Oracle® Healthcare Foundation

Installation Guide

Release 7.1

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Contents

4 Oracle Healthcare Foundation Data Management Assembly for Informatica

5 Oracle Healthcare Foundation Middle-Tier

6 Oracle Healthcare Foundation Omics Data Bank Loaders

7 Oracle Healthcare Foundation Self-Service Analytics

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 Linux operating system.

Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc.

Access to Oracle Support

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

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-40753 2.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 Installation Guide*
- *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*

1

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 following components on Linux OS:

- Oracle Healthcare Foundation Data Model
- Oracle Healthcare Foundation Data Management Assembly for ODI
- Oracle Healthcare Foundation Data Management Assembly for Informatica
- Oracle Healthcare Foundation Middle-Tier

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

This chapter contains the following topics:

- Section 1.1, "Software Requirements"
- Section 1.2, "Media Pack Content"
- Section 1.3, "General Guidelines for Installation"

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	- Oracle Linux 6.5 or 6.6 (64-bit) operating system (OS) - Oracle Database 12.1.0.2.0 Enterprise Edition - Python 2.6.6
Data Model	No additional requirements
Data Management Assembly (Oracle Data Integrator)	- Oracle Data Integrator (ODI) 11.1.1.7 - Java Development Kit (JDK) 1.6.0_35 - Oracle WebLogic server 10.3.6
Data Management Assembly (Informatica)	- Informatica PowerCenter 9.6.1

Table 1–1 (Cont.) Software Requirements

Components	Software Required
Middle-Tier	You must install the Middle-Tier on a different WebLogic server other than ODI server.
	■ Oracle Fusion Middleware Infrastructure 12.1.3 with Oracle WebLogic server 12.1.3
	■ Java Development Kit (JDK) 1.8 Update 91 (JDK 1.8 u91) or above
Self-Service Analytics	■ Oracle Business Intelligence Enterprise Edition (OBIEE) 12.2.1.0.0
	■ Oracle Business Intelligence Developer Client Tools 12.2.1.0.0
	■ Java Runtime Environment (JRE) 1.8 Update 91 (JRE 1.8 u91) or above

1.2 Media Pack Content

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

- Oracle Healthcare Foundation Linux (**OHF_V71_Linux-x64.zip**)

- Oracle Healthcare Foundation Application Toolkit Linux (**OHF_V71_AT_Linux-x64.zip)**

- Oracle Healthcare Foundation Application Toolkit Windows (**OHF_V71_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.

- 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.

2

Oracle Healthcare Foundation Data Model

This chapter describes the steps required to install the OHF Data Model. It contains the following sections:

- Section 2.1, "Supported Upgrade Paths"

- Section 2.2, "Prerequisite Checklist"

- Section 2.3, "Guidelines"

- Section 2.4, "Installation Log Files"

- Section 2.5, "Installing the Oracle Healthcare Foundation Data Model"

- Section 2.6, "Upgrading Healthcare Data Warehouse Foundation to Oracle Healthcare Foundation"

- Section 2.7, "Data Migration"

- Section 2.8, "Running the Installer on Pre-created Schemas"

- Section 2.9, "Revoking Privileges"

- Section 2.10, "Troubleshooting"

- Section 2.11, "Uninstalling the Oracle Healthcare Foundation Data Model"

2.1 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

- OHF 7.0.1 to OHF 7.1

2.2 Prerequisite Checklist

☐	Install Oracle Database 12.1.0.2 Enterprise Edition.
☐	Create container database with a single pluggable database instance the help of a Database Administrator.
☐	Install Java Virtual Machine in 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>
```

☐ Sqlplus utility is available in the installation server.

☐ Password expiry notification message does not display for the Sys and system schemas.

☐ To upgrade to Oracle Healthcare Foundation 7.1, back up data model schemas of existing Oracle Healthcare Data Warehouse Foundation (HDWF) environment.

☐ To create an encrypted tablespace during fresh 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, and so on. The installer only checks whether the keystore is open if the sys and system passwords are provided during installation.

☐ Set the GLOBAL_NAMES database initialization parameter to false.

☐ For remote installation, make sure the following are available on the client machine:

- Oracle Linux 6.5 or 6.6 (64-bit) OS
- Oracle Database 12.1.0.2.0 client

☐ To upgrade, 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;
```

2.3 Guidelines

- 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).

- For a fresh installation 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.

2.4 Installation Log Files

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

Table 2–1   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 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/7.1.0.0.0/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 **$ORACLE_BASE/oraInventory/logs**. 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 installation summary for the Data Model installation.

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 while reporting any problems to the Oracle support.

2.5 Installing the Oracle Healthcare Foundation Data Model

To install the OHF Data Model:

1. Extract the contents of the OHF media pack to your system.

2. Navigate to the **<media_pack_location>/** folder.

3. Unzip the **OHF_V71_Linux-x64.zip** file where you want to launch the installer using the following command:

   ```
   unzip -a OHF_V71_Linux-x64.zip
   ```

4. Navigate to the **Disk1/install** folder.

5. Change the protection on files as follows:

   ```
   chmod 755 *
   ```

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

   - Database server (exadata or non-exadata) is on the machine where the installer is running, execute:

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

   - 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.

The Welcome screen appears.

7. Click **Next**. The Select a Product to Install screen appears.

8. Select the **Oracle Healthcare Foundation Data Model 7.1.0.0.0** option and click **Next**.

The Specify Home Details screen appears.

9. Enter the installation home name and location and click **Next**.

The Verify Installation Prerequisites screen appears.

10. Verify if all the prerequisites are met before proceeding and click **Next**.

The Oracle Client Home Configuration screen appears.

11. Specify the Oracle client home path and click **Next**. The installer validates this path.

The Database Configuration screen appears.

12. Enter values for the following fields:

- Hostname - By default, the system host name appears

- Port - By default, the port number is 1521. You can edit this field if required.

- Service name

- System user password

- Sys user password

13. Click **Next**. The Table Compression screen is displayed.

14. Select the compression option for the following schemas from the corresponding drop-down list:

Schema Name	Compression Options for Non-Exadata	Compression Options for Exadata
Interface tables schema	No Compression (default)	Hybrid columnar compression (default)
	Advanced Compression	No Compression
Data warehouse schema	No Compression (default)	No Compression (default)
	Advanced Compression	Advanced Compression: Preferred if updates are high
		Hybrid columnar compression
Common data mart schema	No Compression (default)	No Compression (default)
	Advanced Compression	Advanced Compression
Cohort data mart schema	No Compression (default) Advanced Compression	No Compression (default) Advanced Compression
Omics Data Bank schema	No Compression (default) Advanced Compression	Hybrid columnar compression (default)

15. Click **Next**. The Data Model Configuration screen appears.

16. Enter values for the following fields:

- Interface tables schema name

- Interface tables schema password

- Data warehouse schema name

- Data warehouse schema password

- Common data mart schema name

- Common data mart schema password

- Omics data bank schema name

- Omics data bank schema password

17. Click **Next**. The Data Model Configuration screen appears.

18. Enter values for the following fields:

- Cohort data mart schema name

- Cohort data mart password

- Enterprise schema name

- Enterprise schema password

- Job engine schema name

- Job engine schema password

- Services schema name

- Services schema password

19. Click **Next** in the Data Model Configuration Verification and Tablespace Data file screens. The Location screen appears.

20. 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.

For example,

Unix: `/u01/oradata/dbname`

ASM: `+DATA_EX02/hashas01/datafile`

Note:

- ASM location must always start with +.

- Path should not end with /.

- The installer does not validate the data file location. Make sure the location physically exists if the database server is on the remote server. Else, the installer will fail.

---

21. Click **Next**. The Tablespace Details screen appears.

22. The installer creates the following tablespaces for fresh schema. Make sure that these tablespace do not exist in the database.

Enter a tablespace name for each schema. You can edit the default tablespace name, initial size, max size, and tablespace encryption for these schemas.

Tablespace Details	Tablespace Name
Default tablespace used for Interface tables (hdi) schema	hdi_ts

Tablespace Details	Tablespace Name
Default tablespace used for Data Warehouse (hdm) schema	hdm_ts
Default tablespace used for Common Data Mart (hcd) schema	hcd_ts
Default tablespace for Omics Data Bank (odb) schema	odb_data_ts
Used for indexes of the Omics Data Bank (odb) schema	odb_index_ts
Used for LOB columns in the Omics Data Bank (odb) schema	odb_lob_ts
Default tablespace used for Cohort Data Mart (cdm) schema	cdm_data_ts
Used for indexes of the Cohort Data Mart (cdm) schema	cdm_index_ts
Default tablespace used for Enterprise (ent) schema	ent_ts
Default tablespace for Job Engine (job) schema	job_data_ts
Used for indexes of the Job Engine (job) schema	job_index_ts
Database File System (DBFS) store is created as part of the Job Engine installation	job_store_ts
Name of the tablespace to store LOB data in the DBFS store created for the JOB ENGINE schema user	job_lob_ts
Name of the tablespace to be used for the DBFS store created for the JOB_ENGINE schema	job_tbs_ts
Default tablespace used for services schema (svc)	svc_ts

23. Click **Next**. The Temporary Tablespace Details screen appears.

   The installer creates the following temporary tablespaces for fresh schema. Make sure that these tablespace do not exist in database.

   You can edit the temporary tablespace name, initial size, and max size for these schemas.

Temporary Tablespace Details	Temporary Tablespace
Interface tables schema (hdi)	hdi_temp
Data warehouse schema (hdm)	hdm_temp
Common data mart schema (hcd)	hcd_temp
Omics Data bank schema (odb)	odb_temp
Cohort data mart schema (cdm)	cdm_temp
Enterprise schema (ent)	ent_temp
Job Engine schema (job)	job_temp
Services schema (svc)	svc_temp

24. Click **Next**. The Omics Data Bank and Cohort Data Mart Parameters screen appears.

25. Enter values for the following fields:

   - Result Partition - Used to partition result tables in the ODB schema. The available options are:
     - GENE (Default)

- STUDY

- Promoter Offset - Numerical value to specify a portion of the gene used as a promoter in the ODB schema. The default value is 200.

- 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.

- 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.

- Job Store Name

Note: If you are using the same database instance for multiple environment, enter a unique job store name for each job schema.

---

26. Click **Next**. The Summary screen appears.

27. Click **Install**.

    After the installation is complete, the End of Installation screen appears.

28. Click **Exit** after reviewing the installation information. At the confirmation prompt, click **Yes** to exit the installer.

29. Review the generated installation log files for errors. For details on troubleshooting, Section 2.10.

30. Contact Oracle support, if necessary, to resolve any errors.

2.6 Upgrading Healthcare Data Warehouse Foundation to Oracle Healthcare Foundation

For the list of supported upgrade paths, see Section 2.1.

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, follow Section 2.7 for data migration from HDWF to OHF.

---

1. 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.

2. Extract the contents of the OHF media pack to your system.

3. Navigate to the **<media_pack_location>/** folder.

4. Unzip the **OHF_V71_Linux-x64.zip** file where you want to launch the installer using the following command:

   ```
   unzip -a OHF_V71_Linux-x64.zip
   ```

5. Navigate to the **Disk1/install** folder.

6. Change the protection on files as follows:

```
chmod 755 *
```

7. Make sure that all existing user schemas are disconnected from the database.

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

   - Database server (exadata or non-exadata) is on the machine where the installer is running, execute:

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

   - 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.

