

Oracle Financial Services Data Foundation  
Product Installation Manual  
Version 7.4.0.0.0  
May 2013



---

## Document Control

Author: Niraj Ranjan Biswal	Group: OFSAA	
Created on: 25-Mar-13	Revision No: 1.0	
Updated by: Niraj Ranjan Biswal	Reviewed by : Aravind Venkatraman	Approved by: Aravind Venkatraman
Updated on: 14- May -13	Reviewed on: 14- May -13	Approved on: 14- May -13

---

## Table of Contents

About this Manual .....	1
Audience .....	1
Scope .....	1
Organization of the Manual .....	1
Conventions Used in this Manual .....	1
Environment and Prerequisites .....	2
Environment.....	2
Prerequisites.....	2
Front-End Access .....	2
Installing OFSDF v7.4.0.0.0 Product.....	3
Pre-Installation Activities .....	3
OFSDF v7.4.0.0.0 Product Installation .....	4
Machine A – Product App Layer.....	5
Machine B – Product Database Layer.....	17
Silent Installation.....	22
Post Installation Activities .....	26
OFSAAI Server Memory Configuration .....	26

## About this Manual

**Oracle Financial Services Data Foundation** (OFSDF) helps Banks and Financial services institutions to manage and monitor interest rate risk, liquidity risk, foreign currency risk, and earnings risk. OFSDF application models every loan, deposit, and investment portfolio individually to help institutions understand the assumed risks better and their sensitivity to economic conditions.

### Audience

This Manual is meant to be used by the OFSDF System Administrator. This provides step-by-step instructions necessary for installing the Oracle Financial Services Data Foundation, release 7.4.0.0.0.

### Scope

This manual provides a step-wise instruction to install the Oracle Financial Services Data Foundation Product in an existing Oracle Financial Services Analytical Applications Infrastructure (OFSAAI).

### Organization of the Manual

The Installation Manual is organized into the following chapters:

- [\*Environment and Prerequisites\*](#) - This chapter explains about the hardware and base software environment required for successful installation and functioning of OFSAAI solution.
- [\*Installing OFSDF v7.4.0.0.0 Product\*](#) - This chapter details about the necessary pre-installation activities and the step-by-step instructions to perform the installation.
- [\*Post Installation Activities\*](#) - This chapter details the steps required to be performed after successful installation of OFSAAI solution.

### Conventions Used in this Manual

- References to sections or chapters in the manual are displayed in *Italics*.
- Screen names are displayed in the following manner:  
**Introduction** screen
- Options and buttons are displayed in **Bold**.
- Notes are displayed as follows:

#### **NOTE:**

It is important that the password should be 6 characters long. If you do not adhere to this prerequisite, you will see a system message that reads **Password must be at least 6 characters long**.

## **Environment and Prerequisites**

The installation process requires certain environmental variables to be set prior to starting the installation. You must ensure that these requirements are met before starting the installation. You are requested to refer to the Release Notes for the latest updates on hardware or software requirements and the OFSAAI Installation Manual for the environment variables.

### **Environment**

Installation of Oracle Financial Services Data Foundation v7.4.0.0.0 Product requires **Oracle Financial Services Analytical Applications Infrastructure v7.3.2.1.0**, to be installed in either on a single-tier or on a multi-tier environment. It is implicit that all base software versions and patch levels required by the version of Oracle Financial Services Analytical Applications Infrastructure 7.3.0 are available.

### **NOTE:**

- If you are performing an upgrade, ensure that OFSAAI has been upgraded from v7.3.0 to v7.3.2.1.0.
- The Oracle Financial Services Data Foundation v7.4.0.0.0 installer download contains only the ERwin XML file that is required for uploading the model. This file is sufficient to install the v7.4.0.0.0 product. However, this XML file cannot be opened in the ERwin Data modeler tool and hence cannot be used for any data model customization. ERwin file is delivered as a patch and need to be downloaded separately. This ERwin file should be used for any customization of the data model. Reference bug / patch where ERwin file can be downloaded is 16806232.

### **Prerequisites**

- Oracle Financial Services Analytical Applications Infrastructure v7.3.2.1.0, once installed must be configured.
- Download and install the one-off patch # 7.3.2.1.8 available in the bug 16534443.
- Download and install the one-off patch # 7.3.2.1.9 available in the bug 16660240.

### **Front-End Access**

Internet Explorer 8.0/9.0

Java Plug-in 1.6.0\_21

Acrobat Reader 8.0

The screen resolutions supported are 1024\*768 and 1280\*1024.

### **NOTE:**

Ensure that Java Plug-in is enabled in the browser settings.

# Installing OFSDF v7.4.0.0.0 Product

## Pre-Installation Activities

All the actions listed in the following checklist have to be performed prior to installing Oracle Financial Services Data Foundation Product:

- Oracle Financial Services Analytical Applications Infrastructure v7.3.2.1.0 must be successfully installed.
- If Infrastructure installation is on multi-tier environment, execute the following commands in the DB Layer terminal:

```
chmod -R 777 < ftpshare folder >
```

- Navigate to ftpshare folder and set the **umask** as shown below; this is to ensure all the newly created files have **666** permission assigned:

```
cd < ftpshare folder >
```

```
umask 0000
```

- The Config and atomic schema should be two distinct Oracle database users.
- Execute the file **privileges\_atomic\_user.sql** from DBA user. This provides the required privileges for the atomic schema.
- Copy the entire OFSDF v7.4.0.0.0 installer download directory to the server location (Including the DataModel directory). Also provide read, write, and execute permissions to all the files present in this directory.
- Specify the log file path and name in the **log4j.xml** file. Update the "value" attribute marked in the following image:

```
<!DOCTYPE log4j:configuration SYSTEM "log4j.dtd">
<log4j:configuration xmlns:log4j="http://jakarta.apache.org/log4j/">

<appender name="ConfigReveleusFileAppender" class="org.apache.log4j.RollingFileAppender">
  <param name="file" value="<u02/setupkit/ALM60/Log/FTP60.log"/>
  <param name="Append" value="true"/>
</appender>
```

Figure 1: Log4j.xml file configuration

- Ensure that the path given in the **log4j.xml** file has read/write/execute permissions set.
- Execute the **config\_table\_privileges\_for\_atomic\_user.sql** script present in \$FIC\_HOME, in configuration schema.
- Ensure that FICServer is up and running before proceeding with the installation.

- If you are performing an upgrade, that is from OFSDW 7.3 to OFSDF 7.4.0.0.0, you may have to alter few table data as mentioned in the below spreadsheet, depending on the following conditions:
  - In case of **new not null fields** for a table, table data has to be deleted after taking the back up along with dependent tables.
  - In case of **data type changes**, table data has to be deleted after taking the back up along with dependent tables and moved back using proper casting.
  - In case of **making null fields to not null for existing fields**, fields have to be defaulted.



Difference Report  
for FSDW73-FSDF74.

#### Difference Report for OFSDW73 - OFSDF74

### **OFSDF v7.4.0.0.0 Product Installation**

The OFSDF product comprises of components that are installed in Web, Application, Database layers. Hence if you have installed Oracle Financial Services Analytical Applications Infrastructure 7.3.2.1.0 in a multi-tier architecture, the OFSDF installer must be invoked on each of the machines that host the OFSAAI layers.

For a Single-tier installation, the installer is required to be invoked only once on the machine that hosts all the OFSAAI layers.

This section describes the installation process, where the three product setup components are installed on separate machines with the installation on separate machines. Machine A will be used to install Product Application Layer components, Machine B will be used to install Product Database Layer components, and Machine C will be used to install Product Web Layer components.

