Oracle® Communications Data Model

Installation Guide

Release 12.1.2

E84552-01

April 2017

ORACLE®

Oracle Communications Data Model Installation Guide, Release 12.1.2

E84552-01

Contents

A License Information

Index

List of Tables

Preface

The *Oracle Communications Data Model Installation Guide* describes how to install and configure Oracle Communications Data Model.

Audience

This guide is intended for anyone responsible for installing Oracle Communications Data Model on a supported operating system platform.

Installation of Oracle Communications Data Model requires basic knowledge of Oracle Database, Oracle OLAP, Oracle Data Mining, and Oracle Business Intelligence Suite Extended Edition.

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.

Related Documents

For more information about Oracle Communications Data Model see the following documents in the Oracle Communications Data Model documentation set:

- *Oracle Communications Data Model Implementation and Operations Guide*

- *Oracle Communications Data Model Reference*

- *Oracle Communications Data Model Release Notes*

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
`monospace`	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

1

Introduction to Oracle Communications Data Model Installation

Describes how to install Oracle Communications Data Model and other components you use to create an Oracle Communications Data Model data warehouse.

Using the Oracle Universal Installer you can perform different types of Oracle Communications Data Model installation.

> Types of Installations Provided for Oracle Communications Data Model (page 1-1)
>> Specifies the types of installation you can perform with the Oracle Communications Data Model installer.

> Oracle Communications Data Model Home Directory Structure (page 1-2)
>> The installation image contains directories that are installed under the path ORACLE_HOME/ocdm.

> Installation Checklist (page 1-3)
>> Provides a checklist of the steps involved to install Oracle Communications Data Model.

1.1 Types of Installations Provided for Oracle Communications Data Model

Specifies the types of installation you can perform with the Oracle Communications Data Model installer.

Using the Oracle Universal Installer you can perform two types of Oracle Communications Data Model installation:

- Installation of the Oracle Communications Data Model component. You *must* install this component to create an Oracle Communications Data Model data warehouse.

- Installation of reports and schemas that you can use for ideas about how to design your own reports. Installing the reports is optional.

Different items are installed depending on whether you install the database objects or the reports.

Communications Data Model Installation

When you perform a **Communications Data Model** installation of Oracle Communications Data Model, the Oracle Universal Installer installs the Oracle Communications Data Model component without data. Specifically, the installer creates the following schema in the target database:

- `ocdm_sys` which is the main schema for Oracle Communications Data Model. This schema contains all the relational and OLAP components of Oracle Communications Data Model, including the Oracle Communications Data Model data mining tables. This schema also contains all the mining components of Oracle Communications Data Model.

There is no data in this schema. You need to populate data into the schema.

Sample Reports Installation

When you perform a **Sample Reports** installation of the Oracle Communications Data Model, the installer creates the Oracle Communications Data Model sample schema in the target database. Specifically, the installer installs:

- The following files that provide the data for the reports:

    - `ocdm_sample.dmp.zip` which is a dump file of the schemas that contain the sample data for the relational and data mining components of Oracle Communications Data Model.

        Tip:

        The default user name for the schema is `ocdm_sample`.

- The following files that define and create the sample reports:

    - `ocdm.rpd`

    - `ocdmwebcat.zip`

Related Topics:

   tmforum.org

1.2 Oracle Communications Data Model Home Directory Structure

The installation image contains directories that are installed under the path `ORACLE_HOME/ocdm`.

The installation includes the following directories:

- `report`: which contains the sample report files for Oracle Communications Data Model installation.

- `addons`: when you install Add-ons, this directory contains the files required for the selected optional adapters or analytics subproducts.

- `utl`: which contains metadata and TM Forum KPI information. The TM Forum provides business-critical industry standards and expertise to enable the creation, delivery, and monetization of digital services.

- `pdm`: which contains the physical schema dump, creation scripts, and lookup value population scripts, as listed in the following table:

Subdirectory	Description
metadata	Metadata creation and population scripts
mining	Data mining scripts and related files

Subdirectory	Description
olap	OLAP scripts and related files
relational	Relational schema installation scripts and relational related files
relational/ddl	Relational schema installation scripts and related scripts
relational/ddl/calendar	Calendar and time data population scripts
relational/ flexible_hierarchy	Flexible hierarchy scripts
relational/ddl/ocdm/ intra_etl	Intra-ETL scripts
relational/ddl/lookup_value	Lookup data population scripts
relational/sample_schema	Physical sample schema

1.3 Installation Checklist

Provides a checklist of the steps involved to install Oracle Communications Data Model.

Installation Checklist for Oracle Communications Data Model

- Release notes: **Read** *Oracle Communications Data Model Release Notes* to identify any changes for the installation.

- Hardware and Software: **Verify Hardware and Software Requirements**

  Verify that your system is one of the supported platforms and that it satisfies the hardware and software requirements.

- Preinstallation Steps: **Perform Preinstallation Tasks**

  Identify and perform any necessary pre-installation tasks.

- Installation and Postinstallation Steps: **Run Installer**

  – Select the Oracle Communications Data Model components to install.

  – Identify and perform any necessary postinstallation tasks.

- Add Additional Components: **Perform Installation Steps for Additional Components**

  Install the additional components that you need.

> **Note:**
>
> You *must* deinstall Oracle Communications Data Model before you re-install it over an existing version of Oracle Communications Data Model.
>
> To deinstall Oracle Oracle Communications Data Model, you do *not* run the Oracle Universal Installer in deinstall mode.

Related Topics:

Preinstallation Tasks (page 3-1)
>   Describes the preinstallation tasks.

Running the Installer (page 3-8)
>   Describes the steps required to install Oracle Communications Data Model.

Post-Installation Tasks (page 3-14)
>   Specifies the steps to perform after the installation.

Deinstallation Execution (page 5-3)
>   Lists the steps for deinstalling Oracle Communications Data Model.

Hardware and Software Requirements (page 2-1)
>   Describes the hardware and software requirements of Oracle Communications Data Model.

Oracle Communications Data Model Release Notes

2

Hardware and Software Requirements

Describes the hardware and software requirements of Oracle Communications Data Model.

Before you install Oracle Communications Data Model, you must verify that the system meets all hardware and software requirements.

Supported Platforms (page 2-1)
> Specifies the Oracle Communications Data Model supported platforms.

Hardware Requirements (page 2-2)
> Specifies the Oracle Communications Data Model hardware requirements.

Software Requirements (page 2-3)
> Specifies minimum software requirements for Oracle Communications Data Model.

2.1 Supported Platforms

Specifies the Oracle Communications Data Model supported platforms.

Supported Platforms for Oracle Database 12*c* Release 2 (12.2)

Oracle Communications Data Model release is supported on the following platforms. For each platform, the given operating system version or later versions are required:

- Linux *x*86–64

  The following kernels are supported:

  - Oracle Linux 7 with the Unbreakable Enterprise kernel

  - Oracle Linux 7 with the Red Hat Compatible kernel:

  - Red Hat Enterprise Linux 7

  - Oracle Linux 6.4 with the Unbreakable Enterprise kernel

  - Oracle Linux 6.4 with the Red Hat Compatible kernel:

  - Red Hat Enterprise Linux 6.4

  - SUSE Linux Enterprise Server 12

- Oracle Solaris on SPARC (64-bit)

  The following Oracle Solaris on SPARC (64-Bit) kernels are supported:

  - Oracle Solaris 11.2 SRU 5.5

– Oracle Solaris 10 Update 11

Supported Platforms for Oracle Database 12*c* Release 1 (12.1.0.1 and 12.1.0.2) and Oracle Database 11*g* Release 2 Enterprise Edition (11.2.0.4)

Oracle Communications Data Model release is supported on the following platforms. For each platform, the given operating system version or later versions are required:

- HP-UX Itanium 11.31

- Linux *x*86-64

    – Oracle Linux 5

    – Oracle Linux 6

    – Oracle Linux 7

    – Red Hat Enterprise Linux 5

    – Red Hat Enterprise Linux 6

    – Red Hat Enterprise Linux 7

    – Linux x86-64 SLES 11

    – Linux x86-64 SLES 12 only supported on Oracle Database 12*c* Release 1 Enterprise Edition (12.1.0.2)

- Oracle Solaris on SPARC (64-bit)

    – Oracle Solaris on x86-64 (64-bit) 10

    – Oracle Solaris on x86-64 (64-bit) 11

- Oracle Solaris on x86-64 (64-bit)

    – Oracle Solaris on x86-64 (64-bit) 10

    – Oracle Solaris on x86-64 (64-bit) 11

- IBM AIX on POWER Systems (64-bit)

    – AIX 6.1 64-bit kernel

    – AIX 7.1 64-bit kernel

- IBM: Linux on System z

    – Linux on System z SLES 11

    – Linux on System z Red Hat Enterprise Linux 5

    – Linux on System z Red Hat Enterprise Linux 6

2.2 Hardware Requirements

Specifies the Oracle Communications Data Model hardware requirements.

The Oracle Database installation guide for your platform includes procedures for checking that your installation meets the hardware and operating system requirements for Oracle Database.

Additionally, for a complete installation of Oracle Communications Data Model, the minimum hardware requirement is disk space of at least 27 GB (including at least 2 GB for the software files in the Oracle home directory and at least 25 GB disk space for the data files).

2.3 Software Requirements

Specifies minimum software requirements for Oracle Communications Data Model.

The minimum software requirements for Oracle Communications Data Model are as follows:

Oracle Database Requirements (page 2-3)
> Specifies Oracle Database requirements for Oracle Communications Data Model installation.

Oracle Business Intelligence Suite Extended Edition (page 2-4)
> Specifies Oracle Business Intelligence Suite Extended Edition (12.2.1 or later). This is Optional for Oracle Communications Data Model and Sample Reports installation steps but is required to deploy the Oracle Communications Data Model sample reports RPD and webcat and to view the sample reports on the Oracle Business Intelligence Suite Extended Edition instance.

2.3.1 Oracle Database Requirements

Specifies Oracle Database requirements for Oracle Communications Data Model installation.

Oracle Communications Data Model installation requires one of the following Oracle Database releases:

- Oracle Database 12*c* Release 2 Enterprise Edition (12.2)

- Oracle Database 12*c* Release 1 Enterprise Edition (12.1.0.2)

- Oracle Database 12*c* Release 1 Enterprise Edition (12.1.0.1)

- Oracle Database 11*g* Release 2 Enterprise Edition (11.2.0.4)

Note:

For Oracle Database 11*g* Release 2 (11.2.0.4) on Oracle Real Application Clusters (Oracle RAC) with ASM storage option, Oracle Communications Data Model install may fail with ORA-37162: OLAP error. To prevent this, perform the following steps before Oracle Communications Data Model install on 11.2.0.4 on RAC with ASM storage option:

1. Execute the following SQL on all nodes of RAC:

```
ALTER system SET "_olap_parallel_update_server_num"=4 COMMENT='Sets OLAP Parallel Update
Slaves per Session.' SID='*' SCOPE=spfile;
```

2. Apply patch 25027309 containing OLAP E PATCH.

Tip:

When you install the Database ensure that the database character set is Unicode (AL32UTF8) to support multi-language installations since Oracle Communications Data Model permits the installation of support for English and one other language.

Installation of the Oracle Communications Data Model component requires the following options to the Database:

- Oracle Partitioning

- Oracle Online Analytical Processing (OLAP)

- Oracle Advanced Analytics

After you download and install the Database, upgrade to the latest patch. Patches are available from My Oracle Support (`http://support.oracle.com`).

Related Topics:

Specifies the Oracle Communications Data Model supported platforms.

2.3.2 Oracle Business Intelligence Suite Extended Edition

Specifies Oracle Business Intelligence Suite Extended Edition (12.2.1 or later). This is Optional for Oracle Communications Data Model and Sample Reports installation steps but is required to deploy the Oracle Communications Data Model sample reports RPD and webcat and to view the sample reports on the Oracle Business Intelligence Suite Extended Edition instance.