   The Welcome screen appears.

9. Click **Next**. The Select a Product to Install screen appears.

10. Select the **Oracle Healthcare Foundation Data Model 7.1.0.0.0** option and click **Next**.

    The Specify Home Details screen appears.

11. Enter the installation home name and location, and click **Next**.

    The Verify Installation Prerequisites screen appears.

12. Verify if all the prerequisites are met before proceeding and click **Next**.

    The Oracle Client Home Configuration screen appears.

13. Specify the Oracle client home path and click **Next**. The installer validates the path.

    The Database Configuration screen appears.

14. Enter values for the following fields:

    - Hostname - By default, the system host name appears
    - Port - By default, the port number is 1521. You can edit this field if required.
    - Service name
    - System user password
    - Sys user password

15. Click **Next**. The Table Compression screen is displayed.

16. Select the compression option for the following schemas from the corresponding drop-down list:

Schema Name	Compression Options for Non-Exadata	Compression Options for Exadata
Interface tables schema	No Compression (default) Advanced Compression	Hybrid columnar compression (default) No Compression
Data warehouse schema	No Compression (default) Advanced Compression	No Compression (default) Advanced Compression: Preferred if updates are high Hybrid columnar compression

Schema Name	Compression Options for Non-Exadata	Compression Options for Exadata
Common data mart schema	No Compression (default)	No Compression (default)
	Advanced Compression	Advanced Compression
Cohort data mart schema	No Compression (default) Advanced Compression	No Compression (default) Advanced Compression
Omics Data Bank schema	No Compression (default) Advanced Compression	Hybrid columnar compression (default)

17. Click **Next**. The Data Model Configuration screen appears.

18. Enter the existing schema details (HDWF 6.1) for the following fields:

- Interface tables schema name

- Interface tables schema password

- Data warehouse schema name

- Data warehouse schema password

- Common data mart schema name

- Common data mart schema password

- Omics data bank schema name - Enter a new schema name

- Omics data bank schema password

19. Click **Next**. The Data Model Configuration screen appears.

20. Enter values for the following fields:

- Cohort data mart schema name

- Cohort data mart password

- Enterprise schema name

- Enterprise schema password

- Job engine schema name

- Job engine schema password

- Services schema name

- Services schema password

21. Click **Next** in the Data Model Configuration Verification screen appears.

22. Click **Next**. The Tablespace Data File Location screen appears.

23. 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.

For example,

Unix: `/u01/oradata/dbname`

ASM: `+DATA_EX02/hashas01/datafile`

> **Note:**
>
> - ASM location must always start with +.
>
> - Path should not end with /.
>
> - The installer does not validate the data file location. Make sure the location physically exists if the database server is on the remote server. Else, the installer will fail.

24. Click **Next**. The Tablespace Details screen appears.

25. The installer creates the following default tablespaces if they do not exist. It also creates tablespace for Services schema.

You can edit the default tablespace name, initial size, max size, and tablespace encryption for these schemas. Enter a tablespace name that does not exist in the database.

Tablespace Details	Tablespace Name
Default tablespace for Omics Data Bank (odb) schema	odb_data_ts
Used for indexes of the Omics Data Bank (odb) schema	odb_index_ts
Used for LOB columns in the Omics Data Bank (odb) schema	odb_lob_ts
Default tablespace used for Cohort Data Mart (cdm) schema	cdm_data_ts
Used for indexes of the Cohort Data Mart (cdm) schema	cdm_index_ts
Default tablespace used for Enterprise (ent) schema	ent_ts
Default tablespace for Job Engine (job) schema	job_data_ts
Used for indexes of the Job Engine (job) schema	job_index_ts
A Database File System (DBFS) store is created as part of the Job Engine installation	job_store_ts
Name of the tablespace to store LOB data in the DBFS store created for the JOB ENGINE schema user	job_lob_ts
Name of the tablespace to be used for the DBFS store created for the JOB_ENGINE schema	job_tbs_ts
Default tablespace used for services schema (svc)	svc_ts

26. Click **Next**. The Temporary Tablespace Details screen appears.

The installer creates the following temporary tablespaces if they do not exist. It also creates temporary tablespace for Services schema.

You can edit the default tablespace name, initial size, max size, and tablespace encryption for these schemas. Enter a tablespace name that does not exist in the database.

Temporary Tablespace Details	Temporary Tablespace
Temporary tablespace used for Omics Data bank schema (odb)	odb_temp
Temporary tablespace used for Cohort data mart schema (cdm)	cdm_temp
Temporary tablespace used for Enterprise schema (ent)	ent_temp
Temporary tablespace used for Job Engine schema (job)	job_temp

Temporary Tablespace Details	Temporary Tablespace
Temporary tablespace used for Services schema (svc)	svc_temp

27. Click **Next**. The Omics Data Bank and Cohort Data Mart Parameters screen appears.

28. Enter the values in the following fields:

> **Note:** Make sure that you enter the same values used for the OHF 7.0.1 installation for Result Partition, Promoter Offset, Flaking Offset, and Job Store Name.

- Result Partition - Used to partition result tables in the ODB schema. The available options are:
  - GENE (Default)
  - STUDY
- Promoter Offset - Numerical value to specify a portion of the gene used as a promoter in the ODB schema. The default value is 200.
- 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.
- 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.
- Job Store Name

  Execute the following query to find all store names in the database (created by all previous installations) by connecting to SYS user:

  ```
  SELECT case when substr(store_name,1,3) ='FS_' then substr(store_
  name,4) else null end as store_name FROM TABLE(dbms_dbfs_
  content.liststores);
  ```

> **Note:** If you are using the same database instance for multiple environment, enter a unique job store name for each job schema.

29. Click **Next**. The Tablespace Parameters screen appears.

30. Enter values for the following fields from the existing CDM, ODB, and Job engine schemas:

> **Note:** Make sure that these tablespaces exist before the installation and which was used to create these schemas.

- cdm_index_ts_name
- odb_index_ts_name
- odb_lob_ts_name
- job_index_ts_name

- job_lob_ts_name

- job_tbs_ts_name

- job_store_ts_name

31. Click **Next**. The Summary screen appears.

32. Click **Install**.

33. After the installation is complete, the End of Installation screen appears.

34. Click **Exit** after reviewing the installation information. At the confirmation prompt, click **Yes** to exit the installer.

35. Review the generated installation log files for errors. For details on troubleshooting, Section 2.10.

36. Contact Oracle support, if necessary, to resolve any errors.

2.7 Data Migration

To upgrade from a previous version of the product, follow this migration process.

2.7.1 Executing Data Migration Script

Data migration for interface tables and data warehouse schema does not occur as a part of 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 script 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.

2.7.2 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_BLCK_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 being 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.

2.7.3 OHF 7.0.1 to 7.1 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.

2.7.4 Executing Schema Migration Scripts After Modifications

2.7.4.1 Interface Tables Schema Migration

1. Open the command prompt and navigate to the **<INSTALL_HOME>/dm/hdi_install/** folder.

2. Connect to the interface tables schema through command prompt using the `SQL*Plus` utility.

3. Execute the script using the command `'@post_ddl_upgrade.sql'`.

2.7.4.2 Data Warehouse Schema Migration

1. Open the command prompt and navigate to the **<INSTALL_HOME>/dm/hdm_install/** folder.

2. Connect to the data warehouse schema through command prompt using the `SQL*Plus` utility.

3. Execute the script using the command `'@post_ddl_upgrade.sql'`.

2.8 Running the Installer on Pre-created Schemas

1. Extract the contents of the OHF media pack to your system.

2. Navigate to the **<media_pack_location>/** folder.

3. Unzip the **OHF_V71_Linux-x64.zip** file where you want to launch the installer using the following command:

   ```
   unzip -a OHF_V71_Linux-x64.zip
   ```

4. Create the following default tablespaces and provide an appropriate tablespace name. The table provides an example tablespace name.

Table 2–2   Default Tablespaces

Tablespace Details	Tablespace Name	BIG File Tablespace
Default tablespace used for Interface tables (hdi) schema	hdi_ts	Yes
Default tablespace used for Data Warehouse (hdm) schema	hdm_ts	Yes
Default tablespace used for Common Data Mart (hcd) schema	hcd_ts	Yes

Table 2–2   (Cont.) Default Tablespaces

Tablespace Details	Tablespace Name	BIG File Tablespace
Default tablespace for Omics Data Bank (odb) schema	odb_data_ts	Yes
Used for indexes of the Omics Data Bank (odb) schema	odb_index_ts	Yes
Used for LOB columns in the Omics Data Bank (odb) schema	odb_lob_ts	Yes
Default tablespace used for Cohort Data Mart (cdm) schema	cdm_data_ts	Yes
Used for indexes of the Cohort Data Mart (cdm) schema	cdm_index_ts	Yes
Default tablespace used for Enterprise (ent) schema	ent_ts	No
Default tablespace for Job Engine (job) schema	job_data_ts	No
Used for indexes of the Job Engine (job) schema	job_index_ts	No
Database File System (DBFS) store created as part of the Job Engine installation	job_store_ts	No
Name of the tablespace to store LOB data in the DBFS store created for the JOB ENGINE schema user	job_lob_ts	No
Name of the tablespace to be used for the DBFS store created for the JOB_ENGINE schema	job_tbs_ts	No
Default tablespace used for services (svc) schema	svc_ts	No

5. Create the following temporary tablespaces. The table provides an example tablespace name.

Table 2–3   Temporary Tablespaces

Tablespace Details	Tablespace Name	BIG File Tablespace
Temporary tablespace used for Interface tables (hdi) schema	hdi_temp	Yes
Temporary tablespace used for Data warehouse (hdm) schema	hdm_temp	Yes
Temporary tablespace used for Common data mart (hcd) schema	hcd_temp	Yes
Temporary tablespace used for Omics Data bank (odb) schema	odb_temp	Yes
Temporary tablespace used for Cohort data mart (cdm) schema	cdm_temp	Yes
Temporary tablespace used for Enterprise (ent) schema	ent_temp	No
Temporary tablespace used for Job Engine (job) schema	job_temp	No

Table 2–3   (Cont.) Temporary Tablespaces

Tablespace Details	Tablespace Name	BIG File Tablespace
Temporary tablespace used for Services (svc) schema	svc_temp	No

6. Navigate to the directory **<media_pack_ location>/Disk1/stage/Components/oracle.hsgbu.hc.datamodel/7.1.0.0.0/1/DataFiles/Expanded/filegroup1**.

7. Unzip the **master_install.zip** file.

8. Connect to Oracle SYS from the extracted content and create database roles by executing the `roles.sql` script.

9. Create the following user schemas with an appropriate default tablespace and temporary tablespace.

    ■ Interface layer schema (hdi)

    ■ Data warehouse schema (hdm)

    ■ Common data mart schema (hcd)

    ■ Omics data bank schema (odb)

    ■ Cohort data mart (cdm)

    ■ Enterprise schema (ent)

    ■ Job engine schema (job)

    ■ Services schema (svc)

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

    ■ `@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`

11. Make sure that all the pre-created user sessions are disconnected from the database.

12. Navigate to the **<media_pack_location>/Disk1/install** folder.

13. Change the protection on files as follows:

```
chmod 755 *
```

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

   - Database server is on the machine where the installer is running and is an exadata instance, execute:

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

   - Database server is on the machine where the installer is running and is a non-exadata instance, execute:

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

   - Database server is on a different machine and is an exadata instance, execute:

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

   - Database server is on a different machine and is a non-exadata instance, execute:

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

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

   The Welcome screen appears.