#### **NOTE:**

- This section is applicable only if OFSAAI v7.3.2.1.0 is installed on separate machines A, B, and C respectively.
- Refer to [Silent Installation](#) section, if you prefer to install OFSDF in silent mode.

## Machine A – Product App Layer

### Step 1

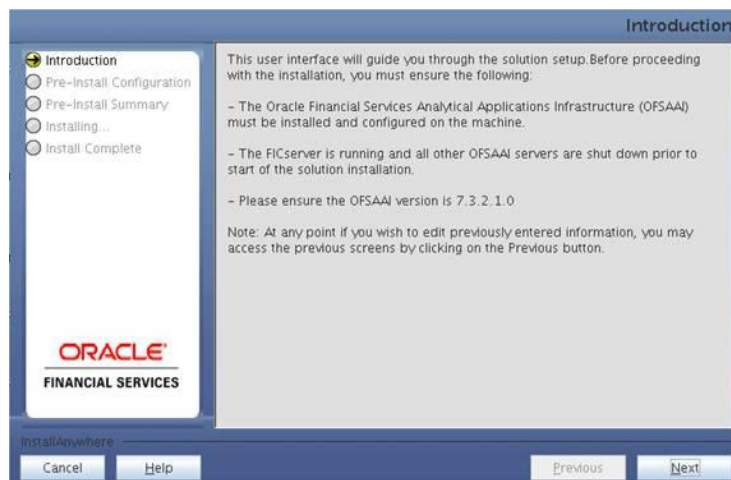
To begin Oracle Financial Services Data Foundation product installation, execute the file **Setup.sh**.



**Figure 2: Installation Splash Screen**

### Step 2

Upon invoking the installer, the **Introduction** screen will display the prerequisites for installation. Ensure that the prerequisites are met before you proceed.



**Figure 3: Introduction Screen**

### Step 3

Choose the log mode for this installer. If Debug is selected, the Passwords will be printed in the Log File.



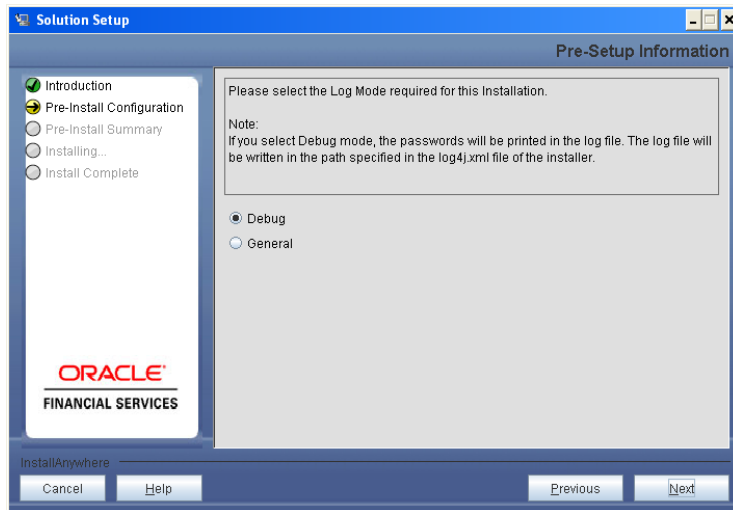


Figure 4: Log Mode Option Screen

#### Step 4

Provide the 9 digit Customer Identification Number provided during the OFSAAI installation.

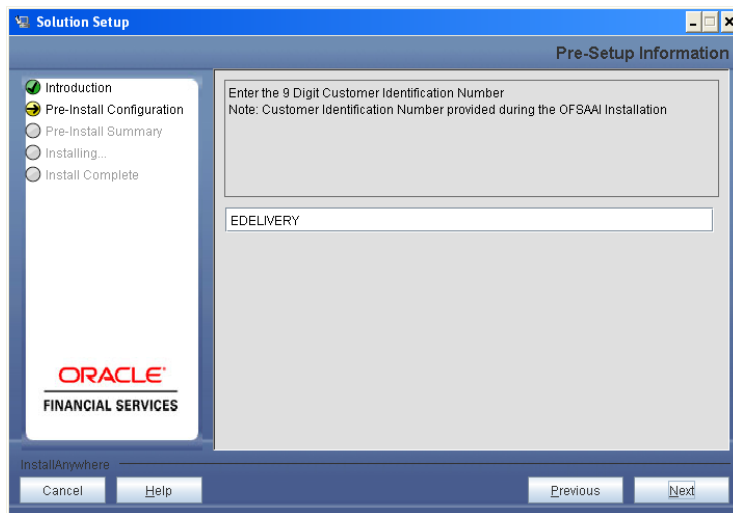


Figure 5: Customer ID Input Screen

Click **Next** to continue.

## Step 5

The **Pre Setup Information** screen requests for setup information.

Select the appropriate OFSAAI layer that has been installed on the machine. For example, **AppLayer**

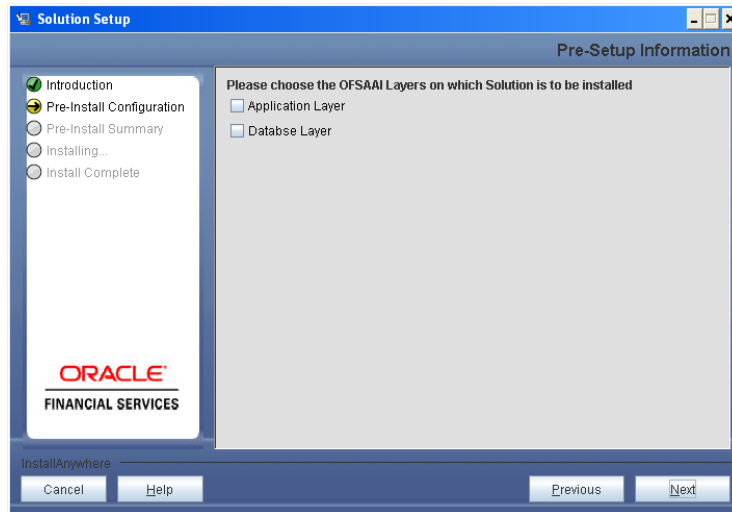


Figure 6: Pre Setup Information Screen – Choose Layer to Install

## Step 6

This window seeks information on whether a new infodomain has to be created or the existing infodomain to be used for apps installation. Choose the desired option.

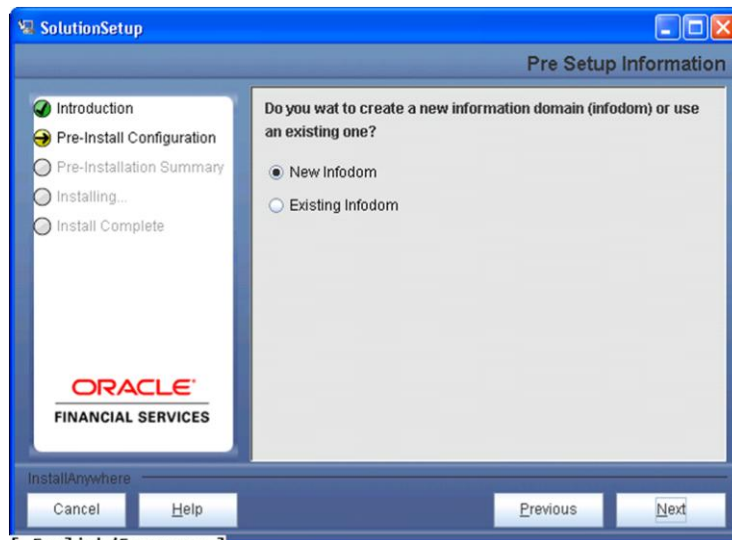


Figure 7: Pre Setup Information Screen – Infodomain type

Click **Next** to continue.