You must have the Oracle Business Intelligence Suite Extended Edition installed before you use the Oracle Communications Data Model sample reports (Oracle Business Intelligence Suite Extended Edition is required to deploy the Oracle Communications Data Model sample reports RPD and webcat and to view the sample reports).

Oracle Business Intelligence Suite Extended Edition can be downloaded from the "Oracle Business Intelligence downloads" link on Oracle Technology Network at:

`http://www.oracle.com/technetwork/middleware/bi-enterprise-edition/downloads/index.html`

Installation instructions are included in the documentation.

3

Installation of Oracle Communications Data Model

Describes how to install Oracle Communications Data Model.

Describes the installation tasks, including:

3.1 Preinstallation Tasks

Describes the preinstallation tasks.

Before you install the Oracle Communications Data Model perform the following tasks:

- Back up the Oracle Database.

- Perform the preinstallation steps:

(page 3-4)

> For an Oracle Database with the Oracle Database Vault enabled, disable the Oracle Database Vault before you install Oracle Communications Data Model.

(page 3-6)

> Ensure that the `tnsnames.ora` file includes a value for `SERVICE_NAME`.

3.1.1 Ensuring that Required Software is Installed

Provides the overview to ensure that for each type of installation, the required software is installed.

Ensuring that Required Software is Installed

Perform the following steps to ensure that for each type of installation, the required software is installed:

See Also:

As discussed in (page 2-3) you must have certain software installed before you can successfully install the Oracle Communications Data Model component or the Oracle Communications Data Model sample data and reports.

(page 3-2)

> Provides the commands to check that Oracle Advanced Analytics and OLAP options are installed.

(page 3-3)

> Before you install the sample data and reports for Oracle Communications Data Model, confirm that Oracle Business Intelligence Suite Extended Edition is installed.

(page 3-3)

> Describes how to confirm that Oracle Business Intelligence Developer Client Tools Installer is Installed.

3.1.1.1 Confirming that Oracle Advanced Analytics and OLAP Options are Installed

Provides the commands to check that Oracle Advanced Analytics and OLAP options are installed.

Confirming that Oracle Advanced Analytics and OLAP Options are Installed

To check that the Oracle Advanced Analytics and OLAP options are installed, log in as SYS and enter the following SQL queries:

```
SELECT VALUE FROM V$OPTION WHERE PARAMETER ='Data Mining';
SELECT VALUE FROM V$OPTION WHERE PARAMETER ='OLAP';
```

If these queries return `TRUE`, the options are installed.

3.1.1.2 Confirming that Oracle Business Intelligence Suite Extended Edition is Installed

Before you install the sample data and reports for Oracle Communications Data Model, confirm that Oracle Business Intelligence Suite Extended Edition is installed.

To test that Oracle Business Intelligence Suite Extended Edition is installed, open the following link in a browser:

```
http://hostname:7001/analytics
```

The sample Oracle Business Intelligence Suite Extended Edition login window is displayed.

> **Note:**
>
> The `7001` value in the link is the value of the default Oracle Business Intelligence Suite Extended Edition port; if you specified a different port when you installed Oracle Business Intelligence Suite Extended Edition, use the value for that port.

3.1.1.3 Confirming that Oracle Business Intelligence Developer Client Tools Installer is Installed

Describes how to confirm that Oracle Business Intelligence Developer Client Tools Installer is Installed.

Select the version of Oracle Business Intelligence Developer Client Tools Installer according to the version of Oracle Business Intelligence Suite Extended Edition. For example, if the version of Oracle Business Intelligence Suite Extended Edition is 12.2.1, then select Oracle Business Intelligence Developer Client Tools Installer version is 12.2.1.

For more information, see:

http://www.oracle.com/technetwork/middleware/bi-enterprise-edition/downloads/index.html

3.1.2 Changing the Default Value for the Maximum Processes Initialization Parameter

Oracle Communications Data Model requires that the initial value for the `PROCESSES` initialization parameter be set to a value greater than the default database installation value.

How to determine the current value for the PROCESSES parameter

To determine the current value for the maximum processes parameter, log in as DB with DBA account, and then execute the following SQL statement:

```
show parameter processes;
```

How to change the value for the maximum processes

To change the value for the maximum processes, issue the following statements. Depending on your database options, the value specified for processes should be set to a minimum value greater than or equal to 250:

```
alter system set processes=250 scope=spfile;
shutdown immediate
startup
```

3.1.3 Changing the Maximum Data Files Option

Oracle Communications Data Model supports the partition of transaction-related fact tables according to your data volume estimation. To support the partition of transaction-related fact tables, you might need a different value for the maximum number of data files that is presently specified for the Database.

You can specify the start year and end year for your data. Based on your input the transaction related fact tables are partitioned by the date as one partition for each month.

How to determine the value for maximum number of data files

Use the following formula to determine the value that you need for the maximum number of data files:

```
Maximum Datafiles = Default Value + 300 + ((End year) - (Start year) + 1) * 12
```

How to determine the current value for the maximum number of data files

To determine the current value for the maximum number of data files, log in as DB with DBA account, and then execute the following SQL statement:

```
show parameter db_files
```

In the results for this statement, the `value` column shows the current maximum number of data files.

How to change the value for the maximum number of data files

To change the value for the maximum number of data files, issue the following statements where *new_number* is the new value that you want to specify:

```
alter system set db_files = new_number scope = spfile;
shutdown immediate
startup
```

3.1.4 Disabling the Oracle Database Vault Option

For an Oracle Database with the Oracle Database Vault enabled, disable the Oracle Database Vault before you install Oracle Communications Data Model.

Disabling the Oracle Database Vault Option

The Oracle Communications Data Model installer requires additional steps on a Vault-enabled database. For an Oracle Database with the Oracle Database Vault enabled, perform the following steps to disable Oracle Database Vault before you install Oracle Communications Data Model.

To find out if Oracle Database Vault is enabled, do the following:

```
SELECT * FROM V$OPTION WHERE PARAMETER = 'Oracle Database Vault';
```

If this command returns true, then the Vault option is enabled.

To disable the Vault option, do the following:

1. On UNIX systems, ensure that the environment variables, `ORACLE_HOME`, `ORACLE_SID`, and `PATH` are correctly set.

2. Log in to SQL*Plus as user SYS with the SYSOPER privilege.

3. Shut down the Database.

4. From the command line, stop the Database Control console process and the listener. For example:

```
sqlplus sys as sysoper
Enter password: password
SQL> SHUTDOWN IMMEDIATE
SQL> EXIT
$ emctl stop dbconsole
$ lsnrctl stop listener_name
```

   For Oracle RAC installations, shut down each database instance as follows:

```
$ srvctl stop database -d db_name
```

   > **Note:**
   >
   > In Oracle Database 12*c*, Oracle Enterprise Manager Database Express is built into the Oracle database. It requires no special installation or management.

5. Disable Oracle Database Vault with the following commands (this is a UNIX system example):

```
cd $ORACLE_HOME/rdbms/lib
make -f ins_rdbms.mk dv_off
cd $ORACLE_HOME/bin
relink all
```

   For Oracle RAC installations, run these commands on all nodes.

6. Startup the Database, Database Control console process, and listener. For example, on UNIX, Log in to SQL*Plus as user SYS with the SYSOPER privilege and restart the database instance. Then from the command line, restart the Database Control console process and listener. For example:

```
sqlplus sys as sysoper
Enter password: password
SQL> STARTUP
SQL> EXIT
$ emctl start dbconsole
$ lsnrctl start listener_name
```

   For Oracle RAC installations, restart each instance as follows:

```
$ srvctl start database -d db_name
```

For more information, see *Oracle Database Vault Administrator's Guide.*

Related Topics:

Describes the process of re-enabling Oracle Database Vault if before installing you disabled Oracle Database Vault, and then you want to re-enable Oracle Database Vault.

3.1.5 Ensuring a Value is Set for the Service Name

Ensure that the `tnsnames.ora` file includes a value for `SERVICE_NAME`.

In a Non Oracle RAC Environment

- **In a Non Multitenant Environment**

  Ensure that in `tnsnames.ora` the service name is provided. To check and modify `tnsnames.ora`, perform the following steps:

  1. Go to the directory: `$ORACLE_HOME/network/admin`

  2. Edit `tnsnames.ora` to make sure the `SERVICE_NAME` value is provided. For example:

     ```
     orcl= (DESCRIPTION =
      (ADDRESS = (PROTOCOL = TCP)(HOST = example.oracle.com)(PORT = 1521))
     (CONNECT_DATA = (SERVER = DEDICATED) (SERVICE_NAME = orcl) ) )
     ```

- **In a Multitenant Environment**

  In a multitenant environment, every container, root, or pluggable has its own service name and you need to use the PDB container for application users. While installing the data model you need to provide the service name of the pluggable database (PDB).

  You must manually add the PDB entry in the `tnsnames.ora` before proceeding with the install:

  1. Go to the directory: `$ORACLE_HOME/network/admin`

  2. Edit `tnsnames.ora` to ensure the `SERVICE_NAME` value is provided. For example:

     ```
      PDBORCL12 =   (DESCRIPTION =
      (ADDRESS = (PROTOCOL = TCP)(HOST = localhost)(PORT = 1522))
     (CONNECT_DATA =      (SERVER = DEDICATED)
         (SERVICE_NAME = pdborcl12. example.com)     )    )
     ```

  To create the entry using the description in `tnsnames.ora` for the connection to the CDB, copy the CDB entry and then modify the copied CDB entry as the PDB entry.

In an Oracle RAC Environment

The important difference compared with other Oracle RAC service name configuration settings is to use a specific host name, not a Single Client Access Name (SCAN).

> **Note:**
>
> Although a specific host is used, Oracle Communications Data Model is installed on all the nodes.

- **In a Non Multitenant Environment**

  Ensure that in `tnsnames.ora`, the service name is provided. To check and modify `tnsnames.ora`, perform the following steps:

  1. Go to the directory:`$ORACLE_HOME/network/admin`.

  2. Edit `tnsnames.ora` to add an entry to the specific host to use with the actual host name, not the scanname. For example, two Oracle RAC nodes (example00eax, example00eay), the scanname is example00eaxy-scn. and OUI starts on node example00eax. The original tns information, for example is:

```
CSOCDM=
  (DESCRIPTION=
  (ADDRESS =  (PROTOCOL =TCP)(HOST=example00eaxy-scn)(PORT=1521))
(CONNECT_DATA =
  (SERVER =DEDICATED)
   (SERVICE_NAME =csocdm.us.oracle.com)
  )
  )
```

  Then add an entry specific to host example00eax.

```
example00eax=
 (DESCRIPTION=
 (ADDRESS =  (PROTOCOL =TCP)(HOST=example00eax)(PORT=1521))
  (CONNECT_DATA =
(SERVER =DEDICATED)
(SERVICE_NAME =csocdm.us.oracle.com)
 )
)
```

  Use example00eax as the service name to install Oracle Communications Data Model. No change is required to the node example00eay.

- **In a Multitenant Environment**

  In a multitenant environment, every container, root, or pluggable, has its own service name and you need to use the PDB container for application users. While installing the data model you need to provide the service name of the pluggable database (PDB).

  You must manually add the PDB entry in the `tnsnames.ora` before proceeding with the install:

  1. Go to the directory: `$ORACLE_HOME/network/admin`

  2. Edit `tnsnames.ora` to ensure the `SERVICE_NAME` value is provided. For example:

```
 example00eax =  (DESCRIPTION =
 (ADDRESS = (PROTOCOL = TCP)(HOST =example00eax)(PORT = 1521))
   (CONNECT_DATA =       (SERVER = DEDICATED)
 (SERVICE_NAME = pdborcl12. example.com)      )    )
```

To create the entry using the description in `tnsnames.ora` for the connection to the CDB, copy the CDB entry and then modify the copied CDB entry as the PDB entry.Note, use actual host name(HOST =example00eax) not the scanname, for example: example00eaxy-scn.

