

# **Oracle® Healthcare Foundation**

Installation Guide

Release 7.1.1

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# Preface

This document explains the installation and initial setup of Oracle Healthcare Foundation. The user installing Oracle Healthcare Foundation (OHF) should have knowledge of Oracle, Informatica or Oracle Data Integrator, WebLogic, and the Linux operating system.

## Documentation Accessibility

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## Where to Find the Product Documentation

The product documentation is available from the following locations:

- My Oracle Support (<https://support.oracle.com>)
- Oracle Technology Network (<http://www.oracle.com/technetwork/documentation/hsgbu-healthcare-407532.html>)

If the software is available for download, the documentation set is available from the Oracle Software Delivery Cloud (<https://edelivery.oracle.com>).

All documents may not be updated for every release. Therefore, the version numbers for the documents in a release may differ.

## Related Documents

For more information, see the following documents:

- *Oracle Healthcare Foundation Administration Console Online Help*
- *Oracle Healthcare Foundation Administrator's Guide*
- *Oracle Healthcare Foundation Application Programming Interface Guide*
- *Oracle Healthcare Foundation Application Toolkit Installation Guide*

- *Oracle Healthcare Foundation Appendix*
- *Oracle Healthcare Foundation Data Dictionary*
- *Oracle Healthcare Foundation Electronic Technical Reference Manual*
- *Oracle Healthcare Foundation Mapping Metadata*
- *Oracle Healthcare Foundation New Features Guide*
- *Oracle Healthcare Foundation Programmer's Guide*
- *Oracle Healthcare Foundation Quick Reference Guide*
- *Oracle Healthcare Foundation Release Notes*
- *Oracle Healthcare Foundation Security Guide*
- *Oracle Healthcare Foundation Third Party Licenses and Notices*



# Overview

Oracle Healthcare Foundation (OHF) is a unified healthcare analytics platform. It is a data integration and warehousing solution providing clinical, financial, administrative, and omics modules. Building upon OHF, healthcare organizations can deploy analytics applications.

The Oracle Healthcare Foundation installer lets you install the components below on the Linux OS in the following order:

1. Oracle Healthcare Foundation Data Model
2. Oracle Healthcare Foundation Data Management Assembly for ODI
3. Oracle Healthcare Foundation Data Management Assembly for Informatica
4. Oracle Healthcare Foundation Middle-Tier

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**Note:** Oracle Healthcare Foundation should be installed by the same user who installed the RDBMS or WebLogic.

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For the Application Toolkit installation, see *Oracle Healthcare Foundation Application Toolkit Installation Guide*.

This chapter contains the following topics:

- [Software Requirements](#)
- [Media Pack Content](#)
- [General Guidelines for Installation](#)
- [Supported Upgrade Paths](#)

## 1.1 Software Requirements

[Table 1–1](#) provides a list of software requirements.

**Table 1–1 Software Requirements**

Components	Software Required
Common requirements for all components	<ul style="list-style-type: none"><li>■ Oracle Linux 6.6 or 6.7 (64-bit) operating system (OS)</li><li>■ Oracle Database 12.1.0.2.0 Enterprise Edition</li><li>■ Python 2.6.6</li></ul>
Data Model	No additional requirements

**Table 1–1 (Cont.) Software Requirements**

Components	Software Required
Data Management Assembly (Oracle Data Integrator)	<ul style="list-style-type: none"> <li>Oracle Data Integrator (ODI) 11.1.1.9</li> <li>Java Development Kit (JDK) 1.7</li> <li>Oracle WebLogic server 10.3.6 (optional)</li> </ul>
Data Management Assembly (Informatica)	<ul style="list-style-type: none"> <li>Informatica PowerCenter 9.6.1</li> </ul>
Middle-Tier	<p>You must install the Middle-Tier on a different WebLogic server than the ODI server.</p> <ul style="list-style-type: none"> <li>Oracle Fusion Middleware Infrastructure 12.2.1.2 with Oracle WebLogic server 12.2.1.2</li> <li>Java Development Kit (JDK) 1.8 Update 111 (JDK 1.8 u111) or above</li> </ul>
Self-Service Analytics	<ul style="list-style-type: none"> <li>Oracle Business Intelligence Enterprise Edition (OBIEE) 12.2.1.2.0</li> <li>Oracle Business Intelligence Developer Client Tools 12.2.1.2.0</li> <li>Java Runtime Environment (JRE) 1.8 Update 111 (JRE 1.8 u111) or above</li> </ul>

## 1.2 Media Pack Content

The media pack from the Oracle Software Delivery Cloud (OSDC) contains the installer for:

- Oracle Healthcare Foundation Linux (**OHF\_V711\_Linux-x64.zip**)
- Oracle Healthcare Foundation Application Toolkit Linux (**OHF\_V711\_AT\_Linux-x64.zip**)
- Oracle Healthcare Foundation Application Toolkit Windows (**OHF\_V711\_AT\_Windows-x64.zip**)

## 1.3 General Guidelines for Installation

- Linux X-windows should be used for the Linux Oracle Universal Installer (OUI) installation (Linux Graphical User Interface).
- Before running the installer, make sure that the ORACLE\_HOME and PATH environment variables are setup in your session.

For example,

```
export ORACLE_HOME=/u01/app/oracle/product/121020
export PATH=$PATH:$ORACLE_HOME/bin
```

- When re-executing the installer due to a failure, enter the same details in the question prompting phase at all times. Do not delete any objects in the installation folder.
- When re-executing the installer, if you receive OUI-10030 error messages, ignore the messages to continue using the existing OHF installation HOME path.
- Convert the installer execution shell to SH shell as the installer script executes in the SH shell of Linux OS.
- Text enclosed within <> in the following sections, indicate parameters and you must provide an appropriate value.

## 1.4 Supported Upgrade Paths

The following are the supported upgrade paths:

- Healthcare Data Warehouse Foundation (HDWF) 6.1 with Oracle Healthcare Analytics Data Integration (OHADI) 3.1 installed to OHF 7.1.1
- OHF 7.0.1 to OHF 7.1.1
- OHF 7.1 to OHF 7.1.1
- OHTR 3.1.x to OHF 7.1.1

Only the CDM, ODB, Enterprise, and Job Engine schemas are updated as part of the OHF 7.1.1 upgrade. The Apps schema is upgraded during the OHTR 3.2 upgrade.



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## Data Model Installation

This chapter describes the steps required to install the OHF Data Model. There are two ways to install the Data Model, depending on how you create the user schemas. The installer can create the user schemas during the installation or you can create them manually, prior to the installation. The two methods are described below:

- [Installing the Data Model without Pre-created User Schemas](#)
- [Installing the Data Model with Pre-created User Schemas](#)

### 2.1 Installing the Data Model without Pre-created User Schemas

This section describes how to install the Data Model by using the installer to create fresh user schemas.

1. [Check Prerequisites](#)
2. [Prepare the Installer](#)
3. [Run the Installer](#)
4. [Check the Installation](#)

#### 2.1.1 Check Prerequisites

- 
- ☐ Install Oracle Database 12.1.0.2 Enterprise Edition.
  - ☐ Create a container database with a single pluggable database instance with the help of a Database Administrator.
  - ☐ Make sure the database initialization parameter MAX\_STRING\_SIZE is set to STANDARD (default value).
  - ☐ Install Java Virtual Machine on the database server.
  - ☐ Set the NLS\_LENGTH\_SEMANTICS parameter to either CHAR or BYTE, based on your requirements.  
For Oracle Healthcare Foundation Globalization Support information, see *Oracle Database Globalization Support Guide* and set your database character set accordingly.

- 
- ☐ Enable database connection through SERVICE\_NAME. Make sure that you are connecting to the pluggable database instance.  
Verify the database connectivity using the following command:  

```
SQL>connect <username>@<hostname>:<port number>/<service name>
```

  
or  

```
sqlplus  
<username>@' (DESCRIPTION= (ADDRESS= (PROTOCOL=TCP) (HOST=<dbhost>) (PORT=<dbport>)) (CONNECT_ DATA= (SERVICE_NAME=<dbservername>))) '
```
  - ☐ Make sure that the Sqlplus utility is available in the installation server.
  - ☐ Make sure that the password expiry notification message does not display for the Sys and system schemas.
  - ☐ To create an encrypted tablespace during the installation, set up your environment for tablespace encryption. For more information, see *Oracle Database Advanced Security Guide 12.1*. The installer only creates the tablespace and does not handle prerequisites like setting up the keystore, opening it, etc. The installer only checks whether the keystore is open if the sys and system passwords are provided during the installation.
  - ☐ Set the GLOBAL\_NAMES database initialization parameter to false.
  - ☐ For remote installations, make sure the following are available on the client machine:
    - Oracle Linux 6.6 or 6.7 (64-bit) OS
    - Oracle Database 12.1.0.2.0 client
  - ☐ If you are installing OHF on an Exadata database machine, see the **Exadata Machine** and **Exadata Implementation** sections in the *Oracle Healthcare Foundation Programmer's Guide*.
  - ☐ Table compression strategy is decided based on the number of updates in tables. If the number of updates is high, select the **Advanced compression** option instead of HCC (QUERY HIGH).
  - ☐ If you are installing OHF on an Exadata environment, selecting the compression type as **HCC (QUERY HIGH)** will slow down the first few incremental loads.
  - ☐ Make sure that you have an appropriate database license for the compression methods you choose.
  - ☐ The installer does not validate the tablespace data files location. If the database server is on the remote server, make sure the location physically exists or the installer will fail.
- 

## 2.1.2 Prepare the Installer

- 
- ☐ Extract the contents of the OHF media pack to your system.
  - ☐ Open the **<media\_pack\_location>/** folder.
  - ☐ Unzip the **OHF\_V711\_Linux-x64.zip** file where you want to launch the installer using the following command:  

```
unzip -a OHF_V711_Linux-x64.zip
```
  - ☐ Open the **Disk1/install** folder.
  - ☐ Change the protection on files as follows:  

```
chmod 755 *
```
- 

## 2.1.3 Run the Installer

Start the Oracle Universal Installer (OUI) using the following command:

- If the database server (Exadata or non-Exadata) is on the machine where the installer is running, execute:

```
sh runInstaller.sh -local
```

- If the database server is on a different machine, execute:

```
sh runInstaller.sh -local remote_installation=true
```

where, the -local option is to install on the local node irrespective of the cluster nodes specified on the installer machine.

Screen	Action
<input type="checkbox"/> Welcome	Click <b>Next</b> .
<input type="checkbox"/> Select a Product to Install	Select the <b>Oracle Healthcare Foundation Data Model 7.1.1.0.0</b> option.
<input type="checkbox"/> Specify Home Details	Enter the installation home name and location.
<input type="checkbox"/> Verify Installation Prerequisites	Verify if all the prerequisites are met before proceeding.
<input type="checkbox"/> Oracle Client Home Configuration	Specify the Oracle client home path.
<input type="checkbox"/> Database Configuration	Enter values for the following fields: <ul style="list-style-type: none"> <li>■ Hostname - By default, the system host name appears. For remote installations, set this value to the host name of the remote machine.</li> <li>■ Port - By default, the port number is 1521. You can edit this field if required.</li> <li>■ Service name</li> <li>■ System user password</li> <li>■ Sys user password</li> </ul>
<input type="checkbox"/> Table Compression	On an Exadata setup, use the following compression options: <b>Interface Tables schema</b> <ul style="list-style-type: none"> <li>■ Hybrid columnar compression (default)</li> <li>■ No Compression</li> </ul> <b>Data Warehouse schema</b> <ul style="list-style-type: none"> <li>■ No Compression (default)</li> <li>■ Advanced Compression: Preferred if updates are high</li> <li>■ Hybrid columnar compression</li> </ul> <b>Common Data Mart schema</b> <ul style="list-style-type: none"> <li>■ No Compression (default)</li> <li>■ Advanced Compression</li> </ul> <b>Cohort Data Mart schema</b> <ul style="list-style-type: none"> <li>■ No Compression (default)</li> <li>■ Advanced Compression</li> </ul> <b>Omics Data Bank schema</b> <ul style="list-style-type: none"> <li>■ Hybrid columnar compression (default)</li> </ul> On a non-Exadata setup, for each of the above schemas, choose either No Compression (default) or Advanced Compression.

Screen	Action
<input type="checkbox"/> Data Model Configuration	<p>Enter values for the following fields:</p> <ul style="list-style-type: none"> <li>■ Interface Tables schema name</li> <li>■ Interface Tables schema password</li> <li>■ Data Warehouse schema name</li> <li>■ Data Warehouse schema password</li> <li>■ Common Data Mart schema name</li> <li>■ Common Data Mart schema password</li> <li>■ Omics Data Bank schema name</li> <li>■ Omics Data Bank schema password</li> </ul>
<input type="checkbox"/> Data Model Configuration	<p>Enter values for the following fields:</p> <ul style="list-style-type: none"> <li>■ Cohort Data Mart schema name</li> <li>■ Cohort Data Mart password</li> <li>■ Enterprise schema name</li> <li>■ Enterprise schema password</li> <li>■ Job Engine schema name</li> <li>■ Job Engine schema password</li> <li>■ Services schema name</li> <li>■ Services schema password</li> </ul>
<input type="checkbox"/> Data Model Configuration Verification	Click <b>Next</b> .
<input type="checkbox"/> Tablespace Data File Location	<p>Specify the location of the Tablespace data files. This is the directory on the database server where the data files are created during the installation.</p> <p>For example,</p> <p>Unix: /u01/oradata/dbname</p> <p>ASM: +DATA_EX02/hashas01/datafile</p> <p><b>Note:</b></p> <ul style="list-style-type: none"> <li>■ The ASM location must always start with +.</li> <li>■ The path should not end with /.</li> </ul>



Screen	Action
<input type="checkbox"/> Tablespace Details	<p>The installer creates the following tablespaces. Make sure that these tablespaces do not exist in the database.</p> <ul style="list-style-type: none"> <li>hdi_ts - Default tablespace used for Interface tables (hdi) schema</li> <li>hdm_ts - Default tablespace used for Data Warehouse (hdm) schema</li> <li>hcd_ts - Default tablespace used for Common Data Mart (hcd) schema</li> <li>odb_data_ts - Default tablespace for Omics Data Bank (odb) schema</li> <li>odb_index_ts - Used for indexes of the Omics Data Bank (odb) schema</li> <li>odb_lob_ts - Used for LOB columns in the Omics Data Bank (odb) schema</li> <li>cdm_data_ts - Default tablespace used for Cohort Data Mart (cdm) schema</li> <li>cdm_index_ts - Used for indexes of the Cohort Data Mart (cdm) schema</li> <li>ent_ts - Default tablespace used for Enterprise (ent) schema</li> <li>job_data_ts - Default tablespace for Job Engine (job) schema</li> <li>job_index_ts - Used for indexes of the Job Engine (job) schema</li> <li>job_store_ts - Database File System (DBFS) store is created as part of the Job Engine installation</li> <li>job_lob_ts - Name of the tablespace to store LOB data in the DBFS store created for the JOB_ENGINE schema user</li> <li>job_tbs_ts - Name of the tablespace to be used for the DBFS store created for the JOB_ENGINE schema</li> <li>svc_ts - Default tablespace used for services schema (svc)</li> </ul> <p>For each schema, you can edit the default tablespace name, initial size, max size, and tablespace encryption.</p>
<input type="checkbox"/> Temporary Tablespace Details	<p>The installer creates the following temporary tablespaces. Make sure that these tablespaces do not exist in the database.</p> <ul style="list-style-type: none"> <li>hdi_temp - Temporary tablespace for the Interface tables schema (hdi)</li> <li>hdm_temp - Temporary tablespace for the Data warehouse schema (hdm)</li> <li>hcd_temp - Temporary tablespace for the Common data mart schema (hcd)</li> <li>odb_temp - Temporary tablespace for the Omics Data bank schema (odb)</li> <li>cdm_temp - Temporary tablespace for the Cohort data mart schema (cdm)</li> <li>ent_temp - Temporary tablespace for the Enterprise schema (ent)</li> <li>job_temp - Temporary tablespace for the Job Engine schema (job)</li> <li>svc_temp - Temporary tablespace for the Services schema (svc)</li> </ul> <p>For each schema, you can edit the temporary tablespace name, initial size and max size.</p>

Screen	Action
<input type="checkbox"/> Omics Data Bank and Cohort Data Mart Parameters	<p>Enter values for the following fields:</p> <ul style="list-style-type: none"> <li>■ Result Partition - Used to partition result tables in the ODB schema. The available options are: <ul style="list-style-type: none"> <li>– GENE (Default)</li> <li>– STUDY</li> </ul> </li> <li>■ Promoter Offset - Numerical value to specify a portion of the gene used as a promoter in the ODB schema. The default value is 200.</li> <li>■ Flanking Offset - Numerical value to specify the region before and after a gene to link results to a gene in the ODB schema. The default value is 200.</li> <li>■ Max Parallel Degree - An option to specify the maximum degree of parallelism to be set on tables or used in the SQL statements for the CDM or ODB schema. It is dependent on the machine configuration of the database server. The default value is 2.</li> <li>■ Job Store Name</li> </ul> <p>If you are using the same database instance for multiple environments, enter a unique job store name for each job schema.</p>
<input type="checkbox"/> Summary	Click <b>Install</b> .
<input type="checkbox"/> End of Installation	Click <b>Exit</b> after reviewing the installation information. At the confirmation prompt, click <b>Yes</b> to exit the installer.

## 2.1.4 Check the Installation

- 
- ☐ Review the generated installation log files for errors. For details, see [Installation Log Files](#).
  - ☐ Contact Oracle support, if necessary, to resolve any errors.
- 

## 2.2 Installing the Data Model with Pre-created User Schemas

This section describes how to install the Data Model by creating OHF user schemas and tablespaces outside the installer, then using the installer to create database objects in the respective user schemas.

1. [Check Prerequisites](#)
2. [Create Default Tablespaces](#)
3. [Create Temporary Tablespaces](#)
4. [Prepare the Installation Files](#)
5. [Create Database Roles](#)
6. [Create User Schemas](#)
7. [Run the Installation Scripts](#)
8. [Start the Installer](#)
9. [Run the Installer](#)
10. [Check the Installation](#)
11. [Revoke Privileges](#)

## 2.2.1 Check Prerequisites

- 
- ☐ Install Oracle Database 12.1.0.2 Enterprise Edition.
  - ☐ Create a container database with a single pluggable database instance with the help of a Database Administrator.
  - ☐ Make sure the database initialization parameter MAX\_STRING\_SIZE is set to STANDARD (default value).
  - ☐ Install Java Virtual Machine on the database server.
  - ☐ Set the NLS\_LENGTH\_SEMANTICS parameter to either CHAR or BYTE, based on your requirements. For Oracle Healthcare Foundation Globalization Support information, see *Oracle Database Globalization Support Guide* and set your database character set accordingly.
  - ☐ Enable database connection through SERVICE\_NAME. Make sure that you are connecting to the pluggable database instance.  
Verify the database connectivity using the following command:  
SQL>connect <username>@<hostname>:<port number>/<service name>  
or  
sqlplus  
<username>@' (DESCRIPTION= (ADDRESS= (PROTOCOL=TCP) (HOST=<dbhost>) (PORT=<dbport>)) (CONNECT\_DATA= (SERVICE\_NAME=<dbservice name>))) '
  - ☐ Make sure that the Sqlplus utility is available in the installation server.
  - ☐ Make sure that the password expiry notification message does not display for the Sys and system schemas.
  - ☐ To create an encrypted tablespace during the installation, set up your environment for tablespace encryption. For more information, see *Oracle Database Advanced Security Guide 12.1*. The installer only creates the tablespace and does not handle prerequisites like setting up the keystore, opening it, etc. The installer only checks whether the keystore is open if the sys and system passwords are provided during the installation.
  - ☐ Set the GLOBAL\_NAMES database initialization parameter to false.
  - ☐ For remote installations, make sure the following are available on the client machine:
    - Oracle Linux 6.6 or 6.7 (64-bit) OS
    - Oracle Database 12.1.0.2.0 client
  - ☐ If you are installing OHF on an Exadata database machine, see the **Exadata Machine** and **Exadata Implementation** sections in the *Oracle Healthcare Foundation Programmer's Guide*.
  - ☐ Table compression strategy is decided based on the number of updates in tables. If the number of updates is high, select the **Advanced compression** option instead of HCC (QUERY HIGH).
  - ☐ If you are installing OHF on an Exadata environment, selecting the compression type as **HCC (QUERY HIGH)** will slow down the first few incremental loads.
  - ☐ Make sure that you have an appropriate database license for the compression methods you choose.
- 

## 2.2.2 Create Default Tablespaces

Create the following default tablespaces. You can use different tablespace names than the ones listed below.

Tablespace Name	Big File Tablespace	Description
<input type="checkbox"/> hdi_ts	Yes	Default tablespace for the Interface Tables (hdi) schema
<input type="checkbox"/> hdm_ts	Yes	Default tablespace for the Data Warehouse (hdm) schema
<input type="checkbox"/> hcd_ts	Yes	Default tablespace for the Common Data Mart (hcd) schema
<input type="checkbox"/> odb_data_ts	Yes	Default tablespace for the Omics Data Bank (odb) schema
<input type="checkbox"/> odb_index_ts	Yes	Used for indexes of the Omics Data Bank (odb) schema
<input type="checkbox"/> odb_lob_ts	Yes	Used for LOB columns in the Omics Data Bank (odb) schema
<input type="checkbox"/> cdm_data_ts	Yes	Default tablespace for the Cohort Data Mart (cdm) schema
<input type="checkbox"/> cdm_index_ts	Yes	Used for indexes of the Cohort Data Mart (cdm) schema
<input type="checkbox"/> ent_ts	No	Default tablespace for the Enterprise (ent) schema
<input type="checkbox"/> job_data_ts	No	Default tablespace for the Job Engine (job) schema
<input type="checkbox"/> job_index_ts	No	Used for indexes of the Job Engine (job) schema
<input type="checkbox"/> job_store_ts	No	Database File System (DBFS) store created as part of the Job Engine installation
<input type="checkbox"/> job_lob_ts	No	Name of the tablespace to store LOB data in the DBFS store created for the JOB_ENGINE schema user
<input type="checkbox"/> job_tbs_ts	No	Name of the tablespace to be used for the DBFS store created for the JOB_ENGINE schema
<input type="checkbox"/> svc_ts	No	Default tablespace used for the Services (svc) schema

### 2.2.3 Create Temporary Tablespaces

Create the following temporary tablespaces. You can use different tablespace names than the ones listed below.

