.0 20210514 (Red Hat 8.5.0-10.1.0.1)] on linux
Type "help", "copyright", "credits" or "license" for more information.
>>>
```

> **NOTE** Above image is for demonstration purpose, may not match exactly.

12. Navigate to `<custom_folder>/bin` and ensure if the pip3 file is present here.

    ```
    cd <custom_folder>/bin
    ls -ltr
    ```

Figure 24: pip3.9 file



> **NOTE** Above image is for demonstration purpose, may not match exactly.
>
> The pip-3 and pip-3.9 files can be used to install the further python packages. You are advised to use pip-3.9. We shall create link in the next step to use.

13. If pip3 and python3 links are not present then navigate to /bin, and create soft links for python3 and pip3 by using the following commands:

    ```
    ln -s <custom_folder>/bin/python3.9 python3
    ln -s <custom_folder>/bin/pip3.9 pip3
    ```

    Example:

    ```
    ln -s $HOME/Python-3.9.4/bin/python3.9 python3
    ln -s $HOME/Python-3.9.4/bin/pip3.9 pip3
    ```

> **NOTE** For issues related to yum on Oracle Linux, contact My Oracle Support.

7.8.3 Installing Python Packages

Perform the following steps for installation of packages:

1. Edit. profile file and Add to path: `$HOME/.local/bin` if not present

   ```
   export PATH=$HOME/.local/bin:$PATH
   pip3 install --user seaborn==0.10.1
   pip3 install --user numpy==1.19.4
   pip3 install --user pandas==1.2.4
   pip3 install --user scikit-learn==0.24.2
   pip3 install --user scipy==1.6.3
   pip3 install --user statsmodels==0.12.2
   ```

```
pip3 install --user matplotlib==3.2.2
pip3 install --user imbalanced-learn==0.7.0
pip3 install --user cx_oracle==8.1.0
pip3 install --user sqlalchemy==1.3.18
pip3 install --user pmdarima==1.8.2
pip3 install --user arch==4.19
```

NOTE Make sure the proxy is set for pip3 library installation. If proxy is not set, please use environment variable to set proxy.