### Step 7-i

Upon selecting the **New Infodom** option the following window is displayed, where you have to enter the following details to create an Information Domain.

Specify a DB name for the new infodom. Make a TNS entry with the DB name specified in the **tnsname.ora** file in the oracle server.

Enter the newly created atomic schema user name, password, and jdbc url in relevant fields.

Click **Next** to continue

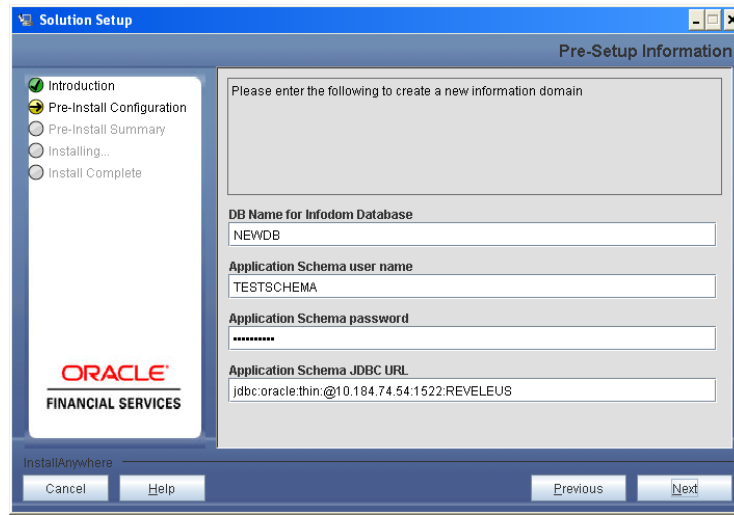


Figure 8: Database details for the new Infodom

### Step 7-ii

Specify the name and description for the new infodom to be created.

Specify a segment name to be created.

**NOTE:** Segment name should not exceed 10 characters.

Also specify the Application server and database server log path for infodom maintenance (to be created).

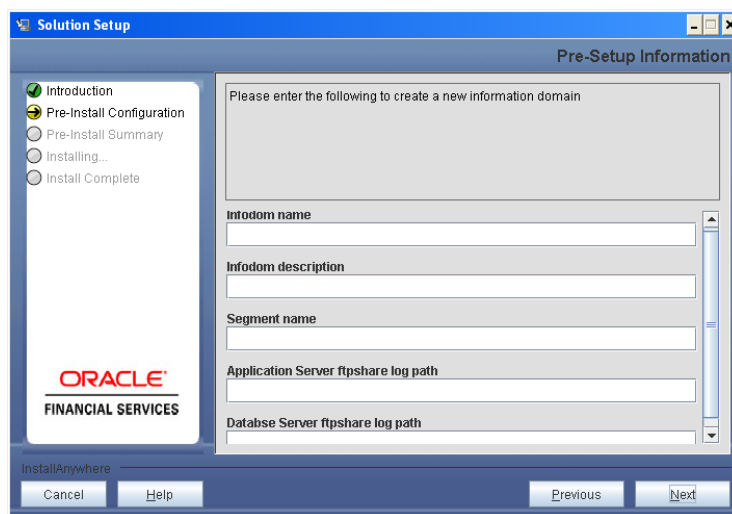


Figure 9: Infodom details for creation of new Infodom

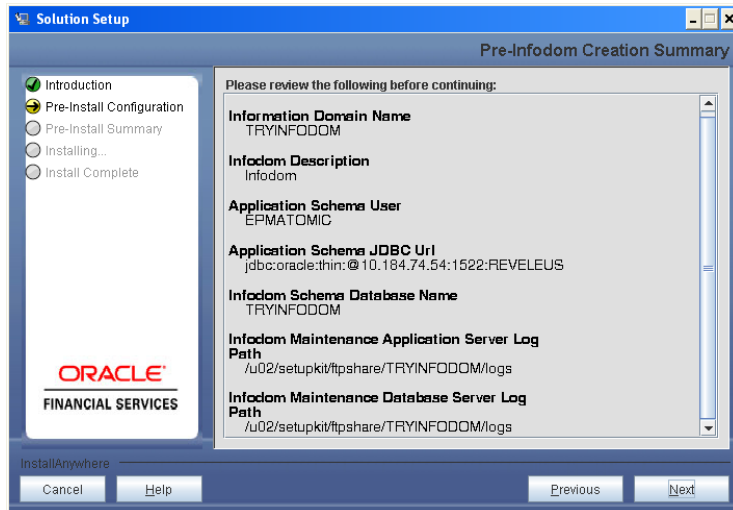
**NOTE:**

The OFSAAI user must have a role that is able to perform Add/Modify functions for OFSDF metadata.

Click **Next** to continue.

**Step 7-iii**

Check and verify all the details before proceeding to the next step.



**Figure 10: Pre Infodom Creation Summary**

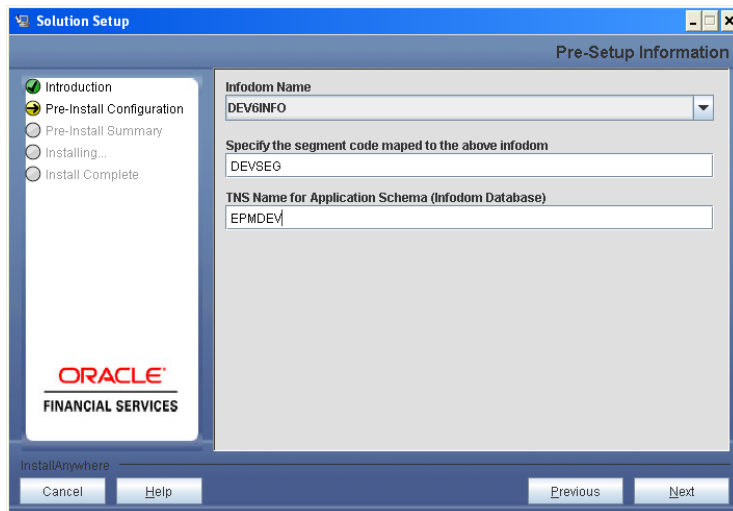
Click **Next** to continue creation of information domain. A new information domain will be created on clicking Next.

**Step 7-iv**

If the option **Existing Infodom** was chosen in the Step 6, then the following window is displayed which prompts to select the infodom from list of available infodoms present in the setup. Enter segment code and enter the application schema's TNS name.

**NOTE:**

Segment name should not exceed 10 characters.



**Figure 11: Installation in Progress**

## Step 8

OFSDF v7.4.0.0.0 data model is packaged as part of OFSDF v7.4.0.0.0 product installer and will be installed as part of the upcoming steps, if required.

The following screen prompts the user to opt for model upload process through installer.