Tablespace Name	Big File Tablespace	Description
<input type="checkbox"/> hdi_temp	Yes	Temporary tablespace for the Interface Tables (hdi) schema
<input type="checkbox"/> hdm_temp	Yes	Temporary tablespace for the Data Warehouse (hdm) schema
<input type="checkbox"/> hcd_temp	Yes	Temporary tablespace for the Common Data Mart (hcd) schema
<input type="checkbox"/> odb_temp	Yes	Temporary tablespace for the Omics Data Bank (odb) schema
<input type="checkbox"/> cdm_temp	Yes	Temporary tablespace for the Cohort Data Mart (cdm) schema
<input type="checkbox"/> ent_temp	No	Temporary tablespace for the Enterprise (ent) schema
<input type="checkbox"/> job_temp	No	Temporary tablespace for the Job Engine (job) schema

	Tablespace Name	Big File Tablespace	Description
<input type="checkbox"/>	svc_tmp	No	Temporary tablespace for the Services (svc) schema

## 2.2.4 Prepare the Installation Files

- ☐ Extract the contents of the OHF media pack to your system.
- ☐ Open the `<media_pack_location>/` folder.
- ☐ Unzip the **OHF\_V711\_Linux-x64.zip** file where you want to launch the installer using the following command:  

```
unzip -a OHF_V711_Linux-x64.zip
```

## 2.2.5 Create Database Roles

- ☐ Navigate to the directory `<media_pack_location>/Disk1/stage/Components/oracle.hsgbu.hc.datamodel/7.1.1.0.0/1/DataFiles/Expanded/filegroup1`.
- ☐ Unzip the **master\_install.zip** file.
- ☐ Connect to Oracle SYS from the extracted content and create database roles by executing the `roles.sql` script.

## 2.2.6 Create User Schemas

Create the following user schemas and assign the appropriate default and temporary tablespaces. Refer to [Create Default Tablespaces](#) and [Create Temporary Tablespaces](#) for details. If you created tablespaces with different names, use those names instead.

	Schema	Default Tablespace	Temporary Tablespace
<input type="checkbox"/>	Interface Tables (hdi)	hdi_ts	hdi_temp
<input type="checkbox"/>	Data Warehouse (hdm)	hdm_ts	hdm_temp
<input type="checkbox"/>	Common Data Mart (hcd)	hcd_ts	hcd_temp
<input type="checkbox"/>	Omics Data Bank (odb)	odb_data_ts	odb_temp
<input type="checkbox"/>	Cohort Data Mart (cdm)	cdm_data_ts	cdm_temp
<input type="checkbox"/>	Enterprise (ent)	ent_ts	ent_temp
<input type="checkbox"/>	Job Engine (job)	job_data_ts	job_temp
<input type="checkbox"/>	Services (svc)	svc_ts	svc_tmp

## 2.2.7 Run the Installation Scripts

Execute the following scripts/commands as a DBA user. When prompted, enter the respective schema names.

When prompted for the application role, enter OHF\_APPLICATION\_ROLE.

- 
- ☐ @hdi\_install/grant\_schema\_priv.sql
  - ☐ @hdm\_install/grant\_schema\_priv.sql
  - ☐ @hcd\_install/grant\_schema\_priv.sql
  - ☐ @odb\_install/grant\_schema\_priv.sql
  - Execute the following commands:
    - > ALTER USER <odb> QUOTA UNLIMITED on <odb\_index\_ts>
    - > ALTER USER <odb> QUOTA UNLIMITED on <odb\_lob\_ts>
  - ☐ @cdm\_install/grant\_schema\_priv.sql
  - Execute the following command:
    - > ALTER USER <cdm> QUOTA UNLIMITED on <cdm\_index\_ts>
  - ☐ @enterprise\_install/grant\_schema\_priv.sql
  - ☐ @job\_install/grant\_schema\_priv.sql
  - Execute the following commands:
    - > ALTER USER <job> QUOTA UNLIMITED on <job\_index\_ts>
    - > ALTER USER <job> QUOTA UNLIMITED on <job\_store\_ts>
    - > ALTER USER <job> QUOTA UNLIMITED on <job\_lob\_ts>
    - > ALTER USER <job> QUOTA UNLIMITED on <job\_tbs\_ts>
  - ☐ @svc\_install/grant\_schema\_priv.sql
- 

## 2.2.8 Start the Installer

- 
- ☐ Make sure that all the OHF schemas are disconnected from the database by querying gv\_\$session from the sys user:
    - select \* from sys.gv\_\$session where status <> 'KILLED';
  - ☐ Navigate to the <media\_pack\_location>/Disk1/install folder.
  - ☐ Change the protection on files as follows:
    - chmod 755 \*

- 
- ☐ Start the Oracle Universal Installer (OUI) using the following command:
- If the database server is on the machine where the installer is running and is an Exadata instance:  
`sh runInstaller.sh -local dba_tasks=false db_platform=exadata`
  - If the database server is on the machine where the installer is running and is a non-Exadata instance:  
`sh runInstaller.sh -local dba_tasks=false db_platform=default`
  - If the database server is on a different machine and is an Exadata instance:  
`sh runInstaller.sh -local remote_installation=true dba_tasks=false db_platform=exadata`
  - If the database server is on a different machine and is a non-Exadata instance:  
`sh runInstaller.sh -local dba_tasks=false db_platform=default remote_installation=true`

The `-local` option tells the installer to install on the local node, irrespective of the cluster nodes specified on the installer machine.

The `dba_tasks=false` option tells the installer not to create user schemas and tablespaces.

---

## 2.2.9 Run the Installer

Screen	Action
<input type="checkbox"/> Welcome	Click <b>Next</b> .
<input type="checkbox"/> Select a Product to Install	Select the <b>Oracle Healthcare Foundation Data Model 7.1.1.0.0</b> option.
<input type="checkbox"/> Specify Home Details	Enter the installation home name and location.
<input type="checkbox"/> Verify Installation Prerequisites	Verify if all the prerequisites are met before proceeding.
<input type="checkbox"/> Oracle Client Home Configuration	Specify the Oracle client home path. The installer validates this path.
<input type="checkbox"/> Database Configuration	<p>Enter values for the following fields:</p> <ul style="list-style-type: none"> <li>■ Hostname - By default, the system host name appears. For remote installations, set this value to the host name of the remote machine.</li> <li>■ Port - By default, the port number is 1521. You can edit this field if required.</li> <li>■ Service name</li> </ul> <p>The installer will not validate the database connectivity. Make sure that you are able to connect to the database from SQLPlus.</p>

Screen	Action
<input type="checkbox"/> Table Compression	<p>On an Exadata setup, use the following compression options:</p> <p><b>Interface Tables schema</b></p> <ul style="list-style-type: none"> <li>Hybrid columnar compression (default)</li> <li>No Compression</li> </ul> <p><b>Data Warehouse schema</b></p> <ul style="list-style-type: none"> <li>No Compression (default)</li> <li>Advanced Compression: Preferred if updates are high</li> <li>Hybrid columnar compression</li> </ul> <p><b>Common Data Mart schema</b></p> <ul style="list-style-type: none"> <li>No Compression (default)</li> <li>Advanced Compression</li> </ul> <p><b>Cohort Data Mart schema</b></p> <ul style="list-style-type: none"> <li>No Compression (default)</li> <li>Advanced Compression</li> </ul> <p><b>Omics Data Bank schema</b></p> <ul style="list-style-type: none"> <li>Hybrid columnar compression (default)</li> </ul> <p>On a non-Exadata setup, for each of the above schemas, choose either No Compression (default) or Advanced Compression.</p>
<input type="checkbox"/> Data Model Configuration	<p>Enter values for the following fields:</p> <ul style="list-style-type: none"> <li>Interface Tables schema name</li> <li>Interface Tables schema password</li> <li>Data Warehouse schema name</li> <li>Data Warehouse schema password</li> <li>Common Data Mart schema name</li> <li>Common Data Mart schema password</li> <li>Omics Data Bank schema name</li> <li>Omics Data Bank schema password</li> </ul>
<input type="checkbox"/> Data Model Configuration	<p>Enter values for the following fields:</p> <ul style="list-style-type: none"> <li>Cohort Data Mart schema name</li> <li>Cohort Data Mart password</li> <li>Enterprise schema name</li> <li>Enterprise schema password</li> <li>Job Engine schema name</li> <li>Job Engine schema password</li> <li>Services schema name</li> <li>Services schema password</li> </ul>
<input type="checkbox"/> Data Model Configuration Verification	Click <b>Next</b> .
<input type="checkbox"/> Tablespace Details	Click <b>Next</b> .
<input type="checkbox"/> Temporary Tablespace Details	Click <b>Next</b> .



Screen	Action
<input type="checkbox"/> Omics Data Bank and Cohort Data Mart Parameters	<p>Enter values for the following fields:</p> <ul style="list-style-type: none"> <li>■ Result Partition - Used to partition result tables in the ODB schema. The available options are: <ul style="list-style-type: none"> <li>– GENE (Default)</li> <li>– STUDY</li> </ul> </li> <li>■ Promoter Offset - Numerical value to specify a portion of the gene used as a promoter in the ODB schema. The default value is 200.</li> <li>■ Flanking Offset - Numerical value to specify the region before and after a gene to link results to a gene in the ODB schema. The default value is 200.</li> <li>■ Max Parallel Degree - An option to specify the maximum degree of parallelism to be set on tables or used in the SQL statements for the CDM or ODB schema. It is dependent on the machine configuration of the database server. The default value is 2.</li> <li>■ Job Store Name</li> </ul> <p>Execute the following query to find all store names in the database (created by all previous installations) by connecting to the SYS user:</p> <pre>SELECT DISTINCT owner,object_type,object_name,created FROM all_objects WHERE object_name LIKE '%JOB_STORE%';</pre> <p><b>Note:</b> If you have store names in the database that do not match the %JOB_STORE% pattern, run the following query to find the correct names:</p> <pre>SELECT DISTINCT owner,object_type,object_name,created FROM all_objects WHERE owner =&lt;Job Username/schemaname&gt; AND object_type IN ('TABLE','VIEW');</pre>
<input type="checkbox"/> Tablespace Parameters	<p>Enter values for the fields below from the existing or pre-created CDM, ODB, and Job engine schemas. Make sure that these tablespaces exist or were created before the installation. Refer to <a href="#">Create Default Tablespaces</a> for the tablespace names to be used.</p> <ul style="list-style-type: none"> <li>■ cdm_index_ts_name</li> <li>■ odb_index_ts_name</li> <li>■ odb_lob_ts_name</li> <li>■ job_index_ts_name</li> <li>■ job_lob_ts_name</li> <li>■ job_tbs_ts_name</li> <li>■ job_store_ts_name</li> </ul>
<input type="checkbox"/> Summary	Click <b>Install</b> .
<input type="checkbox"/> End of Installation	Click <b>Exit</b> after reviewing the installation information. At the confirmation prompt, click <b>Yes</b> to exit the installer.

## 2.2.10 Check the Installation

- ☐ Review the generated installation log files for errors. For details, see [Installation Log Files](#).
- ☐ Contact Oracle support, if necessary, to resolve any errors.

## 2.2.11 Revoke Privileges

After the Cohort Data Mart (CDM) and Omics Data Bank (ODB) data model installation, connect to the database user with DBA privilege, and execute the following scripts to revoke privileges:

```
REVOKE CREATE ANY DIRECTORY FROM <odb user>
```

```
REVOKE CREATE ANY CONTEXT FROM <cdm user>
```

where,

<odb\_user> is the ODB schema name.

<cdm\_user> is the CDM schema name.

---

## Data Model Upgrade

For a list of the supported upgrade paths, see [Supported Upgrade Paths](#).

To upgrade the OHF Data Model, follow the instructions below:

1. [Check Prerequisites](#)
2. [Upgrading from Healthcare Data Warehouse Foundation](#)
3. [Data Migration \(Upgrading from a Previous OHF Version\)](#)

### 3.1 Check Prerequisites

- 
- ☐ Make sure Oracle Database 12.1.0.2 Enterprise Edition is installed.
  - ☐ Create a container database with a single pluggable database instance with the help of a Database Administrator.
  - ☐ Make sure the database initialization parameter MAX\_STRING\_SIZE is set to STANDARD (default value).
  - ☐ Make sure Java Virtual Machine is installed on the database server.
  - ☐ Set the NLS\_LENGTH\_SEMANTICS parameter to either CHAR or BYTE based on your requirements.  
For Oracle Healthcare Foundation Globalization Support information, see *Oracle Database Globalization Support Guide* and set your database character set accordingly.
  - ☐ Enable database connection through SERVICE\_NAME. Make sure that you are connecting to the pluggable database instance.  
Verify the database connectivity using the following command:  

```
SQL>connect <username>@<hostname>:<port number>/<service name>
```

  
or  

```
sqlplus  
<username>@' (DESCRIPTION= (ADDRESS= (PROTOCOL=TCP) (HOST=<dbhost>) (PORT=<dbport>)) (CONNECT_ DATA= (SERVICE_NAME=<db servicename>))) '
```
  - ☐ Make sure the Sqlplus utility is available on the installation server.
  - ☐ Make sure the password expiry notification message does not display for the Sys, system and all OHF schemas.

- 
- ☐ If you have OHTR 3.1.x installed, make backups of the CDM, ODB, Enterprise, Job Engine and Apps schemas. Import CDM, ODB, Enterprise, Job Engine, and Apps schemas in the Pluggable database instance created for OHF.
- The CDM, ODB, Enterprise, and Job Engine schemas are updated as part of the OHF 7.1.1 upgrade. The Apps schema is upgraded during the OHTR 3.2 upgrade.
- If you are importing existing OHTR schemas into different schemas, update the tables below after importing the dump. Connect to the ODB schema and run the following commands:
1. `select * from W_EHA_DATASOURCE`  
In this table, update the CDM schema name to the schema where you imported the existing CDM dump.
  2. `select * from W_EHA_PRODUCT_PROFILE`  
In this table, update the CDM, ODB, APPS and Job schema names with the appropriate schema where you imported the existing dumps.
- ☐ Before you upgrade to Oracle Healthcare Foundation 7.1.1, back up the data model schemas of the existing Oracle Healthcare Data Warehouse Foundation (HDWF) environment and the OHTR schemas (if you have installed older versions of OHTR).
- ☐ During the upgrade, certain objects are dropped irrespective of prefixes or naming conventions. This includes objects such as packages, stored procedures, views, materialized views, scheduler jobs, and synonyms.
- Make a backup of the custom scripts before the upgrade and re-execute the custom scripts for all custom objects after the upgrade.
- ☐ Set the GLOBAL\_NAMES database initialization parameter to false.
- ☐ For remote upgrades, make sure the following are available on the client machine:
- Oracle Linux 6.6 or 6.7 (64-bit) OS
  - Oracle Database 12.1.0.2.0 client
- ☐ Before you run the OHF installer to upgrade the existing schema, execute the following query as a SYSTEM user to validate if the data model user has OHF\_APPLICATION\_ROLE as the default role.
- ```
select grantee, DEFAULT_ROLE from dba_role_privs where granted_role='OHF_APPLICATION_ROLE' AND
DEFAULT_ROLE='NO';
```
- If this is not a default role, execute the following command as a SYSTEM user to set this as a default role:
- ```
alter user <data model user> default role all;
```
- Where <data model user> should be assigned to each of the following users:
- Data warehouse schema name (HDM)
  - Interface tables schema name (HDI)
  - Common data mart schema name (HCD)
  - Cohort data mart schema name (CDM)
  - Job engine schema name (JOB)
  - Services schema name (SVC)
  - Omics data bank schema name (ODB)
- Note:** If you don't have OHTR or OHPM products installed, assign <data\_model\_user> only to the HDM, HDI, and HCD schemas.

- 
- ☐ After you upgrade the RDBMS from version 11g to version 12.1.0.2, check the SELECT privilege that was granted to PUBLIC in version 11g:
    1. Restore the database from a backup taken prior to running the upgrade to OHF 7.1.
    2. As the HDI user, check if you have access to the SYS.ALL\_TAB\_COLS view:
 

```
select count (*) from SYS.ALL_TAB_COLS;
```

If the HDI user cannot access the SYS.ALL\_TAB\_COLS view:

      1. Check the privileges granted to the SYS.ALL\_TAB\_COLS view as the SYS user:
 

```
select * from dba_tab_privs where table_name = 'ALL_TAB_COLS';
```

By default, only the SELECT privilege should be granted to PUBLIC.
      2. If this SELECT privilege is not working as expected after upgrading the RDBMS to version 12.1.0.2, try to recreate this privilege as the SYS user:
 

```
revoke select on SYS.ALL_TAB_COLS FROM PUBLIC;
```

```
grant select on SYS.ALL_TAB_COLS to PUBLIC with grant option;
```
  - ☐ Table compression strategy is decided based on the number of updates in tables. If the number of updates is high, select the **Advanced compression** option instead of HCC (QUERY HIGH). Also, cross-check the compression used in the previous version.
  - ☐ Make sure that you have an appropriate database license for the compression methods you choose.
  - ☐ The installer does not validate the tablespace data files location. If the database server is on the remote server, make sure the location physically exists or the installer will fail.
- 

## 3.2 Upgrading from Healthcare Data Warehouse Foundation

For the list of supported upgrade paths, see [Supported Upgrade Paths](#).

If you are upgrading from a previous OHF version, go to [Data Migration \(Upgrading from a Previous OHF Version\)](#).

If you are upgrading from Healthcare Data Warehouse Foundation (HDWF) 6.1 to Oracle Healthcare Foundation, you must install Oracle Healthcare Analytics Data Integration (OHADI) 3.1.

---

**Note:** After upgrading, continue to [Data Migration \(Upgrading from a Previous OHF Version\)](#) for instructions on how to migrate data from HDWF to OHF.

---

To upgrade from HDWF 6.1 to OHF, upgrade the HDWF 6.1 database instance to the Oracle Database 12.1.0.2 Enterprise Edition.

### 3.2.1 Prepare the Installer

- 
- ☐ Make sure that all the OHF schemas are disconnected from the database by querying gv\_\$session from the sys user:
 

```
select * from sys.gv_$session where status <> 'KILLED';
```
  - ☐ Extract the contents of the OHF media pack to your system.
  - ☐ Open the <media\_pack\_location>/ folder.

- 
- ☐ Unzip the **OHF\_V711\_Linux-x64.zip** file where you want to launch the installer using the following command:  

```
unzip -a OHF_V711_Linux-x64.zip
```
  - ☐ Open the **Disk1/install** folder.
  - ☐ Change the protection on files as follows:  

```
chmod 755 *
```
- 

### 3.2.2 Run the Installer

Start the Oracle Universal Installer (OUI) using the following command:

- If the database server (Exadata or non-Exadata) is on the machine where the installer is running, execute:

```
sh runInstaller.sh -local
```

- If the database server is on a different machine, execute:

```
sh runInstaller.sh -local remote_installation=true
```

where, the `-local` option is to install on the local node irrespective of the cluster nodes specified on the installer machine.

Screen	Action
<input type="checkbox"/> Welcome	Click <b>Next</b> .
<input type="checkbox"/> Select a Product to Install	Select the <b>Oracle Healthcare Foundation Data Model 7.1.1.0.0</b> option.
<input type="checkbox"/> Specify Home Details	Enter the installation home name and location.
<input type="checkbox"/> Verify Installation Prerequisites	Verify if all the prerequisites are met before proceeding.
<input type="checkbox"/> Oracle Client Home Configuration	Specify the Oracle client home path. The installer validates this path.
<input type="checkbox"/> Database Configuration	Enter values for the following fields: <ul style="list-style-type: none"><li>■ Hostname - By default, the system host name appears. For remote installations, set this value to the host name of the remote machine.</li><li>■ Port - By default, the port number is 1521. You can edit this field if required.</li><li>■ Service name</li><li>■ System user password</li><li>■ Sys user password</li></ul>

Screen	Action
<input type="checkbox"/> Table Compression	<p>On an Exadata setup, use the following compression options:</p> <p><b>Interface Tables schema</b></p> <ul style="list-style-type: none"> <li>Hybrid columnar compression (default)</li> <li>No Compression</li> </ul> <p><b>Data Warehouse schema</b></p> <ul style="list-style-type: none"> <li>No Compression (default)</li> <li>Advanced Compression: Preferred if updates are high</li> <li>Hybrid columnar compression</li> </ul> <p><b>Common Data Mart schema</b></p> <ul style="list-style-type: none"> <li>No Compression (default)</li> <li>Advanced Compression</li> </ul> <p><b>Cohort Data Mart schema</b></p> <ul style="list-style-type: none"> <li>No Compression (default)</li> <li>Advanced Compression</li> </ul> <p><b>Omics Data Bank schema</b></p> <ul style="list-style-type: none"> <li>Hybrid columnar compression (default)</li> </ul> <p>On a non-Exadata setup, for each of the above schemas, choose either No Compression (default) or Advanced Compression.</p>
<input type="checkbox"/> Data Model Configuration	<p>Enter values for the following fields:</p> <ul style="list-style-type: none"> <li>Interface Tables schema name</li> <li>Interface Tables schema password</li> <li>Data Warehouse schema name</li> <li>Data Warehouse schema password</li> <li>Common Data Mart schema name</li> <li>Common Data Mart schema password</li> <li>Omics Data Bank schema name - Enter a new schema name</li> <li>Omics Data Bank schema password</li> </ul>
<input type="checkbox"/> Data Model Configuration	<p>Enter values for the following fields. If OHTR schemas exist, provide the existing schema names, otherwise provide new schema names.</p> <ul style="list-style-type: none"> <li>Cohort Data Mart schema name</li> <li>Cohort Data Mart password</li> <li>Enterprise schema name</li> <li>Enterprise schema password</li> <li>Job Engine schema name</li> <li>Job Engine schema password</li> <li>Services schema name - Enter a new schema name</li> <li>Services schema password</li> </ul>
<input type="checkbox"/> Data Model Configuration Verification	Click <b>Next</b> .