Only the tns of the host where OUI starts needs to update the `tnsnames.ora`, the other `tnsnames.ora` files at other nodes do not require changes.

3.2 Running the Installer

Describes the steps required to install Oracle Communications Data Model.

Before you install Oracle Communications Data Model, perform the necessary pre-installation tasks.

> **Note:**
>
> You must install Oracle Communications Data Model on the localhost where the database server is located. You can determine the value of your localhost by issuing the following command where *db_name* is the name of your Oracle database:
>
> ```
> tnsname db_name
> ```

Follow these steps to install Oracle Communications Data Model:

1. Log in using the user ID that you plan to use to run the installation. You should use the same user ID to install Oracle Communications Data Model as used to install the Oracle Database and Oracle Business Intelligence Suite Extended Edition.

2. Set the `ORACLE_HOME` environment variable to the location of the database where you want to install Oracle Communications Data Model.

   For example, suppose Oracle Home is in the directory `/loc/app/oracle/product/dbhome`

   In a Bourne, Bash, or Korn shell, use these commands to set `ORACLE_HOME`:

   ```
   $ ORACLE_HOME=/loc/app/oracle/product/dbhome
   $ export ORACLE_HOME
   ```

   In a C shell, use this command to set `ORACLE_HOME`:

   ```
   % setenv ORACLE_HOME /loc/app/oracle/product/dbhome
   ```

3. Start the installer from the directory that contains the Oracle Communications Data Model installation files:

   ```
   cd directory-containing-OCDM_installation-files
   ./runInstaller
   ```

4. The **Welcome** page is displayed. Click **Next**.

5. In the **Select Installation Type** page, select the type of Oracle Communications Data Model installation that you want to perform:

   - If you want to install the Oracle Communications Data Model component, select **Communications Data Model**.

- If you want to install the Oracle Communications Data Model reports and sample data, select **Sample Reports**.

Oracle Communications Data Model supports English and 9 other languages. To add support for one language in addition to English, click **Product Languages** and select the language.

Click **Next**.

6. In the **Specify Home Details** page, verify that the **Name** and **Path** correspond to the database in which you want to install Oracle Communications Data Model. You can click **Browse** to navigate to any valid local data file path.

   Click **Next**.

7. In the **Product-Specific Prerequisite Checks** page, if one or more items are flagged, manually verify that your environment meets the minimum requirements. For details about performing this manual verification, click the flagged item and review the details in the box at the bottom of the page.

   When the status of all items are checked as **Succeeded**, click **Next**.

8. In the **Specify Database Connection Information** page, provide the following information:

   - Select the **Net Service Name** which is the alias used for a connect descriptor to connect to the Oracle Database where the Data Model will be installed.

     > **Note:**
     >
     > In a multitenant environment, select PDB as the Net Service Name, not CDB. For example, use `pdborcl` for the Net Service Name.

     > **Tip:**
     >
     > A net service name is a simple name for a service that resolves to a connect descriptor. Net service names are populated from the *OracleHome/* `network/admin/tnsnames.ora` file.

   - Enter the **Password for SYSTEM user** of the Oracle Database where Oracle Communications Data Model will be installed.

   Click **Next**.

9. The **Specify OCDM Schema Information** page is displayed when you select to install the component, **Communications Data Model**. In this dialog specify where all the data files that correspond to the Oracle Communications Data Model tablespace should reside:

   - If you do *not* want to use the Automatic Storage Management (ASM) feature in Oracle Database, but instead want to explicitly specify a folder name, select **File System** and enter a folder name. You can click **Browse** to navigate to any valid local data file path.

     Click **Next**.

   - If you have stored your Oracle database files using the Automatic Storage Management (ASM) feature, and you also want store Oracle Communications

Data Model data files using ASM, select **Automatic Storage Management (ASM)**.

Click **Next**.

In the **Select ASM Disk Group** page, select the disk group in which you want to install the Oracle Communications Data Model data files.

Click **Next**.

10. The **Specify OCDM Sample Schema Information** page displays when you select to install the **Sample Reports**. In this dialog you specify where all the data files that correspond to the Oracle Communications Data Model sample schemas should reside:

    - If you do *not* want to use the Automatic Storage Management (ASM) feature in Oracle Database, but instead want to explicitly specify a folder name, select **File System** and enter a folder name. You can click **Browse** to navigate to any valid local data file path.

      Click **Next**.

    - If you have stored your Oracle database files using the Automatic Storage Management (ASM) feature, and you also want store Oracle Communications Data Model data files using ASM, select **Automatic Storage Management (ASM)**.

      Click **Next**.

      In the **Select ASM Disk Group** page, select the disk group in which you want to install the Oracle Communications Data Model data files.

      Click **Next**. When you install the sample reports, the next page shows the installer Summary that summarizes the information that you specified, as shown in step 13 (page 3-11).

11. In the **Specify Calendar Date Range** page, specify the calendar date range by providing values for **Start Date** and **Number of Years**. The installer uses this information to populate the calendar data. A recommended **Number of Years** value is 15 years. Specifying larger **Number of Years** values proportionally increases the time it takes to implement the partitioning portion of Oracle Communications Data Model install activity. The start year specified with **Start Date** should be the lowest possible dates from your historical data load (lowest possible CDR date typically). There is no easy method to incrementally extend the time dimension, so your initial choice for **Number of Years** should be specified to meet your needs for a reasonably long time.

    Start Date must be in the format YYYY-MM-DD; for example, 2011-01-01 stands for January 1, 2011. **Number of Years** must be a whole number.

    Note:

    These calendar dates have nothing to do with the number of years you will effectively keep the data. The calendar as such is totally independent of the Information Lifecycle Management process you may use.

    Click **Next**.

12. In the **Specify Partitions for reference and base tables** page, specify the number of Second Level hash partitions for each entity, Organization, Customer, Access Method, Account, and Agreement. Specify a value for each field. If you enter an invalid value the installer shows a dialog displaying the valid values. For each value you specify, you should choose a value that is a power of 2 (for example: 4, 8, 16, 32, 64 and so on).

Click **Next**.

13. The installer summarizes the information that you specified. Check that this information is correct. If necessary, click **Back** to return to previous screens and make corrections. When you are satisfied with the information, click **Install**.

14. The Oracle Communications Data Model component or sample reports are installed. If there are any problems, messages are displayed. After the installation finishes, the end of installation screen appears. Click **Exit** to exit the installer.

After you exit the installer, perform any necessary post-installation tasks. Then install any other components that you need to create an Oracle Communications Data Model warehouse.

Related Topics:

Types of Installations Provided for Oracle Communications Data Model (page 1-1)
> Specifies the types of installation you can perform with the Oracle Communications Data Model installer.

Preinstallation Tasks (page 3-1)
> Describes the preinstallation tasks.

Post-Installation Tasks (page 3-14)
> Specifies the steps to perform after the installation.

Installation of Additional Components (page 4-1)
> Describes how to install Oracle components that you did not need to install before you installed the Oracle Communications Data Model component or sample reports, but that you will use when you are creating an Oracle Communications Data Model data warehouse:

3.3 Installing Using a Silent Installation

Describes running the installer using silent installation.

A silent installation has no graphical output and no input by the user. It is accomplished by supplying Oracle Universal Installer with a response file and specifying the `-silent` flag on the command line. Use silent installation when you want the same installation parameter on more than one computer.

Selecting a Response File (page 3-12)
> Before performing a silent installation, you must provide information specific to your installation in a response file.

Editing the Response File (page 3-12)
> Use any text editor to edit the silent install response file to include information specific to your system.

To make Oracle Universal Installer use the response file at installation time, specify the location of the response file as a parameter when starting Oracle Universal Installer.

The success or failure of silent installations is logged in the `installActions.log` file.

The response file contains the installation password in clear text. To minimize security issues, follow these guidelines for the silent installation.

Describes silent installation error handling.

3.3.1 Selecting a Response File

Before performing a silent installation, you must provide information specific to your installation in a response file.

Selecting a Response File

The installer fails if you attempt an installation using a response file that is not configured correctly. Response files are text files that you can create or edit in a text editor. The response file (`adm.rsp`) is located in the `/response` directory in the directory that contains the Oracle Communications Data Model installation files. Edit the response file according to your requirements for silent installation. To use a response file, first copy it to your system.

> **Note:**
>
> You must install Oracle Communications Data Model on the "localhost" where the database server is located. You can determine the value of your "localhost" by issuing the following command where *db-name* is the name of your Oracle Database:
>
> ```
> tnsname db-name
> ```

3.3.2 Editing the Response File

Use any text editor to edit the silent install response file to include information specific to your system.

Editing the Response File

You must specify values for variables in your response file. Each variable listed in the response file is associated with a comment, which identifies the variable type. For example:

```
string = "Sample Value"
Boolean = True or False
Number = 1000
StringList = {"StringValue 1", "String Value 2"}
```

For a silent installation, specify values for the strings with <*Value* Required>. Remove the comment from the variable values in the response file before starting the Oracle Communications Data Model installation.

3.3.3 Specifying a Response File and Starting the Installation

To make Oracle Universal Installer use the response file at installation time, specify the location of the response file as a parameter when starting Oracle Universal Installer.

Specifying a Response File and Starting the Installation

Before you specify a response file, ensure that all values in the response file are correct. To perform a silent installation, use the -silent parameter as follows:

```
./runInstaller -silent -responseFile absolute_path_and_filename
```

> **Caution:**
>
> During installation, response files may be copied to subdirectories in the Oracle home. If you have provided passwords or other sensitive information in your response files, then for security purposes you should delete them after completing and verifying the installation.

3.3.4 Silent Installation Log Files

The success or failure of silent installations is logged in the installActions.log file.

Silent Installation Log Files

The silent installation creates the silentInstall.log file. The log files are created in the /oraInventory/logs directory. The silentInstall*Date_Time*.log file contains the following line if the installation was successful:

```
The installation of Oracle Communications Data Model was successful.
```

The corresponding installActions*Date_Time*.log file contains specific information regarding installation.

3.3.5 Security Tips for Silent Installations

The response file contains the installation password in clear text. To minimize security issues, follow these guidelines for the silent installation.

- Set the permissions on the response files so that they are readable only by the operating system user performing the silent installation.

- If possible, remove the response files from the system after the silent installation is completed.

3.3.6 Error Handling

Describes silent installation error handling.

- Variables that are outside any section are ignored.

- Values for variables that are of the wrong context, format, or type are treated as null.

- If you attempt a silent installation with an incorrect or incomplete response file, or if Oracle Universal Installer encounters an error, such as insufficient disk space, then the installation fails.

3.4 Post-Installation Tasks

Specifies the steps to perform after the installation.

After you run Oracle Universal Installer perform the following post-installation steps:

- After you install Oracle Communications Data Model, obtain the IP Patch. To obtain the IP Patch for the latest information about Oracle Communications Data Model, patch sets, go to My Oracle Support at https://support.oracle.com

- Review the Security chapter in the *Oracle Communication Data Model Implementation and Operations Guide*.

Unlocking the OCDM_SYS Account (page 3-15)
> Describes how to unlock the OCDM_SYS account and set a password on this account.

Postinstallation for Sample Reports (page 3-15)
> If you installed the sample reports, you need to also perform several postinstallation steps.

Configuring the Working OLAP Environment (page 3-18)
> To set up a working OLAP environment for an Oracle Communications Data Model warehouse, configure the database with the specified parameter and configuration settings.

Running OLAP Builds to Load Data into Analytical Workspace (page 3-19)
> Perform these steps to load data into the Oracle Communications Data Model OLAP Analytical Workspace (depending on your hardware and configuration, the total expected time to complete these steps may be up to one hour).