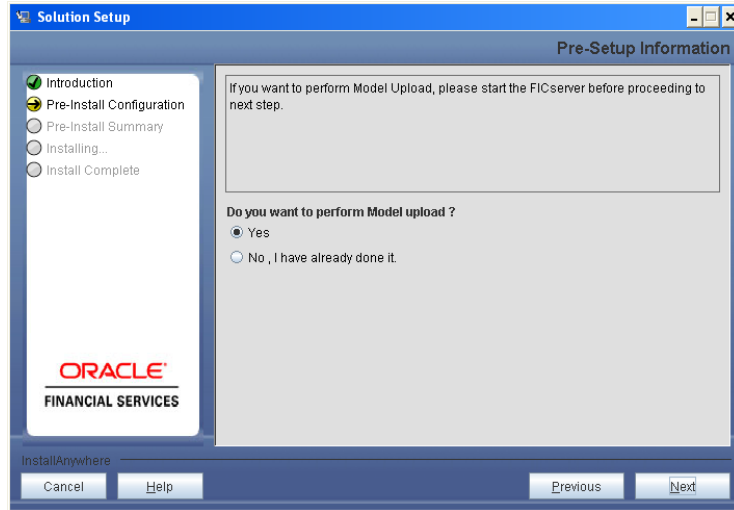


Figure 12: Pre-Setup Information

Select **No**, if you have uploaded the OFSDF v7.4.0.0.0 model into information domain prior to this installation.

Select **Yes** to proceed with OFSDF v7.4.0.0.0 model upload process as part of the installation.

If the you have selected **Yes**, move to Step 9 and 10.

You can skip Step 9 to 10, if you have selected **No**.

Click **Next** to proceed.

## Step – 9

The following window prompts you to choose whether the released version of Datamodel or the customized datamodel to be uploaded.

On selecting 'Released Data Model' option, installer uploads the OFSDF v7.4.0.0.0 data model that is packaged as part of the OFSDF v7.4.0.0.0 product.

Choose the desired option.

On selecting **Customized Data Model** option, installer allows you to select the data model.

Click **Next** to proceed.

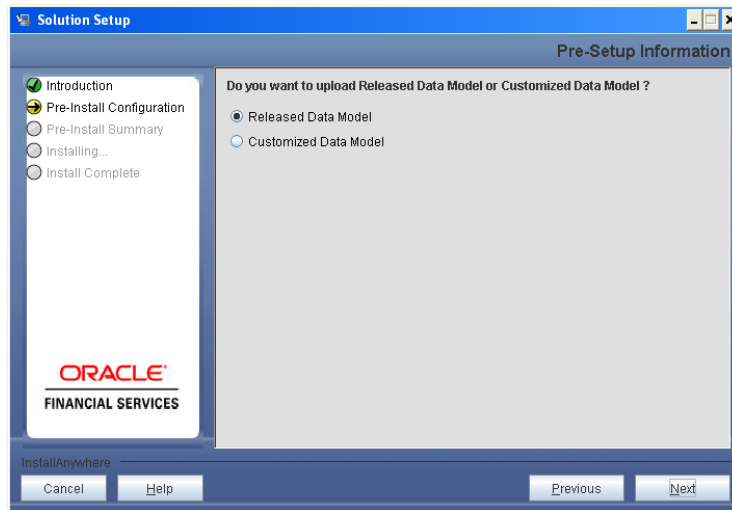


Figure 13: Pre – Setup information

### Step – 10

If the option **Customized Data Model** was chosen then the following window will be displayed prompting user to select the customized data model located in the machine.

Choose the customised datamodel file from the server.

#### NOTE:

The data model xml file should be available in the server.

In case the installation is being performed on an existing information domain, the data model that is planned to be selected in this window should be merged with the data model that was previously uploaded in the information domain.

In case the installation is being performed on a new information domain, data model that is either customized or merged with other data models can be selected in this window.

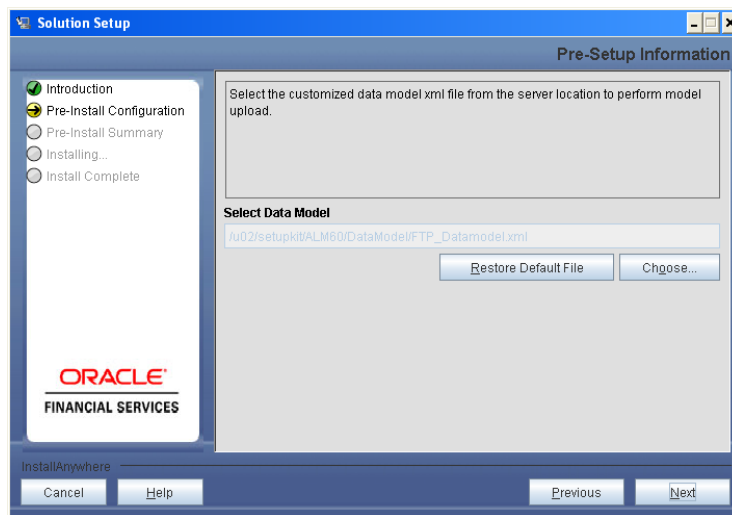


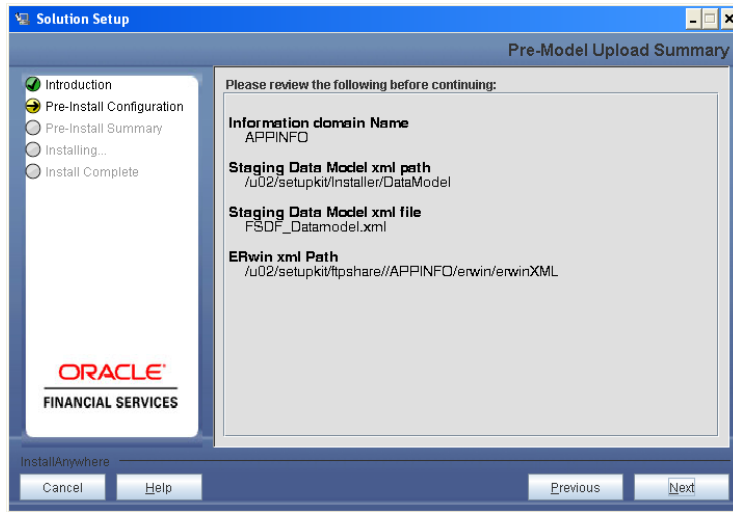
Figure 14: Pre – Setup information

### Step – 11

The following window displays pre-model upload details.

Verify the details before proceeding to the next step.

Click **Next** to proceed for model upload.



**Figure 15: Pre – Model Upload Summary**

Clicking on ‘Next’ will start the model upload process. This process will take some time depending on the size of the data model and available physical memory in the environment. User will not be able to take any further action on the screen, until the model upload process is complete. Also note that this step cannot be rolled back.

If the model upload fails, then a pop-up message with relevant error and the log file path will be displayed.

Review errors and take relevant action. Continue with this step until the model upload is successful and the installer takes the user to next step.

Common errors during model upload are tabulated below:

Error	Cause/Resolution
Insufficient heap memory on the client machine.	Increase the java memory settings for FICServer in <b>.profile</b> file.
Error while getting the Erwin File path,	Restart the FICServer.
Following error during Upload operation: <b>FAILED WHILE SUPER CATEGORY - SUB CATEGORY RELATIONS HANDLINGDELETING</b>	Incorrect <b>Erwin.xsl</b> file version in <i>\$FIC_APP_HOME/common/FICServer/conf</i> directory.
Model Upload Successful. Error in Object Registration.	Restart the installation process and skip the model upload process.

**NOTE:**

Incremental/Sliced model upload might give errors in case there are NOT NULL columns that are being added to a table that already has rows or if the columns that are being dropped have values. Check the data model changes excel file for any such cases. In such a case, take a backup of the table and truncate the table. Insert records back into the table with a default value for the NOT NULL column.

Navigate to the previous screen and proceed with the steps mentioned above.