Screen	Action
<input type="checkbox"/> Tablespace Data File Location	<p>Specify the location of the Tablespace data files. This is the directory on the database server where the data files are created during the installation.</p> <p>For example,</p> <p>Unix: /u01/oradata/dbname</p> <p>ASM: +DATA_EX02/hasahas01/datafile</p> <p><b>Note:</b></p> <ul style="list-style-type: none"> <li>■ The ASM location must always start with +.</li> <li>■ The path should not end with /.</li> </ul>
<input type="checkbox"/> Tablespace Details	<p>The installer creates the following tablespaces. Make sure that these tablespaces do not exist in the database.</p> <ul style="list-style-type: none"> <li>■ odb_data_ts - Default tablespace for Omics Data Bank (odb) schema</li> <li>■ odb_index_ts - Used for indexes of the Omics Data Bank (odb) schema</li> <li>■ odb_lob_ts - Used for LOB columns in the Omics Data Bank (odb) schema</li> <li>■ cdm_data_ts - Default tablespace used for Cohort Data Mart (cdm) schema</li> <li>■ cdm_index_ts - Used for indexes of the Cohort Data Mart (cdm) schema</li> <li>■ ent_ts - Default tablespace used for Enterprise (ent) schema</li> <li>■ job_data_ts - Default tablespace for Job Engine (job) schema</li> <li>■ job_index_ts - Used for indexes of the Job Engine (job) schema</li> <li>■ job_store_ts - Database File System (DBFS) store is created as part of the Job Engine installation</li> <li>■ job_lob_ts - Name of the tablespace to store LOB data in the DBFS store created for the JOB ENGINE schema user</li> <li>■ job_tbs_ts - Name of the tablespace to be used for the DBFS store created for the JOB_ENGINE schema</li> <li>■ svc_ts - Default tablespace used for services schema (svc)</li> </ul> <p>For each schema, you can edit the default tablespace name, initial size, max size, and tablespace encryption. Make sure you enter tablespace names that do not exist in the database.</p>
<input type="checkbox"/> Temporary Tablespace Details	<p>The installer creates the following temporary tablespaces. Make sure that these tablespaces do not exist in the database.</p> <ul style="list-style-type: none"> <li>■ odb_temp - Temporary tablespace for the Omics Data bank schema (odb)</li> <li>■ cdm_temp - Temporary tablespace for the Cohort data mart schema (cdm)</li> <li>■ ent_temp - Temporary tablespace for the Enterprise schema (ent)</li> <li>■ job_temp - Temporary tablespace for the Job Engine schema (job)</li> <li>■ svc_temp - Temporary tablespace for the Services schema (svc)</li> </ul> <p>For each schema, you can edit the temporary tablespace name, initial size, max size, and tablespace encryption. Make sure you enter tablespace names that do not exist in the database.</p>



Screen	Action
<input type="checkbox"/> Omics Data Bank and Cohort Data Mart Parameters	<p>Enter values for the following fields. Make sure you use the same values you are currently using for: Result Partition, Promoter Offset, Flanking Offset and Job Store Name. If you don't have existing OHTR schemas, then choose appropriate options.</p> <ul style="list-style-type: none"> <li>Result Partition - Used to partition result tables in the ODB schema. The available options are: <ul style="list-style-type: none"> <li>GENE (Default)</li> <li>STUDY</li> </ul> </li> <li>Promoter Offset - Numerical value to specify a portion of the gene used as a promoter in the ODB schema. The default value is 200.</li> <li>Flanking Offset - Numerical value to specify the region before and after a gene to link results to a gene in the ODB schema. The default value is 200.</li> <li>Max Parallel Degree - An option to specify the maximum degree of parallelism to be set on tables or used in the SQL statements for the CDM or ODB schema. It is dependent on the machine configuration of the database server. The default value is 2.</li> <li>Job Store Name</li> </ul> <p>Execute the following query to find all store names in the database (created by all previous installations) by connecting to the SYS user:</p> <pre>SELECT DISTINCT owner,object_type,object_name,created FROM all_objects WHERE object_name LIKE '%JOB_STORE%';</pre> <p><b>Note:</b> If you have store names in the database that do not match the %JOB_STORE% pattern, run the following query to find the correct names:</p> <pre>SELECT DISTINCT owner,object_type,object_name,created FROM all_objects WHERE owner =&lt;Job Username/schemaname&gt; AND object_type IN ('TABLE', 'VIEW');</pre> <p><b>Note:</b> If you are using the same database instance for multiple environments, enter a unique job store name for each job schema.</p>
<input type="checkbox"/> Tablespace Parameters	<p>Enter values for the fields below from the existing CDM, ODB, and Job engine schemas. Make sure that these tablespaces exist or were created before the installation.</p> <ul style="list-style-type: none"> <li>cdm_index_ts_name</li> <li>odb_index_ts_name</li> <li>odb_lob_ts_name</li> <li>job_index_ts_name</li> <li>job_lob_ts_name</li> <li>job_tbs_ts_name</li> <li>job_store_ts_name</li> </ul>
<input type="checkbox"/> Summary	Click <b>Install</b> .
<input type="checkbox"/> End of Installation	Click <b>Exit</b> after reviewing the installation information. At the confirmation prompt, click <b>Yes</b> to exit the installer.

### 3.2.3 Check the Installation

- ☐ Review the generated installation log files for errors. For details, see [Installation Log Files](#).
- ☐ Contact Oracle support, if necessary, to resolve any errors.

## 3.3 Data Migration (Upgrading from a Previous OHF Version)

---

**Note:** Data Migration is not required for OHF 7.1.

---

To upgrade from a previous OHF version (other than 7.1) or to migrate the data from Healthcare Data Warehouse Foundation 6.1, follow the steps below:

1. [Check the Migration Scripts](#)
2. [Execute Schema Migration Scripts After Modifications](#)

### 3.3.1 Check the Migration Scripts

Data migration for interface tables and data warehouse schema is not performed by the installer. You need to review the data migration scripts in `<INSTALL_HOME>/dm/hdi_install/post_ddl_upgrade.sql` and `<INSTALL_HOME>/dm/hdm_install/post_ddl_upgrade.sql` (note that there are references to other scripts within the main script). You can modify the scripts before executing them.

---

**Note:** Migration scripts execution is mandatory and needs to be completed before the ETL execution.

---

---

**Note:** Both sections below ([HDWF 6.1 to OHF 7.0.1 Data Migration Summary](#) and [OHF 7.0.1 to 7.1.1 Data Migration Summary](#)) are applicable for migrating from HDWF 6.1 to OHF 7.1.1.

---

#### 3.3.1.1 HDWF 6.1 to OHF 7.0.1 Data Migration Summary

- Specimen.Intervention ID/VN is deprecated and data is migrated to Intervention Specimen.
- Specimen Processing Procedure. Specimen Processing Procedure Subtype is added as a mandatory attribute to Specimen Processing Procedure. This is initialized with the appropriate seed data coded value 'SPP\_SUBTYP\_GEN' during the migration.
- Schedule Block.Schedule Block Subtype is added as a mandatory attribute to Schedule Block. This is initialized with the appropriate seed data coded value 'SCH\_BLK\_SUBTYP\_GEN' during the migration.
- Schedule.Service Provider is deprecated and data is transferred to Schedule Service Provider.
- Observation. Specimen ID/VN is deprecated and data is transferred to Observation Specimen. On the interface tables schema, data is transferred from Observation, Assessment, and Image Instance to Observation Specimen.
- Data is migrated from Encounter Service Provider to Encounter.Responsible Service Provider for Encounter Service Provider Relationship Type="Responsible Service Provider". If the same encounter is associated to multiple service providers for a given value of Encounter and Relationship Type="Responsible Service Provider", the service provider that was inserted last will be migrated to Encounter.

- The integration ID of the parent table is used wherever a new table is populated based on an existing table.
- The migration scripts use the seed data values given below provided by Oracle. If you have used a different set of seed data values in Encounter Service Provider to represent a Responsible Service Provider relationship, change it in the migration script for both Interface Tables and Data Warehouse schema, and run `post_ddl_upgrade.sql`.
- The following are the seed data values that are used for filtering Encounter Service Provider. Encounter Service Provider Relationship Type in the migration scripts:
  - `HDI_ENC_SVCPRV.ENC_SVCPRV_RLTYP_CD='ENC_SVCPRV_RLSHPTYP_RSPNSBL_SVCPRV'` (`CD_NM='Responsible Service Provider'` AND `INTEGRATION_ID='ENC_SVCPRV_RLSHPTYP_RSPNSBL_SVCPRV~EHA_CUSTOM_CD_SYS~1.0'` AND `SYS_INT_ID='EHA_CUSTOM_CD_SYS~1.0'` AND `SYS_DAT_SRC_NUM_ID=1` AND `CREATED_BY_USER_ID='EHA_USER'` AND `CREATED_BY_USER_DS_NUM_ID=1`)
  - On the Data Warehouse schema, it corresponds to `HDM_ENC_SVCPRV.ENC_SVCPRV_RLSHPTYP_ID/VN` resolving to the following code:  
`CD='ENC_SVCPRV_RLSHPTYP_RSPNSBL_SVCPRV'` AND `CD_NM='Responsible Service Provider'` AND `INTEGRATION_ID='ENC_SVCPRV_RLSHPTYP_RSPNSBL_SVCPRV~EHA_CUSTOM_CD_SYS~1.0'`

The values mentioned above are presented in a logical way and is not the exact physical representation of the values present in the migration scripts. See **sql files** `<INSTALL_HOME>/dm/hdi_install/pkb/hdi_upgrade_7_0.pkb` and `<INSTALL_HOME>/dm/hdm_install/pkb/hdm_upgrade_7_0.pkb` for the exact seed data values.
- Key steps related to data migration are logged into the `HDI_RSLT_LOG` and `HDM_RSLT_LOG` tables in the respective schemas.

### 3.3.1.2 OHF 7.0.1 to 7.1.1 Data Migration Summary

- Bill Line Item.Bill Diagnosis ID/VN is deprecated and the corresponding data is migrated to Bill Diagnosis as new records.
- Claim Line Item.ClaimDiagnosis ID/VN is deprecated and the corresponding data is migrated to Claim Diagnosis as new records.  

The values mentioned above are presented in a logical way and is not the exact physical representation of the values in the migration scripts. For exact details, see the SQL files:  
`<INSTALL_HOME>/dm/hdi_install/pkb/hdi_upgrade_7_1.pkb` and `<INSTALL_HOME>/dm/hdm_install/pkb/hdm_upgrade_7_1.pkb`.
- `HDM_INTVN_SPCMN`. `INTVN_SPCMN_RLSHPTYP_ID/VN` is populated with the value -1 corresponding to the default value of `CODEID_NAV` configured in the HMC schema. If you have modified the seed data, change the script `<INSTALL_HOME>/dm/hdm_install/post_ddl_upgrade.sql` accordingly.
- Review the integration ID pattern for records populated using the migration scripts and change it accordingly if needed.
- It is assumed that the time stamps for `SRC_CHANGED_ON_DT`, match from the parent to the child reference on the interface schema. For example, the value of `HDI_ENC_SVCPRV.ENC_SRC_CHANGED_ON_DT` should be same as that of

the parent, that is, HDI\_ENC.SRC\_CHANGED\_ON\_DT for the same record being referred in both tables right up to the seconds. If it is not the same, change the migration script accordingly.

### 3.3.2 Execute Schema Migration Scripts After Modifications

Follow the instructions below to migrate the Interface Tables schema:

- 
- ☐ Open the command prompt and navigate to the <INSTALL\_HOME>/dm/hdi\_install/ folder.
  - ☐ Connect to the interface tables schema through command prompt using the SQL\*Plus utility.
  - ☐ Execute the script using the command '@post\_ddl\_upgrade.sql'.
- 

Follow the instructions below to migrate the Data Warehouse schema:

- 
- ☐ Open the command prompt and navigate to the <INSTALL\_HOME>/dm/hdm\_install/ folder.
  - ☐ Connect to the interface tables schema through command prompt using the SQL\*Plus utility.
  - ☐ Execute the script using the command '@post\_ddl\_upgrade.sql'.
-

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## Data Model Uninstall

This chapter describes how to uninstall the OHF Data Model.

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**Note:** Oracle recommends that you uninstall the Data Model only from the development environment. Also, make sure you have backups of the user schemas before dropping them.

---

Execute the following commands to drop user schemas by connecting to the system user. Replace the user schema names and tablespace names with the values provided during the installation.

```
drop user <hdi> cascade;
drop user <hdm> cascade;
drop user <hcd> cascade;
drop user <odb> cascade;
drop user <cdm> cascade;
drop user <ent> cascade;
drop user <job> cascade;
drop user <svc> cascade;
drop tablespace <hdi_temp> INCLUDING CONTENTS and datafiles;
drop tablespace <hdm_temp> INCLUDING CONTENTS and datafiles;
drop tablespace <hcd_temp> INCLUDING CONTENTS and datafiles;
drop tablespace <odb_temp> INCLUDING CONTENTS and datafiles;
drop tablespace <cdm_temp> INCLUDING CONTENTS and datafiles;
drop tablespace <ent_temp> INCLUDING CONTENTS and datafiles;
drop tablespace <job_temp> INCLUDING CONTENTS and datafiles;
drop tablespace <svc_temp> INCLUDING CONTENTS and datafiles;
drop tablespace <hdi_ts> INCLUDING CONTENTS and datafiles;
drop tablespace <hdm_ts> INCLUDING CONTENTS and datafiles;
drop tablespace <hcd_ts> INCLUDING CONTENTS and datafiles;
drop tablespace <odb_data_ts> INCLUDING CONTENTS and datafiles;
drop tablespace <odb_index_ts> INCLUDING CONTENTS and datafiles;
drop tablespace <odb_lob_ts> INCLUDING CONTENTS and datafiles;
drop tablespace <cdm_data_ts> INCLUDING CONTENTS and datafiles;
drop tablespace <cdm_index_ts> INCLUDING CONTENTS and datafiles;
drop tablespace <ent_ts> INCLUDING CONTENTS and datafiles;
drop tablespace <job_data_ts> INCLUDING CONTENTS and datafiles;
drop tablespace <job_index_ts> INCLUDING CONTENTS and datafiles;
drop tablespace <job_store_ts> INCLUDING CONTENTS and datafiles;
drop tablespace <job_lob_ts> INCLUDING CONTENTS and datafiles;
drop tablespace <job_tbs_ts> INCLUDING CONTENTS and datafiles;
drop tablespace <svc_ts> INCLUDING CONTENTS and datafiles;
```



## Data Model Troubleshooting

This chapter contains the following sections:

- [Installation Log Files](#)
- [Seed Data Troubleshooting](#)

### 5.1 Installation Log Files

While installing the Data Model, the installer generates the following log files:

**Table 5–1 Installation Log Files**

File Name	Description
installActions<timestamp>.log	Records the actions of the installer and can be used to diagnose issues with the installer.
oraInstall<timestamp>.out	Records the output of the SQL scripts run by the installer. Database objects are installed using the Python framework.
oraInstall<timestamp>.err	Records the errors from the SQL scripts run by the installer.  You can ignore the following error:  java.io.FileNotFoundException: /<INSTALL_HOME>/inventory/Components21/oracle.hsgbu.hc.datamodel/7.1.1.0.0/context.xml  The log files are time stamped and each installation session creates a new log file.  On a Linux machine, the log files are located at <b>\$ORACLE_BASE/oraInventory/logs</b> . For example, /u01/app/oraInventory/logs.
<INSTALL_HOME>/dm/install.err	Contains any SQL errors. Database objects are installed using the Python framework and the error logging is redirected to this location.
<INSTALL_HOME>/reports/dm_install<timestamp>.html	Contains the installation summary for the Data Model installation.

If the installation fails, check the log files for errors. You must fix the issues and rerun the installer from the installation home location.

While reporting any problems that occur during installation, make sure that you include all the above log files. Check which components were installed successfully using the following query by connecting to the enterprise schema:

```
Select * from W_EHA_PRODUCT_VERSION
```

Send the result of the query when reporting any problems to Oracle support.

## 5.2 Seed Data Troubleshooting

Seed data scripts are executed as part of the installation process for both the HDI schema and the HDM schema. The seed data that is loaded in each schema is identical although the format is specific to each of the two schemas.

### 5.2.1 Error Logging and Debugging

These errors that occur while populating seed data using the seed data load procedures are logged in the HDM\_X\_SEED\_DATA\_ERR\_LOG table for the HDM schema and the HDI\_X\_SEED\_DATA\_ERR\_LOG table for the HDI schema.

The following are the key columns in the error log table (HDM\_X\_SEED\_DATA\_ERR\_LOG or HDI\_X\_SEED\_DATA\_ERR\_LOG):

- **ERR\_ID** - Unique identifier for a record in the error log table.
- **ERR\_TBL\_NM** - Specifies the table name for which the error record was logged. For example, for an error in the HDM code repository will have a value **HDM\_CD\_REPOSITORY** in this column.
- **ERR\_TYP** - Indicates the type of error that is logged. There are five types of errors that can be logged. For the different types of errors, see [Seed Data Error Types](#).
- **ERR\_DESC** - A short description of the error.
- **ERR\_INT\_ID** - Indicates the integration ID of the record for which the error was logged. This column along with the error table name (ERR\_TBL\_NM) can be used to debug the error. The Integration ID for tables that are populated with seed data has the following pattern:

**Table 5–2 Integration ID Pattern for Tables Populated with Seed Data**

Table Name	Columns to be Concatenated to Generate the Integration ID
HDM_USER	LOGIN
HDM_CD_SYS	SYS_CD~SYS_VERSION
HDM_CD_REPOSITORY	CD~SYS_CD~SYS_VERSION
HDM_CD_TYP	TYP_CD
HDM_CD_REPOSITORY_CD_TYP	CD~SYS_CD~ SYS_VERSION~ TYP_CD

### 5.2.2 Seed Data Error Types

This section describes the different error types that can be logged and the resolution:

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**Note:** In [Table 5–3](#), non-EHA user refers to individuals using the application.

---



Table 5–3 Seed Data Error Types

Error Type	Description	Resolution for HDM Identification	Resolution for HDI Identification
Error Type - EHA_WARNING: Code name exists	Code name: <CODE NAME> exists. New Oracle seed data record inserted with same code name.	<p>Search Code Repository for the record with the code name specified in the Error Description.</p> <pre>select * from HDM_CD_REPOSITORY where CD_NM = '&lt;CODE NAME SPECIFIED IN THE ERROR STATEMENT&gt;';</pre> <p>For example,</p> <pre>SQL&gt; select * from HDM_CD_REPOSITORY where CD_NM = 'Patient Withdrew';</pre>	<p>Search Code Repository for the record with the code name as specified in the Error Description.</p> <pre>select * from HDI_CD_REPOSITORY where CD_NM = '&lt;CODE NAME SPECIFIED IN THE ERROR STATEMENT&gt;';</pre> <p>For example,</p> <pre>SQL&gt; select * from HDI_CD_REPOSITORY where CD_NM = 'Patient Withdrew';</pre>
		<p><b>Resolution</b></p> <p>After identifying the code name, select one of the following options:</p> <ul style="list-style-type: none"> <li>■ Delete the conflicting seed data record inserted by the Oracle seed data procedure (identified by the EHA user) and use your own seed data.</li> <li>■ Delete the data record that you have inserted which caused the code clash and instead use the Oracle seed data record.</li> </ul>	<p><b>Resolution</b></p> <p>After identifying the code name, select one of the following options:</p> <ul style="list-style-type: none"> <li>■ Delete the conflicting seed data record inserted by the Oracle seed data procedure (identified by the EHA User) and use your own seed data.</li> <li>■ Delete the data record that you have inserted which caused the code clash and instead use the Oracle seed data record.</li> </ul>

**Table 5–3 (Cont.) Seed Data Error Types**

<b>Error Type</b>	<b>Description</b>	<b>Resolution for HDM Identification</b>	<b>Resolution for HDI Identification</b>
EHA_ERROR: Insert failed: Creation of version failed	Non-EHA user has versioned a record. Unable to create a new version of the record.	<p>Navigate to the table identified in HDM_X_SEED_DATA_ERR_LOG.ERR_TBL_NM and use HDM_X_SEED_DATA_ERR_LOG.ERR_INT_ID to identify the error record.</p> <pre>select * from &lt;HDM_X_SEED_DATA_ERR_LOG.ERR_TBL_NM&gt; where INTEGRATION_ID = '&lt;HDM_X_SEED_DATA_ERR_LOG.ERR_INT_ID&gt;' and CURRENT_FLG='Y';</pre> <p>For example,</p> <pre>SQL&gt; select * from HDM_CD_REPOSITORY where INTEGRATION_ID = 'SPCMN_TYP_CD_IVFEHA_CUSTOM_CD_SYS1.0' and CURRENT_FLG='Y';</pre>	<p>Navigate to the table identified in HDI_X_SEED_DATA_ERR_LOG.ERR_TBL_NM and use HDI_X_SEED_DATA_ERR_LOG.ERR_INT_ID to identify the error record.</p> <pre>select * from &lt;HDI_X_SEED_DATA_ERR_LOG.ERR_TBL_NM&gt; t1 where INT_ID = &lt;HDI_X_SEED_DATA_ERR_LOG.ERR_INT_ID&gt; and SRC_CHANGED_ON_DT = (select max(SRC_CHANGED_ON_DT) from &lt;HDI_X_SEED_DATA_ERR_LOG.ERR_TBL_NM&gt; t2 where t1.int_id = t2.int_id);</pre> <p>For example,</p> <pre>SQL&gt; select *from HDI_CD_REPOSITORY cr1 where INT_ID = 'SPCMN_TYP_CD_IVFEHA_CUSTOM_CD_SYS1.0' and SRC_CHANGED_ON_DT = (select max(SRC_CHANGED_ON_DT) from HDI_CD_REPOSITORY cr2 where cr1.int_id = cr2.int_id);</pre>
		<p><b>Resolution</b></p> <p>This error occurs when Oracle provided seed data was previously updated and versioned by a non-EHA user. This indicates that you have taken "ownership" of the data and any subsequent updates through the Oracle seed data process are rejected with this error message. Ignore the Oracle provided seed data.</p>	<p><b>Resolution</b></p> <p>This error occurs when Oracle provided seed data was previously updated and versioned by a non-EHA user. This indicates that you have taken "ownership" of the data and any subsequent updates through the Oracle seed data process are rejected with this error message. Ignore the Oracle provided seed data.</p>

**Table 5–3 (Cont.) Seed Data Error Types**

Error Type	Description	Resolution for HDM Identification	Resolution for HDI Identification
EHA_ERROR: Update failed	Non-EHA user has changed the record. Unable to update the record.	<p>Navigate to the table identified in HDM_X_SEED_DATA_ERR_LOG.ERR_TBL_NM and use HDM_X_SEED_DATA_ERR_LOG.ERR_INT_ID to identify the error record.</p> <pre>select * from &lt;HDM_X_SEED_DATA_ERR_LOG,ERR_TBL_NM&gt; where INTEGRATION_ID=&lt;HDM_X_SEED_DATA_ERR_LOG,ERR_INT_ID&gt; and CURRENT_FLG='Y';</pre> <p>For example,</p> <pre>SQL&gt; select *from HDM_CD_REPOSITORY where INTEGRATION_ID ='SPCMN_TYP_CD_IVFEHA_CUSTOM_CD_SYS1.0' and CURRENT_FLG='Y';</pre>	This error will not occur in HDI as no updates are supported in HDI.
		<p><b>Resolution</b></p> <p>This error occurs when Oracle provided seed data has previously been updated by a non-EHA user. This indicates that you have taken "ownership" of the data and any subsequent updates through the Oracle seed data process are rejected with this error message. Ignore the Oracle provided seed data.</p>	

**Table 5–3 (Cont.) Seed Data Error Types**

<b>Error Type</b>	<b>Description</b>	<b>Resolution for HDM Identification</b>	<b>Resolution for HDI Identification</b>
EHA_ERROR: Insert failed: Duplicate integration ID	Non-EHA user has created a record with the same integration ID. Unable to create a new record.	<p>Navigate to the table identified in HDM_X_SEED_DATA_ERR_LOG.ERR_TBL_NM and use HDM_X_SEED_DATA_ERR_LOG.ERR_INT_ID to identify the error record.</p> <pre>select * from &lt;HDM_X_SEED_DATA_ERR_LOG.ERR_TBL_NM&gt; where INTEGRATION_ID = &lt;HDM_X_SEED_DATA_ERR_LOG.ERR_INT_ID&gt; and CURRENT_FLG='Y';</pre> <p>For example,</p> <pre>SQL&gt; select * from HDM_CD_REPOSITORY where INTEGRATION_ID = 'SPCMN_TYP_CD_IVFEHA_CUSTOM_CD_SYS1.0' and CURRENT_FLG='Y';</pre>	<p>Navigate to the table identified in HDI_X_SEED_DATA_ERR_LOG.ERR_TBL_NM and use HDI_X_SEED_DATA_ERR_LOG.ERR_INT_ID to identify the error record.</p> <pre>select * from &lt;HDI_X_SEED_DATA_ERR_LOG.ERR_TBL_NM&gt; t1 where INT_ID=&lt;HDI_X_SEED_DATA_ERR_LOG.ERR_INT_ID&gt; and SRC_CHANGED_ON_DT=(select max(SRC_CHANGED_ON_DT) from &lt;HDI_X_SEED_DATA_ERR_LOG.ERR_TBL_NM&gt; t2 where t1.int_id = t2.int_id);</pre> <p>For example,</p> <pre>SQL&gt; select * from HDI_CD_REPOSITORY cr1 where INT_ID = 'SPCMN_TYP_CD_IVFEHA_CUSTOM_CD_SYS1.0' and SRC_CHANGED_ON_DT = (select max(SRC_CHANGED_ON_DT) from HDI_CD_REPOSITORY cr2 where cr1.int_id = cr2.int_id);</pre>
		<p><b>Resolution</b></p> <p>After examining the conflicting data, select one of the following options:</p> <ul style="list-style-type: none"> <li>■ To insert Oracle seed data, modify the integration ID of the conflicting record that you have inserted and run the seed data procedure again.</li> <li>■ If the Oracle supplied seed data is not required, ignore the Oracle provided seed data.</li> </ul>	<p><b>Resolution</b></p> <p>After examining the conflicting data, you can select one of the following options:</p> <ul style="list-style-type: none"> <li>■ To insert Oracle seed data, modify the integration ID of the conflicting record that you have inserted and run the seed data procedure again.</li> <li>■ If the Oracle supplied seed data is not required, ignore the Oracle provided seed data.</li> </ul>
EHA_ERROR: PL/SQL_ERROR	-	Other PL SQL errors that are encountered when inserting seed data.	Other PL SQL errors that are encountered when inserting seed data.