Re-Enabling Oracle Database Vault (page 3-20)
> Describes the process of re-enabling Oracle Database Vault if before installing you disabled Oracle Database Vault, and then you want to re-enable Oracle Database Vault.

Ensuring That Oracle Communications Data Model Objects Are Valid (page 3-21)
> Describes recompiling all objects in ocdm_sys schema.

Configuring Oracle Data Miner Repository (page 3-21)
> If you want to use Oracle Data Miner with Oracle Communications Data Model to perform data mining, verify that the Oracle Data Miner Repository is available in the database instance and configure Oracle Communications Data Model for Oracle Data Miner.

Ensuring That PGA_AGGREGATE_TARGET is Set to the Proper Value (page 3-23)
> To improve performance ensure that the PGA_AGGREGATE_TARGET is set to the proper value.

3.4.1 Unlocking the OCDM_SYS Account

Describes how to unlock the OCDM_SYS account and set a password on this account.

Unlocking the OCDM_SYS Account

At the end of the installation, the OCDM_SYS account is locked. To unlock this account:

1. Connect to the database with a DBA ID.

   > **Note:**
   >
   > The password is case sensitive.

2. Unlock the account and set the password by issuing the following SQL statement:

   ```
   alter user ocdm_sys account unlock identified by password;
   ```

   > **WARNING:**
   >
   > Enter a password for the OCDM_SYS account that is secure, according to the password guidelines described in *Oracle Database 2 Day DBA*. Do not to use OCDM_SYS as a password.

Related Topics:

Oracle Database 2 Day DBA

3.4.2 Postinstallation for Sample Reports

If you installed the sample reports, you need to also perform several postinstallation steps.

If you installed the Oracle Communications Data Model sample reports, then perform the following steps:.

Unlocking the OCDM_SAMPLE Account (page 3-15)
   Describes how to unlock the OCDM_SAMPLE account.

Limiting User Privileges for Sample Reports (page 3-16)
   By default, when you perform a Sample Reports type of Oracle Communications Data Model installation, the sample reports connect to ocdm_sys schema directly. For security reasons, you may want to grant only select privileges to users who work with these reports.

Installing RPD and Web Catalog for Oracle Business Intelligence Suite Extended Edition (page 3-16)
   Describes installing the RPD file and deploying the Web Catalog.

3.4.2.1 Unlocking the OCDM_SAMPLE Account

Describes how to unlock the OCDM_SAMPLE account.

Unlocking the OCDM_SAMPLE Account

At the end of the installation of the Oracle Communications Data Model sample reports, the OCDM_SAMPLE account is locked. To unlock this account:

1. Connect to the Database with a DBA ID.

   > **Note:**
   >
   > The password is case sensitive.

2. Unlock the account and set the password by issuing the following SQL statement:

   ```
   alter user ocdm_sample account unlock identified by <password>;
   ```

   > **WARNING:**
   >
   > Enter a password for the OCDM_SAMPLE account that is secure, according to the password guidelines described in *Oracle Database 2 Day DBA*. Do not to use OCDM_SAMPLE as a password.

Related Topics:

   Oracle Database 2 Day DBA

3.4.2.2 Limiting User Privileges for Sample Reports

By default, when you perform a Sample Reports type of Oracle Communications Data Model installation, the sample reports connect to ocdm_sys schema directly. For security reasons, you may want to grant only select privileges to users who work with these reports.

Limiting User Privileges

To grant only select privileges, perform the following steps:

1. Create a dedicated reporting user (for example, OCDM_Report).

2. Grant select privilege for all Oracle Communications Data Model tables required for reporting to the user you created in Step 1. Thus, grant the select privilege for all Oracle Communications Data Model tables which start with one of the following prefixes: DWA, DWB, DWD, DWR, DWL.

3. Create a view (or synonym) in OCDM_Report schema, pointing to the OCDM_SYS tables.

4. In the Oracle Business Intelligence Suite Extended Edition repository, change the connection information to point to the new schema.

Related Topics:

   Oracle Communications Data Model Implementation and Operations

3.4.2.3 Installing RPD and Web Catalog for Oracle Business Intelligence Suite Extended Edition

Describes installing the RPD file and deploying the Web Catalog.

If you installed the Oracle Communications Data Model sample reports, you need to deploy the Oracle Communications Data Model RPD and Web Catalog on the Oracle Business Intelligence Suite Extended Edition 12*c* instance. For more information on deploying RPD and Web Catalog in BIEE, see *Oracle Fusion Middleware System Administrator's Guide for Oracle Business Intelligence Enterprise Edition*.

After you use the installer to install the sample reports, you can find the RPD file and the Web Catalog file in the `$ORACLE_HOME/ocdm/report` directory:

`ocdm.rpd`

`ocdmwebcat.zip`

Unzip the Web Catalog

Before you deploy the Web Catalog, you need to unzip `ocdmwebcat.zip`.

Update the RPD Connection Pool

Do the following to update the RPD connection pool:

1. Open Oracle Business Intelligence Developer Client Tools and select File->Open->Offline...,

   Browse to locate $ORACLE_HOME/ocdm/report/ocdm.rpd

2. Double click **Connection Pool** in ODWT at the Physical layer.

3. Update the Host, Port, Service and User name to point to Oracle Communications Data Model schema.

   > **Note:**
   >
   > In addition, follow steps 2 and 3 to update the connection pool in OCDM_OLAP at the Physical layer.

4. Click **OK** to exit and then click **Save**.

5. Test the connection pool to check that it is successfully configured. Right click a table, such as `DWA_ACCT_DEBT_MO` in the `ODWT.OCDM_SYS`. Select, **Update Row Count**. If no errors are reported then the connection pool is successfully configured.

Deploy the RPD and Web Catalog

Perform the following steps to deploy the Oracle Communications Data Model RPD and Web Catalog:

1. Use your browser to open the weblogic Enterprise Manager portal:

   `http://SERVERNAME:7001/em`

   Log in with the weblogic admin ID and password.

   From the Business Intelligence tab select coreapplication, then select **Deployment** and click **Repository**. Next deploy the RPD and Web Catalog.

> **Note:**
>
> When you deploy the RPD you need to provide an RPD password. Contact Oracle Support to obtain a temporary RPD password.

2. Use your browser to open the weblogic console portal:

   ```
   http://SERVERNAME:7001/console/login/LoginForm.jsp
   ```

   Log in with your weblogic admin ID and password. Go to your security realm and create a user named `ocdm` and set a password for this user.

3. Follow the instructions to "Refreshing User GUIDs" to update the GUIDs. For more information, see *Oracle Fusion Middleware Security Guide for Oracle Business Intelligence Enterprise Edition*.

3.4.3 Configuring the Working OLAP Environment

To set up a working OLAP environment for an Oracle Communications Data Model warehouse, configure the database with the specified parameter and configuration settings.

Configuring the Working OLAP Environment

- Set `sga_target` to 35% of available memory.

- Set `pga_aggregate_target` to 35% of available memory

- Set `olap_page_pool_size=0`. (This specifies dynamic page pool.)

- Set `_olap_page_pool_hi=30` (that is, lower than default of 50).

- Set `_olap_parallel_update_threshold` and `_olap_parallel_update_small_threshold` to a high value (for example, ~2Gb.. 2147483647). These settings turn off parallel update for the analytic workspace.

- Set `memory_max_target` to value greater than SGA and PGA settings. This is maximum amount of memory used for both SGA and PGA. The SGA and PGA settings specified are the minimum settings. (Note that failure to set `memory_max_target` leads to failure of instance startup (the next time these settings are validated which occurs if spfile had an older and distinct setting for `memory_max_target`).

The following statements illustrate changing these settings:

```
alter system set sga_target=1365M scope=spfile;
alter system set pga_aggregate_target=1365M scope=spfile;
alter system set memory_max_target=3030M scope=spfile;
alter system set olap_page_pool_size=0 scope=spfile;
alter system set "_olap_parallel_update_small_threshold"=2147483647 scope=spfile;
alter system set "_olap_page_pool_hi"=30 scope=spfile;
alter system set job_queue_processes=5 scope=spfile;
shutdown immediate;
startup;
```

3.4.4 Running OLAP Builds to Load Data into Analytical Workspace

Perform these steps to load data into the Oracle Communications Data Model OLAP Analytical Workspace (depending on your hardware and configuration, the total expected time to complete these steps may be up to one hour).

The Oracle Communications Data Model Sample Reports installation loads an empty Analytical Workspace named OCDM into the sample schema `ocdm_sample`. You must load the sample schema data into the empty OLAP Analytical Workspace before you can run the reports or view data in the sample reports.

> **Note:**
>
> The Non-OLAP sample reports such as the data mining related sample reports and relational sample reports work without performing these OLAP Analytic Workspace steps.

1. Login to `ocdm_sample` schema through SQL*Plus or SQL Developer.

2. Run the procedure `pkg_ocdm_olap_etl_aw_load.run`.

```
SQL>begin
    pkg_ocdm_olap_etl_aw_load.run;
    end;
    /
SQL>
```

This load typically completes in 30-35 minutes (usually in less than one hour).

3. After the load completes, check the log table `dwc_olap_activity`.

```
SQL> select cubename,load_status,error_dtl from dwc_olap_activity order by
cubename;
    /
SQL>
```

The result should be similar to the following:

```
ACM COMPLETED-SUCCESS
ADM COMPLETED-SUCCESS
AGRMNT COMPLETED-SUCCESS
APM COMPLETED-SUCCESS
CCM COMPLETED-SUCCESS
CHRN COMPLETED-SUCCESS
CMSN COMPLETED-SUCCESS
COM COMPLETED-SUCCESS
CSM COMPLETED-SUCCESS
IAM COMPLETED-SUCCESS
INV COMPLETED-SUCCESS
INVCM COMPLETED-SUCCESS
RVN COMPLETED-SUCCESS
SLS COMPLETED-SUCCESS
```

4. The Oracle Communications Data Model OLAP Analytical Workspace is now successfully loaded with the data in the underlying schema.

3.4.5 Re-Enabling Oracle Database Vault

Describes the process of re-enabling Oracle Database Vault if before installing you disabled Oracle Database Vault, and then you want to re-enable Oracle Database Vault.

Re-Enabling Oracle Database Vault

If you are using Oracle Database Vault and disabled this option before installation then re-enable Oracle Database Vault by taking the following steps:

1. Shutdown the Database, Database Control console process, and listener. For example on UNIX, ensure that the environment variables, ORACLE_HOME, ORACLE_SID, and PATH are correctly set. Log in to SQL*Plus as user SYS with the SYSOPER privilege and shut down the database. Then from the command line, stop the Database Control console process and listener. For example:

```
sqlplus sys as sysoper
Enter password: password
SQL> SHUTDOWN IMMEDIATE
SQL> EXIT
$ emctl stop dbconsole
$ lsnrctl stop listener_name
```

For Oracle RAC installations, shut down each database instance as follows:

```
$ srvctl stop database -d db_name
```

> **Note:**
>
> In Oracle Database 12*c*, Oracle Enterprise Manager Database Express is built into the Oracle database. It requires no special installation or management.

2. Enable Oracle Database Vault:

```
cd $ORACLE_HOME/rdbms/lib
make -f ins_rdbms.mk dv_on
make -f ins_rdbms.mk ioracle
```

3. Startup the Database, Database Control console process, and listener. For example, on UNIX, Log in to SQL*Plus as user SYS with the SYSOPER privilege and restart the instance. Then from the command line, restart the Database Control console process and listener. For example:

```
sqlplus sys as sysoper
Enter password: password
SQL> STARTUP
SQL> EXIT
$ emctl start dbconsole
$ lsnrctl start listener_name
```

For Oracle RAC installations, restart each instance as follows:

```
$ srvctl start database -d db_name
```

4. For Oracle RAC installations, repeat these steps for each node on which the database is installed.

Related Topics:

For an Oracle Database with the Oracle Database Vault enabled, disable the Oracle Database Vault before you install Oracle Communications Data Model.