15. Click **Next**. The Select a Product to Install screen appears.

16. Select the **Oracle Healthcare Foundation Data Model 7.1.0.0.0** option and click **Next**.

   The Specify Home Details screen appears.

17. Enter the installation home name and location.

18. Click **Next**. The Verify Installation Prerequisites screen appears.

19. Verify if all the prerequisites are met before proceeding.

20. Click **Next**. The Oracle Client Home Configuration screen appears.

21. Specify the Oracle client home path. The installer validates this path.

22. Click **Next**. The Database Configuration screen appears.

23. Enter values for the following fields:

   - Hostname - By default, the system host name appears

   - Port - By default, the port number is 1521. You can edit this field if required.

   - Service name

> **Note:** The installer will not validate the database connectivity. Make sure that you are able to connect to the database from SQLPlus.

24. Click **Next**. The Table Compression screen is displayed.

25. Select the compression option for the following schemas from the corresponding drop-down list:

Schema Name	Compression Options for Non-Exadata	Compression Options for Exadata
Interface tables schema	No Compression (default) Advanced Compression	Hybrid columnar compression (default) No Compression
Data warehouse schema	No Compression (default) Advanced Compression	No Compression (default) Advanced Compression: Preferred if updates are high Hybrid columnar compression
Common data mart schema	No Compression (default) Advanced Compression	No Compression (default) Advanced Compression
Cohort data mart schema	No Compression (default) Advanced Compression	No Compression (default) Advanced Compression
Omics Data Bank schema	No Compression (default) Advanced Compression	Hybrid columnar compression (default)

26. Click **Next**. The Data Model Configuration screen appears.

27. Enter the respective pre-created schema details for the following:

- Interface tables schema name
- Interface tables schema password
- Data warehouse schema name
- Data warehouse schema password
- Common data mart schema name
- Common data mart schema password
- Omics data bank schema name
- Omics data bank schema password

28. Click **Next**. The Data Model Configuration screen appears.

29. Enter the pre-created schema details for the following:

- Cohort data mart schema name
- Cohort data mart password
- Enterprise schema name
- Enterprise schema password
- Job engine schema name
- Job engine schema password
- Services schema name

- Services schema password

30. Click **Next** in the Data Model Configuration Verification, Tablespace Details, and Temporary Tablespace Details screens.

   The Omics Data Bank and Cohort Data Mart Parameters screen appears.

31. Enter the values in the following fields:

   - Result Partition - Used to partition result tables in the ODB schema. The available options are:

     – GENE (Default)

     – STUDY

   - Promoter Offset - Numerical value to specify a portion of the gene used as a promoter in the ODB schema. The default value is 200.

   - 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.

   - 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.

   - Job Store Name

     Execute the following query to find all store names in the database (created by all previous installations) by connecting to SYS user:

     ```
     SELECT case when substr(store_name,1,3) ='FS_' then substr(store_
     name,4) else null end as store_name FROM TABLE(dbms_dbfs_
     content.liststores);
     ```

32. Click **Next**. The Tablespace Parameters screen appears.

33. Enter values for the following fields from the existing CDM, ODB, and Job engine schemas:

   > **Note:** Make sure that these tablespaces exist before the installation and which was used to create these schemas.

   - cdm_index_ts_name

   - odb_index_ts_name

   - odb_lob_ts_name

   - job_index_ts_name

   - job_lob_ts_name

   - job_tbs_ts_name

   - job_store_ts_name

34. Click **Next**. The Summary screen appears.

35. Click **Install**.

36. After the installation is complete, the End of Installation screen appears.

37. Click **Exit** after reviewing the installation information. At the confirmation prompt, click **Yes** to exit the installer.

38. Review the generated installation log files for errors. For details on troubleshooting, Section 2.10.

39. Contact Oracle support, if necessary, to resolve any errors.

2.9 Revoking 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.

2.10 Troubleshooting

If the installation fails, open the log file for errors. For the log file details, see Section 2.4.

You must fix the issues and rerun the installer from the installation home location.

2.10.1 Seed Data Troubleshooting

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

2.10.1.1 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 Section 2.10.1.2.

- **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 2–4   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

2.10.1.2 Seed Data Error Types

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

> **Note:**   In Table 2–5, non-EHA user refers to individuals using the application.

Table 2–5   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.	Search Code Repository for the record with the code name specified in the Error Description.
		
		`select * from HDM_CD_ REPOSITORY where CD_NM = '<CODE NAME SPECIFIED IN THE ERROR STATEMENT>';`
		
		For example,
		
		`SQL> select * from HDM_CD_ REPOSITORY where CD_NM = 'Patient Withdrew';`
			Search Code Repository for the record with the code name as specified in the Error Description.
			
			`select * from HDI_CD_ REPOSITORY where CD_NM = '<CODE NAME SPECIFIED IN THE ERROR STATEMENT>';`
			
			For example,
			
			`SQL> select * from HDI_CD_ REPOSITORY where CD_NM = 'Patient Withdrew';`

		Resolution After identifying the code name, select one of the following options: ■ Delete the conflicting seed data record inserted by the Oracle seed data procedure (identified by the EHA user) and use your own seed data. ■ Delete the data record that you have inserted which caused the code clash and instead use the Oracle seed data record.	**Resolution** After identifying the code name, select one of the following options: ■ Delete the conflicting seed data record inserted by the Oracle seed data procedure (identified by the EHA User) and use your own seed data. ■ Delete the data record that you have inserted which caused the code clash and instead use the Oracle seed data record.

Table 2–5   (Cont.) Seed Data Error Types

Error Type	Description	Resolution for HDM Identification	Resolution for HDI Identification
EHA_ERROR: Insert failed: Creation of version failed	Non-EHA user has versioned a record. Unable to create a new version of the record.	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.	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.
		`select * from <HDM_X_SEED_ DATA_ERR_LOG.ERR_TBL_NM> where INTEGRATION_ID = '<HDM_X_SEED_ DATA_ERR_LOG.ERR_INT_ID>' and CURRENT_FLG='Y';`	`select * from <HDI_X_SEED_ DATA_ERR_LOG.ERR_TBL_NM> t1 where INT_ID = <HDI_X_SEED_ DATA_ERR_LOG.ERR_INT_ID> and SRC_CHANGED_ON_DT = (select max(SRC_CHANGED_ON_ DT) from <HDI_X_SEED_DATA_ ERR_LOG.ERR_TBL_NM> t2 where t1.int_id = t2.int_ id);`
		For example,	For example,
		`SQL> select * from HDM_CD_ REPOSITORY where INTEGRATION_ ID ='SPCMN_TYP_CD_IVFEHA_ CUSTOM_CD_SYS1.0' and CURRENT_ FLG='Y';`	`SQL> 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) fromHDI_CD_REPOSITORY cr2 where cr1.int_id = cr2.int_ id);`
		Resolution	**Resolution**
		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.	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.

Table 2–5   (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.	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.
		
		`select * from <HDM_X_SEED_DATA_ERR_LOG.ERR_TBL_NM> where INTEGRATION_ ID=<HDM_X_SEED_DATA_ERR_LOG.ERR_INT_ID> and CURRENT_FLG='Y';`
		
		For example,
		
		`SQL> select *from HDM_CD_REPOSITORY where INTEGRATION_ ID ='SPCMN_TYP_CD_IVFEHA_CUSTOM_CD_SYS1.0' and CURRENT_FLG='Y';`
		
		Resolution
		
		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.
			This error will not occur in HDI as no updates are supported in HDI.

Table 2–5   (Cont.) Seed Data Error Types

Error Type	Description	Resolution for HDM Identification	Resolution for HDI Identification

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.	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.
		
		`select * from <HDM_X_SEED_DATA_ERR_LOG.ERR_TBL_NM> where INTEGRATION_ID = <HDM_X_SEED_DATA_ERR_LOG.ERR_INT_ID> and CURRENT_FLG='Y';`
		
		For example,
		
		`SQL> select * from HDM_CD_REPOSITORY where INTEGRATION_ID ='SPCMN_TYP_CD_IVFEHA_CUSTOM_CD_SYS1.0' and CURRENT_FLG='Y';`
			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.
			
			`select * from <HDI_X_SEED_DATA_ERR_LOG.ERR_TBL_NM> t1 where INT_ID=<HDI_X_ SEED_DATA_ERR_LOG.ERR_INT_ID> and SRC_CHANGED_ON_DT=(select max(SRC_CHANGED_ON_DT) from <HDI_X_SEED_DATA_ERR_LOG.ERR_TBL_NM> t2 where t1.int_id = t2.int_id);`
			
			For example,
			
			`SQL> 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);`

		Resolution After examining the conflicting data, select one of the following options: ■ To insert Oracle seed data, modify the integration ID of the conflicting record that you have inserted and run the seed data procedure again. ■ If the Oracle supplied seed data is not required, ignore the Oracle provided seed data.	**Resolution** After examining the conflicting data, you can select one of the following options: ■ To insert Oracle seed data, modify the integration ID of the conflicting record that you have inserted and run the seed data procedure again. ■ If the Oracle supplied seed data is not required, ignore the Oracle provided seed data.
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.

2.11 Uninstalling the Oracle Healthcare Foundation Data Model

> **Note:**   Oracle recommends that you uninstall Data Model only from the development environment.

1. 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;
```

2. Connect to Sys user, verify the following table records, and delete the entries for <job> schema and where STORE_OWNER=<job schema>.

For example,