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## Data Management Assembly for Oracle Data Integrator Installation

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This chapter describes the steps required to install the OHF Data Management Assembly for Oracle Data Integration (ODI). There are two ways to install the Data Management Assembly for ODI, depending on how you create the user schemas. The installer can create the user schemas during the installation or you can create them manually, prior to the installation. The two methods are described below:

- [Installing the Data Management Assembly without Pre-Created User Schemas](#)
- [Installing the Data Management Assembly with Pre-Created User Schemas](#)

### 6.1 Installing the Data Management Assembly without Pre-Created User Schemas

1. [Check Prerequisites](#)
2. [Prepare the Installer](#)
3. [Run the Installer](#)
4. [Check the Installation](#)
5. [Create a New ODI Repository Login](#)

#### 6.1.1 Check Prerequisites

- 
- ☐ The user is familiar with Oracle Database (DB), ODI, and Linux OS.
  - ☐ The OHF Data Model is installed.  
Follow the instructions in [Chapter 2, "Data Model Installation"](#) or [Chapter 3, "Data Model Upgrade"](#).
  - ☐ ODI services can connect to the Data Model 7.1.1 database mentioned in the Oracle TNS file (TNS entries of the required database must be available in the installation server tnsnames.ora file).
  - ☐ The password expiry notification message does not display for the system user.
  - ☐ The installer is run on the system where the ODI server is installed.
  - ☐ The terminology loaders source file location exists. The installer creates an archive directory. For example,  
`/scratch/home/oemora/TL_Source` is the source file location specified during installation, which already exists.  
`/scratch/home/oemora/TL_Archive_Files` is created by the installer as the archive directory.

- 
- ☐ The path of the data file (Configuration schema/Repository schema tablespace) mentioned when creating the tablespace is correct. Make sure that the database user has write privileges.
  - ☐ Enough space is available in the installation directory and the Oracle Home directory.
  - ☐ The Sqlplus utility is available on the installation server.
  - ☐ The impdp utility is available on the repository database server.
  - ☐ The installation user has read, write, and execute privileges to the \$ODI\_HOME/bin folder. The installer creates product specific files under this location.
  - ☐ For remote installations, where the installation server and the ODI Repository Database server are different machines, make sure that:
    - The remote database server directory is mounted to the installation server with appropriate read and write privileges.
    - The remote directories are accessible after mounting from the installation server.
    - The Linux user of the remote server, who executes the Oracle process, has privilege 755 for the directory (datapump).
    - The Oracle user has privilege for the mount path directory.
    - If the repository DB is on an Exadata machine, the repository DB single node (the node which is mounted) TNSENTRY should be added to the tnsnames.ora file on the installation server. After installation, revert TNSENTRY to the original entry.
  - ☐ GLOBAL\_NAMES database initialization parameter is set to false.
  - ☐ Back up the following csv files under \$ODI\_HOME/bin if it exists:
    - bus\_susp\_day.csv
    - daylight\_svngs\_day.csv
    - hosp\_hol\_day.csv
    - time\_odi.csv
  - ☐ If the Terminology Loaders source folder is shared, make a back up of the following files:
    - Code Axes.txt
    - Code Descriptions.txt
    - Code Hierarchy.txt
    - Code.txt
    - Related Entity.txt
    - Relations Type.txt
    - Relations.txt
    - Relationship Type.txt
    - time.txt
- The installer will overwrite any existing files from the list above.
- 

---

**Note:** The installer auto-populates some of the user parameters and lets you edit them.

---

## 6.1.2 Prepare the Installer

- 
- ☐ Extract the contents of the OHF media pack to your system.
  - ☐ Navigate to the **<media\_pack\_location>/** folder.
  - ☐ Unzip the **OHF\_V711\_Linux-x64.zip** file where you want to launch the installer using the following command:
 

```
unzip -a OHF_V711_Linux-x64.zip
```
  - ☐ Navigate to the **Disk1/install** folder.
  - ☐ Change the protection on files as follows:
 

```
chmod 755 *
```
- 

## 6.1.3 Run the Installer

Start the Oracle Universal Installer by running the following command:

- If the ODI repository schemas (master and work) to be created are on the database instance of the installation server, execute:

```
sh runInstaller.sh -local
```

- If the ODI repository database or OHF data model database is on the database instance of another server, execute:

```
sh runInstaller.sh -local remote_installation=true
```

where, the **-local** option is to install on the local node irrespective of the cluster nodes specified on the installer machine.

Screen	Action
<input type="checkbox"/> Welcome	Click <b>Next</b> .
<input type="checkbox"/> Select a Product to Install	Select the <b>Oracle Healthcare Foundation Data Management Assembly for ODI 7.1.1.0.0</b> option.
<input type="checkbox"/> Specify Home Details	Enter the installation home path.
<input type="checkbox"/> Verify Installation Prerequisites	Verify if all the prerequisites are met before proceeding.
<input type="checkbox"/> Select the Oracle Home Configuration	Specify the Oracle client home path.
<input type="checkbox"/> Select the ODI Home Location	Specify the ODI home location. The ODI home should be one level above the <b>/bin</b> directory and should point to the <b>/agent</b> directory. For example, <b>&lt;path&gt;/Oracle_ODI1/oracledi/agent</b> .
<input type="checkbox"/> Select Database Server for ODI Repository Schemas	Select one of the following options for the ODI repository schemas: <ul style="list-style-type: none"> <li>■ If the ODI repository database server is on the installation server, select the <b>Installation database server</b> option.</li> <li>■ Else, select the <b>Remote database server</b> option.</li> </ul>

Screen	Action
<input type="checkbox"/> Specify Mount Path Details (applicable only for remote installations)	<p>Enter the following mounted directory configuration details in which the remote server directory is mounted:</p> <ul style="list-style-type: none"> <li>Mount path in the repository database server</li> <li>Mount path in the installation server</li> </ul> <p>To obtain the available storage drives, on the Linux machine, execute the <code>df -h</code> command. If the remote server directory is mounted on the installation server, the mounting is displayed as follows:</p> <pre>&lt;Remote Server name&gt;:&lt;Remote server path&gt;       &lt;total size&gt; &lt;used up space&gt; &lt;Available space&gt; &lt;use%&gt; &lt;Path in installation server where mounting was done&gt;</pre> <p>For example,</p> <pre>abc:/scratch/dump       191G 138G 44G 76% /installation server</pre> <p><b>Note:</b></p> <ul style="list-style-type: none"> <li>The (datapump) directory of the remote database server should be mounted to the installation server with appropriate read and write privileges for the IMPDB utility (folder with <b>dba</b> group).</li> <li>Make sure that the remote directories are accessible after mounting from the installation server.</li> <li>If the remote server mounted path is displayed as <code>/</code>, provide the absolute mounted path of the remote server.</li> <li>The remote server Linux user that executes the Oracle process, must have minimum privilege of 755 to the directory.</li> </ul>
<input type="checkbox"/> Specify Healthcare Data Model Database Instance Details	<p>Enter values for the following fields:</p> <ul style="list-style-type: none"> <li>Host name - By default, the system host name appears. For remote installations, set this value to the host name of the remote machine.</li> <li>Port number</li> <li>Service name</li> <li>System user password</li> <li>Select this database instance for repository schema creation</li> </ul> <p>If you select <b>Yes</b>, the installer uses the same Data Model database instance for ODI repository schema creation.</p>
<input type="checkbox"/> Specify ODI Repository Database Instance Details (applicable only if you selected <b>No</b> in the previous screen for Select this database instance for repository schema creation)	<p>Enter values for the following fields:</p> <ul style="list-style-type: none"> <li>Host name - By default, the system host name appears. For remote installations, set this value to the host name of the remote machine.</li> <li>Port</li> <li>Service name</li> <li>System user password</li> </ul>
<input type="checkbox"/> Specify ODI Supervisor Password	Specify the supervisor password used for the ODI console login.
<input type="checkbox"/> Select Terminology Loaders Source Location	<p>Specify the Terminology loaders source file location.</p> <p>This location is used to read the terminology loaders source data files. You can change this location when required.</p> <p>The installer creates an archive directory at the same level as the source directory. Make sure that the create directory privileges exist for the installation user.</p>



Screen	Action
<input type="checkbox"/> Specify Healthcare Data Model Schema Details	<p>Enter values for the following fields:</p> <ul style="list-style-type: none"> <li>Interface table schema name</li> <li>Interface table schema password</li> <li>Data warehouse schema name</li> <li>Data warehouse schema password</li> <li>Common data mart (hcd) schema name</li> <li>Common data mart (hcd) schema password</li> <li>Cohort data mart (cdm) schema name</li> <li>Cohort data mart (cdm) schema password</li> </ul>
<input type="checkbox"/> Specify Healthcare Data Model Schema Details	<p>Enter values for the following fields:</p> <ul style="list-style-type: none"> <li>Enterprise schema name</li> <li>Enterprise schema password.</li> </ul>
<input type="checkbox"/> Specify Terminology Loader Details	<p>Enter values for the following fields:</p> <ul style="list-style-type: none"> <li>Master repository schema name</li> <li>Master repository schema password</li> <li>Work repository schema name</li> <li>Work repository schema password</li> </ul> <p>Specify the new schema names for the Master and Work repository. The installer creates the Master and Work repository schemas, and imports loaders into them.</p>
<input type="checkbox"/> Specify Warehouse Integration Loader Details	<p>Enter values for the following fields:</p> <ul style="list-style-type: none"> <li>Configuration schema name</li> <li>Configuration schema password</li> <li>Master repository schema name</li> <li>Master repository schema password</li> <li>Work repository schema name</li> <li>Work repository schema password</li> </ul> <p>The installer creates the configuration schema if it does not exist.</p> <p>Specify the new schema names for the Master and Work repository. The installer creates the Master and Work repository schemas, and imports loaders into them.</p>
<input type="checkbox"/> Specify Healthcare Common Data Mart Loader Details	<p>Enter values for the following fields:</p> <ul style="list-style-type: none"> <li>Configuration schema name</li> <li>Configuration schema password</li> <li>Master repository schema name</li> <li>Master repository schema password</li> <li>Work repository schema name</li> <li>Work repository schema password</li> </ul> <p>The installer creates the configuration schema if it does not exist.</p> <p>Specify the new schema names for the Master and Work repository. The installer creates the Master and Work repository schemas, and imports loaders into them.</p>

Screen	Action
<input type="checkbox"/> Specify Healthcare Cohort Data Mart Loader Details	<p>Enter values for the following fields:</p> <ul style="list-style-type: none"> <li>Master repository schema name</li> <li>Master repository schema password</li> <li>Work repository schema name</li> <li>Work repository schema password</li> </ul> <p>Specify the new schema names for the Master and Work repository. The installer creates the Master and Work repository schemas, and imports loaders into them.</p> <p>The configuration schema is not required for CDM.</p>
<input type="checkbox"/> Specify the Tablespace Details	<p>Specify the tablespace names for the configuration schemas. The installer creates these tablespaces if they do not exist.</p> <ul style="list-style-type: none"> <li>Configuration schema default tablespace name</li> <li>Configuration schema temporary tablespace name</li> </ul>
<input type="checkbox"/> Specify the Tablespace Details	<p>Specify the tablespace names for repository schemas. The installer creates these tablespaces if they do not exist.</p> <ul style="list-style-type: none"> <li>Repository schema default tablespace name</li> <li>Repository schema temporary tablespace name</li> </ul>
<input type="checkbox"/> Specify Tablespace Location for Configuration Schemas	<p>Specify the tablespace location for configuration schemas.</p> <p>The location should be present in the data model database server with write privileges.</p> <p>If the OHF data model database is not on the installation server, you must enter the location manually.</p>
<input type="checkbox"/> Specify Tablespace Location for Repository Schemas	<p>Specify the tablespace location for the ODI repository schema.</p> <p>The location should be present in the repository database server with write privileges.</p> <p>If the repository database is not on the installation server, you must enter the location manually.</p>
<input type="checkbox"/> Verify Configuration Parameters	Click <b>Next</b> .
<input type="checkbox"/> Summary	Click <b>Install</b> .
<input type="checkbox"/> End of Installation	Click <b>Exit</b> after reviewing the installation information. At the confirmation prompt, click <b>Yes</b> to exit the installer.

## 6.1.4 Check the Installation

- 
- ☐ Review the generated installation log files for errors. For details, see [Installation Log Files](#).
  - ☐ Contact Oracle support, if necessary, to resolve any errors.
- 

## 6.1.5 Create a New ODI Repository Login

Perform the following steps to create a new ODI repository login:

- 
- ☐ Navigate to **ODI > File > New > Create a New ODI Repository Login**.

- 
- ☐ Click **OK**. The Repository Connection Information screen is displayed.
  - ☐ Enter the following values:
    - Login Name - For example, WIL\_REPOSITORY\_LOGIN
    - User - SUPERVISOR
    - Password - Provide the ODI Login password that was entered during installation (see [Run the Installer](#))
    - User - <database schema created for the master repository>
    - Password - <database schema password created for the master repository>
    - Driver List - Select **OracleJDBC Driver** from the drop-down list
    - Driver Name - oracle.jdbc.oracledriver
    - Url - Set appropriate values based on your database details
    - Work Repository - Select the **Work Repository** option, browse to select the work repository shown (for example, for Warehouse Integration loader, select **OHADI\_WORK\_REPOSITORY**), and click **OK**.
  - ☐ Click **OK**. The login name is created with the name specified at the previous step.
  - ☐ Navigate to **ODI > Connect > ODI Studio**.
  - ☐ Enter the following details:
    - Login Name - Select **WIL\_REPOSITORY\_LOGIN**
    - User - Supervisor
    - Password - Provide the ODI login password that was entered during installation (see ["Run the Installer"](#)).
- 

Similarly, follow the above steps to create the login for the Terminology loaders, Common Data Mart loader, and Cohort Data Mart loader.

## 6.2 Installing the Data Management Assembly with Pre-Created User Schemas

1. [Check Prerequisites](#)
2. [Create Default and Temporary Tablespaces](#)
3. [Create User Schemas](#)
4. [Prepare the Installer](#)
5. [Run the Installer](#)
6. [Check the Installation](#)
7. [Revoke Privileges](#)

### 6.2.1 Check Prerequisites

- 
- ☐ The user is familiar with Oracle Database (DB), ODI, and Linux OS.
  - ☐ The OHF Data Model is installed.  
Follow the instructions in [Chapter 2, "Data Model Installation"](#) or [Chapter 3, "Data Model Upgrade"](#).

- ☐ ODI services can connect to the Data Model 7.1.1 database mentioned in the Oracle TNS file (TNS entries of the required database must be available in the installation server tnsnames.ora file).
- ☐ The password expiry notification message does not display for the pre-created schemas or system user.
- ☐ The installer is run on the system where the ODI server is installed.
- ☐ The terminology loaders source file location exists. The installer creates an archive directory. For example,  
`/scratch/home/oemora/TL_Source` is the source file location specified during installation, which already exists.  
`/scratch/home/oemora/TL_Archive_Files` is created by the installer as the archive directory.
- ☐ The path of the data file (Configuration schema/Repository schema tablespace) mentioned when creating the tablespace is correct. Make sure that the database user has write privileges.
- ☐ Enough space is available in the installation directory and the Oracle Home directory.
- ☐ The Sqlplus utility is available on the installation server.
- ☐ The impdp utility is available on the repository database server.
- ☐ The installation user has read, write, and execute privileges to the \$ODI\_HOME/bin folder. The installer creates product specific files under this location.
- ☐ For remote installations, where the installation server and the ODI Repository Database server are different machines, make sure that:
  - The remote database server directory is mounted to the installation server with appropriate read and write privileges.
  - The remote directories are accessible after mounting from the installation server.
  - The Linux user of the remote server, who executes the Oracle process, has privilege 755 for the directory (datapump).
  - The Oracle user has privilege for the mount path directory.
  - If the repository DB is on an Exadata machine, the repository DB single node (the node which is mounted) TNSENTRY should be added to the tnsnames.ora file on the installation server. After installation, revert TNSENTRY to the original entry.
- ☐ GLOBAL\_NAMES database initialization parameter is set to false.
- ☐ Back up the following csv files under \$ODI\_HOME/bin if it exists:
  - bus\_susp\_day.csv
  - daylight\_svngs\_day.csv
  - hosp\_hol\_day.csv
  - time\_odi.csv

☐ If the Terminology Loaders source folder is shared, make a back up of the following files:

- Code Axes.txt
- Code Descriptions.txt
- Code Hierarchy.txt
- Code.txt
- Related Entity.txt
- Relations Type.txt
- Relations.txt
- Relationship Type.txt
- time.txt

The installer will overwrite any existing files from the list above.

---

**Note:** The installer auto-populates some of the user parameters and lets you edit them.

---

## 6.2.2 Create Default and Temporary Tablespaces

Create the following default and temporary tablespaces with appropriate quotas. You can use different tablespace names than the ones listed below.

---

**Note:** The hmc\_ts and hmc\_temp tablespaces must be created in the Data Model database instance.

---

Tablespace Name	Big File Tablespace	Description
<input type="checkbox"/> odirep_ts	Yes	Default tablespace for the Repository schema
<input type="checkbox"/> odirep_temp	Yes	Temporary tablespace for the Repository schema
<input type="checkbox"/> hmc_ts	Yes	Default tablespace for the Configuration schema
<input type="checkbox"/> hmc_temp	Yes	Temporary tablespace for the Configuration schema

## 6.2.3 Create User Schemas

Create the following user schemas and assign the appropriate default and temporary tablespaces. Refer to [Create Default and Temporary Tablespaces](#) for details. If you created tablespaces with different names, use those instead.

Schema Name	Schema Description	Default Tablespace	Temporary Tablespace
<input type="checkbox"/> wil_hmc	Warehouse Integration Loader Configuration schema	hmc_ts	hmc_temp
<input type="checkbox"/> hcd_hmc	Healthcare Common Data Mart Configuration schema	hmc_ts	hmc_temp
<input type="checkbox"/> tl_master_rep_711	Terminology Loader Master Repository schema	odirep_ts	odirep_temp

	Schema Name	Schema Description	Default Tablespace	Temporary Tablespace
<input type="checkbox"/>	tl_work_rep_711	Terminology Loader Work Repository schema	odirep_ts	odirep_temp
<input type="checkbox"/>	wil_master_rep_711	Warehouse Integration Loader Master Repository schema	odirep_ts	odirep_temp
<input type="checkbox"/>	wil_work_rep_711	Warehouse Integration Loader Work Repository schema	odirep_ts	odirep_temp
<input type="checkbox"/>	hcd_master_rep_711	Healthcare Common Data Mart Master Repository schema	odirep_ts	odirep_temp
<input type="checkbox"/>	hcd_work_rep_711	Healthcare Common Data Mart Work Repository schema	odirep_ts	odirep_temp
<input type="checkbox"/>	cdm_master_rep_711	Healthcare Cohort Data Mart Master Repository schema	odirep_ts	odirep_temp
<input type="checkbox"/>	cdm_work_rep_711	Healthcare Cohort Data Mart Work Repository schema	odirep_ts	odirep_temp

## 6.2.4 Prepare the Installer

- ☐ Extract the contents of the OHF media pack to your system.
- ☐ Navigate to the `<media_pack_location>/` folder.
- ☐ Unzip the **OHF\_V711\_Linux-x64.zip** file where you want to launch the installer using the following command:
 

```
unzip -a OHF_V711_Linux-x64.zip
```
- ☐ Navigate to the `<media_pack_location>/Disk1/stage/Components/oracle.hsgbu.hc.dma.odi/7.1.1.0.0/1/DataFiles/Expanded/filegroup1` directory.
- ☐ Unzip the **dma\_odi\_master\_install.zip** file.
- ☐ Navigate to the **dma\_odi\_master\_install/hmc\_odi\_install/** directory.
- ☐ Connect to the system user and execute the following scripts:
  - `@odi_hdi_user_privilege.sql <HDI_SCHEMA_NAME>`
  - `@odi_hmc_user_privilege.sql <WIL_HMC_SCHEMA_NAME> <HCD_HMC_SCHEMA_NAME>`
  - `@odi_rep_user_privilege.sql <HLI_MASTER_REP_USR> <WIL_MASTER_REP_USR> <AT_MASTER_REP_USR> <HLI_WORK_REP_USR> <WIL_WORK_REP_USR> <AT_WORK_REP_USR> <CDM_MASTER_REP_USR> <CDM_WORK_REP_USR>`
- ☐ Navigate to the `<media_pack_location>/Disk1/install` folder.
- ☐ Change the protection on files as follows:
 

```
chmod 755 *
```

## 6.2.5 Run the Installer

Start the Oracle Universal Installer by running the following command:

- If the ODI repository schemas (master and work) to be created are on the database instance of the installation server, execute:

```
sh runInstaller.sh -local dba_tasks=false
```

- If the ODI repository database or OHF data model database is on the database instance of another server, execute:

```
sh runInstaller.sh -local remote_installation=true dba_tasks=false
```

where, the `-local` option is to install on the local node irrespective of the cluster nodes specified on the installer machine.