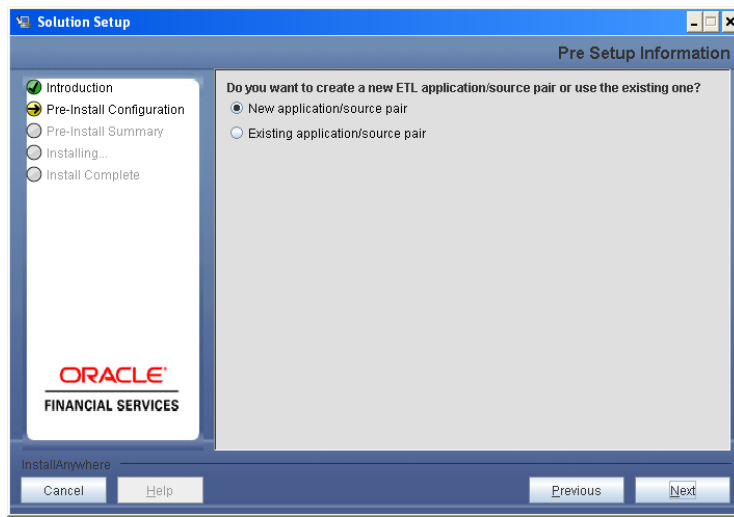
**Step – 12**

The following window seeks input from the user on whether to create new ETL application/source pair or use an existing one.

In case of upgrade, if customer selects an existing application/source pair, then the existing ETL definitions under the source will be over written with the packaged definitions. Customer can also choose to create a new application / source pair and then merge the changes between the packaged definition and their existing definitions offline.

Choose a desired option.

Click **Next** to continue



**Figure 16: Pre – Setup Information**

**Step 13-i**

If the option "New application/source pair" was chosen then the following window will be displayed seeking the application and source name for creation of the same.

Specify all the details required for application and source creation.

Click **Next** to proceed.

Clicking 'Next' will create application and source within OFSAAI. Source model will also be generated. This process will take some time depending on the number of entities / attributes in the atomic schema. This step cannot be rolled back.



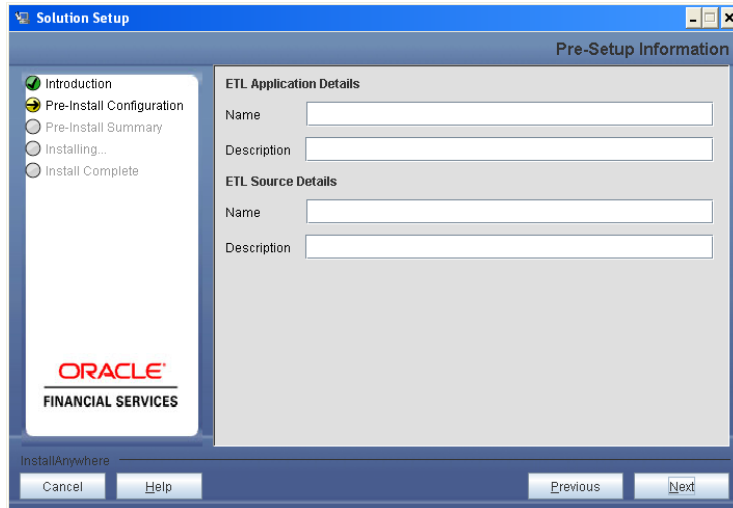


Figure 17: Pre – Setup Information

**Note:**

ETL Source will be created pointing to the information domain (atomic schema) that is specified during the installation.

**Step 13-ii**

If the option “Existing application/source pair” was chosen the following window will be displayed prompting user to select app/source pair from the list of pairs already present.

Choose the desired ETL application/source pair into which ETL definitions will be deployed.

Click **Next** to proceed.

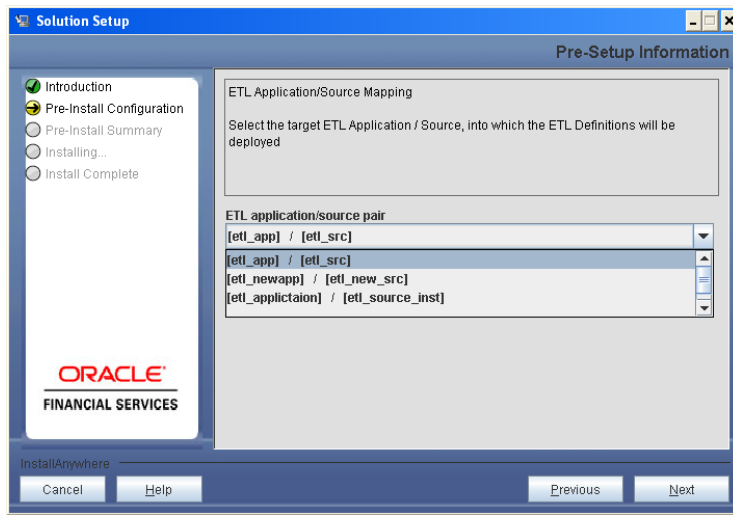


Figure 18: Pre – Setup Information

**Step 14**

The following window seeks information on OFSAAI login user ID and the group id to which the specified user is mapped. Seeded ICC batches will be mapped to the provided user ID and group ID.

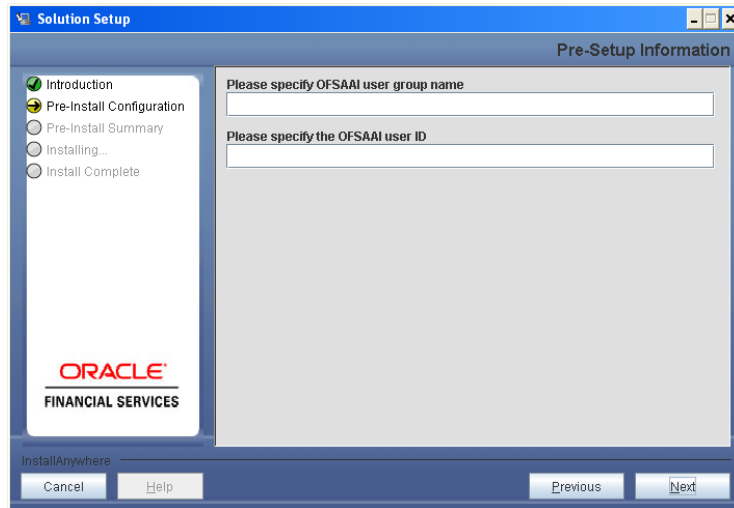


Figure 19: Pre – Setup Information

**Note the following:**

Make sure that you have entered both OFSAAI User Group name and OFSAAI user ID in **upper case**. This is essential to ensure that the seeded ICC Batches are displayed in the UI, post installation.

Create the user and user group specified during installation after the installation process is completed, if the same are not available.

**Step 15**

This window displays all the pre-installation summary. Verify all details and proceed.

Click **Install** to proceed.



Figure 20: Pre – Install Summary

**Step 16**

This window displays the installation process. Wait until it completes.