```
export https_proxy=http://<proxy.server>:<port>
export http_proxy=http://<proxy.server>:<port>
```

It is recommended to install libraries through pip3. If not then the Built Distributions can be taken from below mentioned URLs from Table: Build file URL.

Table 19: Build file URLs

Library Name	Build file IRL
numpy==1.19.4	https://files.pythonhosted.org/packages/25/8b/8e81cd8c91ffe85bbc4b4b2af007b379d16e8966964eb2239633a77be18e/numpy-1.19.4-cp39-cp39-manylinux1_x86_64.whl
pytz	https://files.pythonhosted.org/packages/b5/d7/91fd8911d22e7fac794803095dd192bf1ebd70c7603272085230d915e738/pytz-2022.5-py2.py3-none-any.whl
python-dateutil	https://files.pythonhosted.org/packages/36/7a/87837f39d0296e723bb9b62bbb257d0355c7f6128853c78955f57342a56d/python_dateutil-2.8.2-py2.py3-none-any.whl
six	https://files.pythonhosted.org/packages/d9/5a/e7c31adbe875f2abbb91bd84cf2dc52d792b5a01506781dbcf25c91daf11/six-1.16.0-py2.py3-none-any.whl
pandas==1.2.4	https://files.pythonhosted.org/packages/ad/a8/cdc88844ee0935ad8ecf6fa2f2d445fdb9ed947ff75c9dbb7fc1e7effca1/pandas-1.2.4-cp39-cp39-manylinux1_x86_64.whl
threadpoolctl	https://files.pythonhosted.org/packages/61/cf/6e354304bcb9c6413c4e02a747b600061c21d38ba51e7e544ac7bc66aecc/threadpoolctl-3.1.0-py3-none-any.whl
joblib	https://files.pythonhosted.org/packages/91/d4/3b4c8e5a30604df4c7518c562d4bf0502f2fa29221459226e140cf846512/joblib-1.2.0-py3-none-any.whl
scikit-learn==0.24.2	https://files.pythonhosted.org/packages/13/ac/7ea73841bbed1f1c60f6e960dc9bbf1401f84926ef9db69cfce07d61127a/scikit_learn-0.24.2-cp39-cp39-manylinux1_x86_64.whl
scipy==1.6.3	https://files.pythonhosted.org/packages/aa/51/753f8ef537d0a4d10fc67d58bb3a4b51dca4c3f68cc27d503a87bfcb48ed/scipy-1.6.3-cp39-cp39-manylinux1_x86_64.whl
pillow	https://files.pythonhosted.org/packages/c1/d2/169e77ffa99a04f6837ff860b022fa1ea925e698e1c544c58268c8fd2afe/Pillow-9.2.0-cp39-cp39-manylinux_2_17_x86_64.manylinux2014_x86_64.whl

Library Name	Build file IRL
pyparsing	https://files.pythonhosted.org/packages/6c/10/a7d0fa5baea8fe7b50f448ab742f26f52b80bfca85ac2be9d35cdd9a3246/pyparsing-3.0.9-py3-none-any.whl
kiwisolver	https://files.pythonhosted.org/packages/a4/36/c414d75be311ce97ef7248edcc4fc05afae2998641bf6b592d43a9dee581/kiwisolver-1.4.4-cp39-cp39-manylinux_2_12_x86_64.manylinux2010_x86_64.whl
cycler	https://files.pythonhosted.org/packages/5c/f9/695d6bedebd747e5eb0fe8fad57b72fdf25411273a39791cde838d5a8f51/cycler-0.11.0-py3-none-any.whl
matplotlib==3.3.3**	https://files.pythonhosted.org/packages/e4/c8/e5da564a1cc0e9ce8194e2e5e8d59ff3dcaeecfedce4c1a6d7b800f3e12c/matplotlib-3.3.3-cp39-cp39-manylinux1_x86_64.whl
seaborn==0.10.1	https://files.pythonhosted.org/packages/c7/e6/54aaaafd0b87f51dfba92ba73da94151aa3bc179e5fe88fc5dfb3038e860/seaborn-0.10.1-py3-none-any.whl
patsy	https://files.pythonhosted.org/packages/2a/e4/b3263b0e353f2be7b14f044d57874490c9cef1798a435f038683acea5c98/patsy-0.5.3-py2.py3-none-any.whl
statsmodels==0.12.2	https://files.pythonhosted.org/packages/c8/62/d77baf956f6d18ec56c5d3d9b61fa9c0e496c181e12b4962ab9ac4d4cb01/statsmodels-0.12.2-cp39-cp39-manylinux1_x86_64.whl
imbalancedlearn==0.7.0	https://files.pythonhosted.org/packages/c8/81/8db4d87b03b998fda7c6f835d807c9ae4e3b141f978597b8d7f31600be15/imbalanced_learn-0.7.0-py3-none-any.whl
cx_oracle==8.1.0	https://files.pythonhosted.org/packages/24/61/ac4874a694bc470c349f4e846863c227b06deed1d0a09f28750a47522124/cx_Oracle-8.1.0-cp39-cp39-manylinux1_x86_64.whl
greenlet	https://files.pythonhosted.org/packages/8b/e2/07206a72c1660ce801d2f1635c1314a3706592d35564e4f75d27c4c426eb/greenlet-1.1.3.post0-cp39-cp39-manylinux_2_17_x86_64.manylinux2014_x86_64.whl
sqlalchemy==1.4.42**	https://files.pythonhosted.org/packages/a0/e0/ea3b6d042613667146bae2c9c2c0666f971a87dbf1cb2d3fc2c10a6c696c/SQLAlchemy-1.4.42-cp39-cp39-manylinux_2_5_x86_64.manylinux1_x86_64.manylinux_2_17_x86_64.manylinux2014_x86_64.whl
urllib3	https://files.pythonhosted.org/packages/6f/de/5be2e3eed8426f871b170663333a0f627fc2924cc386cd41be065e7ea870/urllib3-1.26.12-py2.py3-none-any.whl
cython	https://files.pythonhosted.org/packages/c3/8f/bb0a7182dc081fbc6608e98a8184970e7d903acfc1ec58680d46f5c915ce/Cython-0.29.32-cp39-cp39-manylinux_2_17_x86_64.manylinux2014_x86_64.manylinux_2_24_x86_64.whl
pmdarima==1.8.2	https://files.pythonhosted.org/packages/98/19/a06e2b73683d996f342efb5b1495708026b727ddb538e7d9177d37cab4dc/pmdarima-1.8.2-cp39-cp39-manylinux1_x86_64.whl