Screen	Action
<input type="checkbox"/> Welcome	Click <b>Next</b> .
<input type="checkbox"/> Select a Product to Install	Select the <b>Oracle Healthcare Foundation Data Management Assembly for ODI 7.1.1.0.0</b> option.
<input type="checkbox"/> Specify Home Details	Enter the installation home path.
<input type="checkbox"/> Verify Installation Prerequisites	Verify if all the prerequisites are met before proceeding.
<input type="checkbox"/> Select the Oracle Home Configuration	Specify the Oracle client home path.
<input type="checkbox"/> Select the ODI Home Location	Specify the ODI home location. The ODI home should be one level above the <code>/bin</code> directory and should point to the <code>/agent</code> directory. For example, <code>&lt;path&gt;/Oracle_ODI1/oracledi/agent</code> .
<input type="checkbox"/> Select Database Server for ODI Repository Schemas	Select one of the following options for the ODI repository schemas: <ul style="list-style-type: none"> <li>■ If the ODI repository database server is on the installation server, select the <b>Installation database server</b> option.</li> <li>■ Else, select the <b>Remote database server</b> option.</li> </ul>
<input type="checkbox"/> Specify Mount Path Details (applicable only for remote installations)	Enter the following mounted directory configuration details in which the remote server directory is mounted: <ul style="list-style-type: none"> <li>■ Mount path in the repository database server</li> <li>■ Mount path in the installation server</li> </ul> <p>To obtain the available storage drives, on the Linux machine, execute the <code>df -h</code> command. If the remote server directory is mounted on the installation server, the mounting is displayed as follows:</p> <pre>&lt;Remote Server name&gt;:&lt;Remote server path&gt;     &lt;total size&gt; &lt;used up space&gt; &lt;Available space&gt; &lt;use%&gt; &lt;Path in installation server where mounting was done&gt;</pre> <p>For example,</p> <pre>abc:/scratch/dump     191G 138G 44G 76% /installation server</pre> <p><b>Note:</b></p> <ul style="list-style-type: none"> <li>■ The (datapump) directory of the remote database server should be mounted to the installation server with appropriate read and write privileges for the IMPDB utility (folder with <code>dba</code> group).</li> <li>■ Make sure that the remote directories are accessible after mounting from the installation server.</li> <li>■ If the remote server mounted path is displayed as <code>/</code>, provide the absolute mounted path of the remote server.</li> <li>■ The remote server Linux user that executes the Oracle process, must have minimum privilege of 755 to the directory.</li> </ul>

Screen	Action
<input type="checkbox"/> Specify Healthcare Data Model Database Instance Details	<p>Enter values for the following fields:</p> <ul style="list-style-type: none"> <li>Host name - By default, the system host name appears. For remote installations, set this value to the host name of the remote machine.</li> <li>Port number</li> <li>Service name</li> <li>Select this database instance for repository schema creation</li> </ul> <p>If you select <b>Yes</b>, the installer uses the same Data Model database instance for ODI repository schema creation.</p>
<input type="checkbox"/> Specify ODI Repository Database Instance Details (applicable only if you selected <b>No</b> in the previous screen for Select this database instance for repository schema creation)	<p>Enter values for the following fields:</p> <ul style="list-style-type: none"> <li>Host name - By default, the system host name appears. For remote installations, set this value to the host name of the remote machine.</li> <li>Port</li> <li>Service name</li> </ul>
<input type="checkbox"/> Specify ODI Supervisor Password	Specify the supervisor password used for the ODI console login.
<input type="checkbox"/> Select Terminology Loaders Source Location	<p>Specify the Terminology loaders source file location.</p> <p>This location is used to read the terminology loaders source data files. You can change this location when required.</p> <p>The installer creates an archive directory at the same level as the source directory. Make sure that the create directory privileges exist for the installation user.</p>
<input type="checkbox"/> Specify Healthcare Data Model Schema Details	<p>Enter values for the following fields:</p> <ul style="list-style-type: none"> <li>Interface table schema name</li> <li>Interface table schema password</li> <li>Data warehouse schema name</li> <li>Data warehouse schema password</li> <li>Common data mart (hcd) schema name</li> <li>Common data mart (hcd) schema password</li> <li>Cohort data mart (cdm) schema name</li> <li>Cohort data mart (cdm) schema password</li> </ul>
<input type="checkbox"/> Specify Healthcare Data Model Schema Details	<p>Enter values for the following fields:</p> <ul style="list-style-type: none"> <li>Enterprise schema name</li> <li>Enterprise schema password.</li> </ul>
<input type="checkbox"/> Specify Terminology Loader Details	<p>Enter values for the following fields:</p> <ul style="list-style-type: none"> <li>Master repository schema name</li> <li>Master repository schema password</li> <li>Work repository schema name</li> <li>Work repository schema password</li> </ul> <p>The installer imports loaders into the pre-created terminology loaders repository schemas.</p>



Screen	Action
<input type="checkbox"/> Specify Warehouse Integration Loader Details	<p>Enter the pre-created schema values for the following parameters:</p> <ul style="list-style-type: none"> <li>■ Configuration schema name</li> <li>■ Configuration schema password</li> <li>■ Master repository schema name</li> <li>■ Master repository schema password</li> <li>■ Work repository schema name</li> <li>■ Work repository schema password</li> </ul> <p>The installer imports loaders into the pre-created warehouse integration loaders repository schemas.</p>
<input type="checkbox"/> Specify Healthcare Common Data Mart Loader Details	<p>Enter the pre-created schema values for the following parameters:</p> <ul style="list-style-type: none"> <li>■ Configuration schema name</li> <li>■ Configuration schema password</li> <li>■ Master repository schema name</li> <li>■ Master repository schema password</li> <li>■ Work repository schema name</li> <li>■ Work repository schema password</li> </ul> <p>The installer imports loaders into the pre-created common data mart loaders repository schemas.</p>
<input type="checkbox"/> Specify Healthcare Cohort Data Mart Loader Details	<p>Enter the pre-created schema values for the following parameters:</p> <ul style="list-style-type: none"> <li>■ Master repository schema name</li> <li>■ Master repository schema password</li> <li>■ Work repository schema name</li> <li>■ Work repository schema password</li> </ul> <p>The installer imports loaders into the pre-created cohort data mart loaders repository schemas.</p> <p>The configuration schema is not required for CDM.</p>
<input type="checkbox"/> Verify Configuration Parameters	Click <b>Next</b> .
<input type="checkbox"/> Summary	Click <b>Install</b> .
<input type="checkbox"/> End of Installation	Click <b>Exit</b> after reviewing the installation information. At the confirmation prompt, click <b>Yes</b> to exit the installer.

## 6.2.6 Check the Installation

- ☐ Review the generated installation log files for errors. For details, see [Installation Log Files](#).
- ☐ Contact Oracle support, if necessary, to resolve any errors.

## 6.2.7 Revoke Privileges

After the Data Management Assembly for ODI installation, run the following scripts from a user with DBA privileges:

```
@<OHF_Install_Home>/dma_odi_master_install/hmc_odi_install/dma_directory_drop.sql
```

```
@@<OHF_Install_Home>/dma_odi_master_install/hmc_odi_install/dma_revoke_
privilege.sql <WIL_MASTER_REP_USR> <HCD_MASTER_REP_USR> <CDM_MASTER_REP_
USR> <HLI_MASTER_REP_USR>
```

where,

<OHF\_Install\_Home> - OHF installation home directory

<WIL\_MASTER\_REP\_USR> - Warehouse integration loader master repository schema  
name

<HCD\_MASTER\_REP\_USR> - Healthcare common data mart loader master repository  
schema name

<CDM\_MASTER\_REP\_USR> - Cohort data mart loader master repository schema name

<HLI\_MASTER\_REP\_USR> - Terminology loader master repository schema name

---

# Data Management Assembly for Oracle Data Integrator Upgrade

For a list of the supported upgrade paths, see [Supported Upgrade Paths](#).

To upgrade the OHF Data Management Assembly for Oracle Data Integration (ODI), follow the instructions below:

1. [Check Prerequisites](#)
2. [Prepare the Installer](#)
3. [Run the Installer](#)
4. [Check the Installation and Delete E\\$\\_tables](#)

## 7.1 Check Prerequisites

---

- ☐ The user is familiar with Oracle Database (DB), ODI, and Linux OS.
- ☐ The OHF Data Model is installed.  
Follow the instructions in [Chapter 2, "Data Model Installation"](#) or [Chapter 3, "Data Model Upgrade"](#).
- ☐ ODI services can connect to the Data Model 7.1.1 database mentioned in the Oracle TNS file (TNS entries of the required database must be available in the installation server tnsnames.ora file).
- ☐ The password expiry notification message does not display for the system user or existing schemas.
- ☐ The installer is run on the system where the ODI server is installed.
- ☐ The terminology loaders source file location exists. The installer creates an archive directory. For example,  
`/scratch/home/oemora/TL_Source` is the source file location specified during installation, which already exists.  
`/scratch/home/oemora/TL_Archive_Files` is created by the installer as the archive directory.
- ☐ The path of the data file (Configuration schema/Repository schema tablespace) mentioned when creating the tablespace is correct. Make sure that the database user has write privileges.
- ☐ Enough space is available in the installation directory and the Oracle Home directory.
- ☐ The Sqlplus utility is available on the installation server.
- ☐ The impdp utility is available on the repository database server.

- ☐ The installation user has read, write, and execute privileges to the \$ODI\_HOME/bin folder. The installer creates product specific files under this location.
  - ☐ For remote installations, where the installation server and the ODI Repository Database server are different machines, make sure that:
    - The remote database server directory is mounted to the installation server with appropriate read and write privileges.
    - The remote directories are accessible after mounting from the installation server.
    - The Linux user of the remote server, who executes the Oracle process, has privilege 755 for the directory (datapump).
    - The Oracle user has privilege for the mount path directory.
    - If the repository DB is on an Exadata machine, the repository DB single node (the node which is mounted) TNSENTRY should be added to the tnsnames.ora file on the installation server. After installation, revert TNSENTRY to the original entry.
  - ☐ GLOBAL\_NAMES database initialization parameter is set to false.
  - ☐ Back up the following csv files under \$ODI\_HOME/bin if it exists:
    - bus\_susp\_day.csv
    - daylight\_svngs\_day.csv
    - hosp\_hol\_day.csv
    - time\_odi.csv
  - ☐ If the Terminology Loaders source folder is shared, make a back up of the following files:
    - Code Axes.txt
    - Code Descriptions.txt
    - Code Hierarchy.txt
    - Code.txt
    - Related Entity.txt
    - Relations Type.txt
    - Relations.txt
    - Relationship Type.txt
    - time.txt

The installer will overwrite any existing files from the list above.
  - ☐ If any previous ETLs are in the failed status, make sure that they execute successfully before upgrading.
  - ☐ Make sure that the data models are upgraded to OHF 7.1.1.
  - ☐ The OUI displays default configuration schema (hmc) names. You must change these schema names to the existing hmc schema names.

The installer upgrades the configuration schemas to OHF 7.1.1.
  - ☐ Back up the existing hmc schemas.
- 

---

**Note:** The installer auto-populates some of the user parameters and lets you edit them.

---

## 7.2 Prepare the Installer

- 
- ☐ Extract the contents of the OHF media pack to your system.
  - ☐ Navigate to the `<media_pack_location>/` folder.
  - ☐ Unzip the **OHF\_V711\_Linux-x64.zip** file where you want to launch the installer using the following command:
 

```
unzip -a OHF_V711_Linux-x64.zip
```
  - ☐ Navigate to the **Disk1/install** folder.
  - ☐ Change the protection on files as follows:
 

```
chmod 755 *
```
- 

## 7.3 Run the Installer

Start the Oracle Universal Installer by running the following command:

- If the ODI repository schemas (master and work) to be created are on the database instance of the installation server, execute:
 

```
sh runInstaller.sh -local
```
- If the ODI repository database or OHF data model database is on the database instance of another server, execute:
 

```
sh runInstaller.sh -local remote_installation=true
```

where, the `-local` option is to install on the local node irrespective of the cluster nodes specified on the installer machine.

Screen	Action
<input type="checkbox"/> Welcome	Click <b>Next</b> .
<input type="checkbox"/> Select a Product to Install	Select the <b>Oracle Healthcare Foundation Data Management Assembly for ODI 7.1.1.0.0</b> option.
<input type="checkbox"/> Specify Home Details	Enter the installation home path.
<input type="checkbox"/> Verify Installation Prerequisites	Verify if all the prerequisites are met before proceeding.
<input type="checkbox"/> Select the Oracle Home Configuration	Specify the Oracle client home path.
<input type="checkbox"/> Select the ODI Home Location	Specify the ODI home location. The ODI home should be one level above the <b>/bin</b> directory and should point to the <b>/agent</b> directory. For example, <code>&lt;path&gt;/Oracle_ODI1/oracledi/agent</code> .
<input type="checkbox"/> Select Database Server for ODI Repository Schemas	Select one of the following options for the ODI repository schemas: <ul style="list-style-type: none"> <li>■ If the ODI repository database server is on the installation server, select the <b>Installation database server</b> option.</li> <li>■ Else, select the <b>Remote database server</b> option.</li> </ul>

Screen	Action
<input type="checkbox"/> Specify Mount Path Details (applicable only for remote installations)	<p>Enter the following mounted directory configuration details in which the remote server directory is mounted:</p> <ul style="list-style-type: none"> <li>Mount path in the repository database server</li> <li>Mount path in the installation server</li> </ul> <p>To obtain the available storage drives, on the Linux machine, execute the <code>df -h</code> command. If the remote server directory is mounted on the installation server, the mounting is displayed as follows:</p> <pre>&lt;Remote Server name&gt;:&lt;Remote server path&gt;       &lt;total size&gt; &lt;used up space&gt; &lt;Available space&gt; &lt;use%&gt; &lt;Path in installation server where mounting was done&gt;</pre> <p>For example,</p> <pre>abc:/scratch/dump       191G 138G 44G 76% /installation server</pre> <p><b>Note:</b></p> <ul style="list-style-type: none"> <li>The (datapump) directory of the remote database server should be mounted to the installation server with appropriate read and write privileges for the IMPDB utility (folder with <b>dba</b> group).</li> <li>Make sure that the remote directories are accessible after mounting from the installation server.</li> <li>If the remote server mounted path is displayed as <code>/</code>, provide the absolute mounted path of the remote server.</li> <li>The remote server Linux user that executes the Oracle process, must have minimum privilege of 755 to the directory.</li> </ul>
<input type="checkbox"/> Specify Healthcare Data Model Database Instance Details	<p>Enter values for the following fields:</p> <ul style="list-style-type: none"> <li>Host name - By default, the system host name appears. For remote installations, set this value to the host name of the remote machine.</li> <li>Port number</li> <li>Service name</li> <li>System user password</li> <li>Select this database instance for repository schema creation</li> </ul> <p>If you select <b>Yes</b>, the installer uses the same Data Model database instance for ODI repository schema creation.</p>
<input type="checkbox"/> Specify ODI Repository Database Instance Details (applicable only if you selected <b>No</b> in the previous screen for Select this database instance for repository schema creation)	<p>Enter values for the following fields:</p> <ul style="list-style-type: none"> <li>Host name - By default, the system host name appears. For remote installations, set this value to the host name of the remote machine.</li> <li>Port</li> <li>Service name</li> <li>System user password</li> </ul>
<input type="checkbox"/> Specify ODI Supervisor Password	<p>Specify the supervisor password used for the ODI console login.</p>
<input type="checkbox"/> Select Terminology Loaders Source Location	<p>Specify the Terminology loaders source file location.</p> <p>This location is used to read the terminology loaders source data files. You can change this location when required.</p> <p>The installer creates an archive directory at the same level as the source directory. Make sure that the create directory privileges exist for the installation user.</p>

Screen	Action
<input type="checkbox"/> Specify Healthcare Data Model Schema Details	<p>Enter values for the following fields:</p> <ul style="list-style-type: none"> <li>Interface table schema name</li> <li>Interface table schema password</li> <li>Data warehouse schema name</li> <li>Data warehouse schema password</li> <li>Common data mart (hcd) schema name</li> <li>Common data mart (hcd) schema password</li> <li>Cohort data mart (cdm) schema name</li> <li>Cohort data mart (cdm) schema password</li> </ul>
<input type="checkbox"/> Specify Healthcare Data Model Schema Details	<p>Enter values for the following fields:</p> <ul style="list-style-type: none"> <li>Enterprise schema name</li> <li>Enterprise schema password.</li> </ul>
<input type="checkbox"/> Specify Terminology Loader Details	<p>Enter values for the following fields:</p> <ul style="list-style-type: none"> <li>Master repository schema name</li> <li>Master repository schema password</li> <li>Work repository schema name</li> <li>Work repository schema password</li> </ul> <p>Specify the new schema names for the Master and Work repository. The installer creates the Master and Work repository schemas, and imports loaders into them.</p>
<input type="checkbox"/> Specify Warehouse Integration Loader Details	<p>Enter values for the following fields:</p> <ul style="list-style-type: none"> <li>Configuration schema name</li> <li>Configuration schema password</li> <li>Master repository schema name</li> <li>Master repository schema password</li> <li>Work repository schema name</li> <li>Work repository schema password</li> </ul> <p>Enter the existing Configuration schema name to upgrade it.</p> <p>Specify the new schema names for the Master and Work repository. The installer creates the Master and Work repository schemas, and imports loaders into them.</p>
<input type="checkbox"/> Specify Healthcare Common Data Mart Loader Details	<p>Enter values for the following fields:</p> <ul style="list-style-type: none"> <li>Configuration schema name</li> <li>Configuration schema password</li> <li>Master repository schema name</li> <li>Master repository schema password</li> <li>Work repository schema name</li> <li>Work repository schema password</li> </ul> <p>Enter the existing Configuration schema name to upgrade it.</p> <p>Specify the new schema names for the Master and Work repository. The installer creates the Master and Work repository schemas, and imports loaders into them.</p>

Screen	Action
<input type="checkbox"/> Specify Healthcare Cohort Data Mart Loader Details	<p>Enter values for the following fields:</p> <ul style="list-style-type: none"> <li>Master repository schema name</li> <li>Master repository schema password</li> <li>Work repository schema name</li> <li>Work repository schema password</li> </ul> <p>Specify the new schema names for the Master and Work repository. The installer creates the Master and Work repository schemas, and imports loaders into them.</p> <p>The configuration schema is not required for CDM.</p>
<input type="checkbox"/> Specify the Tablespace Details	<p>Specify the tablespace names for the configuration schemas. The installer creates these tablespaces if they do not exist.</p> <ul style="list-style-type: none"> <li>Configuration schema default tablespace name</li> <li>Configuration schema temporary tablespace name</li> </ul>
<input type="checkbox"/> Specify the Tablespace Details	<p>Specify the tablespace names for repository schemas. The installer creates these tablespaces if they do not exist.</p> <ul style="list-style-type: none"> <li>Repository schema default tablespace name</li> <li>Repository schema temporary tablespace name</li> </ul>
<input type="checkbox"/> Specify Tablespace Location for Configuration Schemas	<p>Specify the tablespace location for configuration schemas.</p> <p>The location should be present in the data model database server with write privileges.</p> <p>If the OHF data model database is not on the installation server, you must enter the location manually.</p>
<input type="checkbox"/> Specify Tablespace Location for Repository Schemas	<p>Specify the tablespace location for the ODI repository schema.</p> <p>The location should be present in the repository database server with write privileges.</p> <p>If the repository database is not on the installation server, you must enter the location manually.</p>
<input type="checkbox"/> Verify Configuration Parameters	Click <b>Next</b> .
<input type="checkbox"/> Summary	Click <b>Install</b> .
<input type="checkbox"/> End of Installation	Click <b>Exit</b> after reviewing the installation information. At the confirmation prompt, click <b>Yes</b> to exit the installer.

## 7.4 Check the Installation and Delete E\$\_tables

- ☐ Review the generated installation log files for errors. For details, see [Installation Log Files](#).
- ☐ Contact Oracle support, if necessary, to resolve any errors.
- ☐ Delete all E\$\_tables under HCD schema.



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## Data Management Assembly for Oracle Data Integrator Uninstall

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**Note:** This section is applicable only to uninstall Data Management Assembly only from the development environment.

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- 
- ☐ Execute the following commands to drop user schemas by connecting to the system user. If you have installed Data Model Assembly, replace the user schema name and tablespace names with the values provided during the installation.

```
drop user <HCD_WORK_REP_711> cascade;
drop user <HCD_MASTER_REP_711> cascade;
drop user <WIL_WORK_REP_711> cascade;
drop user <TL_MASTER_REP_711> cascade;
drop user <CDM_WORK_REP_711> cascade;
drop user <TL_WORK_REP_711> cascade;
drop user <WIL_MASTER_REP_711> cascade;
drop user <CDM_MASTER_REP_711> cascade;
drop user <WIL_HMC711> cascade;
drop user <HCD_HMC711> cascade;
drop tablespace <hmc_temp711> INCLUDING CONTENTS and datafiles;
drop tablespace <odirep_temp711> INCLUDING CONTENTS and datafiles;
drop tablespace <odirep_ts711> INCLUDING CONTENTS and datafiles;
drop tablespace <hmc_ts711> INCLUDING CONTENTS and datafiles;
commit;
```

- ☐ Clean up the log files at **\$ORACLE\_BASE/oraInventory/logs**.  
For example, /u01/app/oraInventory/logs.
-



# Data Management Assembly for Oracle Data Integrator Troubleshooting

This chapter contains the following sections:

- [Installation Log Files](#)
- [Troubleshooting Guidelines](#)

## 9.1 Installation Log Files

While installing the Data Management Assembly, the installer generates the following log files. When the installer is running the python script, the execution log is redirected to the below log files:

**Table 9–1 Installation Log Files**

File Name	Description
installActions<timestamp>.log	Records the action of the installer and can be used to diagnose issues with the installer.
oraInstall<timestamp>.out	Records the output of SQL scripts run by the installer.
oraInstall<timestamp>.err	Records the errors from the SQL scripts run by the installer.
	The log files are time stamped and each installation session creates a new log file.
	On a Linux machine, the log files are located at <b>\$ORACLE_BASE/oraInventory/logs</b> .
	For example, /u01/app/oraInventory/logs.
When the installer runs the ksh script, the execution log is redirected to the below log files:	
<INSTALL_HOME>/dma_odi_master_install/dmalogs/dma_etl_install.log	Contains a consolidated log file that is archived to <b>&lt;INSTALL_HOME&gt;/dma_odi_master_install/dmalogs/tmplogs/</b> with the time stamp for next execution of the installer. In case of restart, logs are appended to the existing dma_etl_install.log file.
<INSTALL_HOME>/dma_odi_master_install/dmalogs/tmplogs/<script_name>.error	Contains an error file if the script is not executed successfully.
<INSTALL_HOME>/dma_odi_master_install/dmalogs/tmplogs/<script_name>.done	Indicates that the script is executed successfully.

**Table 9–1 (Cont.) Installation Log Files**

File Name	Description
The installer generates the following report:	
<INSTALL_HOME>/reports/dma_odi_install<time_stamp>.html	Contains the installation summary of the Data Management Assembly for ODI installation.

## 9.2 Troubleshooting Guidelines

- The OUI installer does not fix any issues automatically. If the installation fails, you must verify and fix the issues before restarting the installer.
- You must provide unique repository schema names. The installer imports the ETL metadata into these schemas. However, upon restarting the installer for any failures, you must specify the same values that were entered for the previous execution.
- When reporting any problems that occur during installation, make sure that you include all the above log files. Check which components were installed successfully using the following query by connecting to the enterprise schema:

```
Select * from W_EHA_PRODUCT_VERSION
```

Send the result of the query when reporting any problems to Oracle support.