3.4.6 Ensuring That Oracle Communications Data Model Objects Are Valid

Describes recompiling all objects in `ocdm_sys` schema.

Recompiling Objects in OCDM_SYS

To ensure that all Oracle Communications Data Model objects are valid, log in to the database with a DBA id and password and recompile all objects in OCDM_SYS by issuing the following SQL statements:

```
exec utl_recomp.recomp_serial('OCDM_SYS');
```

3.4.7 Configuring Oracle Data Miner Repository

If you want to use Oracle Data Miner with Oracle Communications Data Model to perform data mining, verify that the Oracle Data Miner Repository is available in the database instance and configure Oracle Communications Data Model for Oracle Data Miner.

1. Check that Oracle Data Miner Repository is installed in the database instance by running the following command as a user with SYSDBA privileges:

   ```
   SELECT SUM(CASE WHEN username = 'ODMRSYS' THEN 1 ELSE 0 END ) AS schema_cnt FROM
   dba_users;
   ```

2. If *schema_cnt* is 0 after this command, then Oracle Data Miner Repository is not in the database. Install Oracle Data Miner Repository using SQL Developer Version 4.1.0.19 or higher. When you unzip the downloaded SQL Developer, it creates the `sqldeveloper` directory. After installation the Oracle Data Miner scripts and the readme files are in the directory`sqldeveloper\datminer\scripts`.

   SQL Developer is available at the site: http://www.oracle.com/technetwork/developer-tools/sql-developer/downloads/index.html

3. If schema_cnt is 1, then Oracle Data Miner Repository exists in the database. The minimum version required is 12.1.0.2.3. To verify the version of Oracle Data Miner Repository, run the following command as a user with SYSDBA privileges:

   ```
   SELECT property_str_value AS version
   FROM odmrsys.odmr_repository_properties
   WHERE property_name= 'VERSION';
   ```

4. If the version is equal to 12.1.0.2.3 or higher, then requirements fulfilled.

5. If version is lower than 12.1.0.2.3, upgrade the existing Oracle Data Miner Repository to 12.1.0.2.3 or higher. Upgrade Oracle Data Miner Repository using SQL Developer version 4.1.0.19 (http://www.oracle.com/technetwork/developer-tools/sql-developer/downloads/index.html). When you unzip the downloaded SQL Developer, it creates `sqldeveloper` directory. You can find Data Miner scripts and readme under `sqldeveloper\dataminer\scripts` directory

1. After the 12.1.0.2.3 or a higher version of Oracle Data Miner Repository is installed, grant privileges on Oracle Data Miner Repository to Oracle Communications Data Model schema (OCDM_SYS). Replace *sqldeveloper_home* with the absolute path of SQL Developer home and then execute following command as a user with SYSDBA privileges:

```
@<sqldeveloper_home>/sqldeveloper/dataminer/scripts/usergrants.sql OCDM_SYS
```

2. Grant following privileges to OCDM_SYS schema:

```
GRANT
        CREATE TABLE,
        CREATE VIEW,
        CREATE MINING MODEL,
        CREATE PROCEDURE,
        CREATE SEQUENCE,
        CREATE TYPE,
        CREATE SYNONYM,
        CREATE ANY INDEX,
        CREATE JOB,
        CREATE RULE,
        CREATE RULE SET,
        CREATE EVALUATION CONTEXT,
        CREATE SESSION
        TO ocdm_sys;

    GRANT EXECUTE ON sys.dbms_random TO ocdm_sys;
    GRANT EXECUTE ON ctx_ddl TO ocdm_sys;
    GRANT EXECUTE ON ctxsys.ctx_ddl TO ocdm_sys;
    GRANT CTXAPP TO ocdm_sys;
    GRANT EXECUTE ON sys.dbms_lock TO ocdm_sys;

    GRANT EXECUTE ON odmrsys.odmr_workflow TO ocdm_sys;

    GRANT SELECT ON odmrsys.odmr_messages TO ocdm_sys;
    GRANT SELECT ON odmrsys.odmr_user_project_workflow TO ocdm_sys;
    GRANT SELECT ON odmrsys.odmr_user_workflow_all TO ocdm_sys;
    GRANT SELECT ON odmrsys.odmr_user_workflow_log TO ocdm_sys;
    GRANT SELECT ON odmrsys.odmr_user_workflow_nodes TO ocdm_sys;
    GRANT SELECT ON odmrsys.odmr_user_workflow_models TO ocdm_sys;
    GRANT SELECT ON odmrsys.odmr_user_wf_clas_test_results TO ocdm_sys;
    GRANT SELECT ON odmrsys.odmr_user_wf_regr_test_results TO ocdm_sys;
    GRANT SELECT ON odmrsys.odmr_user_wf_test_results TO ocdm_sys;
```

3. Create a database directory pointing to Oracle Data Miner workflow xml files. Replace <$ORACLE_HOME> with the absolute path of your database home and then execute the following command as a user with SYSDBA privileges:

```
CREATE DIRECTORY ocdm_odm_workflow_dir AS '<$ORACLE_HOME>/ocdm/pdm/mining/src/
odmr_gui_files/odmr_workflow_xml';
```

4. Grant read, write privileges on database directory *ocdm_odm_workflow_dir* to Oracle Communications Data Model schema (OCDM_SYS). Execute the following command as a user with SYSDBA privileges:

```
GRANT READ, WRITE ON DIRECTORY ocdm_odm_workflow_dir TO ocdm_sys;
```

5. Create Oracle Data Miner utility package for Oracle Communications Data Model mining:

   a. Replace <$ORACLE_HOME with the absolute path of your database home.

    b. Execute the following command as OCDM_SYS user:

```
conn ocdm_sys/<schema password>
@<$ORACLE_HOME schema password>
@<$ORACLE_HOME >/ocdm/pdm/mining/src/odmr_gui_files/
pkg_ocdm_mining_odmr_util.sql;
```

6. Restart SQL Developer. Then, import Oracle Communications Data Model Oracle Data Miner workflows into OCDM_SYS schema. Replace **<$ORACLE_HOME>** with the absolute path of your database home and then execute following command as OCDM_SYS user:

```
conn ocdm_sys/<schema password>@<$ORACLE_HOME>/ocdm/pdm/mining/src/odmr_gui_files/
ocdm_import_odm_workflow.sql;
```

7. In SQL Developer, open Oracle Data Miner connections, add a connection to OCDM_SYS schema. Open the connection to see the Oracle Data Miner project (for OCDM Data Mining_12.1.0.1) and check the following six workflows:

- prepaid_churn_dt_and_svm

- postpaid_churn_dt_and_svm

- customer_segmentation_kmeans

- customer_ltv_srvl_val_glmr

- customer_sentiment_svm

- target_promotion_svm

Check the status of the workflows execution.

3.4.8 Ensuring That PGA_AGGREGATE_TARGET is Set to the Proper Value

To improve performance ensure that the PGA_AGGREGATE_TARGET is set to the proper value.

The value specified for PGA_AGGREGATE_TARGET depends on the physical RAM of your Database Server.

Setting PGA_AGGREGATE_TARGET

Ensure that the WORKAREA_SIZE_POLICY parameter is set to AUTO.

> **Note:**
>
> Setting PGA_AGGREGATE_TARGET to a nonzero value has the effect of automatically setting the WORKAREA_SIZE_POLICY parameter to AUTO.

> **See Also:**
>
> For information on tuning the PGA_AGGREGATE_TARGET initialization parameter, see *Oracle Database Performance Tuning Guide*

4

Installation of Additional Components

Describes how to install Oracle components that you did not need to install before you installed the Oracle Communications Data Model component or sample reports, but that you will use when you are creating an Oracle Communications Data Model data warehouse:

Install Oracle Business Intelligence Suite Extended Edition Catalog (page 4-1)
Provides details on Oracle Communications Data Model usage of the Oracle Business Intelligence Suite Extended Edition for modifying reports.

Installing Analytic Workspace Manager (page 4-2)
Although not required before you install Oracle Communications Data Model, install the Analytic Workspace Manager to view and modify Oracle Communications Data Model OLAP cubes.

4.1 Install Oracle Business Intelligence Suite Extended Edition Catalog

Provides details on Oracle Communications Data Model usage of the Oracle Business Intelligence Suite Extended Edition for modifying reports.

The sample reports provided with Oracle Communications Data Model are created using the Oracle Business Intelligence Suite Extended Edition. In order to modify these reports or to use them as the basis for creating new reports you must have installed Oracle Business Intelligence Suite Extended Edition and have created an Oracle Business Intelligence Suite Extended Edition catalog for Oracle Communications Data Model.

Installing Oracle Business Intelligence Suite Extended Edition

If you installed Oracle Communications Data Model sample reports, you installed Oracle Business Intelligence Suite Extended Edition as a preinstallation step before you ran the installer. If you installed the Oracle Communications Data Model component rather than the sample reports, then install Oracle Business Intelligence Suite Extended Edition.

You also need to add the catalog.

> **Tip:**
>
> To check that Oracle Business Intelligence Suite Extended Edition is installed, follow the instructions in Confirming that Oracle Business Intelligence Suite Enterprise Edition is Installed (page 3-3).

See Also

Installing RPD and Web Catalog for Oracle Business Intelligence Suite Enterprise Edition (page 3-16).

4.2 Installing Analytic Workspace Manager

Although not required before you install Oracle Communications Data Model, install the Analytic Workspace Manager to view and modify Oracle Communications Data Model OLAP cubes.

Analytic Workspace Manager is installed as a standalone product. The latest version of Analytic Workspace Manager is available at the Oracle OLAP home page at http://www.oracle.com/technetwork/database/options/olap/index.html. Installation instructions are included in the documentation.

5

Backup, Recovery, and Deinstallation of Oracle Communications Data Model

Describes the deinstallation steps for Oracle Communications Data Model.

Includes information on backing up and recovering Oracle Communications Data Model and steps for deinstalling.

Backing Up and Recovering Oracle Communications Data Model (page 5-1)

Overview: Deinstalling Oracle Communications Data Model (page 5-2)

5.1 Backing Up and Recovering Oracle Communications Data Model

Backing up and recovering Oracle Communications Data Model involves:

Exporting Oracle Communications Data Model (page 5-1)

Importing Oracle Communications Data Model (page 5-1)

5.1.1 Exporting Oracle Communications Data Model

Do the following to backup Oracle Communications Data Model:

- Backup the `OCDM_SYS` schema by executing the `expdp` utility.

  This utility exports all physical tables containing the data, any OLAP analytical workspaces, and trained mining models.

Related Topics:

Oracle Database Utilities

5.1.2 Importing Oracle Communications Data Model

Do the following to restore Oracle Communications Data Model from the backup files:

- Restore the `OCDM_SYS` schema by executing the `impdp` utility.

  This utility imports all physical tables containing the data, OLAP analytical workspaces, and trained mining models.

Related Topics:

Oracle Database Utilities

5.2 Overview: Deinstalling Oracle Communications Data Model

To deinstall Oracle Communications Data Model, you do *not* simply run Oracle Universal Installer in deinstall mode. Instead, you perform the following tasks:

1. Backup Oracle Communications Data Model.

2. Stop any sessions that use the Oracle Communications Data Model schemas.

3. Execute the deinstallation script.

4. If you are deinstalling the sample reports, perform the post deinstallation tasks.

Note:

To deinstall Oracle Communications Data Model, you do *not* simply run the Oracle Universal Installer in deinstall mode.

Pre-Deinstallation Tasks (page 5-2)
> Describes the pre-deinstallation tasks to perform before you run the deinstallation script.