property-cached	https://files.pythonhosted.org/packages/5c/6c/94d8e520b20a2502e508e1c558f338061cf409cbee78fd6a3a5c6ae812bd/property_cached-1.6.4-py2.py3-none-any.whl
arch==4.19	https://files.pythonhosted.org/packages/da/0f/bdf885a74f28b5baa0615f8b0587d1baad0e785ea4cfe831390a53e50a10/arch-4.19-cp39-cp39-manylinux1_x86_64.whl

> **NOTE** **published wheels are not available for the same version for python 3.9.4, so advanced version wheels are provided .However manual source build can be done as follows:
>
> For matplotlib and sqlalchemy, it can be build from source using the below links:
>
> - Build from source for matplotlib
>
> https://matplotlib.org/stable/users/installing/index.html#installingfrom-source
>
> - Build from source for sqlalchemy
>
> https://www.sqlalchemy.org/develop.html
>
> Source build instructions are available for all libraries in the respective home page.

2. Following command can be executed for each whl file downloaded:

   ```
   pip3 install <whl_file_name>.whl
   ```

   Two step verification of installation of packages:

   a. Verify the presence of files using the following command:

      ```
      pip3 freeze
      ```

      This will give the list of installed packages.

   b. By importing the packages:

      For example:

      ```
      Python3
      >import numpy
      >import pandas
      ```

7.9 Change the ICC Batch Ownership

All the seeded batches in the OFS FTP application are automatically assigned to the SYSADMN user during installation. To see the batches in the Batch Maintenance menu, you must execute the following query in the Config Schema of the database:

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

Where:

- `fromUser` indicates the user who currently owns the batch

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

7.10 OFS Funds Transfer Pricing Web Service Configuration

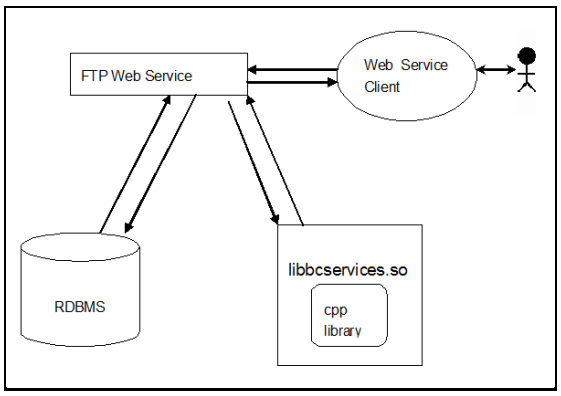
The following installation activity describes how to set up FTP web services to support the Breakage Charge Economic Loss calculation. The calculation logic is the same as the FTP Adjustment Rule Breakage Charge calculation. This FTP Economic Loss Web Service is now independent of EXEWebService. Note that other FTP web services are installed automatically and do not require any further setup.

7.10.1 Approach

The FTP web services are designed as a wrapper which will call the FTP engine for the calculation of Economic Loss. The FTP web service is available in its context and has a specific RESTful URL for that context.

The following picture explains the architecture of FTP Web Service deployment:

Figure 25: FTP Web Service Deployment Architecture



7.10.2 Prerequisites

The following are the prerequisites to deploy the FTP web services:

- For WebLogic and WebSphere, the data source should be present with JNDI name as `jdbc/FTPWS`
- For Tomcat, a separate context entry should be present in the `server.xml` file

7.10.3 Log4j Configuration

The `log4j.properties` file is already present inside the `WEB-INF/classes` directory of the war file. The logs will be generated in the `webservice.log` file under `$root_directory_of_war/logs/`directory.

7.10.4 Setup Environment Variable - ofsaaws.properties

The `ofsaaws.properties` file is available in the `WEB-INF/classes` directory. Specify the `cpp_component` name. Place the component `libbcservices.so` under `/ficdb/lib/libFSGBU` directory. Add the library location to `LD_LIBRARY_PATH`.

If web services are deployed in an environment other than where OFSAA is deployed, then copy the `/ficdb/lib/libFSGBU` directory to the web services environment and set the LIBRARY path.

- For AIX: `cpp_component= libbcservices.so(libbcservices.o)`
- For Solaris: `cpp_component=bcservices`
- For Linux: `cpp_component=bcservices`

7.10.5 Creating FTPWebServiceAXIS.war

To create the FTPWebServiceAXIS.war file, follow these steps:

1. Navigate to the server path in which the application is running.

   For example: `$FIC_HOME/FTPWebService`

2. Run the `ant.sh` in this folder.

   The `FTPWebServiceAXIS.war` file will be created in the same folder.

7.10.6 Deploying FTPWebServiceAXIS.war

- **For Tomcat:**
  a. Copy the `FTPWebServiceAXIS.war` file to the webapps folder of the Apache Tomcat directory.
  b. Go to the conf folder of Apache Tomcat and add a separate context entry in the `server.xml` file with resource name as `jdbc/FTPWS`.

  Example:

```
---------------------------------------------------------------------------------------------

<Context path="/FTPWebServiceAXIS" docBase="/<Tomcat_webapps>
/FTPWebServiceAXIS" debug="0" reloadable="false"
crossContext="true">

<Resource auth="Container"

name="jdbc/FTPWS"

type="javax.sql.DataSource

driverClassName="oracle.jdbc.driver.OracleDriver

username="username"

password="password" url="jdbc:oracle:thin:@db-ip:dp-port:dbname"

maxActive="100"

maxIdle="30"

maxWait="10000"

removeAbandoned="true"
```

```
removeAbandonedTimeout="60"
logAbandoned="true"/>
</Context>
----------------------------------------------------------------------
```

c. Restart the server.

- **For Weblogic and WebSphere:**

a. Deploy the `FTPWebServiceAXIS.war` file from the admin console.

b. Create a data source for database connection with JNDI name as `jdbc/FTPWS`.

Service Signature is present at the following URL:

`http://<ip>:<port>/FTPWebServiceAXIS/`

7.10.7 Additional Steps for Configuring the FTP Ad hoc Pricing Web Services

Ad hoc pricing web services (`getpricing`) are deployed along with the OFS FTP. You can set up these web services with some minor configurations after the installation.

To configure the ad hoc pricing web services, follow these steps:

1. Navigate to the `$FIC_HOME/ficweb/webroot/WEB-INF/classes` directory.
2. Open the `ofsaaws.properties` file.
3. Replace the `<infodom name>` and `<userid>` (with admin access) and save it.
4. Open the `ofsaawsClient.properties` file and enter the OFSAA URL.
5. Rebuild the .war file and deploy it.

URL patterns for ad hoc web-services are:

`http://<ip>:<port>/<context>/rest-api/ftpPcdRestservice/v1/getPricing`

`http://<ip>:<port>/<context>/rest-api/ftpPcdRestservice/v1/getPricingData`

7.11 Changes in .profile file for Solaris Operating System

For the Solaris operating system, do the following changes in the `.profile` file present in the user's home directory.

- For Solaris Sparc and X86 systems, append the path `$FIC_DB_HOME/lib/libC++11/` to `LD_LIBRARY_PATH` variable in the `.profile` file.

  For example:

  `LD_LIBRARY_PATH=$LD_LIBRARY_PATH:$FIC_DB_HOME/lib/libC++11`

- For Solaris Sparc, add the Oracle Developer Studio installed path at the beginning of the `LD_LIBRARY_PATH` variable in the `.profile` file.

  For example:

  ```
  LD_LIBRARY_PATH=/opt/SunProd/studio12u6/developerstudio12.5/lib/compile
  rs/CCgcc/lib/sparcv9:$LD_LIBRARY_PATH
  ```

7.12 Configuration for Dimension Management

These configurations are applicable only if you are using the Dimension Management features provided in OFSAAI.

For more details, see the *General Configurations for Dimension Management Module* section in the OFS Analytical Applications Infrastructure Installation Guide Release 8.1.2.0.0.

7.13 Changes for Oracle Database Server 19C

The following changes are required for Oracle Database Server version 19c:

1. Shutdown OFSAA services.
2. Update the `sqlnet.ora` file with the following parameters and verify the update to ensure no garbage characters and no spaces are there in the beginning or at the end. This is important to check.

   ```
   SQLNET.ALLOWED_LOGON_VERSION_CLIENT=8
   SQLNET.ALLOWED_LOGON_VERSION_SERVER=8
   ```
3. Restart the listener and database service.
4. Reset atomic user password on the database.

   The command should be run on the database Server as the sysdba account using the following command:

   ```
   alter user SCHEMA_USERNAME identified by SCHEMA_PASSWORD;
   ```

   The same password used initially can be used during the reset.
5. Restart OFSAA services and login as sysadmn user and navigate to the Database Details.
6. Update the password via the Database Details User Interface and save it.
7. Start OFSAA services.

7.14 Additional Configuration

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

> **NOTE** See the *Additional Configuration* section in the OFS Analytical Applications Infrastructure Installation Guide Release 8.1.2.0.0 to complete these procedures.

Table 20: Additional Configuration Checklist

Sl. No.	Additional Configuration Activity
1	Add the FTP/SFTP configuration for file transfer.
2	Configure the Infrastructure Server Memory.

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

8 Upgrade

Topics:

8.1 Upgrade Scenarios

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

Table 21: Upgrade Scenarios

Scenario	Upgrade Instructions
Upgrade from OFS Funds Transfer Pricing 8.1.0.0.0 to OFS Funds Transfer Pricing Pack (OFS FTP Pack) 8.1.2.0.0	1. Run the Environment Check Utility tool and ensure that the hardware and software requirements are installed as per the Tech Stack. 2. Update the Silent.props file present in the Release 8.1.2.0.0 pack. 3. Trigger the Release 8.1.2.0.0 installation.
Upgrade from OFS Funds Transfer Pricing 8.1.1.0.0 to OFS Funds Transfer Pricing Pack (OFS FTP Pack) 8.1.2.0.0	1. Run the Environment Check Utility tool and ensure that the hardware and software requirements are installed as per the Tech Stack. 2. Update the Silent.props file present in the Release 8.1.2.0.0 pack. 3. Trigger the Release 8.1.2.0.0 installation. 4. Apply the patches 8.1.1.0.5 (Patch ID 36521337) and 8.1.1.0.6 (Patch ID 36511981).
Upgrade from OFS Funds Transfer Pricing 8.1.1.1.0 to OFS Funds Transfer Pricing Pack (OFS FTP Pack) 8.1.2.0.0	1. Run the Environment Check Utility tool and ensure that the hardware and software requirements are installed as per the Tech Stack. 2. Update the Silent.props file present in the Release 8.1.2.0.0 pack. 3. Trigger the Release 8.1.2.0.0 installation.

8.2 Prepare for Upgrade

Before you install/upgrade any of your application packs to Release v8.1.2.0.0, ensure that all the application packs in your current OFSAA instance are available in Release v8.1.2.0.0 or later version. Contact My Oracle Support for more information about the release version details.

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

1. Back up the OFSAA schemas from the Oracle Database server.
2. Backup the following environment files from the `OFS_FTP_PACK>/schema_creator/conf` directory:
   - `OFS_FTP_PACK.xml` from the `OFS_FTP_PACK/conf` directory
   - `OFS_FTP_SCHEMA_IN.xml` from the `OFS_FTP_PACK/schema_creator/conf` directory
   - `OFSAAI_InstallConfig.xml` from the `/OFS_FTP_PACK/OFS_AAI/conf` directory
3. See the OFSAA Technology Matrix, Release 8.1.2.0.0 for the hardware and software required to upgrade to OFS AAAI Release 8.1.2.0.0.
4. Enable unlimited cryptographic policy for Java. For more information, see the *Enabling Unlimited Cryptographic Policy* section in the OFS Analytical Applications Infrastructure Administration Guide.
5. In an integrated environment where OFS Funds Transfer Pricing Pack (OFS FTP Pack) exists with the OFS Balance Sheet Planning (OFS BSP) and or OFS Asset Liability Management (OFS ALM), execute the following SQL script on the ATOMIC schema to avoid the data model upload failure:

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

   commit;
   ```