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## Data Management Assembly for Informatica Installation

This chapter describes the steps required to install the OHF Data Management Assembly for Informatica. There are two ways to install the Data Management Assembly for Informatica, depending on how you create the user schemas. The installer can create the user schemas during the installation or you can create them manually, prior to the installation. The two methods are described below:

- [Installing the Data Management Assembly without Pre-Created User Schemas](#)
- [Installing the Data Management Assembly with Pre-Created User Schemas](#)

### 10.1 Installing the Data Management Assembly without Pre-Created User Schemas

1. [Check Prerequisites](#)
2. [Prepare the Installer](#)
3. [Run the Installer](#)
4. [Check the Installation](#)

#### 10.1.1 Check Prerequisites

- 
- ☐ The user is familiar with Oracle Database (DB), Informatica, and Linux OS.
  - ☐ The OHF Data Model is installed.  
Follow the instructions in [Chapter 2, "Data Model Installation"](#) or [Chapter 3, "Data Model Upgrade"](#).
  - ☐ The Informatica domain is running and no user is connected to the Informatica Admin Console.
  - ☐ Informatica services can connect to the Data Model 7.1.1 database mentioned in the Oracle TNS file (TNS entries of the required database must be available in the installation server tnsnames.ora file).
  - ☐ You can connect the database using EZCONNECT syntax. For example, sqlplus <user>/<password>@<hostname>:<port>/<service name>.
  - ☐ The password expiry notification message does not display for the system user.
  - ☐ The installer is run on the system where the Informatica server is installed.

- 
- ☐ The terminology loaders source file location exists. The installer creates an archive directory. For example,  
`/scratch/home/oemora/TL_Source` is the source file location specified during installation, which already exists.  
`/scratch/home/oemora/TL_Archive_Files` is created by the installer as the archive directory.
  - ☐ The path of the data file (Configuration schema/Repository schema tablespace) mentioned when creating the tablespace is correct. Make sure that the database user has write privileges.
  - ☐ Enough space is available in the installation directory and the Oracle Home directory.
  - ☐ The Sqlplus utility is available on the installation server.
  - ☐ The impdp utility is available on the repository database server.
  - ☐ The installation user has read, write, and execute privileges to the \$INFA\_HOME/server folder. The installer creates product specific folders and parameter files under this location.
  - ☐ For remote installations, where the installation server and the Informatica Repository Database are on different machines, make sure that:
    - The remote database server directory is mounted to the installation server with appropriate read and write privileges.
    - The remote directories are accessible after mounting from the installation server.
    - The Linux user of the remote server, who executes the Oracle process, has privilege 755 for the directory (datapump).
    - The Oracle user has privilege for the mount path directory.
    - If the repository DB is on an Exadata machine, the repository DB single node (the node which is mounted) TNSENTRY should be added to the tnsnames.ora file on the installation server. After installation, revert TNSENTRY to the original entry.
  - ☐ GLOBAL\_NAMES database initialization parameter is set to false.
  - ☐ Back up the following csv files under \$INFORMATICA\_HOME/server/infra\_shared/SrcFiles if it exists:
    - bus\_susp\_day.csv
    - daylight\_svngs\_day.csv
    - hosp\_hol\_day.csv
    - time\_am.csv
    - time\_pm.csv
  - ☐ If the Terminology Loaders source folder is shared, make a back up of the following files:
    - Code Axes.txt
    - Code Descriptions.txt
    - Code Hierarchy.txt
    - Code.txt
    - Related Entity.txt
    - Relations Type.txt
    - Relations.txt
    - Relationship Type.txt
    - time.txt
- The installer will overwrite any existing files from the list above.
-

## 10.1.2 Prepare the Installer

- 
- ☐ Extract the contents of the OHF media pack to your system.
  - ☐ Navigate to the `<media_pack_location>/` folder.
  - ☐ Unzip the **OHF\_V711\_Linux-x64.zip** file where you want to launch the installer using the following command:  

```
unzip -a OHF_V711_Linux-x64.zip
```
  - ☐ Navigate to the **Disk1/install** folder.
  - ☐ Change the protection on files as follows:  

```
chmod 755 *
```
- 

## 10.1.3 Run the Installer

Start the Oracle Universal Installer by running the following command:

- If the Informatica repository schemas to be created are on the database instance of the installation server, execute:  

```
sh runInstaller.sh -local
```
- If the Informatica repository database or OHF data model database is on the database instance of another server, execute:  

```
sh runInstaller.sh -local remote_installation=true
```

where, the `-local` option is to install on the local node irrespective of the cluster nodes specified on the installer machine.

Screen	Action
<input type="checkbox"/> Welcome	Click <b>Next</b> .
<input type="checkbox"/> Select a Product to Install	Select the <b>Oracle Healthcare Foundation Data Management Assembly for Informatica 7.1.1.0.0</b> option.
<input type="checkbox"/> Specify Home Details	Enter or select the installation home path.
<input type="checkbox"/> Verify Installation Prerequisites	Verify if all the prerequisites are met before proceeding.
<input type="checkbox"/> Oracle Home Configuration	Specify the Oracle client home path.
<input type="checkbox"/> Select the Informatica Home Location	Specify the Informatica home location. The Informatica home should be one level above the <code>/server</code> directory. For example, <code>&lt;path&gt;/Informatica/961/</code> .
<input type="checkbox"/> Select Database Server for Informatica Repository Schemas	Select one of the following options for the Informatica repository schemas: <ul style="list-style-type: none"> <li>■ If the Informatica repository database server is on the installation server, select the <b>Installation database server</b> option.</li> <li>■ For remote installations, select the <b>Remote database server</b> option.</li> </ul>

Screen	Action
<input type="checkbox"/> Specify Mount Path Details (applicable only for remote installations)	<p>Enter the following mounted directory configuration details in which the remote server directory is mounted:</p> <ul style="list-style-type: none"> <li>Mount path in the repository database server - Remote server path</li> <li>Mount path in the installation server - Path on the installation server where the mounting is performed</li> </ul> <p>To obtain the available storage drives, on the Linux machine, execute the <code>df -h</code> command. If the remote server directory is mounted on the installation server, the mounting is displayed as follows:</p> <pre>&lt;Remote Server name&gt;:&lt;Remote server path&gt;       &lt;total size&gt; &lt;used up space&gt; &lt;Available space&gt; &lt;use%&gt; &lt;Path in installation server where mounting was done&gt;</pre> <p>For example,</p> <pre>abc:/scratch/dump       191G 138G 44G 76% /installation server</pre> <p><b>Note:</b></p> <ul style="list-style-type: none"> <li>The (datapump) directory of the remote database server should be mounted to the installation server with appropriate read and write privileges for the IMPDB utility (folder with <b>dba</b> group).</li> <li>Make sure that the remote directories are accessible after mounting from the installation server.</li> <li>If the remote server mounted path is displayed as <code>/</code>, provide the absolute mounted path of the remote server.</li> <li>The remote server Linux user that executes the Oracle process, must have minimum privilege of 755 to the directory.</li> </ul>
<input type="checkbox"/> Specify Healthcare Data Model Database Instance Details	<p>Enter values for the following fields:</p> <ul style="list-style-type: none"> <li>Host name - By default, the system host name appears. For remote installations, set this value to the host name of the remote machine.</li> <li>Port number</li> <li>Service name</li> <li>System user password</li> <li>Select this database instance for repository schema creation</li> </ul> <p>If you select <b>Yes</b>, the installer uses the same Data Model database instance for Informatica repository schema creation.</p>
<input type="checkbox"/> Specify Informatica Repository Database Instance Details (applicable only if you selected <b>No</b> in the previous screen for Select this database instance for repository schema creation)	<p>Enter values for the following fields:</p> <ul style="list-style-type: none"> <li>Host name - By default, the system host name appears. For remote installations, set this value to the host name of the remote machine.</li> <li>Port</li> <li>Service name</li> <li>System user password</li> </ul>
<input type="checkbox"/> Select Terminology Loaders Source Location	<p>Specify the Terminology loaders source file location.</p> <p>This location is used to read the terminology loaders source data files. You can change this location when required.</p> <p>The installer creates an archive directory at the same level as the source directory. Make sure that the create directory privileges exist for the installation user.</p>



Screen	Action
<input type="checkbox"/> Specify Healthcare Data Model Schema Details	<p>Enter values for the following fields:</p> <ul style="list-style-type: none"> <li>Interface table schema name</li> <li>Interface table schema password</li> <li>Data warehouse schema name</li> <li>Data warehouse schema password</li> <li>Common data mart (hcd) schema name</li> <li>Common data mart (hcd) schema password</li> <li>Cohort data mart (cdm) schema name</li> <li>Cohort data mart (cdm) schema password</li> </ul>
<input type="checkbox"/> Specify Healthcare Data Model Schema Details	<p>Enter values for the following fields:</p> <ul style="list-style-type: none"> <li>Enterprise schema name</li> <li>Enterprise schema password.</li> </ul>
<input type="checkbox"/> Specify Warehouse Integration Loader Details	<p>Enter values for the following fields:</p> <ul style="list-style-type: none"> <li>Configuration schema name</li> <li>Configuration schema password</li> <li>Repository name</li> <li>Repository schema name</li> <li>Repository schema password</li> </ul> <p>The installer creates a configuration schema if it does not exist.</p> <p>If you provide an existing repository name, the installer removes the repository and the corresponding integration service (Is_&lt;Repository name&gt;). It creates a repository service (&lt;Repository name&gt;) and integration service (Is_&lt;Repository name&gt;).</p> <p>The installer creates a repository schema if it does not exist in the database. If you enter an existing repository schema, the installer overwrites the content with the new one, and you will lose all existing objects.</p>
<input type="checkbox"/> Specify Healthcare Common Data Mart Loader Details	<p>Enter values for the following fields:</p> <ul style="list-style-type: none"> <li>Configuration schema name</li> <li>Configuration schema password</li> <li>Repository name</li> <li>Repository schema name</li> <li>Repository schema password</li> </ul> <p>The installer creates a configuration schema if it does not exist.</p> <p>If you provide an existing repository name, the installer removes the repository and the corresponding integration service (Is_&lt;Repository name&gt;). It creates a repository service (&lt;Repository name&gt;) and integration service (Is_&lt;Repository name&gt;).</p> <p>The installer creates a repository schema if it does not exist in the database. If you enter an existing repository schema, the installer overwrites the content with the new one, and you will lose all existing objects.</p>

Screen	Action
<input type="checkbox"/> Specify Healthcare Cohort Data Mart Loader Details	<p>Enter values for the following fields:</p> <ul style="list-style-type: none"> <li>Repository name</li> <li>Repository schema name</li> <li>Repository schema password</li> </ul> <p>If you enter an existing repository name, the installer removes the repository and the corresponding integration service (Is_&lt;Repository name&gt;). It creates a repository service (&lt;Repository name&gt;) and integration service (Is_&lt;Repository name&gt;).</p> <p>The installer creates a repository schema if it does not exist in the database. If you enter an existing repository schema, the installer overwrites the content with the new one, and you will lose the existing objects.</p> <p>The configuration schema is not required for CDM.</p>
<input type="checkbox"/> Specify Tablespace Details (if prompted)	<p>Specify the tablespace names for the configuration schemas. The installer creates these tablespaces if they do not exist.</p> <ul style="list-style-type: none"> <li>Configuration schema default tablespace name</li> <li>Configuration schema temporary tablespace name</li> </ul>
<input type="checkbox"/> Specify Tablespace Details (if prompted)	<p>Specify the tablespace names for repository schemas. The installer creates these tablespaces if they do not exist in the database.</p> <ul style="list-style-type: none"> <li>Repository schema default tablespace name</li> <li>Repository schema temporary tablespace name</li> </ul>
<input type="checkbox"/> Specify Tablespace Location for Configuration Schema (if prompted)	<p>Specify the tablespace location for the Configuration schema.</p> <p>The location should be present in the OHF data model database server with write privileges.</p> <p>If the OHF data model database is not on the installation server, you must enter the location manually.</p>
<input type="checkbox"/> Specify Tablespace Location for Repository Schema (if prompted)	<p>Specify the tablespace location for the repository schemas.</p> <p>When the repository database is not on the installation server, you must enter the location manually.</p> <p>The location should be present on the repository database server with write privileges.</p>

Screen	Action
<input type="checkbox"/> Specify Informatica Domain Details	<p>Specify the following parameters:</p> <ul style="list-style-type: none"> <li>Domain name</li> <li>Domain code page ID</li> <li>Node name</li> <li>License name</li> <li>Informatica host name</li> <li>Informatica port number</li> <li>Informatica administrator user name</li> <li>Informatica administrator password</li> </ul> <p>Contact your Informatica Administrator for the Domain Code Page ID and provide a valid Code Page ID. Make sure that the code page is compatible with the domain code page for creating the Integration Service. For a domain compatible code page, see any existing and active integration service code pages from the Informatica admin console. A list of sample code pages and their IDs are as follows:</p> <ul style="list-style-type: none"> <li>US-ASCII (ID 1) - 7-bit ASCII</li> <li>Latin1 (ID 4) - ISO 8859-1 Western European</li> <li>JapanEUC (ID 18) - Japanese Extended Unix Code (including JIS X 0212)</li> <li>UTF-8 (ID 106) - Unicode Transformation Format, multibyte</li> <li>MS932 (ID 2024) - MS Windows Japanese, Shift-JIS</li> <li>MS1252 (ID 2252) - MS Windows Latin1 (ANSI), superset of Latin1</li> </ul>
<input type="checkbox"/> Verify Configuration Parameters	Click <b>Next</b> .
<input type="checkbox"/> Summary	Click <b>Install</b> .
<input type="checkbox"/> End of Installation	Click <b>Exit</b> after reviewing the installation information. At the confirmation prompt, click <b>Yes</b> to exit the installer.

### 10.1.4 Check the Installation

- ☐ Review the generated installation log files for errors. For details, see [Installation Log Files](#).
- ☐ Contact Oracle support, if necessary, to resolve any errors.

## 10.2 Installing the Data Management Assembly with Pre-Created User Schemas

- [1. Check Prerequisites](#)
- [2. Create Default and Temporary Tablespaces](#)
- [3. Create User Schemas](#)
- [4. Prepare the Installer](#)
- [5. Run the Installer](#)
- [6. Check the Installation](#)
- [7. Revoke Privileges](#)

## 10.2.1 Check Prerequisites

- ☐ The user is familiar with Oracle Database (DB), Informatica, and Linux OS.
- ☐ The OHF Data Model is installed.  
Follow the instructions in [Chapter 2, "Data Model Installation"](#) or [Chapter 3, "Data Model Upgrade"](#).
- ☐ The Informatica domain is running and no user is connected to the Informatica Admin Console.
- ☐ Informatica services can connect to the Data Model 7.1.1 database mentioned in the Oracle TNS file (TNS entries of the required database must be available in the installation server tnsnames.ora file).
- ☐ You can connect the database using EZCONNECT syntax. For example, sqlplus  
<user>/<password>@<hostname>:<port>/<service name>.
- ☐ The password expiry notification message does not display for the system user or pre-created schemas.
- ☐ The installer is run on the system where the Informatica server is installed.
- ☐ The terminology loaders source file location exists. The installer creates an archive directory. For example,  
  
/scratch/home/oemora/TL\_Source is the source file location specified during installation, which already exists.  
  
/scratch/home/oemora/TL\_Archive\_Files is created by the installer as the archive directory.
- ☐ The path of the data file (Configuration schema/Repository schema tablespace) mentioned when creating the tablespace is correct. Make sure that the database user has write privileges.
- ☐ Enough space is available in the installation directory and the Oracle Home directory.
- ☐ The Sqlplus utility is available on the installation server.
- ☐ The impdp utility is available on the repository database server.
- ☐ The installation user has read, write, and execute privileges to the \$INFA\_HOME/server folder. The installer creates product specific folders and parameter files under this location.
- ☐ For remote installations, where the installation server and the Informatica Repository Database are on different machines, make sure that:
  - The remote database server directory is mounted to the installation server with appropriate read and write privileges.
  - The remote directories are accessible after mounting from the installation server.
  - The Linux user of the remote server, who executes the Oracle process, has privilege 755 for the directory (datapump).
  - The Oracle user has privilege for the mount path directory.
  - If the repository DB is on an Exadata machine, the repository DB single node (the node which is mounted) TNSENTRY should be added to the tnsnames.ora file on the installation server. After installation, revert TNSENTRY to the original entry.
- ☐ GLOBAL\_NAMES database initialization parameter is set to false.
- ☐ Back up the following csv files under \$INFORMATICA\_HOME/server/infra\_shared/SrcFiles if it exists:
  - bus\_susp\_day.csv
  - daylight\_svngs\_day.csv
  - hosp\_hol\_day.csv
  - time\_am.csv
  - time\_pm.csv

☐ If the Terminology Loaders source folder is shared, make a back up of the following files:

- Code Axes.txt
- Code Descriptions.txt
- Code Hierarchy.txt
- Code.txt
- Related Entity.txt
- Relations Type.txt
- Relations.txt
- Relationship Type.txt
- time.txt

The installer will overwrite any existing files from the list above.

## 10.2.2 Create Default and Temporary Tablespaces

Create the following default and temporary tablespaces with appropriate quotas. You can use different tablespace names than the ones listed below.

---

**Note:** The hmc\_ts and hmc\_temp tablespaces must be created in the Data Model database instance.

---

	Tablespace Name	Big File Tablespace	Description
<input type="checkbox"/>	infarep_ts	Yes	Default tablespace for the Repository schema
<input type="checkbox"/>	infarep_temp	Yes	Temporary tablespace for the Repository schema
<input type="checkbox"/>	hmc_ts	Yes	Default tablespace for the Configuration schema
<input type="checkbox"/>	hmc_temp	Yes	Temporary tablespace for the Configuration schema

## 10.2.3 Create User Schemas

Create the following user schemas and assign the appropriate default and temporary tablespaces. Refer to [Create Default and Temporary Tablespaces](#) for details. If you created tablespaces with different names, use those instead.

	Schema Name	Schema Description	Default Tablespace	Temporary Tablespace
<input type="checkbox"/>	wil_hmc	Warehouse Integration Loader Configuration schema	hmc_ts	hmc_temp
<input type="checkbox"/>	hcd_hmc	Healthcare Common Data Mart Configuration schema	hmc_ts	hmc_temp
<input type="checkbox"/>	wil_rep_711	Warehouse Integration Loader Repository schema	infarep_ts	infarep_temp
<input type="checkbox"/>	hcd_rep_711	Healthcare Common Data Mart Repository schema	infarep_ts	infarep_temp
<input type="checkbox"/>	cdm_rep_711	Healthcare Cohort Data Mart Repository schema	infarep_ts	infarep_temp

## 10.2.4 Prepare the Installer

- 
- ☐ Extract the contents of the OHF media pack to your system.
  - ☐ Navigate to the `<media_pack_location>/` folder.
  - ☐ Unzip the **OHF\_V711\_Linux-x64.zip** file where you want to launch the installer using the following command:  

```
unzip -a OHF_V711_Linux-x64.zip
```
  - ☐ Navigate to the `<media_pack_location>/Disk1/stage/Components/oracle.hsgbu.hc.dma.infa/7.1.1.0.0/1/DataFiles/Expanded/filegroup1` directory.
  - ☐ Unzip the **dma\_infa\_master\_install.zip** file.
  - ☐ Navigate to the **dma\_infa\_master\_install/hmc\_infa\_install/** directory.
  - ☐ Connect to the system user and execute the following scripts:
    - `@infa_hdi_user_privilege.sql <HDI_SCHEMA_NAME>`
    - `@infa_hmc_user_privilege.sql <WIL_HMC_SCHEMA_NAME> <HCD_HMC_SCHEMA_NAME>`
    - `@infa_rep_user_privilege.sql <WIL_INFA_REP_DB_USER> <HCD_INFA_REP_DB_USER> <CDM_INFA_REP_DB_USER>`
  - ☐ Navigate to the `<media_pack_location>/Disk1/install` folder.
  - ☐ Change the protection on files as follows:  

```
chmod 755 *
```
- 

## 10.2.5 Run the Installer

Start the Oracle Universal Installer by running the following command:

- If the Informatica repository database or the OHF data model database is on the database instance of the installation server, execute:  

```
sh runInstaller.sh -local dba_tasks=false
```
- If the Informatica repository schemas to be created are on the database instance of another server, execute:

```
sh runInstaller.sh -local remote_installation=true dba_tasks=false
```

where, the `-local` option is to install on the local node irrespective of the cluster nodes specified on the installer machine.

---

Screen	Action
<input type="checkbox"/> Welcome	Click <b>Next</b> .
<input type="checkbox"/> Select a Product to Install	Select the <b>Oracle Healthcare Foundation Data Management Assembly for Informatica 7.1.1.0.0</b> option.
<input type="checkbox"/> Specify Home Details	Enter or select the installation home path.
<input type="checkbox"/> Verify Installation Prerequisites	Verify if all the prerequisites are met before proceeding.