```
delete from DBFS_SFS$_FS cascade;
delete from DBFS$_MOUNTS cascade;
delete from DBFS$_STORES cascade;
delete from DBFS_SFS$_VOL cascade;
delete from DBFS_SFS$_TAB cascade;
commit;
```

3

Oracle Healthcare Foundation Data Management Assembly for Oracle Data Integrator

This chapter describes the steps required to install the OHF Data Management Assembly for Oracle Data Integration (ODI). It contains the following sections:

3.1 Supported Upgrade Paths

The following are the supported upgrade paths:

- HDWF 6.1 with OHADI 3.1 installed to OHF 7.1

- OHF 7.0.1 to OHF 7.1

3.2 Prerequisite Checklist

The user should be familiar with Oracle Database (DB), ODI, and Linux OS.

☐ Install OHF Data Model (fresh or upgrade).

Follow the instructions in Chapter 2.

☐ ODI services can connect to the Data Model 7.1 database mentioned in the Oracle TNS file (that is, TNS entries of the required database must be available in the installation server tnsnames.ora file).

☐ Password expiry notification message does not display for the pre-created schemas, system user, or existing schemas (in case of upgrade).

☐ Installer is run on the system where ODI server is installed.

☐ Terminology loaders source file location exist. 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.

☐ Path of the data file (Configuration schema/Repository schema tablespace) mentioned while creating the tablespace is correct. Make sure that the database user should have write privileges.

☐ Enough space is available in the installation directory and Oracle Home directory.

☐ Sqlplus utility is available in the installation server and the impdp utility in the repository database server.

☐ Installation user should have read, write, and execute privileges to the $ODI_HOME/bin folder. The installer creates product specific files under this location.

☐ For remote installation (where the installation server and ODI Repository Database server are different machines, make sure that the:

- Remote database server directory is mounted to the installation server with an appropriate read and write privileges.

- Remote directories are accessible after mounting from the installation server.

- Linux user of the remote server, who executes the Oracle process, has the privilege of 755 to the directory (datapump).

- Oracle user have privilege for the mount path directory.

- If the repository DB exists on an Exadata machine, repository DB single node (the node which is being mounted) TNSENTRY, should be added to the tnsnames.ora file in the installation server. After installing, revert the TNSENTRY to the original entry.

☐ GLOBAL_NAMES database initialization parameter is set to false.

3.3 Guidelines

- 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 was entered for the previous execution.

- Back up the following csv files under $ODI_HOME/bin if it exist:

  - bus_susp_day.csv

  - daylght_svngs_day.csv

  - hosp_hol_day.csv

  - time_odi.csv

- If the Terminology Loaders source folder is a shared folder, make sure you take 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

> **Note:** If any file exists with the same name, installer will overwrite this file.

- Installer auto-populates some of the user parameters and lets you edit them.

3.4 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 3–1 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 **$ORACLE_BASE/oraInventory/logs**.
	For example, /u01/app/oraInventory/logs.
When the installer run 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 **<INSTALL_ HOME>/dma_odi_master_install/dmalogs/tmplogs/** 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.
The installer generates the following report:	

Table 3–1   (Cont.) Installation Log Files

File Name	Description
<INSTALL_ HOME>/reports/dma_odi_ install<time_stamp>.html	Contains the installation summary of the Data Management Assembly for ODI installation.

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 while reporting any problems to the Oracle support.

3.5 Installing the Oracle Healthcare Foundation Data Management Assembly

To install the Data Management Assembly:

1. Extract the contents of the OHF media pack to your system.

2. Navigate to the **<media_pack_location>/** folder.

3. Unzip the **OHF_V71_Linux-x64.zip** file where you want to launch the installer using the following command:

   ```
   unzip -a OHF_V71_Linux-x64.zip
   ```

4. Navigate to the **Disk1/install** folder.

5. Change the protection on files as follows:

   ```
   chmod 755 *
   ```

6. Start the Oracle Universal Installer by running the following command:

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

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

   - If the ODI repository schemas (master and work) to be created is on the database instance of other 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.

   The Welcome screen appears.

7. Click **Next**. The Select a Product to Install screen appears.

8. Select the **Oracle Healthcare Foundation Data Management Assembly for ODI 7.1.0.0.0** option and click **Next**.

   The Specify Home Details screen appears.

9. Enter the installation home path.

10. Click **Next**. The Verify Installation Prerequisites screen appears.

11. Verify if all the prerequisites are met before proceeding.

12. Click **Next**. The Select the Oracle Home Configuration screen appears.

13. Specify the Oracle client home location.

14. Click **Next**. The Select the ODI home location screen appears.

15. Specify the ODI home location.

> **Note:** ODI home should be one level above the **/bin** directory and should point to the **/agent** directory. For example, <path>/Oracle_ODI1/oracledi/agent/.

16. Click **Next**. The Select database server for ODI repository schemas screen appears.

17. Select one of the following options for the ODI repository schemas:

- If ODI repository database server exist on the installation server, select the **Installation database server** option, and go to **step 19**.

- Else, select the **Remote database server** option, and go to **step 18**.

18. (Applicable only for Remote installation) Click **Next**. The Specify mount path details screen appears.

Enter the following mounted directory configuration details in which remote server directory is being mounted:

- Mount path in repository database server

- Mount path in installation server

To obtain the available storage drives in the Linux machine, execute the df -h command. If the remote server directory is mounted on the installation server, the mounting is displayed as follows:

```
<Remote Server name>:<Remote server path>
        <total size>  <used up space>  <Available space>  <use%> <Path in
installation server where mounting was done>
```
For example,

```
abc:/scratch/dump
        191G 138G 44G 76% /installation server
```

> **Note:**
> - (datapump) directory of the remote database server should be mounted to the installation server with an appropriate read and write privileges for the IMPDB utility (folder with **dba** group).
> - Make sure that the remote directories are accessible after mounting from the installation server.
> - If the remote server mounted path is displayed as **/**, provide the absolute mounted path of the remote server.
> - The remote server Linux user that executes the Oracle process, must have minimum privilege of 755 to the directory.

19. Click **Next**. The Specify Healthcare Data Model database instance details screen appears.

20. Enter values for the following fields:

- Host name - By default, the system host name appears

- Port number
- Service name
- System user password
- Select this database instance for repository schema creation

    If you select **Yes**, the installer uses the same Data Model database instance for ODI repository schema creation. Go to **step 22**.

    If you select **No**, **step 21** is displayed.

21. Click **Next**. The Specify ODI repository database instance details screen appears.

    Enter values for the following fields:

    - Host name - By default, the system host name appears
    - Port
    - Service name
    - System user password

22. Click **Next**. The Specify ODI Supervisor password screen appears.

23. Specify the supervisor password used for the ODI console login.

24. Click **Next**. The Select Terminology loaders source location screen appears.

25. Specify the Terminology loaders source file location.

    > **Note:** This location is used to read the terminology loaders source data files. You can change this location when required.
    >
    > The installer creates an archive directory at the same level as that of the source directory. Make sure that the create directory privileges exist for the installation user.

26. Click **Next**. The Specify Healthcare Data Model schema details screen appears.

27. Enter values for the following fields:

    - Interface table schema name
    - Interface table schema password
    - Data warehouse schema name
    - Data warehouse schema password
    - Common data mart (hcd) schema name
    - Common data mart (hcd) schema password
    - Cohort data mart (cdm) schema name
    - Cohort data mart (cdm) schema password

28. Click **Next**. The Specify Healthcare Data Model schema details screen appears.

29. Enter values for the following fields:

    - Enterprise schema name
    - Enterprise schema password.

30. Click **Next**. The Specify Terminology loader details screen appears.

31. Enter values for the following fields:

- Master repository schema name

- Master repository schema password

- Work repository schema name

- Work repository schema password

> **Note:** If you provide existing master repository and work repository schema names, the installer overwrites the content with the new ones, and you will lose all existing objects.
>
> If you provide new schema names, the installer creates the master repository and work repository schemas, and imports loaders into it.

32. Click **Next**. The Specify Warehouse Integration loader details screen appears.

33. Enter values for the following fields:

- Configuration schema name

- Configuration schema password

- Master repository schema name

- Master repository schema password

- Work repository schema name

- Work repository schema password

> **Note:** If you provide existing master repository and work repository schema names, the installer overwrites the content with the new ones, and you will lose all existing objects.
>
> If you provide new schema names, the installer creates the master repository schema and work repository schema, and imports loaders into it.
>
> The installer creates the configuration schema if it does not exist. To upgrade, enter an existing hmc schema name.

34. Click **Next**. The Specify Healthcare common data mart loader details screen appears.

35. Enter values for the following fields:

- Configuration schema name

- Configuration schema password

- Master repository schema name

- Master repository schema password

- Work repository schema name

- Work repository schema password

> **Note:** If you provide existing master repository and work repository schema names, the installer overwrites the content with the new ones, and you will lose all existing objects.
>
> If you provide new schema names, the installer creates the master repository and work repository schemas, and imports loaders into it.
>
> The installer creates the configuration schema if it does not exist. To upgrade, enter an existing hmc schema name.

36. Click **Next**. The Specify Healthcare cohort data mart loader details screen appears.

37. Enter values for the following fields:

   - Master repository schema name
   - Master repository schema password
   - Work repository schema name
   - Work repository schema password

   > **Note:** If you provide existing master repository schema and work repository schema names, the installer overwrites the content with the new ones, and you will lose all existing objects.
   >
   > If you provide new schema names, the installer creates the master repository schema and work repository schema, and imports loaders into it.
   >
   > The configuration schema is not required for CDM.

38. Click **Next**. The Specify Tablespace details screen appears.

39. Enter values for the following fields:

   > **Note:** For upgrade, make sure that you enter the same tablespace names associated with the OHF 7.0.1 schemas.

   - Repository schema default tablespace name
   - Repository schema temporary tablespace name
   - Configuration schema default tablespace name
   - Configuration schema temporary tablespace name

   > **Note:** The installer creates these tablespaces if they do not exist.

40. Click **Next**. The Specify tablespace location for configuration schema screen appears.

41. Specify the tablespace location for configuration schema and go to **step 44**.

   > **Note:** The location should be present in the data model database server with write privileges.

42. Click **Next**. If you have selected **No** in the **Select this database instance for repository schema creation** field (**step 20**), this step is displayed.

   The Specify tablespace location for repository schema screen appears.

43. Specify the tablespace location for the ODI repository schema.

   > **Note:** The location should be present in the repository database server with write privileges.

44. Click **Next**. The Verify Configuration Parameters screens appear.

45. Click **Next**. The Summary screen appears.

46. Click **Install**.

47. After the installation is complete, the End of Installation screen appears.

48. Click **Exit** after reviewing the installation information. At the confirmation prompt, click **Yes** to exit the installer.

49. Review the generated installation log files for errors. For details on troubleshooting, see Section 3.10.

50. Contact Oracle support, if necessary, to resolve any errors.

3.6 Creating a New ODI Repository Login

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

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

2. Click **OK**. The Repository Connection Information screen is displayed.

3. 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 Section 3.5)
   - 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**.

4. Click **OK**. The login name is created with the name specified in step 3.

5. Navigate to **ODI > Connect > ODI Studio**.

6. Enter the following details:

   - Login Name - Select **WIL_REPOSITORY_LOGIN**
   - User - Supervisor

■ Password - Provide the ODI login password that was entered during installation (see Section 3.5).

Similarly, follow the above steps to create the login for Terminology loaders, common data mart loader, and cohort data mart loader.

3.7 Upgrading to Oracle Healthcare Foundation 7.1

For the list of supported upgrade paths, see Section 3.1.

1. If any previous ETLs are in the failed status, make sure that they are execute successfully before upgrading.

2. Make sure that the data models of OHADI, Application Toolkit, and CDM are upgraded to OHF 7.1.

3. Modify the default configuration schema names to the existing configuration schema (hmc) names of OHADI and Application Toolkit.

   The installer upgrades the configuration schemas to OHF 7.1.

4. Back up the existing hmc schemas.

5. Run the installer. Follow the instructions in Section 3.5.

6. Delete all E$_ tables under HCD schema.

3.8 Running the Installer on Pre-created Schemas

1. Create the following default and temporary tablespaces with an appropriate quota. The following table shows an example tablespace name:

Table 3–2   Default Tablespaces

Tablespace Details	Tablespace Name	BIG File Tablespace
Repository schema default tablespace name	odirep_ts	Yes
Repository schema temporary tablespace name	odirep_temp	Yes
Configuration schema default tablespace name	hmc_ts	Yes
Configuration schema temporary tablespace name	hmc_temp	Yes

2. Create the following database users and associate them with the tablespaces created above:

■ Terminology loader Master repository schema (tl_master_rep_71)

■ Terminology loader Work repository schema (tl_work_rep_71)

■ Warehouse Integration loader Configuration schema (wil_hmc)

■ Warehouse Integration loader Master repository schema (wil_master_rep_71)

■ Warehouse Integration loader Work repository schema (wil_work_rep_71)

■ Healthcare common data mart Configuration schema (hcd_hmc)

■ Healthcare common data mart Master repository schema (hcd_master_rep_71)

- Healthcare common data mart Work repository schema (hcd_work_rep_71)
- Healthcare cohort data mart Master repository schema (cdm_master_rep_71)
- Healthcare cohort data mart Work repository schema (cdm_work_rep_71)

Table 3–3   Schema Names and Associated Default and Temporary Tablespaces

Schema Name	Default Tablespace	Temporary Tablespace
wil_hmc	hmc_ts	hmc_temp
hcd_hmc	hmc_ts	hmc_temp
tl_master_rep_71	odirep_ts	odirep_temp
tl_work_rep_71	odirep_ts	odirep_temp
wil_master_rep_71	odirep_ts	odirep_temp
wil_work_rep_71	odirep_ts	odirep_temp
hcd_master_rep_71	odirep_ts	odirep_temp
hcd_work_rep_71	odirep_ts	odirep_temp
cdm_master_rep_71	odirep_ts	odirep_temp
cdm_work_rep_71	odirep_ts	odirep_temp

3. Extract the contents of the OHF media pack to your system.

4. Navigate to the **<media_pack_location>/** folder.

5. Unzip the **OHF_V71_Linux-x64.zip** file where you want to launch the installer using the following command:

```
unzip -a OHF_V71_Linux-x64.zip
```

6. Navigate to the **<media_pack_
   location>/Disk1/stage/Components/oracle.hsgbu.hc.dma.odi/7.1.0.0.0/1/DataFile
   s/Expanded/filegroup1** directory.

7. Unzip the **dma_odi_master_install.zip** file.

8. Navigate to the **dma_odi_master_install/hmc_odi_install/** directory.

9. 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>
     ```

10. Navigate to the **<media_pack_location>/Disk1/install** folder.

11. Change the protection on files as follows:

```
chmod 755 *
```

12. Start the Oracle Universal Installer by running the following command:

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

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

- If the ODI repository schemas (master and work) to be created is on the database instance of other 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.

The Welcome screen appears.

13. Click **Next**. The Select a Product to Install screen appears.

14. Select the **Oracle Healthcare Foundation Data Management Assembly for ODI 7.1.0.0.0** option and click **Next**.

The Specify Home Details screen appears.

15. Enter the installation home path.

16. Click **Next**. The Verify Installation Prerequisites screen appears.

17. Verify if all the prerequisites are met before proceeding.

18. Click **Next**. The Select the Oracle Home Configuration screen appears.

19. Specify the Oracle client home location.

20. Click **Next**. The Select the ODI home location screen appears.

21. Specify the ODI home location.

   > **Note:** ODI home should be one level above the **/bin** directory and should point to the **/agent** directory. For example, <path>/Oracle_ODI1/oracledi/agent/.

22. Click **Next**. The Select database server for ODI repository schemas screen appears.

23. Select one of the following options for the ODI repository schemas:

    - If ODI repository database server exist on the installation server, select the **Installation database server** option, and go to **step 25**.

    - Else, select the **Remote database server** option, and go to **step 24**.

24. (Applicable only for Remote installation) Click **Next**. The Specify mount path details screen appears.

    Enter the following mounted directory configuration details in which remote server directory is being mounted:

    - Mount path in repository database server

    - Mount path in installation server

    To obtain available storage drives in the Linux machine, execute the `df -h` command. If the remote server directory is mounted on the installation server, the mounting is displayed as follows:

    ```
    <Remote Server name>:<Remote server path>
            <total size>  <used up space>  <Available space>  <use%> <Path in
    installation server where mounting was done>
    ```
    For example,

    ```
    abc:/scratch/dump
            191G 138G 44G 76% /installation server
    ```

> **Note:**
>
> - (datapump) directory of the remote database server should be mounted to the installation server with an appropriate read and write privileges for the IMPDB utility (folder with **dba** group).
>
> - Make sure that the remote directories are accessible after mounting from the installation server.
>
> - If the remote server mounted path is displayed as **/**, provide the absolute mounted path of the remote server.
>
> - The remote server Linux user that executes the Oracle process, must have minimum privilege of 755 to the directory.

25. Click **Next**. The Specify Healthcare Data Model database instance details screen appears.

26. Enter values for the following fields:

- Host name - By default, the system host name appears

- Port number

- Service name

- Select this database instance for repository schema creation

  If you select **Yes**, the installer uses the same Data Model database instance for the ODI repository schema creation. Go to **step 28**.

  If you select **No**, **step 27** is displayed.

27. Click **Next**. The Specify ODI repository database instance details screen appears.

Enter values for the following fields:

- Host name - By default, the system host name appears

- Port

- Service name

28. Click **Next**. The Specify ODI Supervisor password screen appears.

29. Specify the supervisor password used for the ODI console login.

30. Click **Next**. The Select Terminology loaders source location screen appears.

31. Specify the Terminology loaders source file location.

> **Note:** This location is used to read the terminology loaders source data files. You can change this location when required.
>
> The installer creates an archive directory at the same level as that of the source directory. Make sure that the create directory privileges exist for the installation user.

32. Click **Next**. The Specify Healthcare Data Model schema details screen appears.

33. Enter values for the following fields:

- Interface table schema name

- Interface table schema password

- Data warehouse schema name

- Data warehouse schema password

- Common data mart (hcd) schema name

- Common data mart (hcd) schema password

- Cohort data mart (cdm) schema name

- Cohort data mart (cdm) schema password

34. Click **Next**. The Specify Healthcare Data Model schema details screen appears.

35. Enter values for the following fields:

- Enterprise schema name

- Enterprise schema password.

36. Click **Next**. The Specify Terminology loader details screen appears.

37. Enter values for the following fields:

- Master repository schema name

- Master repository schema password

- Work repository schema name

- Work repository schema password

Note: Installer imports loaders into pre-created terminology loaders repository schemas.

If you provide existing master repository and work repository schema names, the installer overwrites the content with the new ones, and you will lose all existing objects.

---

38. Click **Next**. The Specify Warehouse Integration loader details screen appears.

39. Enter the pre-created schema values for the following parameters:

- Configuration schema name

- Configuration schema password

- Master repository schema name

- Master repository schema password

- Work repository schema name

- Work repository schema password

Note: Enter the pre-created or existing (for upgrade) configuration schema details.

The installer imports loaders into the pre-created warehouse integration loaders repository schemas. If you provide existing master repository and work repository schema names, the installer overwrites the content with the new ones, and you will lose all existing objects.

---

40. Click **Next**. The Specify Healthcare common data mart loader details screen appears.

41. Enter the pre-created schema values for the following parameters:

- Configuration schema name

- Configuration schema password

- Master repository schema name

- Master repository schema password

- Work repository schema name

- Work repository schema password

Note: Enter the pre-created or existing (for upgrade) configuration schema details.

The installer imports loaders into the pre-created common data mart loaders repository schemas.

If you provide existing master repository and work repository schema names, the installer overwrites the content with the new ones, and you will lose all existing objects.

---

42. Click **Next**. The Specify Healthcare cohort data mart loader details screen appears.

43. Enter the pre-created schema values for the following parameters:

- Master repository schema name

- Master repository schema password

- Work repository schema name

- Work repository schema password

Note: The installer imports loaders into the pre-created cohort data mart loaders repository schemas.

If you provide existing master repository and work repository schema names, the installer overwrites the content with the new ones, and you will lose all existing objects.

The configuration schema is not required for CDM.

---

44. Click **Next**. The Specify Tablespace details screen appears.

45. Enter values for the following fields:

- Repository schema default tablespace name

- Repository schema temporary tablespace name

46. Click **Next**. The Verify Configuration Parameters screens appear.

47. Click **Next**. The Summary screen appears.

48. Click **Install**.

49. After the installation is complete, the End of Installation screen appears.

50. Click **Exit** after reviewing the installation information. At the confirmation prompt, click **Yes** to exit the installer.

51. Review the generated installation log files for errors. For details on troubleshooting, Section 3.10.

52. Contact Oracle support, if necessary, to resolve any errors.

3.9 Revoking Privileges

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

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

`@@<OHC_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,

`<OHC_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

3.10 Troubleshooting

For details on installation log files, see Section 3.4.

- 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_odi_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_odi_master_install/dmalogs/tmplogs
```

To perform a fresh installation with a new set of parameters, create a separate installer home directory and start the installer.