6. If you are uploading the packaged data model with the installer, execute the following script in the atomic schema:

   ```
   ---------------------------------------------------------------------

   DECLARE

      tbl_check NUMBER;

   BEGIN

   Select count(*) into tbl_check from user_tables where
   table_name='FSI_IRCS';

      IF( tbl_check=1) THEN

      for i in (SELECT CONSTRAINT_NAME, TABLE_NAME FROM USER_CONSTRAINTS
      WHERE R_CONSTRAINT_NAME = (SELECT CONSTRAINT_NAME FROM
      USER_CONSTRAINTS WHERE TABLE_NAME='FSI_IRCS' AND
      CONSTRAINT_TYPE='P'))

   LOOP

      execute immediate 'ALTER TABLE '||i.table_name||' DISABLE CONSTRAINT
      '||i.constraint_name||'';

   end loop;

      execute immediate 'ALTER TABLE FSI_CURRENCIES DROP CONSTRAINT
      FK_FSI_CURRENCIES_2';

   END IF;

   EXCEPTION

   WHEN OTHERS THEN

      dbms_output.put_line(sqlerrm);

   END;

   /
   ```

8.2.1 Update the Silent.props File

Update the Silent.props file present in the Release 8.1.2.0.0 pack. In the installer kit path `OFS_FTP_PACK/appsLibConfig/conf/`, rename the `Silent.template` file to `Silent.props`.

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

1. Navigate to the `OFS_FTP_PACK/appsLibConfig/conf` directory.
2. Open the `Silent.props` file and edit only the following parameters:

Table 22: Parameters for the Silent.props File

Property Name	Description of Property	Permissible Values	Comments
UPLOAD_MODEL	Whether you want to perform the Model Upload.	0: No 1: Yes	Mandatory
MODEL_TYPE	The released data model or a customized data model.	0: Released 1: Customized	Mandatory only if you want to upload the data model.
DATAMODEL	The path for the customized data model.	Not Applicable	Mandatory only if you want to upload the customized data model.
DM_DIRECTORY	The file name for the customized data model.	Not Applicable	Mandatory only if you want to upload the customized data model.
OFS_FTP_ETL_APPSRC_TYPE	Create a new ETL App or Src pair or use an existing one	0 = New 1 = Existing	#Mandatory if this is an App layer installation. In case of an upgrade, this value must be 1. # That is, you have specified INSTALL_APP=1. # 0 = If you want to create a new ETL app or src pair # 1 = If you want to use an existing pair

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

8.2.2 Trigger the Installation

To trigger the installation, follow these steps:

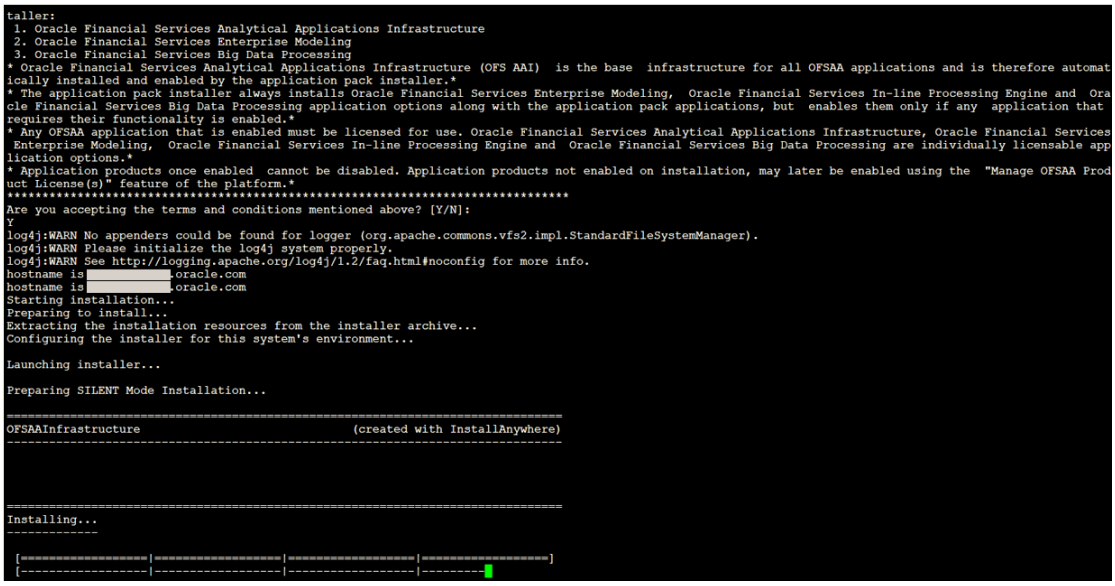
1. Enter the following command in the console to execute the application pack installer.