Screen	Action
<input type="checkbox"/> Oracle Home Configuration	Specify the Oracle client home path.
<input type="checkbox"/> Select the Informatica Home Location	Specify the Informatica home location. The Informatica home should be one level above the <b>/server</b> directory. For example, <code>&lt;path&gt;/Informatica/961/</code> .
<input type="checkbox"/> Select Database Server for Informatica Repository Schemas	Select one of the following options for the Informatica repository schemas: <ul style="list-style-type: none"> <li>■ If the Informatica repository database server is on the installation server, select the <b>Installation database server</b> option.</li> <li>■ For remote installations, select the <b>Remote database server</b> option.</li> </ul>
<input type="checkbox"/> Specify Mount Path Details (applicable only for remote installations)	<p>Enter the following mounted directory configuration details in which the remote server directory is mounted:</p> <ul style="list-style-type: none"> <li>■ Mount path in the repository database server - Remote server path</li> <li>■ Mount path in the installation server - Path on the installation server where the mounting is performed</li> </ul> <p>To obtain the available storage drives, on the Linux machine, execute the <code>df -h</code> command. If the remote server directory is mounted on the installation server, the mounting is displayed as follows:</p> <pre>&lt;Remote Server name&gt;:&lt;Remote server path&gt;       &lt;total size&gt; &lt;used up space&gt; &lt;Available space&gt; &lt;use%&gt; &lt;Path in installation server where mounting was done&gt;</pre> <p>For example,</p> <pre>abc:/scratch/dump       191G 138G 44G 76% /installation server</pre> <p><b>Note:</b></p> <ul style="list-style-type: none"> <li>■ The (datapump) directory of the remote database server should be mounted to the installation server with appropriate read and write privileges for the IMPDB utility (folder with <b>dba</b> group).</li> <li>■ Make sure that the remote directories are accessible after mounting from the installation server.</li> <li>■ If the remote server mounted path is displayed as <code>/</code>, provide the absolute mounted path of the remote server.</li> <li>■ The remote server Linux user that executes the Oracle process, must have minimum privilege of 755 to the directory.</li> </ul>
<input type="checkbox"/> Specify Healthcare Data Model Database Instance Details	<p>Enter values for the following fields:</p> <ul style="list-style-type: none"> <li>■ Host name - By default, the system host name appears. For remote installations, set this value to the host name of the remote machine.</li> <li>■ Port number</li> <li>■ Service name</li> <li>■ Select this database instance for repository schema creation</li> </ul> <p>If you select <b>Yes</b>, the installer uses the same Data Model database instance for Informatica repository schema creation.</p>
<input type="checkbox"/> Specify Informatica Repository Database Instance Details (applicable only if you selected <b>No</b> in the previous screen for Select this database instance for repository schema creation)	<p>Enter values for the following fields:</p> <ul style="list-style-type: none"> <li>■ Host name - By default, the system host name appears. For remote installations, set this value to the host name of the remote machine.</li> <li>■ Port number</li> <li>■ Service name</li> </ul>

Screen	Action
<input type="checkbox"/> Select Terminology Loaders Source Location	<p>Specify the Terminology loaders source file location.</p> <p>This location is used to read the terminology loaders source data files. You can change this location when required.</p> <p>The installer creates an archive directory at the same level as the source directory. Make sure that the create directory privileges exist for the installation user.</p>
<input type="checkbox"/> Specify Healthcare Data Model Schema Details	<p>Enter values for the following fields:</p> <ul style="list-style-type: none"> <li>Interface table schema name</li> <li>Interface table schema password</li> <li>Data warehouse schema name</li> <li>Data warehouse schema password</li> <li>Common data mart (hcd) schema name</li> <li>Common data mart (hcd) schema password</li> <li>Cohort data mart (cdm) schema name</li> <li>Cohort data mart (cdm) schema password</li> </ul>
<input type="checkbox"/> Specify Healthcare Data Model Schema Details	<p>Enter values for the following fields:</p> <ul style="list-style-type: none"> <li>Enterprise schema name</li> <li>Enterprise schema password.</li> </ul>
<input type="checkbox"/> Specify Warehouse Integration Loader Details	<p>Enter values for the following fields:</p> <ul style="list-style-type: none"> <li>Configuration schema name</li> <li>Configuration schema password</li> <li>Repository name</li> <li>Repository schema name</li> <li>Repository schema password</li> </ul> <p>Provide the pre-created hmc schema details.</p> <p>If you enter an existing repository name, the installer removes the repository and the corresponding integration service (Is_&lt;Repository name&gt;). It creates a repository service (&lt;Repository name&gt;) and integration service (Is_&lt;Repository name&gt;).</p> <p>If you enter an existing repository schema name, the installer overwrites the content with the new one, and you will lose the existing objects.</p>
<input type="checkbox"/> Specify Healthcare Common Data Mart Loader Details	<p>Enter values for the following fields:</p> <ul style="list-style-type: none"> <li>Configuration schema name</li> <li>Configuration schema password</li> <li>Repository name</li> <li>Repository schema name</li> <li>Repository schema password</li> </ul> <p>Provide the pre-created hmc schema details.</p> <p>If you enter an existing repository name, the installer removes the repository and the corresponding integration service (Is_&lt;Repository name&gt;). The installer creates a repository service (&lt;Repository name&gt;) and integration service (Is_&lt;Repository name&gt;).</p> <p>If you create an existing repository schema name, the installer overwrites the content with the new one, and you will lose the existing objects.</p>



Screen	Action
<input type="checkbox"/> Specify Healthcare Cohort Data Mart Loader Details	<p>Enter values for the following fields:</p> <ul style="list-style-type: none"> <li>Repository name</li> <li>Repository schema name</li> <li>Repository schema password</li> </ul> <p>The configuration schema is not required for CDM. If you enter an existing repository name, the installer removes the repository and the corresponding integration service (Is_&lt;Repository name&gt;). The installer creates a repository service (&lt;Repository name&gt;) and integration service (Is_&lt;Repository name&gt;).</p> <p>If you enter an existing repository schema, the installer overwrites the content with the new one, and you will lose the existing objects.</p>
<input type="checkbox"/> Specify Informatica Domain Details	<p>Specify the following parameters:</p> <ul style="list-style-type: none"> <li>Domain name</li> <li>Domain code page ID</li> <li>Node name</li> <li>License name</li> <li>Informatica host name</li> <li>Informatica port number</li> <li>Informatica administrator user name</li> <li>Informatica administrator password</li> </ul> <p>Contact your Informatica Administrator for the Domain Code Page ID and provide a valid Code Page ID. Make sure that the code page is compatible with the domain code page for creating the Integration Service. For a domain compatible code page, see any existing and active integration service code pages from the Informatica admin console. A list of sample code pages and their IDs are as follows:</p> <ul style="list-style-type: none"> <li>US-ASCII (ID 1) - 7-bit ASCII</li> <li>Latin1 (ID 4) - ISO 8859-1 Western European</li> <li>JapanEUC (ID 18) - Japanese Extended Unix Code (including JIS X 0212)</li> <li>UTF-8 (ID 106) - Unicode Transformation Format, multibyte</li> <li>MS932 (ID 2024) - MS Windows Japanese, Shift-JIS</li> <li>MS1252 (ID 2252) - MS Windows Latin1 (ANSI), superset of Latin1</li> </ul>
<input type="checkbox"/> Verify Configuration Parameters	Click <b>Next</b> .
<input type="checkbox"/> Summary	Click <b>Install</b> .
<input type="checkbox"/> End of Installation	Click <b>Exit</b> after reviewing the installation information. At the confirmation prompt, click <b>Yes</b> to exit the installer.

## 10.2.6 Check the Installation

- ☐ Review the generated installation log files for errors. For details, see [Installation Log Files](#).
- ☐ Contact Oracle support, if necessary, to resolve any errors.

## 10.2.7 Revoke Privileges

After the Data Management Assembly for Informatica installation, run the following scripts from System user:

```
@<OHF_Install_Home>/dma_infa_master_install/hmc_infa_install/dma_directory_drop.sql
```

```
@<OHF_Install_Home>/dma_infa_master_install/hmc_infa_install/dma_revoke_privilege.sql <WIL_INFA_REP_DB_USER> <HCD_INFA_REP_DB_USER> <CDM_INFA_REP_DB_USER>
```

where,

<OHF\_Install\_Home> - OHF installation home directory

<WIL\_INFA\_REP\_DB\_USER> - Warehouse integration loader repository schema name

<HCD\_INFA\_REP\_DB\_USER> - Healthcare common data mart loader repository schema name

<CDM\_INFA\_REP\_DB\_USER> - Cohort data mart loader repository schema name

---

# Data Management Assembly for Informatica Upgrade

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For a list of the supported upgrade paths, see [Supported Upgrade Paths](#).

To upgrade the OHF Data Management Assembly for Informatica, follow the instructions below:

1. [Check Prerequisites](#)
2. [Prepare the Installer](#)
3. [Run the Installer](#)
4. [Check the Installation](#)

## 11.1 Check Prerequisites

---

- ☐ The user is familiar with Oracle Database (DB), Informatica, and Linux OS.
- ☐ The OHF Data Model is installed.  
Follow the instructions in [Chapter 2, "Data Model Installation"](#) or [Chapter 3, "Data Model Upgrade"](#).
- ☐ The Informatica domain is running and no user is connected to the Informatica Admin Console.
- ☐ Informatica services can connect to the Data Model 7.1.1 database mentioned in the Oracle TNS file (TNS entries of the required database must be available in the installation server tnsnames.ora file).
- ☐ You can connect the database using EZCONNECT syntax. For example, sqlplus  
<user>/<password>@<hostname>:<port>/<service name>.
- ☐ The password expiry notification message does not display for the system user or the existing schemas.
- ☐ The installer is run on the system where the Informatica server is installed.
- ☐ The terminology loaders source file location exists. The installer creates an archive directory. For example,  
`/scratch/home/oemora/TL_Source` is the source file location specified during installation, which already exists.  
`/scratch/home/oemora/TL_Archive_Files` is created by the installer as the archive directory.
- ☐ The path of the data file (Configuration schema/Repository schema tablespace) mentioned when creating the tablespace is correct. Make sure that the database user has write privileges.
- ☐ Enough space is available in the installation directory and the Oracle Home directory.

- ☐ The Sqlplus utility is available on the installation server.
  - ☐ The impdp utility is available on the repository database server.
  - ☐ The installation user has read, write, and execute privileges to the \$INFA\_HOME/server folder. The installer creates product specific folders and parameter files under this location.
  - ☐ For remote installations, where the installation server and the Informatica Repository Database are on different machines, make sure that:
    - The remote database server directory is mounted to the installation server with appropriate read and write privileges.
    - The remote directories are accessible after mounting from the installation server.
    - The Linux user of the remote server, who executes the Oracle process, has privilege 755 for the directory (datapump).
    - The Oracle user has privilege for the mount path directory.
    - If the repository DB is on an Exadata machine, the repository DB single node (the node which is mounted) TNSENTRY should be added to the tnsnames.ora file on the installation server. After installation, revert TNSENTRY to the original entry.
  - ☐ GLOBAL\_NAMES database initialization parameter is set to false.
  - ☐ Back up the following csv files under \$INFORMATICA\_HOME/server/infra\_shared/SrcFiles if it exists:
    - bus\_susp\_day.csv
    - daylight\_svngs\_day.csv
    - hosp\_hol\_day.csv
    - time\_am.csv
    - time\_pm.csv
  - ☐ If the Terminology Loaders source folder is shared, make a back up of the following files:
    - Code Axes.txt
    - Code Descriptions.txt
    - Code Hierarchy.txt
    - Code.txt
    - Related Entity.txt
    - Relations Type.txt
    - Relations.txt
    - Relationship Type.txt
    - time.txt

The installer will overwrite any existing files from the list above.
  - ☐ If any previous ETLs are in the failed status, make sure that they execute successfully before upgrading.
  - ☐ Make sure that the data models are upgraded to OHF 7.1.1.
  - ☐ The OUI displays default configuration schema (hmc) names. You must change these schema names to the existing hmc schema names.

The installer upgrades the configuration schemas to OHF 7.1.1.
  - ☐ Back up the existing hmc schemas.
-

## 11.2 Prepare the Installer

- 
- ☐ Extract the contents of the OHF media pack to your system.
  - ☐ Navigate to the `<media_pack_location>/` folder.
  - ☐ Unzip the **OHF\_V711\_Linux-x64.zip** file where you want to launch the installer using the following command:
 

```
unzip -a OHF_V711_Linux-x64.zip
```
  - ☐ Navigate to the **Disk1/install** folder.
  - ☐ Change the protection on files as follows:
 

```
chmod 755 *
```
- 

## 11.3 Run the Installer

Start the Oracle Universal Installer by running the following command:

- If the Informatica repository schemas to be created are on the database instance of the installation server, execute:
 

```
sh runInstaller.sh -local
```
- If the Informatica repository database or OHF data model database is on the database instance of another server, execute:
 

```
sh runInstaller.sh -local remote_installation=true
```

where, the `-local` option is to install on the local node irrespective of the cluster nodes specified on the installer machine.

Screen	Action
<input type="checkbox"/> Welcome	Click <b>Next</b> .
<input type="checkbox"/> Select a Product to Install	Select the <b>Oracle Healthcare Foundation Data Management Assembly for Informatica 7.1.1.0.0</b> option.
<input type="checkbox"/> Specify Home Details	Enter or select the installation home path.
<input type="checkbox"/> Verify Installation Prerequisites	Verify if all the prerequisites are met before proceeding.
<input type="checkbox"/> Oracle Home Configuration	Specify the Oracle client home path.
<input type="checkbox"/> Select the Informatica Home Location	Specify the Informatica home location. The Informatica home should be one level above the <b>/server</b> directory. For example, <code>&lt;path&gt;/Informatica/961/</code> .
<input type="checkbox"/> Select Database Server for Informatica Repository Schemas	Select one of the following options for the Informatica repository schemas: <ul style="list-style-type: none"> <li>■ If the Informatica repository database server is on the installation server, select the <b>Installation database server</b> option, and <b>skip the next step</b>.</li> <li>■ For remote installations, select the <b>Remote database server</b> option, and <b>go to the next step</b>.</li> </ul>

Screen	Action
<input type="checkbox"/> Specify Mount Path Details (applicable only for remote installations)	<p>Enter the following mounted directory configuration details in which the remote server directory is mounted:</p> <ul style="list-style-type: none"> <li>Mount path in the repository database server - Remote server path</li> <li>Mount path in the installation server - Path on the installation server where the mounting is performed</li> </ul> <p>To obtain the available storage drives, on the Linux machine, execute the <code>df -h</code> command. If the remote server directory is mounted on the installation server, the mounting is displayed as follows:</p> <pre>&lt;Remote Server name&gt;:&lt;Remote server path&gt;       &lt;total size&gt; &lt;used up space&gt; &lt;Available space&gt; &lt;use%&gt; &lt;Path in installation server where mounting was done&gt;</pre> <p>For example,</p> <pre>abc:/scratch/dump       191G 138G 44G 76% /installation server</pre> <p><b>Note:</b></p> <ul style="list-style-type: none"> <li>The (datapump) directory of the remote database server should be mounted to the installation server with appropriate read and write privileges for the IMPDB utility (folder with <b>dba</b> group).</li> <li>Make sure that the remote directories are accessible after mounting from the installation server.</li> <li>If the remote server mounted path is displayed as <code>/</code>, provide the absolute mounted path of the remote server.</li> <li>The remote server Linux user that executes the Oracle process, must have minimum privilege of 755 to the directory.</li> </ul>
<input type="checkbox"/> Specify Healthcare Data Model Database Instance Details	<p>Enter values for the following fields:</p> <ul style="list-style-type: none"> <li>Host name - By default, the system host name appears. For remote installations, set this value to the host name of the remote machine.</li> <li>Port number</li> <li>Service name</li> <li>System user password</li> <li>Select this database instance for repository schema creation</li> </ul> <p>If you select <b>Yes</b>, the installer uses the same Data Model database instance for Informatica repository schema creation.</p>
<input type="checkbox"/> Specify Informatica Repository Database Instance Details (applicable only if you selected <b>No</b> in the previous screen for Select this database instance for repository schema creation)	<p>Enter values for the following fields:</p> <ul style="list-style-type: none"> <li>Host name - By default, the system host name appears. For remote installations, set this value to the host name of the remote machine.</li> <li>Port</li> <li>Service name</li> <li>System user password</li> </ul>
<input type="checkbox"/> Select Terminology Loaders Source Location	<p>Specify the Terminology loaders source file location.</p> <p>This location is used to read the terminology loaders source data files. You can change this location when required.</p> <p>The installer creates an archive directory at the same level as the source directory. Make sure that the create directory privileges exist for the installation user.</p>

Screen	Action
<input type="checkbox"/> Specify Healthcare Data Model Schema Details	<p>Enter values for the following fields:</p> <ul style="list-style-type: none"> <li>Interface table schema name</li> <li>Interface table schema password</li> <li>Data warehouse schema name</li> <li>Data warehouse schema password</li> <li>Common data mart (hcd) schema name</li> <li>Common data mart (hcd) schema password</li> <li>Cohort data mart (cdm) schema name</li> <li>Cohort data mart (cdm) schema password</li> </ul>
<input type="checkbox"/> Specify Healthcare Data Model Schema Details	<p>Enter values for the following fields:</p> <ul style="list-style-type: none"> <li>Enterprise schema name</li> <li>Enterprise schema password.</li> </ul>
<input type="checkbox"/> Specify Warehouse Integration Loader Details	<p>Enter values for the following fields:</p> <ul style="list-style-type: none"> <li>Configuration schema name</li> <li>Configuration schema password</li> <li>Repository name</li> <li>Repository schema name</li> <li>Repository schema password</li> </ul> <p>Provide an existing HMC schema.</p> <p>If you provide an existing repository name, the installer removes the repository and the corresponding integration service (Is_&lt;Repository name&gt;). It creates a repository service (&lt;Repository name&gt;) and integration service (Is_&lt;Repository name&gt;).</p> <p>The installer creates a repository schema if it does not exist in the database. If you enter an existing repository schema, the installer overwrites the content with the new one, and you will lose all existing objects.</p>
<input type="checkbox"/> Specify Healthcare Common Data Mart Loader Details	<p>Enter values for the following fields:</p> <ul style="list-style-type: none"> <li>Configuration schema name</li> <li>Configuration schema password</li> <li>Repository name</li> <li>Repository schema name</li> <li>Repository schema password</li> </ul> <p>Specify an existing HMC schema.</p> <p>If you provide an existing repository name, the installer removes the repository and the corresponding integration service (Is_&lt;Repository name&gt;). It creates a repository service (&lt;Repository name&gt;) and integration service (Is_&lt;Repository name&gt;).</p> <p>The installer creates a repository schema if it does not exist in the database. If you enter an existing repository schema, the installer overwrites the content with the new one, and you will lose all existing objects.</p>

Screen	Action
<input type="checkbox"/> Specify Healthcare Cohort Data Mart Loader Details	<p>If you are upgrading the Informatica repository schemas from Enterprise Healthcare Analytics (EHA) 6.1 and OHF 7.0.1 to OHF 7.1.1, the repository name, tablespace, and temp space name should be the same as in the previous version.</p> <p>Enter values for the following fields:</p> <ul style="list-style-type: none"> <li>Repository name</li> <li>Repository schema name</li> <li>Repository schema password</li> </ul> <p>If you enter an existing repository name, the installer removes the repository and the corresponding integration service (Is_&lt;Repository name&gt;). It creates a repository service (&lt;Repository name&gt;) and integration service (Is_&lt;Repository name&gt;).</p> <p>The installer creates a repository schema if it does not exist in the database. If you enter an existing repository schema, the installer overwrites the content with the new one, and you will lose the existing objects.</p> <p>The configuration schema is not required for CDM.</p>
<input type="checkbox"/> Specify Tablespace Details (if prompted)	<p>Specify the tablespace names for the configuration schemas. The installer creates these tablespaces if they do not exist.</p> <ul style="list-style-type: none"> <li>Configuration schema default tablespace name</li> <li>Configuration schema temporary tablespace name</li> </ul>
<input type="checkbox"/> Specify Tablespace Details (if prompted)	<p>Specify the tablespace names for repository schemas. The installer creates these tablespaces if they do not exist in the database.</p> <ul style="list-style-type: none"> <li>Repository schema default tablespace name</li> <li>Repository schema temporary tablespace name</li> </ul>
<input type="checkbox"/> Specify Tablespace Location for Configuration Schema (if prompted)	<p>Specify the tablespace location for the Configuration schema.</p> <p>The location should be present in the OHF data model database server with write privileges.</p> <p>If the OHF data model database is not on the installation server, you must enter the location manually.</p>
<input type="checkbox"/> Specify Tablespace Location for Repository Schema (if prompted)	<p>Specify the tablespace location for the repository schemas.</p> <p>When the repository database is not on the installation server, you must enter the location manually.</p> <p>The location should be present on the repository database server with write privileges.</p>



Screen	Action
<input type="checkbox"/> Specify Informatica Domain Details	<p>Specify the following parameters:</p> <ul style="list-style-type: none"> <li>Domain name</li> <li>Domain code page ID</li> <li>Node name</li> <li>License name</li> <li>Informatica host name</li> <li>Informatica port number</li> <li>Informatica administrator user name</li> <li>Informatica administrator password</li> </ul> <p>Contact your Informatica Administrator for the Domain Code Page ID and provide a valid Code Page ID. Make sure that the code page is compatible with the domain code page for creating the Integration Service. For a domain compatible code page, see any existing and active integration service code pages from the Informatica admin console. A list of sample code pages and their IDs are as follows:</p> <ul style="list-style-type: none"> <li>US-ASCII (ID 1) - 7-bit ASCII</li> <li>Latin1 (ID 4) - ISO 8859-1 Western European</li> <li>JapanEUC (ID 18) - Japanese Extended Unix Code (including JIS X 0212)</li> <li>UTF-8 (ID 106) - Unicode Transformation Format, multibyte</li> <li>MS932 (ID 2024) - MS Windows Japanese, Shift-JIS</li> <li>MS1252 (ID 2252) - MS Windows Latin1 (ANSI), superset of Latin1</li> </ul>
<input type="checkbox"/> Verify Configuration Parameters	Click <b>Next</b> .
<input type="checkbox"/> Summary	Click <b>Install</b> .
<input type="checkbox"/> End of Installation	Click <b>Exit</b> after reviewing the installation information. At the confirmation prompt, click <b>Yes</b> to exit the installer.

## 11.4 Check the Installation

- 
- ☐ Review the generated installation log files for errors. For details, see [Installation Log Files](#).
  - ☐ Contact Oracle support, if necessary, to resolve any errors.
-



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## Data Management Assembly for Informatica Uninstall

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**Note:** This section is applicable only to uninstall Data Management Assembly only from the development environment.

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- 
- ☐ Execute the following commands to drop user schemas by connecting to the system user.  

```
drop user <WIL_HMC_USR> cascade;  
drop user <WIL_INFA_REP_DB_USER> cascade;  
drop user <AT_HMC_USR> cascade;  
drop user <AT_INFA_REP_DB_USER> cascade;  
drop user <CDM_INFA_REP_DB_USER> cascade;  
drop tablespace <INFA_REP_TBSP> INCLUDING CONTENTS and datafiles;  
drop tablespace <INFA_REP_TMP_TBSP> INCLUDING CONTENTS and datafiles;  
drop tablespace <HMC_SCHEMA_TBSP> INCLUDING CONTENTS and datafiles;  
drop tablespace <HMC_SCHEMA_TMP_TBSP> INCLUDING CONTENTS and datafiles;  
commit;
```
  - ☐ Log in to the Informatica Admin console and delete the following repositories and integration services:
    - Repositories
      - <WIL\_REP\_NAME>
      - <AT\_REP\_NAME>
      - <CDM\_REP\_NAME >
    - Integration Services
      - <WIL\_INT\_SRVC >
      - <AT\_INT\_SRVC >
      - <CDM\_INT\_SRVC>
-

---

---

**Note:**

- Ensure that there are no db (.dbf files) files in <INSTALL\_HOME>.

If they exist, do not execute the following command:

```
rm -r <INSTAL_HOME>
```

Contact the Database Administrator for guidance.

- Back up any user-specific files (apart from installer default files) in the installation directory.
- 
-

# Data Management Assembly for Informatica Troubleshooting

This chapter contains the following sections:

- [Installation Log Files](#)
- [Troubleshooting Guidelines](#)
- [Troubleshooting](#)

## 13.1 Installation Log Files

While installing Data Management Assembly, the installer generates the following log files. When the installer is running the python script, the execution log is redirected to the below log files:

**Table 13–1 Installation Log Files**

File Name	Description
installActions<timestamp>.log	Records the action of the installer and can be used to diagnose issues with the installer.
oraInstall<timestamp>.out	Records the output of SQL scripts run by the installer.
oraInstall<timestamp>.err	Records the errors from the SQL scripts run by the installer.
	The log files are time stamped and each installation session creates a new log file.
	On a Linux machine, the log files are located at <b>\$ORACLE_BASE/oraInventory/logs</b> .
	For example, /u01/app/oraInventory/logs.
When the installer is running the ksh script, the execution log is redirected to the below log files:	
<INSTALL_HOME>/dma_infa_master_install/dmalogs/dma_etl_install.log	Contains a consolidated log file that is archived to <b>&lt;INSTALL_HOME&gt;/dma_infa_master_install/dmalogs/tmplogs/</b> with the time stamp for next execution of the installer. In case of restart, logs are appended to the existing dma_etl_install.log file.
<INSTALL_HOME>/dma_infa_master_install/dmalogs/tmplogs/<script_name>.error	Contains an error file if the script is not executed successfully.

**Table 13–1 (Cont.) Installation Log Files**

File Name	Description
<INSTALL_HOME>/dma_infa_master_install/dmalogs/tmplogs/<script_name>.done	Indicates that the script is executed successfully.
The installer generates the following reports:	
ORACLE_HOME/reports/dma_infa_install<time_stamp>.html	Contains the installation summary of the Data Management Assembly for Informatica installation.