3.11 Uninstalling the Oracle Healthcare Foundation Data Management Assembly

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

- 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_71> cascade;
drop user <HCD_MASTER_REP_71> cascade;
drop user <WIL_WORK_REP_71> cascade;
drop user <TL_MASTER_REP_71> cascade;
drop user <CDM_WORK_REP_71> cascade;
drop user <TL_WORK_REP_71> cascade;
drop user <WIL_MASTER_REP_71> cascade;
drop user <CDM_MASTER_REP_71> cascade;
drop user <WIL_HMC71> cascade;
drop user <HCD_HMC71> cascade;
drop tablespace <hmc_temp71> INCLUDING CONTENTS and datafiles;
drop tablespace <odirep_temp71> INCLUDING CONTENTS and datafiles;
drop tablespace <odirep_ts71> INCLUDING CONTENTS and datafiles;
drop tablespace <hmc_ts71> INCLUDING CONTENTS and datafiles;
commit;
```

- Clean up the log files at **$ORACLE_BASE/oraInventory/logs**.

For example, /u01/app/oraInventory/logs.

4

Oracle Healthcare Foundation Data Management Assembly for Informatica

This chapter describes the steps required to install the OHF Data Management Assembly for Informatica. It contains the following sections:

4.1 Supported Upgrade Paths

The following are the supported upgrade paths:

- HDWF 6.1 with OHADI 3.1 installed to OHF 7.1

- OHF 7.0.1 to OHF 7.1

4.2 Prerequisite Checklist

The user should be familiar with the Oracle Database (DB), Informatica, and Linux OS.

☐   Install OHF Data Model (fresh or upgrade).

Follow the instructions in Chapter 2.

☐   Informatica domain is running and no user is connected to the Informatica Admin Console.

☐   Informatica services can connect to the Data Model 7.1 database mentioned in the Oracle TNS file (that is, 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>

☐ Password expiry notification message does not display for the pre-created schemas, system user, or existing schemas (in case of upgrade).

☐ Installer is run on the system where Informatica Server is installed.

☐ Terminology loaders source file location exist. 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.

☐ Path of the data file (configuration schema or repository schema tablespace) mentioned while creating the tablespace is correct. Make sure that the database user should have write privileges.

☐ Enough space is available in the installation directory and Oracle Home directory.

☐ Sqlplus utility is available in the installation server and the impdp utility in the repository database server.

☐ Installation user should have read, write, and execute privileges to the following folder:

$INFA_HOME/server

The installer creates product-specific folders and parameter files under this location.

☐ For remote installation (where the installation server and Informatica Repository Database are on different machines), make sure that the:

- Remote database server directory is mounted to the installation server with an appropriate read and write privileges.

- Remote directories are accessible after mounting from the installation server.

- Linux user of the remote server, who executes the Oracle process, has the privilege of 755 to the directory (datapump).

- Oracle user have privilege for the mount path directory.

- If the repository DB exists on an Exadata machine, repository DB single node (the node which is being mounted) TNSENTRY, should be added to the tnsnames.ora file in the installation server. After installing, revert the TNSENTRY to the original entry.

☐ GLOBAL_NAMES database initialization parameter is set to false.

4.3 Guidelines

- OUI installer does not fix any issues automatically. If the installation fails, you must verify and fix the issues.

- 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 you entered for the previous execution.

- Back up the following csv files under $INFROMATICA_HOME/server/infa_ shared/SrcFiles if it exists:

  - bus_susp_day.csv

  - daylght_svngs_day.csv

  - hosp_hol_day.csv

  - time_am.csv

- – time_pm.csv
- ■ If the Terminology Loaders source folder is a shared folder, make sure you take 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

> **Note:** If any file exists with the same name, installer will overwrite this file.

4.4 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 4–1   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 **$ORACLE_BASE/oraInventory/logs**.
	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 **<INSTALL_HOME>/ dma_infa_master_install /dmalogs/tmplogs/** 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 4–1   (Cont.) Installation Log Files

File Name	Description
<INSTALL_HOME>/dma_infa_ master_ install/dmalogs/tmplogs/<scrip t_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.

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 while reporting any problems to the Oracle support.

4.5 Installing the Oracle Healthcare Foundation Data Management Assembly

To install the Data Management Assembly:

1. Extract the contents of the OHF media pack to your system.

2. Navigate to the **<media_pack_location>/** folder.

3. Unzip the **OHF_V71_Linux-x64.zip** file where you want to launch the installer using the following command:

   ```
   unzip -a OHF_V71_Linux-x64.zip
   ```

4. Navigate to the **Disk1/install** folder.

5. Change the protection on files as follows:

   ```
   chmod 755 *
   ```

6. Start the Oracle Universal Installer by running the following command:

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

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

   - If the Informatica repository schemas to be created is on the database instance of other 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.

   The Welcome screen appears.

7. Click **Next**. The Select a Product to Install screen appears.

8. Select the **Oracle Healthcare Foundation Data Management Assembly for Informatica 7.1.0.0.0** option and click **Next**.

   The Specify Home Details screen appears.

9. Enter or select the path where you want to install.

10. Click **Next**. The Verify Installation Prerequisites screen appears.

11. Verify if all the prerequisites are met before proceeding.

12. Click **Next**. The Oracle Home Configuration screen appears.

13. Enter the Oracle client home location.

14. Click **Next**. The Select the Informatica home location screen appears.

15. Specify the Informatica home location.

> **Note:** Informatica home should be one level above the **/server** directory. For example, <path>/Informatica/961/.

16. Click **Next**. The Select database server for Informatica repository schemas screen appears.

17. Select one of the following options for the Informatica repository schemas:

   - If Informatica repository database server exist on the installation server, select the **Installation database server** option, and go to **step 19**.

   - For remote installation, select the **Remote database server** option, and go to **step 18**.

18. (Applicable only for Remote installation) Click **Next**. The Specify mount path details screen appears.

   Enter the following mounted directory configuration details in which remote server directory is being mounted:

   - Mount path in repository database server - Remote server path

   - Mount path in installation server - Path in the installation server where the mounting is performed

   To obtain available storage drives in the Linux machine, execute the `df -h` command. If the remote server directory is mounted on the installation server, the mounting is displayed as follows:

   ```
   <Remote Server name>:<Remote server path>
           <total size>  <used up space>  <Available space>  <use%> <Path in
   installation server where mounting was done>
   ```
   For example,

   ```
   abc:/scratch/dump
            191G 138G 44G 76% /installation server
   ```

   > **Note:**
   >
   > - (datapump) directory of the remote database server should be mounted to the installation server with an appropriate read and write privileges for the IMPDB utility (folder with **dba** group).
   >
   > - Make sure that the remote directories are accessible after mounting from the installation server.
   >
   > - If the remote server mounted path is displayed as **/**, provide the absolute mounted path of the remote server.
   >
   > - The remote server Linux user that executes the Oracle process, must have minimum privilege of 755 to the directory.

19. Click **Next**. The Specify Healthcare Data Model database instance details screen appears.

20. Enter values for the following fields:

    ■ Host name - By default, the system host name appears.

    ■ Port number

    ■ Service name

    ■ System user password

    ■ Select this database instance for repository schema creation

       If you select **Yes**, the installer uses the same Data Model database instance for Informatica repository schema creation. Go to **step 23**.

       If you select **No**, the Specify Informatica repository database instance details screen is displayed (**step 21**).

21. Click **Next**. The Specify Informatica repository database instance details screen appears.

22. Enter values for the following fields:

    ■ Host name - By default, the system host name appears

    ■ Port number

    ■ Service name

    ■ System user password

23. Click **Next**. The Select Terminology loaders source location screen appears.

24. Specify the Terminology loaders source file location.

    > **Note:** This location is used to read the terminology loaders source data files. You can change this location when required.
    >
    > The installer creates an archive directory at the same level as that of source directory. Make sure that the create directory privileges exist for the installation user.

25. Click **Next**. The Specify Healthcare Data Model schema details screen appears.

26. Enter values for the following fields:

    ■ Interface table schema name

    ■ Interface table schema password

    ■ Data warehouse schema name

    ■ Data warehouse schema password

    ■ Common data mart (hcd) schema name

    ■ Common data mart (hcd) schema password

    ■ Cohort data mart (cdm) schema name

    ■ Cohort data mart (cdm) schema password

27. Click **Next**. The Specify Healthcare Data Model schema details screen appears.

28. Enter values for the following fields:

- Enterprise schema name
- Enterprise schema password.

29. Click **Next**. The Specify Warehouse Integration loader details screen appears.

30. Enter values for the following fields:

- Configuration schema name
- Configuration schema password
- Repository name
- Repository schema name
- Repository schema password

Note: The installer creates a configuration schema if it does not exist. For upgrade, provide an existing HMC schema.

If you provide an existing repository name, the installer removes the repository and the corresponding integration service (Is_<Repository name>). It creates a repository service (<Repository name>) and integration service (Is_<Repository name>).

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.

---

31. Click **Next**. The Specify Healthcare common data mart loader details screen appears.

32. Enter values for the following fields:

- Configuration schema name
- Configuration schema password
- Repository name
- Repository schema name
- Repository schema password

Note: The installer creates a configuration schema if it does not exist. For upgrade, provide an existing HMC schema.

If you enter an existing repository name, the installer removes the repository and the corresponding integration service (Is_<Repository name>). The installer creates a repository service (<Repository name>) and integration service (Is_<Repository name>).

Installer creates a repository schema if it does not exist in the database. If you enter an existing repository schema, installer overwrites the content with the new one, and you will lose the existing objects.

---

33. Click **Next**. The Specify Healthcare cohort data mart loader details screen appears.

34. Enter value for the following parameter.

> **Note:** If you are upgrading the Informatica repository schemas from Enterprise Healthcare Analytics (EHA) 6.1 and OHF 7.0.1 to OHF 7.1, the repository name, tablespace, and temp space name should be the same as in the previous version.

- Repository name
- Repository schema name
- Repository schema password

> **Note:** If you enter an existing repository name, the installer removes the repository and the corresponding integration service (Is_<Repository name>). It creates a repository service (<Repository name>) and integration service (Is_<Repository name>).
>
> 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.
>
> The configuration schema is not required for CDM.

35. Click **Next**. The Specify Tablespace details screen appears.

36. Enter value for the following parameter:

> **Note:** For upgrade, make sure that you enter the same tablespace names associated with the OHF 7.0.1 schemas.

- Repository schema default tablespace name
- Repository schema temporary tablespace name
- Configuration schema default tablespace name
- Configuration schema temporary tablespace name

> **Note:** The installer creates these tablespaces if they do not exist in the database.

37. Click **Next**. The Specify tablespace location for configuration schema screen appears.

38. Specify the configuration schema tablespace location.

39. Click **Next**. If you have selected **No** in the **Select this database instance for repository schema creation** field (step 20), this step is displayed.

The Specify tablespace location for repository schema screen appears. Specify the repository schema tablespace location.

40. Click **Next**. The Specify Informatica Domain Details screen appears. Specify the following.

- Domain name
- Domain code page ID

- Node name

- License name

- Informatica host name

- Informatica port number

- Informatica administrator user name

- Informatica administrator password

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 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:

Table 4–2   Sample Code Pages and their IDs

Name	Description	ID
US-ASCII	7-bit ASCII	1
Latin1	ISO 8859-1 Western European	4
JapanEUC	Japanese Extended Unix Code (including JIS X 0212)	18
UTF-8	Unicode Transformation Format, multibyte	106
MS932	MS Windows Japanese, Shift-JIS	2024
MS1252	MS Windows Latin1 (ANSI), superset of Latin1	2252

41. Click **Next** in the Verify Configuration Parameters and Summary screens.

42. Click **Install**.

43. After the installation is complete, the End of Installation screen appears.

44. Click **Exit** after reviewing the installation information. At the confirmation prompt, click **Yes** to exit the installer.

45. Review the generated installation log files for errors. For details on troubleshooting, Section 4.9.

46. Contact Oracle support, if necessary, to resolve any errors.

4.6 Upgrading to Oracle Healthcare Foundation 7.1

For the list of supported upgrade paths, see Section 4.1.

1. If any previous ETLs are in the failed status, make sure that they are execute successfully before upgrading.

2. Make sure that the data models of OHADI, Application Toolkit, and CDM are upgraded to OHF 7.1.

3. The OUI displays default configuration schema (hmc) names. You must change these schema names to that of the existing hmc schema names.

The installer upgrades the configuration schemas to OHF 7.1.

4. Back up the existing hmc schemas.

5. Run the installer. Follow the instructions in Section 4.5.

4.7 Running the Installer on Pre-created Schemas

1. Create the following default and temporary tablespaces with an appropriate quota. The following table shows an example tablespace name:

Table 4–3   Default Tablespaces

Tablespace Details	Tablespace Name	BIG File Tablespace
Repository schema default tablespace name	infarep_ts	Yes
Repository schema temporary tablespace name	infarep_temp	Yes
Configuration schema default tablespace name	hmc_ts	Yes
Configuration schema temporary tablespace name	hmc_temp	Yes

2. Create the following database users and associate them with the tablespaces created above:

- Warehouse Integration loader Configuration schema (wil_hmc)

- Warehouse Integration loader Repository schema (wil_rep_71)

- Healthcare common data mart Configuration schema (hcd_hmc)

- Healthcare common data mart Repository schema (hcd_rep_71)

- Healthcare cohort data mart Repository schema (cdm_rep_71)

Table 4–4   Schema Names and Associated Default and Temporary Tablespaces

Schema Name	Default Tablespace	Temporary Tablespace
wil_hmc	hmc_ts	hmc_temp
hcd_hmc	hmc_ts	hmc_temp
wil_rep_71	infarep_ts	infarep_temp
hcd_rep_71	infarep_ts	infarep_temp
cdm_rep_71	infarep_ts	infarep_temp

3. Extract the contents of the OHF media pack to your system.

4. Navigate to the **<media_pack_location>/** folder.

5. Unzip the **OHF_V71_Linux-x64.zip** file where you want to launch the installer using the following command:

```
unzip -a OHF_V71_Linux-x64.zip
```

6. Navigate to the directory **<media_pack_ location>/Disk1/stage/Components/oracle.hsgbu.hc.dma.infa/7.1.0.0.0/1/DataFile s/ Expanded/filegroup1**.

7. Unzip the **dma_infa_master_install.zip** file.

8. Navigate to the **dma_infa_master_install/hmc_infa_install** directory.

9. 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>

10. Navigate to the **<media_pack_location>/Disk1/install** folder.

11. Change the protection on files as follows:

    chmod 755 *

12. Start the Oracle Universal Installer by running the following command:

    - If the Informatica repository schemas to be created 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 is on the database instance
      of other 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.

    The Welcome screen appears.

13. Click **Next**. The Select a Product to Install screen appears.

14. Select the **Oracle Healthcare Foundation Data Management Assembly for
    Informatica 7.1.0.0.0** option and click **Next**.

    The Specify Home Details screen appears.

15. Enter or select the path where you want to install.

16. Click **Next**. The Verify Installation Prerequisites screen appears.

17. Verify if all the prerequisites are met before proceeding.

18. Click **Next**. The Oracle Home Configuration screen appears.

19. Enter the Oracle client home location.

20. Click **Next**. The Select the Informatica home location screen appears.

21. Specify the Informatica home location.

    > **Note:** Informatica home should be one level above the **/server**
    > directory. For example, <path>/Informatica/961/.

22. Click **Next**. The Select database server for Informatica repository schemas screen
    appears.

23. Select one of the following options for Informatica repository schemas:

- ■ If the Informatica repository database server exist on the installation server, select the **Installation database server** option, and go to **step 25**.

- ■ Else, select the **Remote database server** option, and go to **step 24**.

24. (Applicable only for Remote installation) Click **Next**. The Specify mount path details screen appears.

    Enter the following mounted directory configuration details in which remote server directory is being mounted:

    - ■ Mount path in repository database server - Remote server path

    - ■ Mount path in installation server - Path in the installation server where the mounting is performed

    To obtain the available storage drives in the Linux machine, execute the df -h command. If the remote server directory is mounted on the installation server, the mounting is displayed as follows:

    ```
    <Remote Server name>:<Remote server path>
            <total size>  <used up space>  <Available space>  <use%> <Path in
    installation server where mounting was done>
    ```
    For example,

    ```
    abc:/scratch/dump
            191G 138G 44G 76% /installation server
    ```

    Note:

    - ■ (datapump) directory of the remote database server should be mounted to the installation server with an appropriate read and write privileges for the IMPDB utility (folder with **dba** group).

    - ■ Make sure that the remote directories are accessible after mounting from the installation server.

    - ■ If the remote server mounted path is displayed as **/**, provide the absolute mounted path of the remote server.

    - ■ The remote server Linux user that executes the Oracle process, must have minimum privilege of 755 to the directory.
    ---

25. Click **Next**. The Specify Healthcare Data Model database instance details screen appears.

26. Enter values for the following fields:

    - ■ Host name - By default, the system host name appears

    - ■ Port number

    - ■ Service name

    - ■ Select this database instance for repository schema creation

      If you select **Yes**, the installer uses the same Data Model database instance for Informatica repository schema creation. Go to **step 29**.

      If you select **No**, the Specify Informatica repository database instance details screen is displayed (**step 27**).

27. Click **Next**. The Specify Informatica repository database instance details screen appears.

28. Enter values for the following fields:

    - Host name - By default, the system host name appears

    - Port number

    - Service name

29. Click **Next**. The Select Terminology loaders source location screen appears.

30. Specify the Terminology loaders source file location.

    > **Note:** This location is used to read the terminology loaders source data files. You can change this location when required.
    >
    > The installer creates an archive directory at the same level as that of the source directory. Make sure that the create directory privileges exist for installation user.

31. Click **Next**. The Specify Healthcare Data Model schema details screen appears.

32. Enter values for the following fields:

    - Interface table schema name

    - Interface table schema password

    - Data warehouse schema name

    - Data warehouse schema password

    - Common data mart (hcd) schema name

    - Common data mart (hcd) schema password

    - Cohort data mart (cdm) schema name

    - Cohort data mart (cdm) schema password

33. Click **Next**. The Specify Healthcare Data Model schema details screen appears.

34. Enter values for the following fields:

    - Enterprise schema name

    - Enterprise schema password.

35. Click **Next**. The Specify Warehouse Integration loader details screen appears.

36. Enter the pre-created schema details for the following parameters:

    - Configuration schema name

    - Configuration schema password

    - Repository name

    - Repository schema name

    - Repository schema password

> **Note:** Provide an existing (for upgrade) or pre-created hmc schema details.
>
> If you enter an existing repository name, the installer removes the repository and the corresponding integration service (Is_<Repository name>). It creates a repository service (<Repository name>) and integration service (Is_<Repository name>).
>
> If you enter an existing repository schema name, the installer overwrites the content with the new one, and you will lose the existing objects.

37. Click **Next**. The Specify Healthcare common data mart loader details screen appears.

38. Enter the pre-created schema details for the following parameters:

- Configuration schema name
- Configuration schema password
- Repository name
- Repository schema name
- Repository schema password

> **Note:** : Provide a pre-created or an existing (for upgrade) hmc schema details.
>
> If you enter an existing repository name, the installer removes the repository and the corresponding integration service (Is_<Repository name>). The installer creates a repository service (<Repository name>) and integration service (Is_<Repository name>).
>
> If you create an existing repository schema name, the installer overwrites the content with the new one, and you will lose the existing objects.

39. Click **Next**. The Specify Healthcare cohort data mart loader details screen appears.

40. Enter the pre-created schema details for the following parameters:

- Repository name
- Repository schema name
- Repository schema password

> **Note:** 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_<Repository name>). The installer creates a repository service (<Repository name>) and integration service (Is_<Repository name>).
>
> If you enter an existing repository schema, the installer overwrites the content with the new one, and you will lose the existing objects.

41. Click **Next**. The Specify Tablespace details screen appears.

42. Enter the pre-created schema details for the following parameters:

- Repository schema default tablespace name

- Repository schema temporary tablespace name

43. Click **Next**. The Specify Informatica Domain Details.

- Domain name

- Domain code page ID

- Node name

- License name

- Informatica host name

- Informatica port number

- Informatica administrator user name

- Informatica administrator password

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 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:

Table 4–5   Sample Code Pages and their IDs

Name	Description	ID
US-ASCII	7-bit ASCII	1
Latin1	ISO 8859-1 Western European	4
JapanEUC	Japanese Extended Unix Code (including JIS X 0212)	18
UTF-8	Unicode Transformation Format, multibyte	106
MS932	MS Windows Japanese, Shift-JIS	2024
MS1252	MS Windows Latin1 (ANSI), superset of Latin1	2252

44. Click **Next**. The Verify Configuration Parameters screens appear.

45. Click **Next**. The Summary screen appears.

46. Click **Install**.

47. After the installation is complete, the End of Installation screen appears.

48. Click **Exit** after reviewing the installation information. At the confirmation prompt, click **Yes** to exit the installer.

49. Review the generated installation log files for errors. For details on troubleshooting, Section 4.9.

50. Contact Oracle support, if necessary, to resolve any errors.

4.8 Revoking Privileges

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

```
@<OHC_Install_Home>/dma_infa_master_install/hmc_infa_install/dma_
directory_drop.sql
```

```
@<OHC_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,

`<OHC_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

4.9 Troubleshooting

For details on installation log files, see Section 4.4.

- 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`

To perform a fresh installation with a new set of parameters, create a separate installer home directory and start the installer.

4.10 Uninstalling the Oracle Healthcare Foundation Data Management Assembly

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

- 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.

5

Oracle Healthcare Foundation Middle-Tier

OHF Middle-Tier installs the following Web applications:

- Administration Console
- Data Pipeline Services

You can install these on the following nodes:

- **Installing on Primary Node:**

  Installer must be run in primary node configuration first to create a new WebLogic domain named **oh_domain** with a cluster named **oh_cluster**. All managed servers that installer created will be part of this cluster. Installer deploys and configures all Healthcare products and services, such as Omics Data loader service and File Upload service.

- **Installing on Secondary Node:**

  Once the primary node installation is successful, you can run the installer in the secondary node configuration on multiple different machines other than primary node machine to scale the cluster **oh_cluster**. However, this node is optional and is required only if you want to create a WebLogic domain spread across multiple machines. Installer can be run in this node at any time to add more machines to WebLogic domain.

This chapter contains the following sections:

- Section 5.1, "Supported Upgrade"
- Section 5.2, "Prerequisite Checklist"
- Section 5.3, "Installation Log Files"
- Section 5.4, "Installing the Oracle Healthcare Foundation Middle-Tier on Primary Node"
- Section 5.5, "Installing the Oracle Healthcare Foundation Middle-Tier on Secondary Node"
- Section 5.6, "Upgrading the Oracle Healthcare Foundation on the Middle-Tier on the Primary Node"
- Section 5.7, "Troubleshooting"
- Section 5.8, "Uninstalling the Oracle Healthcare Foundation Middle-Tier"

5.1 Supported Upgrade

The following are the supported upgrade path:

■ OHF 7.0.1 to OHF 7.1

5.2 Prerequisite Checklist

☐ WebLogic domain with name "oh_domain" should not exist for fresh installation. The installer must be on the machine where WebLogic is installed for both primary and secondary node configuration.

☐ All OHF Data Model schemas exist.

☐ Oracle external table DIRECTORY object is created for Omics Data Bank.

5.3 Installation Log Files

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

Table 5–1   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 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 log file.
	On a Linux machine, the log files are located at **$ORACLE_BASE/oraInventory/logs**. For example, /u01/app/oraInventory/logs.
	The installation summary with all parameters provided for the installer will be available at:
	<INSTALL_HOME>/reports/dps_install_ <timestamp>.html

While reporting any problems that occur during Middle-Tier installation, make sure that you include all the above log files

5.4 Installing the Oracle Healthcare Foundation Middle-Tier on Primary Node

To install the Middle-Tier on the primary node:

1. Extract the contents of the OHF media pack to your system.

2. Navigate to the **<media_pack_location>/** folder.

3. Unzip the **OHF_V71_Linux-x64.zip** file where you want to launch the installer using the following command:

   ```
   unzip -a OHF_V71_Linux-x64.zip
   ```

4. Navigate to the **Disk1/install** folder.

5. Change the protection on files as follows:

   ```
   chmod 755 *
   ```

6. Start the Oracle Universal Installer (OUI) by running the following command. WebLogic should be installed on the same machine where installer is running.

   ```
   ./runInstaller -local
   ```

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

   The Welcome screen appears.

7. Click **Next**. Select a Product to Install screen appears.

8. Select the **Oracle Healthcare Foundation Middle-Tier 7.1.0.0.0** option and click **Next**.

   The Specify Home Details screen appears.

9. Enter the Middle-Tier install home name and location and click **Next**.

   The Choose Install Type screen appears.

10. Select **Yes** to perform a fresh install and click **Next**.

    The Verify Install Prerequisites screen appears.

11. Verify if all the prerequisites are met before proceeding and click **Next**.

    The Java Home screen appears.

12. Specify the JDK installation path. The installer validates this path.

    Click **Next**. The Fusion Middleware Home screen appears.

13. Specify the WebLogic with ADF installation path. The installer validates this path.

    Click **Next**. The Cluster Configuration screen appears.

14. Select **Yes** to create a domain and make the machine as primary node where the WebLogic AdminServer is located.

    Click **Next**. The AdminServer Configuration screen appears.