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

   The installer proceeds with the pre-installation checks.

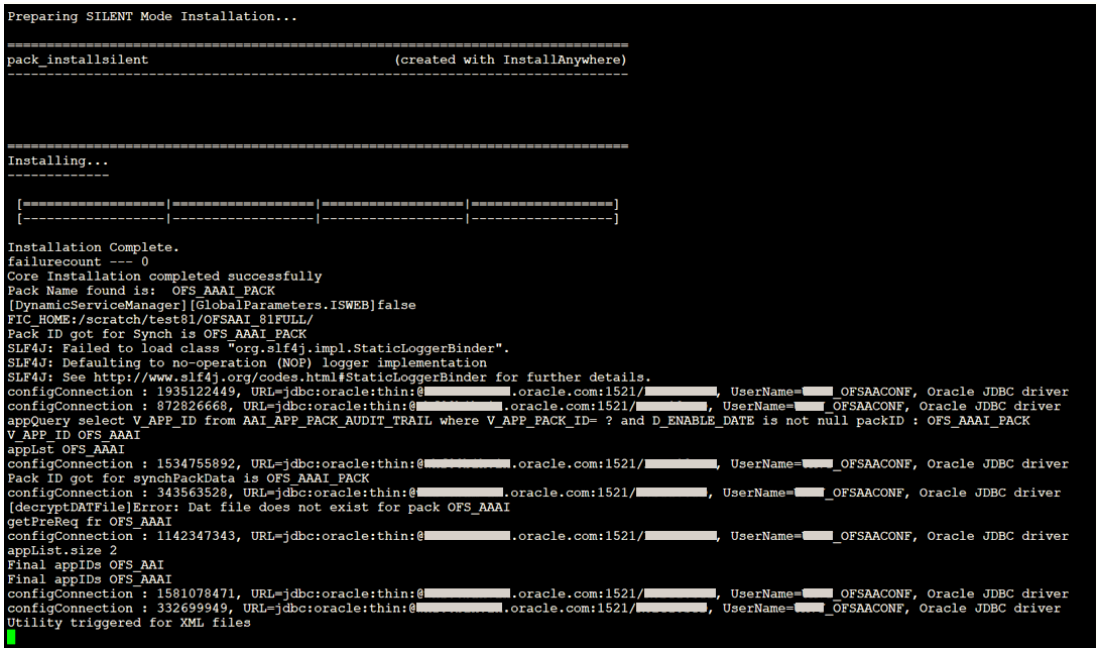
2. The OFS AAAI installation begins.

Figure 26: OFS Funds Transfer Pricing Installation



Data Model Upload may take several hours to complete.

Figure 27: Installation In Progress



3. The following message is displayed in the console:

   Installation completed…

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

5. Install the following mandatory one-off patch:

   - Release 8.1.2.0.1 (Patch ID: **33794583**)

   If you have already applied the Release 8.1.1.0.5 and 8.1.1.06 on-off patches, then you do not need to apply the following 8.1.2.x.x patches:

   - Release 8.1.2.0.22 (Patch ID: **36526613**)
   - Release 8.1.2.0.23 (Patch ID: **36526649**)

     For more instructions, refer to the readme files attached with the patch installers.

8.2.3 Verify the Log File Information

See the following log files for more information:

- `Pack_Install.log` file in the `OFS_FTP_PACK/logs/` directory
- Infrastructure installation log file(s) located in the `OFS_FTP_PACK/OFS_AAI/logs/` directory
- `OFS_FTP_installation.log` file in the `OFS_FTP_PACK/OFS_FTP/logs` directory

8.3 Post Upgrade Steps

Perform the following steps after completing the upgrade.