Deinstallation Execution (page 5-3)
> Lists the steps for deinstalling Oracle Communications Data Model.

Post-Deinstallation Tasks (page 5-3)
> Provides the steps for post-deinstallation cleanup.

Related Topics:

Exporting Oracle Communications Data Model (page 5-1)

5.2.1 Pre-Deinstallation Tasks

Describes the pre-deinstallation tasks to perform before you run the deinstallation script.

The deinstallation script removes the `ocdm_sys` schema.

Identifying if the ocdm_sys schema is active

Consequently, before you run the deinstallation script, ensure that there are no active sessions that connect to the `ocdm_sys` schema.

To identify if there are active sessions connecting to these schemas perform the following steps:

1. Sign in as DBA.

2. Execute the following SQL statements:

```
select SID,SERIAL# from v$session where USERNAME='OCDM_SYS';
```

If this query returns a session ID, then there is an active session.

Example 5-1   Ending an active ocdm_sys schema session

To end an active session, execute the following statements in which you replace *sid* and *serial*, the session ID and serial number returned by the earlier query:

```
alter system kill session 'sid,serial' ;
```

5.2.2 Deinstallation Execution

Lists the steps for deinstalling Oracle Communications Data Model.

To deinstall Oracle Communications Data Model:

1. Set the ORACLE_HOME to the location of the Database on which to deinstall Oracle Communications Data Model.

   For example, suppose that Oracle home is in the directory `/loc/app/oracle/product/12.1/`

   In a Bourne, Bash, or Korn shell, use these commands to set ORACLE_HOME:

   ```
   $ ORACLE_HOME=/loc/app/oracle/product/12.1/
   $ export ORACLE_HOME
   ```

   In a C shell, use this command to set ORACLE_HOME:

```
% setenv ORACLE_HOME /loc/app/oracle/product/12.1/
```

2. Execute the Oracle Communications Data Model deinstallation script:

   ```
   $ORACLE_HOME/ocdm/ocdm_deinstall.sh
   ```

3. When prompted, enter the SYSTEM password.

   The script de-configures Oracle Communications Data Model and executes the Oracle Universal Installer in deinstall silent mode.

5.2.3 Post-Deinstallation Tasks

Provides the steps for post-deinstallation cleanup.

If you are deinstalling the Oracle Communications Data Model sample reports, then follow these steps to perform additional cleanup:

1. Delete `ocdm.rpd` in the directory *BIHome*`/Server/Repository`.

2. Delete the `ocdmwebcat` folder in *BIDataHome*`/web/catalog`.

3. Delete the following line from *BIHome*`/Server/Config/NQSConfig.INI`:

   ```
   Star    =    ocdm.rpd, DEFAULT
   ```

6

Installing Oracle Communications Data Model on Oracle Cloud

Describes how to install Oracle Communications Data Model on Oracle Cloud.

Installing Oracle Communications Data Model on Oracle Cloud (page 6-1)
> To install Oracle Communications Data Model on Oracle Cloud, use the Oracle Database Cloud Service and the Oracle Business Intelligence Cloud Service.

Oracle Database Cloud Service Requirements (page 6-2)
> Installing Oracle Communications Data Model on Oracle Cloud requires a correctly configured Oracle Database Cloud Service instance.

Install Oracle Communications Data Model on Oracle Cloud (page 6-7)
> Install Oracle Communications Data Model on Oracle Database Cloud Service after you complete the configuration. Oracle Communications Data Model shiphome for the on-premise install is the same as the Cloud version.

Oracle Business Intelligence Cloud Service Requirements (page 6-12)
> Installing Oracle Communications Data Model on Oracle Cloud requires a configured Oracle Business Intelligence Cloud Service instance.

Uploading Oracle Communications Data Model RPD to Oracle Business Intelligence Cloud Service (page 6-16)
> You upload the modified on-premise Oracle Communications Data Model RPD to Oracle Business Intelligence Cloud Service.

Uploading Oracle Communications Data Model Catalog to Oracle Business Intelligence Cloud Service (page 6-19)
> After you create an Oracle Business Intelligence Cloud Service instance and upload the modified on-premise Oracle Communications Data Model RPD to Oracle Business Intelligence Cloud Service, then upload the OCDM catalog.

6.1 Installing Oracle Communications Data Model on Oracle Cloud

To install Oracle Communications Data Model on Oracle Cloud, use the Oracle Database Cloud Service and the Oracle Business Intelligence Cloud Service.

See the following to obtain the required cloud services: http://docs.oracle.com/cloud/latest/trial_paid_subscriptions/index.html.

After the Oracle Cloud subscriptions are processed and the Oracle Cloud account is set up, you deploy Oracle Communications Data Model on Oracle Cloud.

6.2 Oracle Database Cloud Service Requirements

Installing Oracle Communications Data Model on Oracle Cloud requires a correctly configured Oracle Database Cloud Service instance.

Creating a Secure Shell (SSH) Public/Private Key Pair (page 6-2)
> Create an SSH key pair with a public key and a private key to access the Oracle Database Cloud Service instance.

Creating the Oracle Database Cloud Service Instance (page 6-2)
> If the subscription type allows you to create an Oracle Database Cloud Service instance, then create the Oracle Database Cloud Service instance from the Cloud My Services console.

Requirements for Service and Database Configuration Parameters (page 6-3)
> Specifies the service configuration and database configuration requirements for Oracle Communications Data Model installation.

Requirements for Backup and Recovery Configuration Parameters (page 6-5)
> Specifies the backup and recovery configuration requirements for Oracle Communications Data Model installation.

Monitoring Oracle Database Cloud Service Status (page 6-6)
> After the Oracle Database Cloud Service request is accepted, you can monitor the status of the Oracle Database Cloud Service instance.

6.2.1 Creating a Secure Shell (SSH) Public/Private Key Pair

Create an SSH key pair with a public key and a private key to access the Oracle Database Cloud Service instance.

The SSH public key is used when you request the Oracle Database Cloud Service instance. After the Oracle Database Cloud Service instance is created you can access the instance by authenticating with the SSH private key.

1. By default, network access to the compute nodes associated with Oracle Database Cloud - Database as a Service is provided by Secure Shell (SSH). The first step to access the network is to create an SSH key pair.

> **See Also:**
>
> For more information, see Generating a Secure Shell (SSH) Public/Private Key Pair

6.2.2 Creating the Oracle Database Cloud Service Instance

If the subscription type allows you to create an Oracle Database Cloud Service instance, then create the Oracle Database Cloud Service instance from the Cloud My Services console.

If you are using a trial subscription, the Oracle Database Cloud Service instance is provided by Oracle and a service instance is provided in the My Services console.

1. To create a Oracle Database Cloud Service Instance, see: Creating a Database Deployment.

6.2.3 Requirements for Service and Database Configuration Parameters

Specifies the service configuration and database configuration requirements for Oracle Communications Data Model installation.

Oracle Database Cloud Service Configuration

Check the following table for detailed service configuration parameter information:

> **Note:**
>
> There are several parameters that are mandatory for which you must provide input.

Table 6-1   Oracle Database Cloud Service Service Configuration Requirements

Parameter Name	Parameter Description	Mandatory/ Optional	Valid Values/Format
Service Name	Name of Oracle Database Cloud Service instance	Mandatory	Must not exceed 50 characters. Must start with a letter. Must contain only letters, numbers, or hyphens. Must not contain any other special characters. Must be unique within the identity domain.
Description	Free-form text that provides additional information about the service instance	Optional	No Value
Service Level	Service level for the service instance	Mandatory	Oracle Database Cloud Service
Metering Frequency	Metering frequency for chosen Service Level.	Mandatory	Hourly Monthly
Software Release	Oracle Database software version	Mandatory	Oracle Database 12c Release 1
Software Edition	Database edition for the service instance	Mandatory	Enterprise Edition – High Performance or Enterprise Edition – Extreme Performance
Database Type	Database Type	Mandatory	Single Instance

Oracle Database Cloud Service Database Configuration

> **Note:**
>
> There are several parameters that are mandatory for which you must provide input.

Table 6-2   Oracle Database Cloud Service Database Configuration Requirements

Parameter Name	Parameter Description	Mandatory/ Optional	Default Value	Valid Values/Format
DB Name (SID)	Database Name (sid) for the Database as a Service instance	Mandatory	ORCL	string
PDB Name	Pluggable Database Name for the Database as a Service instance.	Mandatory	PDB1	string
Administration Password	Password for Oracle Database administrator users sys and system.	Mandatory	No value	Starts with a letter;Between 8 and 30 characters long;Contains letters, at least one number, and optionally, any number of these special characters: dollar sign ($), pound sign (#), and underscore (_);
Usable Database Storage	Storage volume size for data. Default value is 25GB. Minimum allowed size is 15GB. Maximum allowed size is 500GB if backup destination is specified and 1000GB if no backup destination is specified.	Mandatory	25	15 to 500

Compute Shape	Desired compute shape. A shape defines the number of Oracle Compute Units (OCPUs) and amount of memory (RAM)	Mandatory	`oc3: 1 OCPU, 7.5 GB memory`	`oc3: 1 OCPU, 7.5 GB memory`
				`oc4: 2 OCPUs, 15 GB memory`
				`oc5: 4 OCPUs, 30 GB memory`
				`oc6: 8 OCPUs, 15 GB memory`
				`oc1m: 1 OCPU, 15 GB memory`
				`oc2m: 2 OCPUs, 30 GB memory`
				`oc3m: 4 OCPUs, 60 GB memory`
				`oc4m: 8 OCPUs, 120 GB memory`

Table 6-2   (Cont.) Oracle Database Cloud Service Database Configuration Requirements

Parameter Name	Parameter Description	Mandatory/ Optional	Default Value	Valid Values/Format
SSH Public Key	Public key for the secure shell (SSH). This key will be used for authentication when connecting to the Database as a Service instance using an SSH client. You generate an SSH public-private key pair using a standard SSH key generation tool.	Mandatory	No Value	No Value

6.2.4 Requirements for Backup and Recovery Configuration Parameters

Specifies the backup and recovery configuration requirements for Oracle Communications Data Model installation.

Oracle Database Cloud Service Backup and Recovery Configuration

> **Note:**
>
> There are several parameters that are mandatory for which you must provide input.

Table 6-3   Oracle Database Cloud Service Database Backup and Recovery Requirements

Parameter Name	Parameter Description	Mandatory/ Optional	Default Value	Valid Values/Format
Backup Destination	Backup destination	Mandatory	Both Cloud Storage and Local Storage	• Both Cloud Storage and Local Storage • Cloud Storage Only • None
Cloud Storage Container	Name of the Oracle Storage Cloud Service container used to provide storage for your service instance backups. Use the following format to specify the container name: *<storageservicename>-<storageidentitydomain>/<containername>*	Provide when Backup Destination *is not* set to None	No Value	No Value
Cloud Storage Username	Username for the Oracle Storage Cloud Service administrator.	Provide when Backup Destination *is not* set to None	No Value	No Value

Table 6-3   (Cont.) Oracle Database Cloud Service Database Backup and Recovery Requirements

Parameter Name	Parameter Description	Mandatory/ Optional	Default Value	Valid Values/Format
Cloud Storage Password	Password for the Oracle Storage Cloud Service administrator	Provide when Backup Destination *is not* set to None	No Value	No Value
Create Cloud Storage Container	This item is a **check box**. Check this option if you want to create a new container with the information specified above.	Provide when Backup Destination *is not* set to None	No Value	No Value

6.2.5 Monitoring Oracle Database Cloud Service Status

After the Oracle Database Cloud Service request is accepted, you can monitor the status of the Oracle Database Cloud Service instance.

To monitor the status of the Oracle Database Cloud Service instance view the console (https://dbaas.oraclecloud.com/dbaas).