15. Enter values for the following fields:

    - Listen Address
    - Listen Port
    - SSL Listen Port
    - User name - WebLogic administrator user
    - Password - WebLogic administrator password
    - Verify password

16. Click **Next**. The NodeManager Configuration screen appears.

17. Enter values for the following fields:

    - Listen Address
    - Listen Port
    - User name - Node manager administrator user
    - Password - Node manager administrator password
    - Verify password

18. Click **Next**. The Managed Server Configuration screen appears.

19. Enter values for the following fields:

■ Number of Managed Servers on this machine

■ Managed Servers listen port start index - This is used to increment port number. For example, if 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.

20. Click **Next**. The FMW Repository creation utility (RCU) Configuration screen appears.

Fusion Middleware (FMW) RCU requires Oracle Database user with DBA or SYSDBA. Using the installer, you can create new RCU repositories or use pre-created repositories using the WebLogic RCU utility.

Note: For Exadata or ASM group, create the RCU schema outside the installer. While creating the RCU, select all MDS, IAU, IAU_APPEND, IAU_VIEWER, OPSS, UMS, WLS, UCSCC, and STB schemas.

For more details on RCU creation, see https://docs.oracle.com/middleware/1213/core/RCUUG/overview.htm#RCUUG101.

■ Database host

■ Database port

■ Service name

■ Schema prefix

■ DBA user name - This field is optional if the RCU repositories are pre-created using the RCU utility

■ DBA password - This field is optional if the RCU repositories are pre-created using the RCU utility

■ Schemas common password

21. Click **Next**. The Oracle Healthcare Foundation Data Model Configuration - part 1 screen appears.

22. Enter values for the following fields:

■ Database host name

■ Database port

■ Service name

23. Click **Next**. The Oracle Healthcare Foundation Data Model Configuration - part 2 screen appears.

24. Enter values for the following fields:

■ Omics Data Bank schema name

■ Omics Data Bank schema password

■ Services schema name

■ Services schema password

■ HDM schema name

- HDM schema password

- Enterprise schema name

- Enterprise schema password

25. Click **Next**. The Service Configuration screen appears.

- Select **Yes** to provide service configuration and go to step 26.

- Select **No** to provide service configuration post installation and go to step 31.

26. Click **Next**. The File Upload Service Configuration screen appears.

27. Enter values for the following fields:

- File retention period in days

- File storage location

- Max file size in bytes

- Max zip extract size in bytes

- Simultaneous upload limit

28. Click **Next**. The Omics Loader Service Configuration screen appears.

29. Enter values for the following fields:

- Oracle data directory object

- Ensembl and SwissProt directory

30. Click **Next**. The Summary screen appears.

31. Click **Install**.

32. After the installation is complete, the End of Installation screen appears.

33. Click **Exit** after reviewing the installation information. At the confirmation prompt, click **Yes** to exit the installer.

34. See the log file located in **ORACLE_BASE/oraInventory/logs**.

35. Review the generated installation log files for errors. For details, Section 5.7.

36. Contact Oracle support, if necessary, to resolve any errors.

5.5 Installing the Oracle Healthcare Foundation Middle-Tier on Secondary Node

To install the Middle-Tier on the secondary node:

1. Extract the contents of the OHF media pack to your system.

2. Navigate to the **<media_pack_location>/** folder.

3. Unzip the **OHF_V71_Linux-x64.zip** file where you want to launch the installer using the following command:

```
unzip -a OHF_V71_Linux-x64.zip
```

4. Navigate to the **Disk1/install** folder.

5. Change the protection on files as follows:

```
chmod 755 *
```

6. Start the Oracle Universal Installer (OUI) by running the following command. WebLogic should be installed on the same machine where installer is running.

   `./runInstaller -local`

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

   The Welcome screen appears.

7. Click **Next**. Select a Product to Install screen appears.

8. Select the **Oracle Healthcare Foundation Middle-Tier 7.1.0.0.0** option and click **Next**.

   The Specify Home Details screen appears.

9. Enter the Middle-Tier install home name and location and click **Next**.

   The Choose Install Type screen appears.

10. Select **Yes** to perform a fresh installation and click **Next**.

    The Verify Install Prerequisites screen appears.

11. Verify if all the prerequisites are met before proceeding and click **Next**.

    The Java Home screen appears.

12. Specify the JDK installation path. The installer validates this path.

    Click **Next**. The Fusion Middleware Home screen appears.

13. Specify WebLogic with ADF installation path. The installer validates this path.

    Click **Next**. The Cluster Configuration screen appears.

14. Select **No** to migrate an existing domain created by running this installer on primary node to scale the cluster and add more machines to domain.

15. Click **Next**. The AdminServer Configuration screen appears.

16. Enter values for the following fields:

    - Listen address - Running AdminServer listen address provided as part of primary node installation
    - Listen port - Running AdminServer listen port provided as part of primary node installation
    - SSL listen port - Running AdminServer SSL listen port provided as part of primary node installation
    - User name
    - Password

17. Click **Next**. The NodeManager Configuration screen appears.

18. Enter values for the following fields:

    - Listen address
    - Listen port
    - User name
    - Password
    - Verify password

19. Click **Next**. The Managed Server Configuration screen appears.

20. Enter values for the following fields:

- Number of Managed Servers on this Machine

- Managed Servers listen port start index- This is used to increment the port number. For example, if 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.

21. Click **Next**. The Summary screen appears.

22. Click **Install**.

23. After the installation is complete, the End of Installation screen appears.

24. Click **Exit** after reviewing the installation information. At the confirmation prompt, click **Yes** to exit the installer.

25. See the log file located in **ORACLE_BASE/oraInventory/logs**.

26. Review the generated installation log files for errors. For details, Section 5.7.

27. Contact Oracle support, if necessary, to resolve any errors.

5.6 Upgrading the Oracle Healthcare Foundation on the Middle-Tier on the Primary Node

For the list of supported upgrade path, see Section 5.1.

Before upgrading OHF 7.0.1 to 7.1, make sure that the WebLogic JDK version is 1.8 u91 or above. If not:

1. Stop all servers and node manager on primary and secondary nodes.

2. Take a backup of WebLogic installation.

3. Upgrade the existing OHF 7.0.1 WebLogic version to JDK 1.8 u91 or above using the following instructions:

a. Point ORACLE_HOME to the WebLogic install directory and DOMAIN_HOME to the domain directory.

b. Update JDK references in below files:

ORACLE_HOME/install/envVars.properties

ORACLE_HOME/oracle_common/common/bin/commEnv.sh

ORACLE_HOME/oracle_common/common/bin/setHomeDirs.sh

ORACLE_HOME/oui/bin/compareInventory.sh

ORACLE_HOME/oui/bin/install.sh

ORACLE_HOME/oui/bin/viewInventory.sh

ORACLE_HOME/wlserver/.product.properties

DOMAIN_HOME/bin/setDomainEnv.sh

DOMAIN_HOME/nodemanager/nodemanager.properties

4. Restart all servers and node manager on primary and secondary nodes.

To upgrade OHF on the Middle-Tier on the primary node:

1. Extract the contents of the OHF media pack to your system.

2. Navigate to the **<media_pack_location>/** folder.

3. Unzip the **OHF_V71_Linux-x64.zip** file where you want to launch the installer using the following command:

    `unzip -a OHF_V71_Linux-x64.zip`

4. Navigate to the **Disk1/install** folder.

5. Change the protection on files as follows:

    `chmod 755 *`

6. Start the Oracle Universal Installer (OUI) by running the following command. WebLogic should be installed on the same machine where installer is running.

    `./runInstaller -local`

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

    The Welcome screen appears.

7. Click **Next**. Select a Product to Install screen appears.

8. Select the **Oracle Healthcare Foundation Middle-Tier 7.1.0.0.0** option and click **Next**.

    The Specify Home Details screen appears.

9. Enter the Middle-Tier install home name and location and click **Next**.

    The Choose Install Type screen appears.

10. Select **No** to upgrade your existing installation and click **Next**.

    The Verify Upgrade Prerequisites screen appears.

11. Verify if all the prerequisites are met before proceeding and click **Next**.

    The Fusion Middleware Home screen appears.

12. Specify the Fusion Middleware path. The installer validates this path.

    Click **Next**. The AdminServer Configuration screen appears.

13. Enter values for the following fields:

    - Listen Address
    - Listen Port
    - SSL Listen Port
    - User name - WebLogic administrator user
    - Password - WebLogic administrator password

14. Click **Next**. The Node Manager Configuration screen appears.

15. Enter values for the following fields:

    - Listen Address
    - Listen Port
    - User name - Node manager administrator user
    - Password - Node manager administrator password

16. Click **Next**. The Oracle Healthcare Foundation Data Model Configuration - part 1 screen appears.

17. Enter values for the following fields:

    - Database Host name

    - Database Port

    - Service Name

18. Click **Next**. The Oracle Healthcare Foundation Data Model Configuration - part 2 screen appears.

19. Enter values for the following fields:

    - HDM schema name

    - HDM schema password

    - Enterprise schema name

    - Enterprise schema password

20. Click **Next**. The Summary screen appears.

21. Click **Install**.

22. After the installation is complete, the End of Installation screen appears.

23. Click **Exit** after reviewing the installation information. At the confirmation prompt, click **Yes** to exit the installer.

24. See the log file located in **ORACLE_BASE/oraInventory/logs**.

25. Review the generated installation log files for errors. For details, Section 5.7.

26. Contact Oracle support, if necessary, to resolve any errors.

5.7 Troubleshooting

Primary Node

- If the installer fails due to the time taken by the node manager process to start, check the machine network configuration to make sure other processes are listening on same port, and user running the installer has the required file system permissions.

- If AdminServer fails to start due to node manager process being not available, verify if the node manager process is still running.

- If wrong database configuration is provided, modify it from the WebLogic Admin console.

Secondary Node

- If the installer fails to connect to AdminServer, verify if the AdminServer is running on primary node by accessing the WebLogic Admin console from Secondary node.

- If the installer fails due to wrong FMW path, make sure WebLogic is installed in the same file system location as the primary node.

5.8 Uninstalling the Oracle Healthcare Foundation Middle-Tier

If the installer fails:

- De-install the domain oh_domain.

- Make sure all secondary node machines are uninstalled first before uninstalling the primary node.

- Make sure that no processes related to ports and oh_domain of the previous installation are running.

6

Oracle Healthcare Foundation Omics Data Bank Loaders

This chapter contains the following topics:

- Section 6.1, "Prerequisites"
- Section 6.2, "Installing the Oracle Healthcare Foundation Omics Data Bank Loaders"

6.1 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.

6.2 Installing the Oracle Healthcare Foundation Omics Data Bank Loaders

Copy the ODB Loaders folder or ODB_Loaders.zip file from **<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>
```

7

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 7.1, "Installation Overview"
- Section 7.2, "Prerequisites"
- Section 7.3, "Installing the Oracle Healthcare Foundation Self-Service Analytics"

7.1 Installation Overview

OHF Self-Service Analytics is available in the **OHF_V71_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

        obieeIds.csv

        ohf_ssa_hcd.rpd

    /software

        ohf_ssa_tool.zip

7.2 Prerequisites

OHF Data Model must be installed. For other prerequisites, see Section 1.1.

7.3 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 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 12.2.1.0.0* 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*.