8.3.1 Remove ContextDocLoader from the web.xml File

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

1. Navigate to the `$FIC_WEB_HOME/webroot/WEB-INF` folder.
2. Open the `web.xml` file in a text editor.
3. Search for `ContextDocLoader` parameter and remove the following servlet entry:

```
----------------------------------------------------------------------
<servlet>
   <servlet-name>context</servlet-name>
   <servlet-
   class>com.ofs.fsapps.commonapps.core.summary.common.ContextDocLoade
   r</servlet-class>
<load-on-startup>1</load-on-startup>
</servlet>
```

4. Create and deploy the EAR/WAR files.

8.3.2 Verify FSI_DB_INFO Entries

After completing the upgrade process, verify data for the correct schema name (OWNER) and Tablespace (OUTPUT_TABLESPACE) values in the FSI_DB_INFO table in the atomic schema.

8.4 Changes in .profile file for Solaris Operating System

For the Solaris operating system, do the following changes in the `.profile` file present in the user's home directory.

- For Solaris Sparc and X86 systems, append the path `$FIC_DB_HOME/lib/libC++11/` to `LD_LIBRARY_PATH` variable in the `.profile` file.

  For example:

  ```
  LD_LIBRARY_PATH=$LD_LIBRARY_PATH:$FIC_DB_HOME/lib/libC++11
  ```

- For Solaris Sparc, add the Oracle Developer Studio installed path at the beginning of the `LD_LIBRARY_PATH` variable in the `.profile` file.

  For example:

  ```
  LD_LIBRARY_PATH=/opt/SunProd/studio12u6/developerstudio12.5/lib/compilers/CCgcc/lib/sparcv9:$LD_LIBRARY_PATH
  ```

8.5 View OFSAA Product Licenses after Installation of Application Pack

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

9 Installing OFS Funds Transfer Pricing Pack on an Existing OFSAA Instance

You have already installed an application pack from release 8.1.x.0.0 and now you want to install another application pack from Release 8.1.2.0.0. For example, OFS Asset Liability Management is already installed and now you want to install OFS Funds Transfer Pricing Pack (OFS FTP Pack).

For installation instructions for the Funds Transfer Pricing Pack (OFS FTP Pack) application, see the Installation section.

10 Migrate Excel Upload Functionality

See the *Migrate Excel Upload* section in the OFS Advanced Analytical Applications Infrastructure Installation Guide Release 8.1.2.0.0 to complete the procedures.

11 Frequently Asked Questions (FAQs) and Error Dictionary

For FAQs and installation error-related information, see the section *Frequently Asked Questions (FAQs) and Error Dictionary* in the OFS Advanced Analytical Applications Infrastructure Installation Guide Release 8.1.2.0.0.

12 Appendix A: Packaging the Python Libraries

To package the Python libraries, ensure that you have the following files:

- libffi.i686
- libffi.x86_64
- libffi-devel.i686
- libffi-devel.x86_64
- Verify these libraries using the yum list as shown in the following command:

  ```
  yum list installed | grep libffi
  ```

```
$ yum list installed | grep libffi
libffi.i686                              3.0.13-19.el7                @ol7_latest
libffi.x86_64                            3.0.13-19.el7                @ol7_latest
libffi-devel.i686                        3.0.13-19.el7                @ol7_latest
libffi-devel.x86_64                      3.0.13-19.el7                @ol7_latest
```

1. Ensure that the version of Python is 3.9.4.
2. Add `$HOME/Python-3.9.4/bin` in `PATH` in the `.profile` file.
3. Verify that the following Python library files are available:
   - seaborn-0.10.1
   - numpy-1.19.4
   - pandas-1.2.4
   - scikit-learn-0.24.2
   - scipy-1.6.3
   - statsmodels-0.12.2
   - matplotlib-3.2.2
   - imbalanced-learn-0.7.0
   - cx_oracle-8.1.0
   - sqlalchemy-1.3.18
   - pmdarima-1.8.2
   - arch-4.19

OFSAA Support

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

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- Do you need more information? If so, where?
- Are the examples correct? Do you need more examples?
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If you find any errors or have any other suggestions for improvement, indicate the title and part number of the documentation along with the chapter/section/page number (if available) and contact the Oracle Support.

Before sending us your comments, you might like to ensure that you have the latest version of the document wherein any of your concerns have already been addressed. You can access My Oracle Support site that has all the revised/recently released documents.