1. The following figure shows the Oracle Database Cloud Service instance creation with status "In Progress":

   It takes about 20 minutes to create the Oracle Database Cloud Service instance.

2. Click the service name to show the details of the service such as *Public IP*, *SQL *NetPort*, *SID*, *PDB Name*, *Connect String*. The following figure shows details for **OCDM-Product** Oracle Database Cloud Service instance:

Related Topics:

6.3 Install Oracle Communications Data Model on Oracle Cloud

Install Oracle Communications Data Model on Oracle Database Cloud Service after you complete the configuration. Oracle Communications Data Model shiphome for the on-premise install is the same as the Cloud version.

> Connect to Oracle Database Cloud Service VM (page 6-8)
> > Connect to the Oracle Database Cloud Service VM.

> Adding the SYSTEM Username and Password to the Wallet (page 6-8)
> > Connect to the Oracle Database Cloud Service and set the SYSTEM password in the wallet for the Oracle Communications Data Model installation.

> Install Oracle Communications Data Model Shiphome (page 6-8)
> > Provides the steps required to run the install script to install the Oracle Communications Data Model shiphome.

> Monitor Oracle Communications Data Model Installation Status (page 6-10)
> > The "Communications Data Model" installation takes about fifteen minutes; the "Sample Reports" installation takes about 30 minutes. Check the progress of the installation in the log files.

> Unlock Oracle Communications Data Model Database Accounts (page 6-11)
> > The **Communications Data Model** installation option creates the Oracle Database accounts: ocdm_sys, ocdm_user, and ocdm_report. The **Sample_Reports** installation option creates the Oracle Database account:

ocdm_sample. The accounts are locked. Depending on the installation type, unlock the accounts and set the passwords.

6.3.1 Connect to Oracle Database Cloud Service VM

Connect to the Oracle Database Cloud Service VM.

1. From a Linux machine, connect to the existing Oracle Database Cloud Service instance with SSH as oracle user:

```
SSH: ssh oracle@DBCS_VM_Public_IP_Address -i ssh_private_key
```

Related Topics:

Connecting to a Compute Node Through Secure Shell (SSH)

Using a TNS Alias instead of a DB Connect String

6.3.2 Adding the SYSTEM Username and Password to the Wallet

Connect to the Oracle Database Cloud Service and set the SYSTEM password in the wallet for the Oracle Communications Data Model installation.

1. Oracle Database Cloud Service instance comes with default wallet, **db_wallet**. Add SYSTEM username and password to **db_wallet**:

```
mkstore -wrl /u01/app/oracle/admin/Container_DB_Name/db_wallet -createCredential TNS_Alias_of_PDB
SYSTEM SYSTEM_password
```

Where: **Container_DB_Name**: is the SID of the Database.

Note:

Enter the **Container_DB_Name**, SID name in the same case as you provided while requesting the Oracle Database Cloud Service instance.

Related Topics:

Connecting to a Compute Node Through Secure Shell (SSH)

Using a TNS Alias instead of a DB Connect String

6.3.3 Install Oracle Communications Data Model Shiphome

Provides the steps required to run the install script to install the Oracle Communications Data Model shiphome.

1. Download the shiphome from eDelivery (https://edelivery.oracle.com). Rename the downloaded file to **ocdm.zip**.

2. Create **oidm** directory in **oracle** user home directory:

```
[oracle@DBCS_Service_Name ~]$ cd /home/oracle
[oracle@DBCS_Service_Name ~]$ mkdir oidm
```

3. Change directory to **oidm:**

```
[oracle@DBCS_Service_Name ~]$ cd oidm
```

4. Download the **oidm_install.sh** script from the cloud storage container:

```
[oracle@DBCS_Service_Name oidm]$ wget https://storage.us2.oraclecloud.com/v1/dbcsswlibd-usoracle13098/OIDM/
oidm_install.sh
```

5. Modify the permissions for the **oidm_install.sh** script:

```
[oracle@DBCS_Service_Name oidm]$ chmod 755 oidm_install.sh
```

6. Copy the downloaded Oracle Communications Data Model shiphome from your Linux machine to */home/oracle/oidm* directory on the Oracle Database Cloud Service instance. Ensure you are in the shell of your Linux machine, not the Oracle Database Cloud Service VM shell:

```
[user@your_linux_host_name current_directory_name]$ scp -i ssh_private_key OCDM_shiphome_path
oracle@DBCS_VM_Public_IP_Address:/home/oracle/oidm
```

Where: *OCDM_shiphome_path*: is the file ocdm.zip. When this .zip file is unzipped it creates the ocdm directory.

7. Connect to Oracle Database Cloud Service VM and run the **oidm_install.sh** script and include the required parameters. The following table shows Oracle Communications Data Model configuration parameters:

Table 6-4   Oracle Communications Data Model Installation Configuration Parameters

Parameter Name	Parameter Description	Mandatory/Optional	Default Value	Valid Values or Format
db_oidm_prod_name	OIDM Product name	Mandatory	NONE	OCDM
db_oidm_install_type	Install Type	Optional	Communications_Data_Model	Communications_Data_Model, Sample_Reports
db_oidm_cl_strt_dt	Calendar Start Date	Optional	"2016-01-01"	YYYY-MM-DD
db_oidm_cl_nbr_yrs	Calendar Number of Years	Optional	5	Number
db_oidm_intvl_prtn_start_dt	Interval Partition Start Date	Optional	No value	YYYY-MM-DD
db_oidm_nbr_of_hash_prtn_org	Number of Hash Partitions for Organization	Optional	4	Number
db_oidm_nbr_of_hash_prtn_cust	Number of Hash Partitions for Customer	Optional	4	Number
db_oidm_nbr_of_hash_prtn_accs_mthd	Number of Hash Partitions for Access Method	Optional	4	Number
db_oidm_nbr_of_hash_prtn_acct	Nuymber of Hash Partitions for Account	Optional	4	Number

Table 6-4 (Cont.) Oracle Communications Data Model Installation Configuration Parameters

Parameter Name	Parameter Description	Mandatory/Optional	Default Value	Valid Values or Format
db_oidm_nbr_of_hash_prtn_agrmnt	Number of Hash Partitions for Agreement	Optional	4	Number

8. You can also pass Oracle Database parameters to the script. If you have multiple pluggable databases (PDBs) in your container database, then you must pass the PDB name. The following table shows the Oracle Database parameters that you can pass to **oidm_install.sh** script:

Table 6-5 Oracle Communications Data Model Database Installation Parameters

Parameter Name	Parameter Description
ohome	Oracle Database Home
obase	Oracle Base
datafile_loc	Data file Location
sid	Container Database Identifier
pdb_name	Pluggable Database Name
system_passwd	SYSTEM user password.

> **Note:**
>
> It is not recommended to pass the SYSTEM password from command line for security reasons. It is recommended to store the SYSTEM password in the DB wallet. The script retrieves the password from the default wallet.

> **Note:**
>
> Enter the **pdb_name** in the same case as you provided while requesting the Oracle Database Cloud Service instance.

For example:

```
[oracle@DBCS_Service_Name oidm]$ ./oidm_install.sh db_oidm_prod_name=OCDM pdb_name=PDBORCL
db_oidm_install_type=Communications_Data_Model
```

Related Topics:

Connect to the Oracle Database Cloud Service VM.

6.3.4 Monitor Oracle Communications Data Model Installation Status

The "Communications Data Model" installation takes about fifteen minutes; the "Sample Reports" installation takes about 30 minutes. Check the progress of the installation in the log files.

1. Connect to Oracle Database Cloud Service instance using `SSH`:

   ssh oracle@***DBCS_VM_Public_IP_Address*** -i ***ssh_private_key***
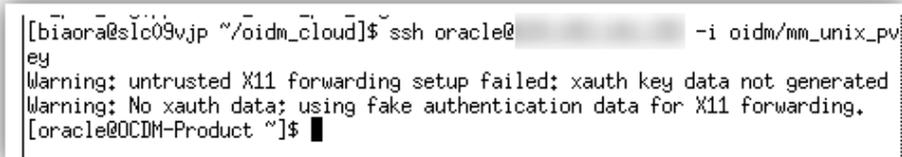
   ```
   [biaora@slc09vjp ~/oidm_cloud]$ ssh oracle@            -i oidm/mm_unix_pv
   ey
   Warning: untrusted X11 forwarding setup failed: xauth key data not generated
   Warning: No xauth data; using fake authentication data for X11 forwarding.
   [oracle@OCDM-Product ~]$ ■
   ```

2. Check the log files to monitor OCDM installation status:

   ```
   /home/oracle/tmp/name.out [Only for Fresh DBCS Instance]
   /home/oracle/oidm/ocdm_install.sav
   /u01/app/oracle/cfgtoollogs/ocdm/ocdm_timestamp.log
   ```

   After the installation completes, check the messages in **ocdm_install.sav**:

   ```
   OCDM "OCDM_install_type" option Setup Completed Successfully.

   OR

   OCDM "OCDM_install_type" option Setup Completed With Errors.
   Check OCDM install config log at /u01/app/oracle/cfgtoollogs/ocdm directory.
   ```

   If you see the first message, then the Oracle Communications Data Model installation completed successfully, otherwise the installation completed with errors.
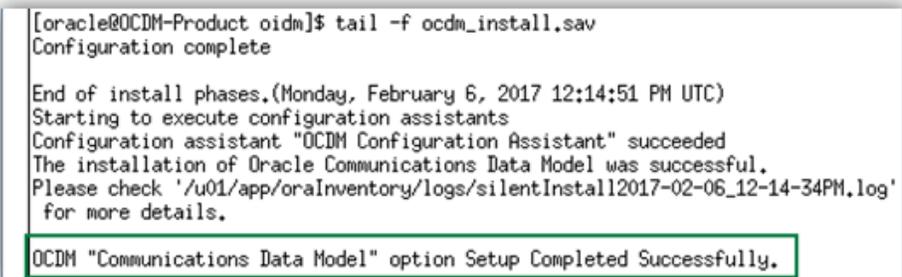
   ```
   [oracle@OCDM-Product oidm]$ tail -f ocdm_install.sav
   Configuration complete

   End of install phases.(Monday, February 6, 2017 12:14:51 PM UTC)
   Starting to execute configuration assistants
   Configuration assistant "OCDM Configuration Assistant" succeeded
   The installation of Oracle Communications Data Model was successful.
   Please check '/u01/app/oraInventory/logs/silentInstall2017-02-06_12-14-34PM.log'
    for more details.

   OCDM "Communications Data Model" option Setup Completed Successfully.
   ```

6.3.5 Unlock Oracle Communications Data Model Database Accounts

The **Communications Data Model** installation option creates the Oracle Database accounts: ocdm_sys, `ocdm_user`, and ocdm_report. The **Sample_Reports** installation option creates the Oracle Database account: ocdm_sample. The accounts are locked. Depending on the installation type, unlock the accounts and set the passwords.

1. Log in as SYSTEM account:

   sqlplus system@***pdb_name***

2. For the **Communications Data Model** installation option enter the SYSTEM password when prompted and unlock the accounts and modify the passwords:

```
alter user ocdm_sys account unlock identified by new_password;
alter user ocdm_user account unlock identified by new_password;
alter user ocdm_report account unlock identified by new_password;
```

3. For the **Sample_Reports** installation option enter the SYSTEM password when prompted and unlock the account and modify the password:

```
alter user ocdm_sample account unlock identified by new_password;
```

```
[oracle@OCDM-Product oidm]$ sqlplus system@pdborcl

SQL*Plus: Release 12.1.0.2.0 Production on Mon Feb 6 12:32:20 2017

Copyright (c) 1982, 2014, Oracle.  All rights reserved.

Enter password:
Last Successful login time: Mon Feb 06 2017 12:30:38 +00:00

Connected to:
Oracle Database 12c EE High Perf Release 12.1.0.2.0 - 64bit Production
With the Partitioning, OLAP, Advanced Analytics and Real Application Testing options

SQL> alter user ocdm_sys account unlock identified by ocdm_user;

User altered.

SQL> alter user ocdm_user account unlock identified by ocdm_sys;

User altered.

SQL> alter user ocdm_report account unlock identified by ocdm_report;

User altered.
```

6.4 Oracle Business Intelligence Cloud Service Requirements

Installing Oracle Communications Data Model on Oracle Cloud requires a configured Oracle Business Intelligence Cloud Service instance.