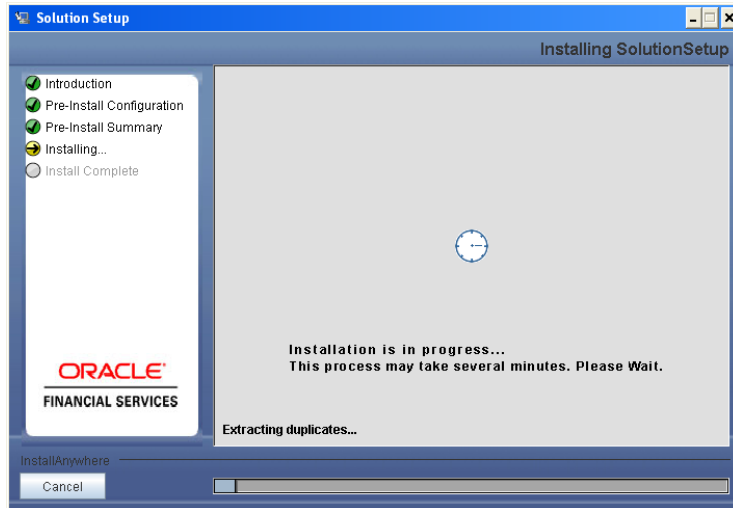


Figure 21: Installation is in progress

### Step 17

The following screen displays the completion of installation of OFSDF setup.

Click **Done** to exit.

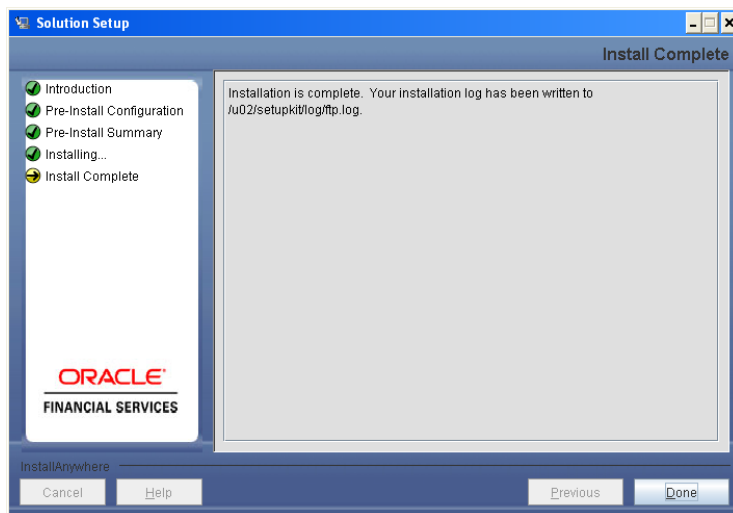


Figure 22: Installation Complete

## Machine B – Product Database Layer

### Step 1

To begin OFSDF product installation in Database layer, execute **Setup.sh** file.

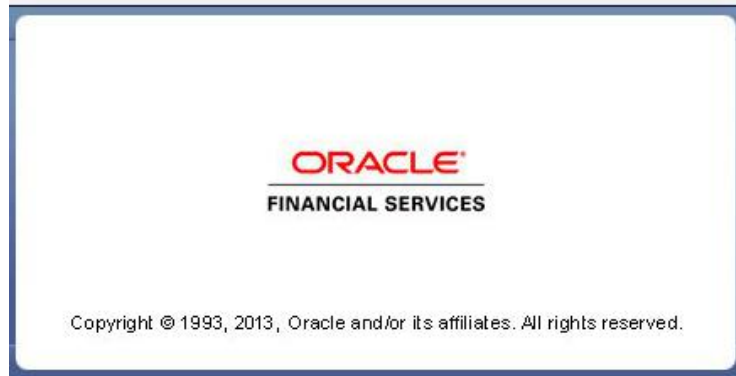


Figure 23: Installation Splash Screen

### Step 2

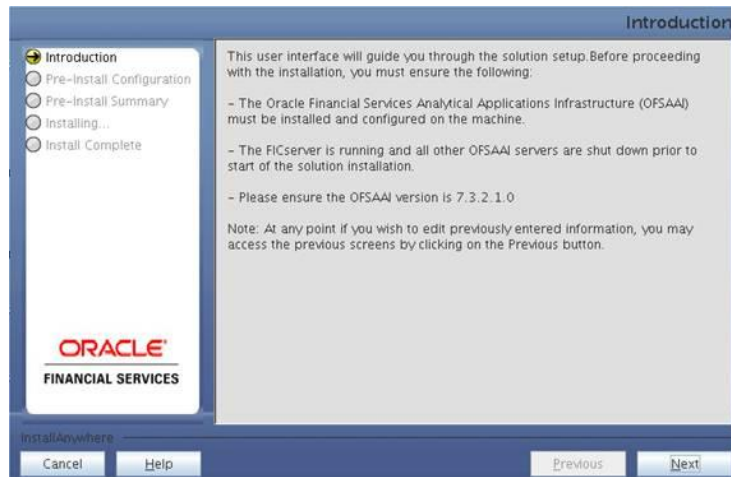


Figure 24: Introduction Screen

Upon invoking the installer, the **Introduction** screen will display the prerequisites for installation. Ensure that the prerequisites are satisfied before you proceed.

### Step 3

Choose the log mode for this installer. In case, if Debug is selected, the Passwords will be printed in the Log File.

Click **Next** to proceed.

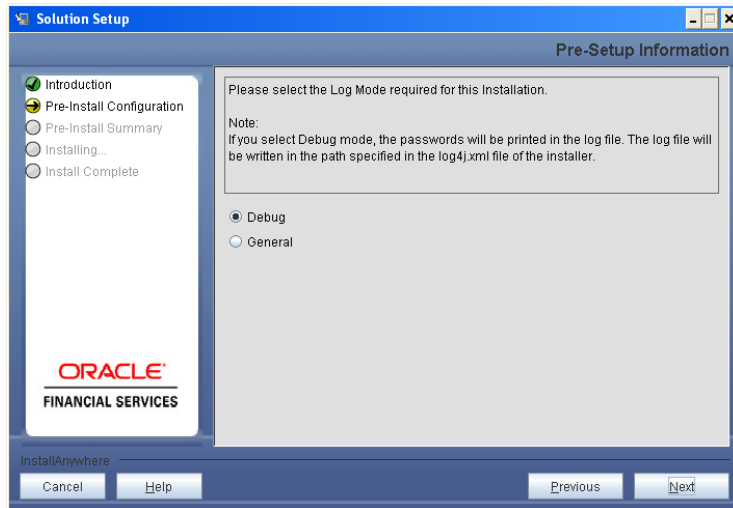


Figure 25: Log Mode Option Screen

**Step 4**

Provide the 9 digit Customer Identification number provided during the OFSAI installation.

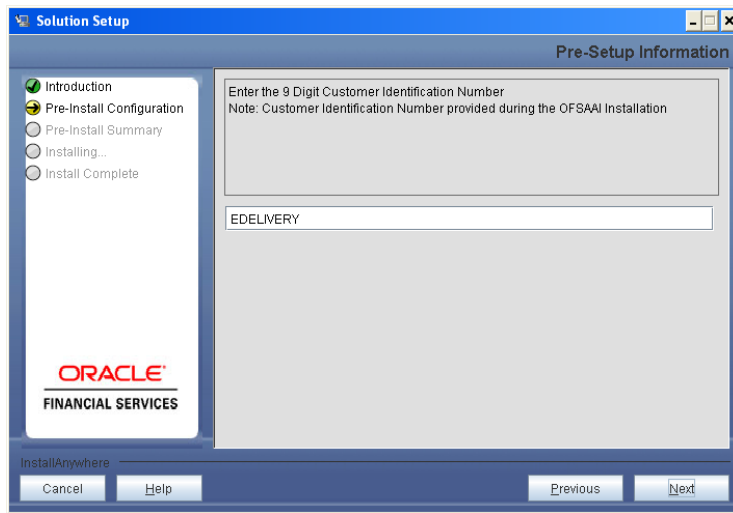


Figure 26: Customer ID Input Screen

Click **Next** to continue.