## 13.2 Troubleshooting Guidelines

- The OUI installer does not fix any issues automatically. If the installation fails, you must verify and fix the issues before restarting the installer.
- You must provide unique repository schema names. The installer imports the ETL metadata into these schemas. However, upon restarting the installer for any failures, you must specify the same values that were entered for the previous execution.
- When reporting any problems that occur during installation, make sure that you include all the above log files. Check which components were installed successfully using the following query by connecting to the enterprise schema:

```
Select * from W_EHA_PRODUCT_VERSION
```

Send the result of the query when reporting any problems to Oracle support.

## 13.3 Troubleshooting

- If the installer fails while executing the python script:
  - a. Review the logs.
  - b. Analyze and fix the issue.
  - c. Restart the installer with same installation home parameters.

For example, if the password expiry notification is displayed, reset the password and restart the installer.
- If the installer fails while executing the ksh script:
  - a. Review the logs.
  - b. Analyze and fix the issue.
  - c. Restart the installer with same installation home parameters.

For example, if a particular directory does not have the write permission, provide the permission and restart the installer.
- To skip any execution process, create a zero byte **done** file in the temp directory using the following steps:
  - a. Navigate to the following folders and select the appropriate script:
 

```
<INSTALL_HOME>/dma_infa_master_install/dmascripts/
```
  - b. Remove **.ksh** from the file, append **.done** to the file, and place a zero byte file in the temp log folder.

<INSTALL\_HOME>/dma\_infa\_master\_install/dmalogs/tmplogs





---

## Middle-Tier Installation

The OHF Middle-Tier installs the following Web application:

- Administration Console

The OHF Middle-Tier installs the following REST services:

- Data Pipeline Service
- File Upload Service

First, you must install the Middle-Tier on a primary node. This creates a WebLogic domain named **oh\_domain** with a cluster named **oh\_cluster**.

After you install the Middle-Tier on the primary node, you can optionally extend **oh\_cluster** on secondary nodes, by running the installer on their corresponding machines.

This chapter contains the following sections:

- [Installing the Middle-Tier on the Primary Node](#)
- [Installing the Middle-Tier on a Secondary Node](#)
- [Troubleshooting](#)

### 14.1 Installing the Middle-Tier on the Primary Node

1. [Check Prerequisites](#)
2. [Prepare the Installer](#)
3. [Run the Installer](#)
4. [Check the Installation](#)

#### 14.1.1 Check Prerequisites

- 
- ☐ The WebLogic server is installed on the machine.
  - ☐ There is no WebLogic domain named "oh\_domain" on the machine.
  - ☐ All the OHF Data Model schemas exist.
  - ☐ The Oracle external table DIRECTORY object is created for Omics Data Bank.
  - ☐ If you have already installed OHF 7.0.1 or 7.1 Middle-Tier components on WebLogic 12.1.3, uninstall the existing oh\_domian and applications and install WebLogic 12.2.1.2.
-

## 14.1.2 Prepare the Installer

- 
- ☐ Extract the contents of the OHF media pack to your system.
  - ☐ Open the `<media_pack_location>/` folder.
  - ☐ Unzip the **OHF\_V711\_Linux-x64.zip** file where you want to launch the installer using the following command:  

```
unzip -a OHF_V711_Linux-x64.zip
```
  - ☐ Open the **Disk1/install** folder.
  - ☐ Change the protection on files as follows:  

```
chmod 755 *
```
- 

## 14.1.3 Run the Installer

Start the Oracle Universal Installer (OUI) by running the following command.

```
./runInstaller
```

Screen	Action
<input type="checkbox"/> Welcome	Click <b>Next</b> .
<input type="checkbox"/> Select a Product to Install	Select the <b>Oracle Healthcare Foundation Middle-Tier 7.1.1.0.0</b> option
<input type="checkbox"/> Specify Home Details	Enter the Middle-Tier install home name and location.
<input type="checkbox"/> Choose Install Type	Select <b>Yes</b> to perform a fresh installation.
<input type="checkbox"/> Verify Install Prerequisites	Verify if all the prerequisites are met.
<input type="checkbox"/> Java Home	Specify the JDK installation path. The installer validates this path.
<input type="checkbox"/> Fusion Middleware Home	Specify the WebLogic with ADF installation path. The installer validates this path.
<input type="checkbox"/> Cluster Configuration	Select <b>Yes</b> to create a domain and make the machine a primary node where the WebLogic AdminServer is located.
<input type="checkbox"/> AdminServer Configuration	Enter values for the following fields: <ul style="list-style-type: none"> <li>■ Listen address</li> <li>■ Listen port</li> <li>■ SSL listen port</li> <li>■ User name - WebLogic administrator user</li> <li>■ Password - WebLogic administrator password</li> </ul>

Screen	Action
<input type="checkbox"/> NodeManager Configuration	<p>Enter values for the following fields:</p> <ul style="list-style-type: none"> <li>■ Listen address</li> <li>■ Listen port</li> <li>■ User name - Node manager administrator user</li> <li>■ Password - Node manager administrator password</li> <li>■ Verify password</li> </ul>
<input type="checkbox"/> Managed Server Configuration	<p>Enter values for the following fields:</p> <ul style="list-style-type: none"> <li>■ Number of Managed Servers on this machine</li> <li>■ Managed Servers listen port start index - This is used as a starting point for incrementing the port numbers. For example, if the number of managed servers is 3, and the listen port start index is 8081, three managed servers with listen ports 8081, 8082, and 8083 are created.</li> </ul>
<input type="checkbox"/> FMW Repository Creation Utility (RCU) Configuration	<p>For Exadata or ASM groups, create the RCU schema outside the installer (see <a href="https://docs.oracle.com/middleware/1212/core/RCUUG/rcu.htm#RCUUG244">https://docs.oracle.com/middleware/1212/core/RCUUG/rcu.htm#RCUUG244</a> for details). While creating the RCU, select all MDS, IAU, IAU_APPEND, IAU_VIEWER, OPSS, UMS, WLS, and STB schemas.</p> <p>The Fusion Middleware (FMW) RCU requires an Oracle Database user with DBA or SYSDBA privileges. Using the installer, you can create new RCU repositories, or use pre-created repositories using the WebLogic RCU utility.</p> <ul style="list-style-type: none"> <li>■ Database host</li> <li>■ Database port</li> <li>■ Service name</li> <li>■ Schema prefix</li> <li>■ DBA user name - This field is optional if the RCU repositories are pre-created using the RCU utility</li> <li>■ DBA password - This field is optional if the RCU repositories are pre-created using the RCU utility</li> <li>■ Schemas common password</li> </ul>
<input type="checkbox"/> Oracle Healthcare Foundation Data Model Configuration - part 1	<p>Enter values for the following fields:</p> <ul style="list-style-type: none"> <li>■ Database host name - By default, the system host name appears. For remote installations, set this value to the host name of the remote machine.</li> <li>■ Database port</li> <li>■ Service name</li> </ul>
<input type="checkbox"/> Oracle Healthcare Foundation Data Model Configuration - part 2	<p>Enter values for the following fields:</p> <ul style="list-style-type: none"> <li>■ Omics Data Bank schema name</li> <li>■ Omics Data Bank schema password</li> <li>■ Services schema name</li> <li>■ Services schema password</li> <li>■ HDM schema name</li> <li>■ HDM schema password</li> <li>■ Enterprise schema name</li> <li>■ Enterprise schema password</li> </ul>
<input type="checkbox"/> Oracle Healthcare Foundation Data Model Configuration - part 3	<p>Enter values for the following fields:</p> <ul style="list-style-type: none"> <li>■ Cohort Data Mart (CDM) schema name</li> <li>■ Cohort Data Mart (CDM) schema password</li> </ul>

Screen	Action
<input type="checkbox"/> Service Configuration	<ul style="list-style-type: none"><li>■ To provide the service configuration now, select <b>Yes</b> and click <b>Next</b> to go to the next step (File Upload Service Configuration).</li><li>■ To provide the service configuration after the installation, select <b>No</b> and click <b>Next</b> to proceed to the Summary screen.</li></ul>
<input type="checkbox"/> File Upload Service Configuration	Enter values for the following fields: <ul style="list-style-type: none"><li>■ File retention period in days</li><li>■ File storage location</li><li>■ Max file size in MB</li><li>■ Max zip extract size in MB</li><li>■ Simultaneous upload limit</li></ul>
<input type="checkbox"/> Omics Loader Service Configuration	Enter values for the following fields: <ul style="list-style-type: none"><li>■ Oracle data directory object</li><li>■ Ensembl and SwissProt directory</li></ul>
<input type="checkbox"/> Summary	Click <b>Install</b> .
<input type="checkbox"/> End of Installation	Click <b>Exit</b> after reviewing the installation information. At the confirmation prompt, click <b>Yes</b> to exit the installer.

#### 14.1.4 Check the Installation

- 
- ☐ Check the log file located in `ORACLE_BASE/oraInventory/logs`.
  - ☐ Review the generated installation log files for errors. For details, see [Installation Log Files](#).
  - ☐ Contact Oracle support, if necessary, to resolve any errors.
- 

## 14.2 Installing the Middle-Tier on a Secondary Node

1. [Check Prerequisites](#)
2. [Prepare the Installer](#)
3. [Run the Installer](#)
4. [Check the Installation](#)

### 14.2.1 Check Prerequisites

- 
- ☐ The WebLogic server is installed on the machine in the same file system location as on the primary node.
  - ☐ There is no WebLogic domain named "oh\_domain" on the machine.
  - ☐ All OHF Data Model schemas exist.
  - ☐ The Oracle external table DIRECTORY object is created for Omics Data Bank.
-

## 14.2.2 Prepare the Installer

- 
- ☐ Extract the contents of the OHF media pack to your secondary node system.
  - ☐ Open the `<media_pack_location>/` folder.
  - ☐ Unzip the **OHF\_V711\_Linux-x64.zip** file where you want to launch the installer using the following command:  

```
unzip -a OHF_V711_Linux-x64.zip
```
  - ☐ Open the **Disk1/install** folder.
  - ☐ Change the protection on files as follows:  

```
chmod 755 *
```
- 

## 14.2.3 Run the Installer

Start the Oracle Universal Installer (OUI) by running the following command.

```
./runInstaller -local
```

where, the `-local` option is to install on the local node irrespective of the cluster nodes specified on the installer machine.

Follow the instructions below for each screen in the installation wizard:

Screen	Action
<input type="checkbox"/> Welcome	Click <b>Next</b> .
<input type="checkbox"/> Select a Product to Install	Select the <b>Oracle Healthcare Foundation Middle-Tier 7.1.1.0.0</b> option.
<input type="checkbox"/> Specify Home Details	Enter the Middle-Tier install home name and location.
<input type="checkbox"/> Choose Install Type	Select <b>Yes</b> to perform a fresh installation.
<input type="checkbox"/> Verify Install Prerequisites	Verify if all the prerequisites are met.
<input type="checkbox"/> Java Home	Specify the JDK installation path. The installer validates this path.
<input type="checkbox"/> Fusion Middleware Home	Specify the WebLogic with ADF installation path. The installer validates this path.
<input type="checkbox"/> Cluster Configuration	Select <b>No</b> to migrate an existing domain created by running this installer on the primary node to scale the cluster and add more machines to the domain.
<input type="checkbox"/> AdminServer Configuration	Enter values for the following fields: <ul style="list-style-type: none"> <li>▪ Listen address - Running AdminServer listen address provided as part of the primary node installation</li> <li>▪ Listen port - Running AdminServer listen port provided as part of the primary node installation</li> <li>▪ SSL listen port - Running AdminServer SSL listen port provided as part of the primary node installation</li> <li>▪ User name - WebLogic administrator user</li> <li>▪ Password - WebLogic administrator password</li> </ul>

Screen	Action
<input type="checkbox"/> NodeManager Configuration	Enter values for the following fields: <ul style="list-style-type: none"> <li>■ Listen address</li> <li>■ Listen port</li> <li>■ User name</li> <li>■ Password</li> <li>■ Verify password</li> </ul>
<input type="checkbox"/> Managed Server Configuration	Enter values for the following fields: <ul style="list-style-type: none"> <li>■ Number of Managed Servers on this Machine</li> <li>■ Managed Servers listen port start index - This is used to increment the port number. For example, if the number of managed servers is 3, and listen port start index is 8081, three managed servers with listen ports 8081, 8082, and 8083 are created.</li> </ul>
<input type="checkbox"/> Summary	Click <b>Install</b> .
<input type="checkbox"/> End of Installation	Click <b>Exit</b> after reviewing the installation information. At the confirmation prompt, click <b>Yes</b> to exit the installer.

## 14.2.4 Check the Installation

- ☐ Check the log file located in **ORACLE\_BASE/oraInventory/logs**.
- ☐ Review the generated installation log files for errors. For details, see [Installation Log Files](#).
- ☐ Contact Oracle support, if necessary, to resolve any errors.

## 14.3 Troubleshooting

- [Installation Log Files](#)
- [Troubleshooting the Primary Node Installation](#)
- [Troubleshooting the Secondary Node Installation](#)
- [Troubleshooting Coherence Cluster Errors](#)

### 14.3.1 Installation Log Files

The installation log files are located at **\$ORACLE\_BASE/oraInventory/logs**. For example: **/u01/app/oraInventory/logs**.

When installing the OHF Middle-Tier, the installer generates the following installation log files:

Log File	Description
installActions<timestamp>.log	Records the actions of the installer and can be used to diagnose issues with the installer.
oraInstall<timestamp>.out	Records the outputs of all the scripts run by the installer.
oraInstall<timestamp>.err	Records the errors from all the scripts run by the installer.

The log files are time stamped and each installation session creates a new set of log files.

An installation summary with all the parameters provided for the installer is saved at:  
`<INSTALL_HOME>/reports/dps_install_<timestamp>.html`

---

**Note:** When reporting any problems that occur during Middle-Tier installation, make sure that you include all the above log files.

---

### 14.3.2 Troubleshooting the Primary Node Installation

Issue	Fix
The installer fails due to the time taken by the node manager process to start.	Check the machine network configuration to make sure that other processes are listening on same port, and that the user running the installer has the required file system permissions.
The AdminServer fails to start because the node manager process is not available.	Verify if the node manager process is still running.
A wrong database configuration is provided.	Modify the database configuration from the WebLogic Admin console.

### 14.3.3 Troubleshooting the Secondary Node Installation

Issue	Fix
The installer fails to connect to the AdminServer	Verify if the AdminServer is running on the primary node by accessing the WebLogic Admin console from the secondary node.
The installer fails due to a wrong FMW path.	Make sure WebLogic is installed in the same file system location as on the primary node.

### 14.3.4 Troubleshooting Coherence Cluster Errors

Sometimes, a primary or secondary node may not start due to one of the following errors in the weblogic log files:

- `<Warning> (thread=Cluster, member=n/a): Received a discovery message that indicates the presence of an existing cluster that does not respond to join requests; this is usually caused by a network layer failure.`
- `<Warning> (thread=Cluster, member=n/a): Delaying formation of a new cluster; IpMonitor failed to verify the reachability of senior Member...`  
...  
If this persists it is likely the result of a local or remote firewall rule blocking either ICMP pings, or connections to TCP port 7.

To overcome these errors, make sure that the DNS resolutions for the primary and secondary node machines lead to the same IP address when you ping the machines from the local system or from other systems.



---

## JDBC GridLink Data Source Configuration (optional)

You can optionally configure the WebLogic server GridLink data source to distribute database connections to Oracle RAC instances.

Before you create a multi-data source, edit the existing generic data source, create the generic data sources that the multi-data source will manage, and deploy them to the same targets where you want to deploy the multi-data source. You can create data sources and multi-data sources in a single edit session.

1. [Edit the Existing Generic Data Source](#)
2. [Create the JDBC GridLink Data Source](#)

### 15.1 Edit the Existing Generic Data Source

- 
- ☐ In the **Administration Console**, in the **Change Center**, click **Lock & Edit**.
  - ☐ In the **Domain Structure** tree, expand **Services** and select **Data Sources**.
  - ☐ Select the desired data source and, under the **Configuration** tab, select **General**.
  - ☐ Change **JNDI Name** to a unique value.  
**Note:** You can use a numeric suffix, like -1, to make a value unique. For instance, you can change "jdbc/OHF-ODB" to "jdbc/OHF-ODB-1"..
  - ☐ Click **Save** to save the JDBC data source changes.
  - ☐ In the **Administration Console**, in the **Change Center**, click **Activate Changes**.  
**Note:** Not all changes may take effect immediately. Some changes may require a restart.
- 

### 15.2 Create the JDBC GridLink Data Source

Follow the instructions described in

<https://mosemp.us.oracle.com/epmos/faces/ui/km/DocumentDisplay.jspx?id=1382656.1>, using the following parameters:

- 
- ☐ The data source **Name** and **JNDI Name** must be unique.

- 
- ☐ Use the **JNDI Name** used by the application. For OMICS, this is `jdbc/OHF-ODB`.
- ☐ Use the following default values for OHF Data Source creation:
- Add the following value to Properties: `oracle.jdbc.defaultRowPrefetch=100`
  - Initial Capacity: 10
  - Maximum Capacity: 10
  - Minimum Capacity: 10
  - Wrap Data Types: Unchecked for Omics Data Source
-

---

## Middle-Tier Uninstall

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- 
- ☐ On the primary node WebLogic server machine, stop all managed servers, the node manager, and the administration server for oh\_domain. Refer to the *Oracle Fusion Middleware Administering Server Startup and Shutdown for Oracle WebLogic Server* (<https://docs.oracle.com/middleware/12212/wls/START/START.pdf>) for details.
  - ☐ If you installed the Middle-Tier on secondary nodes, stop the node manager for oh\_domain on these machines. Refer to the *Oracle Fusion Middleware Administering Server Startup and Shutdown for Oracle WebLogic Server* (<https://docs.oracle.com/middleware/12212/wls/START/START.pdf>) for details.
  - ☐ Make sure that no processes related to oh\_domain are running.
  - ☐ Log in to the primary node WebLogic server machine and:
    1. Make a backup of the <WLS\_HOME>/user\_projects directory.
    2. Remove the <WLS\_HOME>/user\_projects/domains/oh\_domain directory.
    3. Remove the <WLS\_HOME>/user\_projects/applications/oh\_domain directory.
    4. Make a backup of <WLS\_HOME>/domain-registry.xml.
    5. Remove the **oh\_domain** entry from <WLS\_HOME>/domain-registry.xml.
  - ☐ On any secondary nodes where you installed the Middle-Tier, log in to the WebLogic server machine and:
    1. Make a backup of the <WLS\_HOME>/user\_projects directory.
    2. Remove the <WLS\_HOME>/user\_projects/domains/oh\_domain directory.
    3. Remove the <WLS\_HOME>/user\_projects/applications/oh\_domain directory.
    4. Make a backup of <WLS\_HOME>/domain-registry.xml.
    5. Remove the **oh\_domain** entry from <WLS\_HOME>/domain-registry.xml.
    6. Remove the <WLS\_HOME>/user\_projects/templates directory.
-



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## Oracle Healthcare Foundation Omics Data Bank Loaders

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You can load Omics data files by using REST APIs or PL/SQL loaders.

For information on how to load Omics data files using REST APIs, see the *Oracle Healthcare Foundation Application Programming Interface Guide*.

For information on how to load Omics data files using PL/SQL loaders, follow the instructions below:

1. [Prerequisites](#)
2. [Installing the Oracle Healthcare Foundation Omics Data Bank Loaders](#)

### 17.1 Prerequisites

To install Omics Data Bank Loaders, the Data Model must be installed. For Data Model installation instructions, see [Chapter 2](#).

#### Installing Java

1. Download JRE 1.8 from <http://www.oracle.com/technetwork/java/javase/downloads/index-jsp-138363.html>
2. Install JRE on the system that you will use as the client tier. The EMBL and Swissprot loaders require JRE 1.8 to be installed on the machine from where they will be run.
3. Make sure that the path for Java 1.8 is set in the environment variable.

---

**Note:** If you plan to execute multiple loaders, make sure that you execute each loader from a separate directory. You must copy .sh/.bat files to another directory to execute the loaders in parallel.

---

### 17.2 Installing the Oracle Healthcare Foundation Omics Data Bank Loaders

Copy the ODB Loaders folder or ODB\_Loaders.zip file from the OHF <INSTALL\_HOME>/.

If you are executing the loaders on an operating system that supports the bash shell command language, make sure that the .sh files have execute privileges.

For example,

```
chmod +x <filename>
```

For more details, refer to the Omics Data Bank chapter in the *Oracle Healthcare Foundation Programmer's Guide*.

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## Oracle Healthcare Foundation Self-Service Analytics

This chapter describes the steps required to install the OHF Self-Service Analytics. It contains the following sections:

- [Section 18.1, "Installation Overview"](#)
- [Section 18.2, "Prerequisites"](#)
- [Section 18.3, "Installing the Oracle Healthcare Foundation Self-Service Analytics"](#)

### 18.1 Installation Overview

OHF Self-Service Analytics is available in the **OHF\_V711\_Linux-x64.zip** file of the media pack.

It consists of the following components:

- OBIEE RPD file for the Healthcare Common Data Mart, which is used for Self-Service Analytics.
- Self-Service Analytics tool, to generate an OBIEE RPD file for data marts built based on the Healthcare Common Data Mart.

The following is the structure of the Self-Service Analytics package:

```
/selfserviceanalytics
  /hcd_rpd
    ohf_ssa_hcd.rpd
    obieeIds.csv
  /software
    ohf_ssa_tool.zip
```

### 18.2 Prerequisites

OHF Data Model must be installed. For other prerequisites, see [Section 1.1](#).

### 18.3 Installing the Oracle Healthcare Foundation Self-Service Analytics

To install the OHF Self-Service Analytics:

1. Navigate to the **selfserviceanalytics** folder in the media pack.

2. Open the RPD file, **ohf\_ssa\_hcd.rpd**, available in the `selfserviceanalytics\hcd_rpd` folder using the Oracle BI Administration Tool, and perform the following steps:
  - a. Navigate to **Manage > Variables**, update the default value of the puser variable to point to the HCD schema name, and click **OK**.
  - b. In the Physical layer, navigate to **localhost > Properties > Connection Pools**, and double-click **Relation Connection**.
    - Update the Data source name with the database host name, port number, and service name.
    - Update the HCD schema password.
  - c. In the Physical layer, rename the physical schema **hcd** with the HCD schema name.
3. Save the **ohf\_ssa\_hcd.rpd** file and deploy it on the OBIEE server for analytics and reporting.

For details on deploying the RPD file, see *Oracle Business Intelligence Enterprise Edition 12.2.1.2.0* documentation.
4. Create a folder **OHF\_SSA\_HOME** in a preferred drive.
5. Copy the **ohf\_ssa\_tool.zip** file available in the `selfserviceanalytics\software` folder to the **OHF\_SSA\_HOME** folder.
6. Extract the contents of **ohf\_ssa\_tool.zip** file in the **OHF\_SSA\_HOME** folder.

The Self-Service Analytics tool is now available in the `OHF_SSA_HOME\ohf_ssa_tool` folder.

For details on generating the OBIEE RPD using the Self-Service Analytics tool, see *Oracle Healthcare Foundation Programmer's Guide*.