**Step 5**

The **Pre Setup Information** screen requests for setup information.

Select the appropriate OFSAI layer that has been installed on the machine. For example, **Database Layer**.

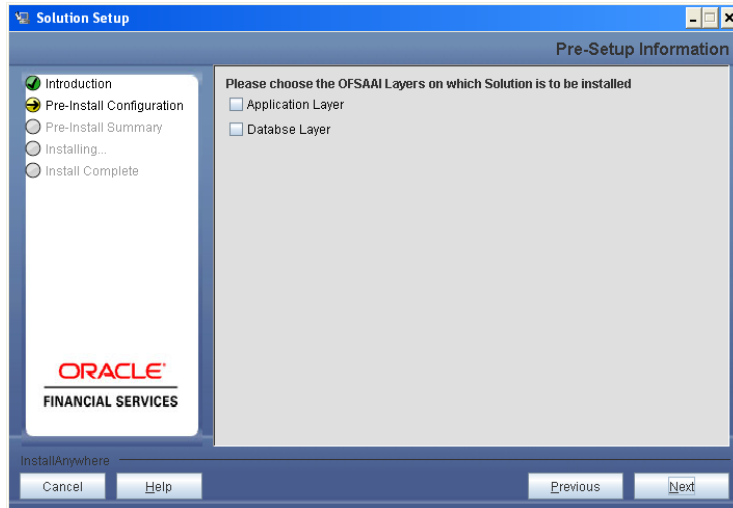


Figure 27: Pre Setup Information Screen – Choose Layer to Install

### Step 6

The following window will be displayed which will prompt to select the infodom from list of infodoms present in the setup. Enter segment code and application schema's TNS name.

**NOTE:** Segment code should not exceed 10 characters.

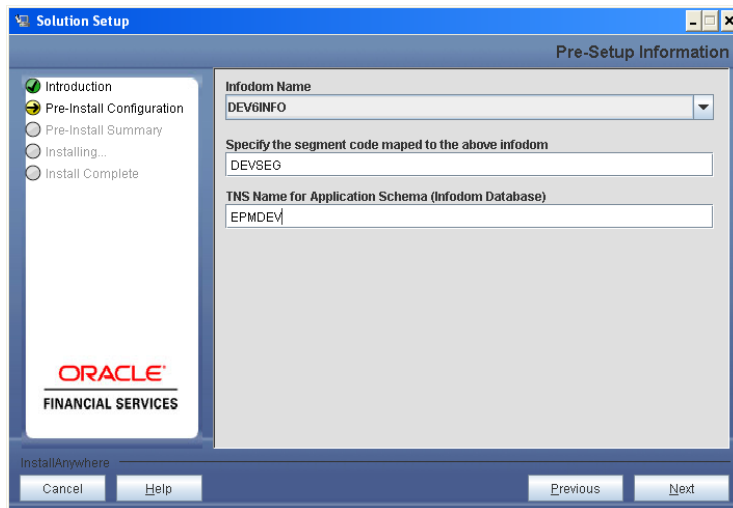


Figure 28: Pre Setup Information Screen

## Step 7

The following window seeks information on OFSAAI login user ID and the group id to which the specified user is mapped. Seeded ICC batches will be mapped to the provided user ID and group ID.

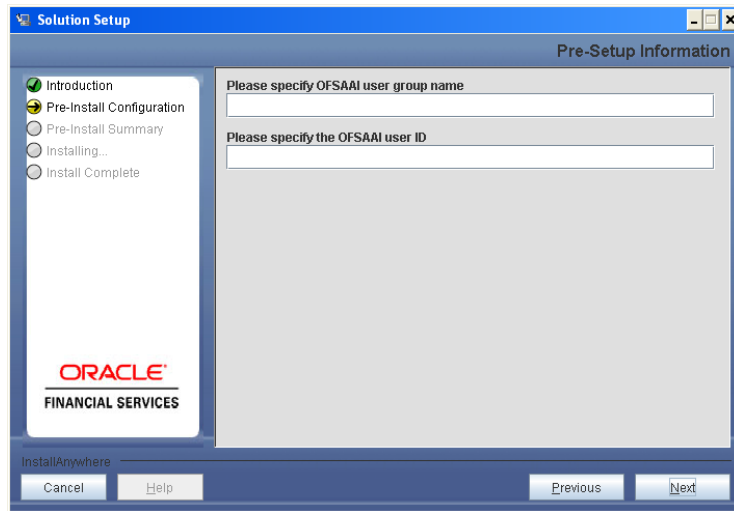


Figure 29: Pre – Setup Information

### Note the following:

- Make sure that you have entered both OFSAAI User Group name and OFSAAI user ID in **upper case**. This is essential to ensure that the seeded ICC Batches are displayed in the UI, post installation.
- Create the user and user group specified during installation after the installation process is completed, if the same are not available.

## Step 8

This window displays all the pre-installation summary. Verify all details and proceed.

Click **Install** to proceed.



Figure 30: Pre – Install Summary

## Step 9

This window displays the installation process. Wait until it completes.

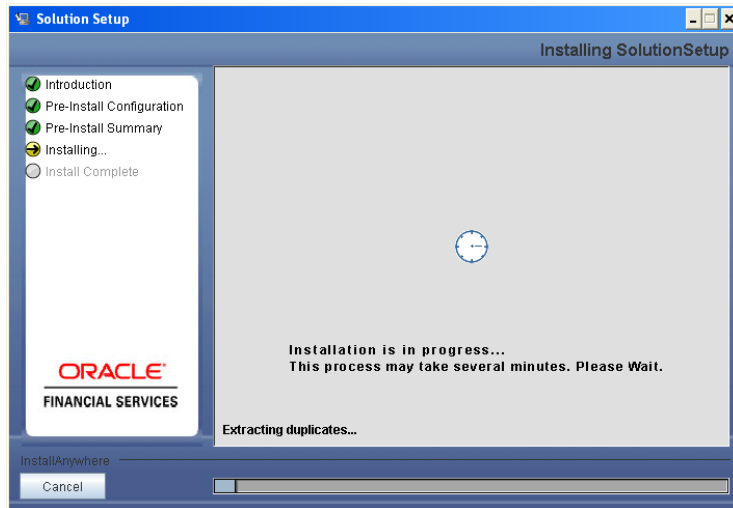


Figure 31: Installation is in progress

### Step 10

The following window displays the completion of installation of the OFSDF product setup.

Click **Done** to exit.

You can refer to **ftp.log** for details.

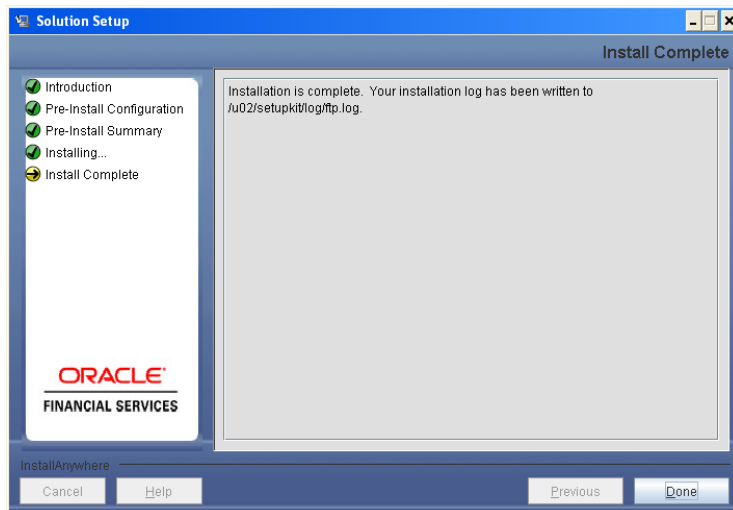


Figure 32: Installation Complete



## Silent Installation

Silent installation is achieved via a properties file, **Silent.props**, that must be updated with proper values before attempting to install using the silent mode.

The following table lists all the properties that need to be specified:

Property Name	Description of Property	Permissible values	Comments
LOG_MODE	Mode for logging	0 = Debug 1 = General	Optional; Default : 0
CUSTOMER_ID	Customer id specified while installing OFSAAI	Not Applicable	MANDATORY
INSTALL_DB	Install database-tier components	0 = No 1 = Yes	Default : 0
INSTALL_APP	Install Application-tier components be installed	0 = No 1 = Yes	Default : 0
INFODOM_NAME	Information Domain(Infodom)	Not Applicable	MANDATORY
SEGMENT_CODE	Segment Code	Not Applicable	MANDATORY Segment Code should not exceed 10 characters
INFODOM_TYPE	New Infodom or Existing Infodom	0 = New 1 = Existing	# Specify Infodom Type Mandatory if this an App Layer Installation and option selected for INSTALL_APP=1
APPL_TNS	TNS Name of the Infodom database	Not Applicable	MANDATORY
APPL_USER	User-id of the Database Schema for new Infodom	Not Applicable	# Mandatory if this an App Layer Installation and want to create a new infodom  # Option selected for INSTALL_APP=1 and INFODOM_TYPE=0
APPL_PWD	Password of the Database Schema for new Infodom	Not Applicable	# Mandatory if this an App Layer Installation and want to create a new

			infodom # Option selected for INSTALL_APP=1 and INFODOM_TYPE=0
APPL_URL	JDBC Connection String of the Database Schema for new Infodom	Not Applicable	# Mandatory if this an App Layer Installation and want to create a new infodom  # Option selected for INSTALL_APP=1 and INFODOM_TYPE=0
RAC_STATUS	whether the Database Schema for new Infodom is a RAC database	Not Applicable	# Mandatory if this an App Layer Installation and want to create a new infodom  # Option selected for INSTALL_APP=1 and INFODOM_TYPE=0
INFODOM_DESC	Description for the Database Schema for new Infodom	Not Applicable	# Mandatory if this an App Layer Installation and want to create a new infodom  # Option selected for INSTALL_APP=1 and INFODOM_TYPE=0
APALM P_LOG_PATH=	Infodom Maintenance log path(to be created) for the new Infodom for applayer	Not Applicable	# Mandatory if this an App Layer Installation and want to create a new infodom  # Option selected for INSTALL_APP=1 and INFODOM_TYPE=0
DBFTP_LOG_PATH	Infodom Maintenance log path(to be created) for the new Infodom for DBLayer	Not Applicable	# Mandatory if this an App Layer Installation and want to create a new infodom  # Option selected for INSTALL_APP=1 and INFODOM_TYPE=0

UPLOAD_MODEL	whether you want to perform Model Upload	0 = No 1 = yes	Mandatory if INSTALL_APP=1
MODEL_TYPE	Released datamodel or Customized datamodel	0 = released 1 = customized	Mandatory if INSTALL_APP=1
DATAMODEL	the path for the customized datamodel	Not Applicable	# Mandatory only in the case of uploading the customized datamodel  # Option selected for MODEL_TYPE=1
DM_DIRECTORY	the file name for the customized datamodel	Not Applicable	# Mandatory only in the case of uploading the customized datamodel  # Option selected for MODEL_TYPE=1
ETL_APP_NAME	The ETL application name	Not Applicable	# Mandatory if this an App Layer installation  # Option selected for INSTALL_APP=1
ETL_SRC_NAME	The ETL Source into which the Table-2-Table ETL definitions on staging tables will be deployed.	Not Applicable	This Source must be mapped to the above ETL Application
ETL_APPSRC_TYPE	Create new ETL Application/Source pair or use an existing one	0 = New 1 = Existing	# Mandatory if this an App Layer installation  # Option selected for INSTALL_APP=1  # 0 = If you want to create a new ETL app/src pair  # 1 = If you want to use an existing pair
ETL_APP_DESC	Give description for the ETL Application	Not Applicable	# Mandatory if you want to create new ETL app/src pair  # Option selected for ETL_APPSRC_TYPE=0
ETL_SRC_DESC	Give description for the ETL Source	Not Applicable	# Mandatory if you want to create new ETL app/src pair

			# Option selected for ETL_APPSRC_TYPE=0
OFSAAI_USER_ID	Specify the OFSAAI user ID in Upper Case.	Not Applicable	Mandatory Note: Create an OFSAAI user with the specified id after installation if not created already
OFSAAI_USER_GROUP	Specify the OFSAAI group ID	Not Applicable	Mandatory Note: Create an OFSAAI user group with the specified id after installation if not created already

#### How to install in Silent Mode

- The installer folder contains a template file **Silent.template**.
- Create a copy of this file and rename the copy as **Silent.props**.
- Edit the file **Silent.props** and specify the parameters as per the requirements.
- On the UNIX Command prompt, execute the following command:  
**Setup.sh SILENT**
- Refer to the console log or the file **preinstall.log** for any error messages.

## **Post Installation Activities**

### **OFSAAI Server Memory Configuration**

The OFSAAI Application Server is started using **reveleusstartup.sh** file. This file can be edited for setting customized memory settings and garbage collector settings depending on the available hardware configuration. Raise an SR in [support.oracle.com](https://support.oracle.com) if you have any queries related to OFSAA applications.

- Once the installation of Oracle Financial Services Data Foundation Product is completed, you must perform the following steps:
- Execute the files **insert\_cssms\_stress.sql** and **insert\_cssms\_model.sql** in the config schema.
- Check the Log file. The log file path and file name are specified in **log4j.xml** file.
- You can ignore the following errors in the log file:

**Error: ORA-00001:** unique constraint (<<UNIQUE KEY NAME>>) violated.

- For upgrade from 5.6 or below, navigate to `$FIC_APP_HOME/common/FICServer/bin` and Execute the file **UpgradeConfig.sh**.



Installation Manual

May 2013

Oracle Financial Services Data Foundation Version 7.4.0.0.0

Oracle Corporation

World Headquarters

500 Oracle Parkway

Redwood Shores, CA 94065

U.S.A.

Worldwide Inquiries:

Phone: +1.650.506.7000

Fax: +1.650.506.7200

[www.oracle.com/in/industries/financial-services/](http://www.oracle.com/in/industries/financial-services/)

Copyright © 2013 Oracle Financial Services Software Limited. All rights reserved.

No part of this work may be reproduced, stored in a retrieval system, adopted or transmitted in any form or by any means, electronic, mechanical, photographic, graphic, optic recording or otherwise, translated in any language or computer language, without the prior written permission of Oracle Financial Services Software Limited.

Due care has been taken to make this Installation Manual and accompanying software package as accurate as possible. However, Oracle Financial Services Software Limited makes no representation or warranties with respect to the contents hereof and shall not be responsible for any loss or damage caused to the user by the direct or indirect use of this Installation Manual and the accompanying Software System. Furthermore, Oracle Financial Services Software Limited reserves the right to alter, modify or otherwise change in any manner the content hereof, without obligation of Oracle Financial Services Software Limited to notify any person of such revision or changes.

All company and product names are trademarks of the respective companies with which they are associated.