The Oracle Communications Data Model product includes the OCDM reports RPD and catalog. To use the out of the box sample reports, upload the RPD and catalog to Oracle Business Intelligence Cloud Service instance. If you already have the Oracle Business Intelligence Cloud Service instance, skip the first step.

Creating the Oracle Business Intelligence Cloud Service Instance (page 6-13)
> If the subscription type allows you to create an Oracle Business Intelligence Cloud Service instance, you create the Oracle Business Intelligence Cloud Service instance from the Cloud My Services console. If you are using a trial subscription, the instance is provided by Oracle and a service instance is provided in the My Services console.

Downloading Oracle Communications Data Model RPD and Catalog
(page 6-13)
> Oracle Communications Data Model installation copies product files to $ORACLE_HOME/ocdm directory on the Oracle Database Cloud Service instance.

> Describes required modifications for the RPD file for Data Source Name, User Name, and Password for accessing the Oracle Communications Data Model reports.

6.4.1 Creating the Oracle Business Intelligence Cloud Service Instance

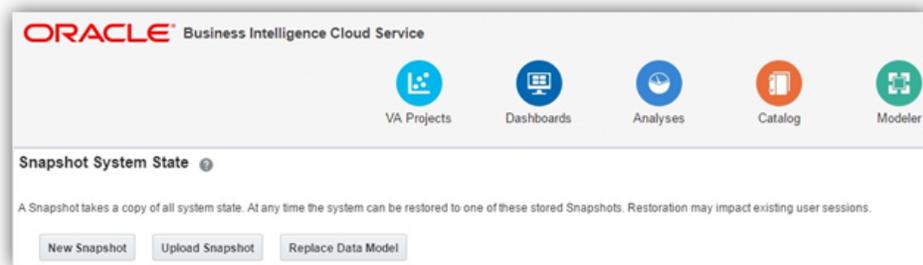If the subscription type allows you to create an Oracle Business Intelligence Cloud Service instance, you create the Oracle Business Intelligence Cloud Service instance from the Cloud My Services console. If you are using a trial subscription, the instance is provided by Oracle and a service instance is provided in the My Services console.

1. To create a Oracle Business Intelligence Cloud Service Instance, see: Creating a Service Instance.

6.4.2 Downloading Oracle Communications Data Model RPD and Catalog

Oracle Communications Data Model installation copies product files to $ORACLE_HOME/ocdm directory on the Oracle Database Cloud Service instance.

1. Listing the OCDM installation directory shows the contents, including the report directory that contains the Catalog and RPD files.

2. Download ocdm.rpd and ocdm.catalog from Oracle Database Cloud Service instance to your local windows machine. You can find those files in the $ORACLE_HOME/ocdm/report directory on the Oracle Database Cloud Service instance:

6.4.3 Modifying Oracle Communications Data Model RPD

Describes required modifications for the RPD file for Data Source Name, User Name, and Password for accessing the Oracle Communications Data Model reports.

After you download the RPD ocdm.rpd to the windows machine, ensure that the Oracle Business Intelligence Developer Client tool is installed on the windows machine. If you do not have the Client tool, download it from OTN and install:

• Accept the OTN License Agreement on the following page:

http://www.oracle.com/technetwork/middleware/bi-enterprise-edition/downloads/index.html

- Download the appropriate Oracle Business Intelligence Developer Client Tool from OTN and install:

  http://download.oracle.com/otn/nt/bi/111190/biee_client_install_x64.zip

  or

  http://download.oracle.com/otn/nt/bi/1221/Setup_BI_Client_12.2.1.0.0_Windows.X64.zip

1. Open Oracle Business Intelligence Developer Client Tool and open the RPD in offline mode. The RPD is password protected, so contact Oracle Support for the RPD password. After you enter the RPD password, modify the following properties of Connection Pool object of all databases in RPD physical layer:

   a. Modify **Data Source Name**, TNS string of Oracle Database Cloud Service instance PDB, where OCDM is installed.

      For example:

```
(DESCRIPTION = (ADDRESS = (PROTOCOL = TCP)(HOST = <DBCS VM Public IP>)(PORT = <DB Port>))
(CONNECT_DATA = (SERVER = DEDICATED) (SERVICE_NAME = <PDB name in Upper Case>.<Cloud Identity
Name>.oraclecloud.internal) ) )
```

   b. Modify User Name, the OCDM database user name.

      For example:. **ocdm_sys** for "Communications Data Model" install type and **ocdm_sample** for "Sample Reports".

   c. Modify **Password**, the OCDM database user password.
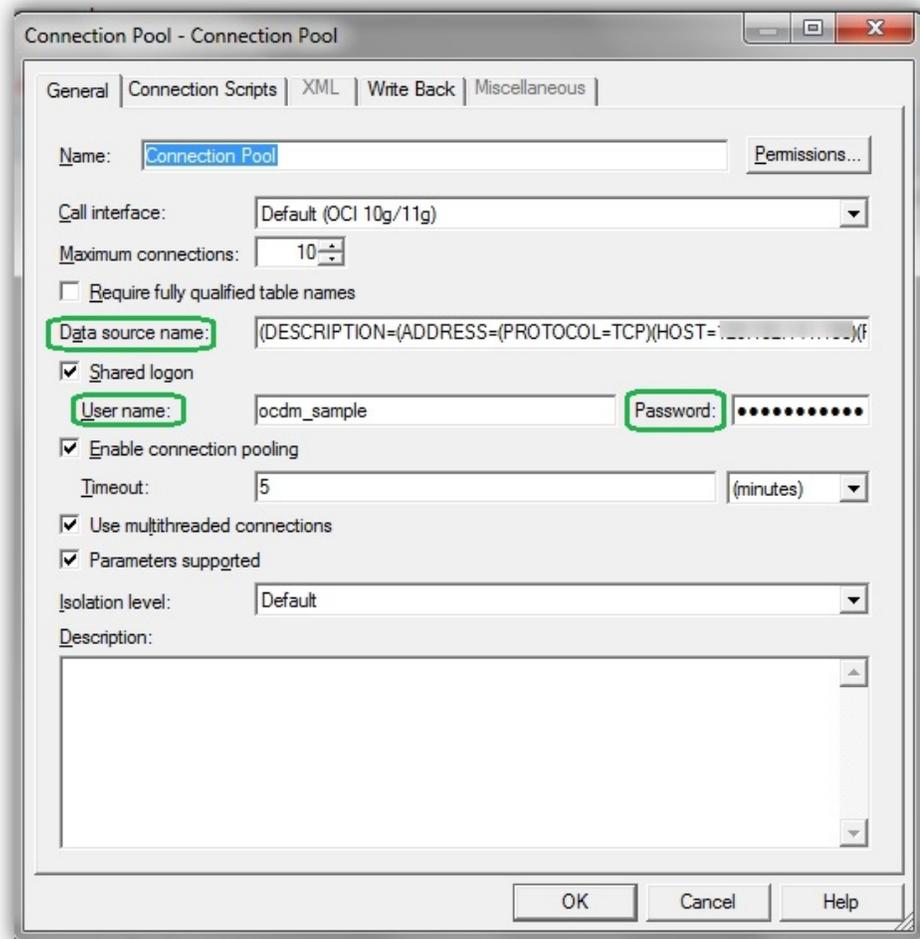
2. After modifying the connection pool properties for the servers in the RPD physical layer, save the RPD. When you click **OK**, Oracle BI Administration Tool prompts to check Global Consistency:
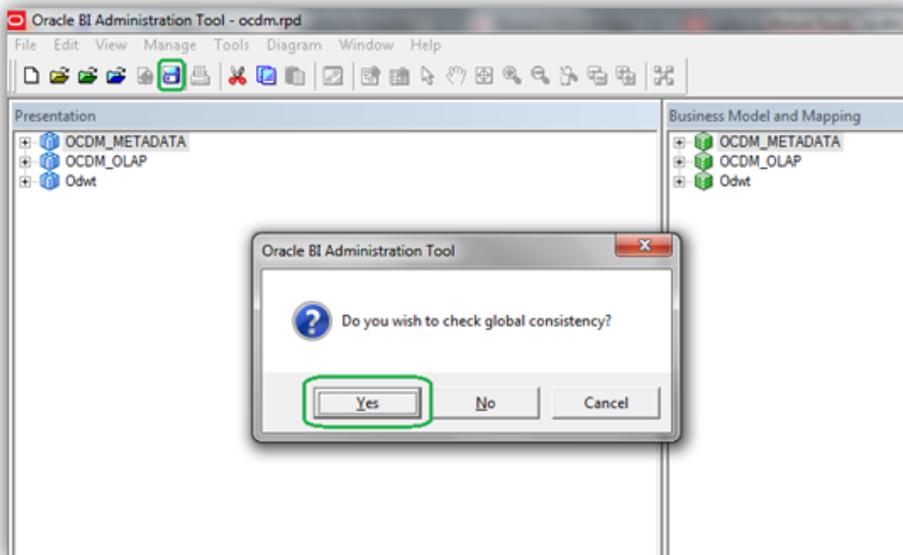
3. Click **Yes** and check for errors.

6.5 Uploading Oracle Communications Data Model RPD to Oracle Business Intelligence Cloud Service

You upload the modified on-premise Oracle Communications Data Model RPD to Oracle Business Intelligence Cloud Service.

You should already have an Oracle Business Intelligence Cloud Service instance. To determine the Oracle Business Intelligence Cloud Service instance URL, go to My Services (http://myservices.us.oraclecloud.com) console, click the Oracle Business Intelligence Cloud Service instance, and then find the Service Instance URL

1. Open the Oracle Business Intelligence Cloud Service instance URL in your browser:
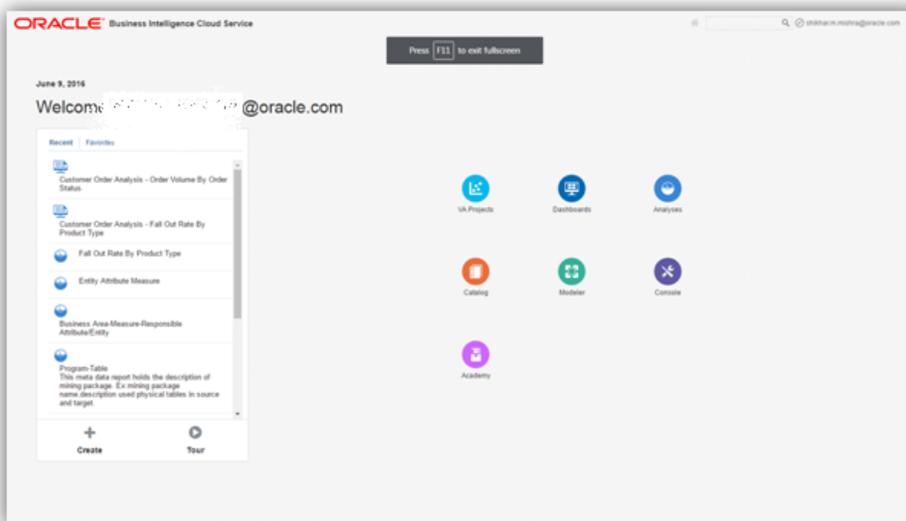
2. From the home page, navigate to *Console -> Snapshots and Models* Click *Console -> Snapshots and Models* to show the Snaphot System State:
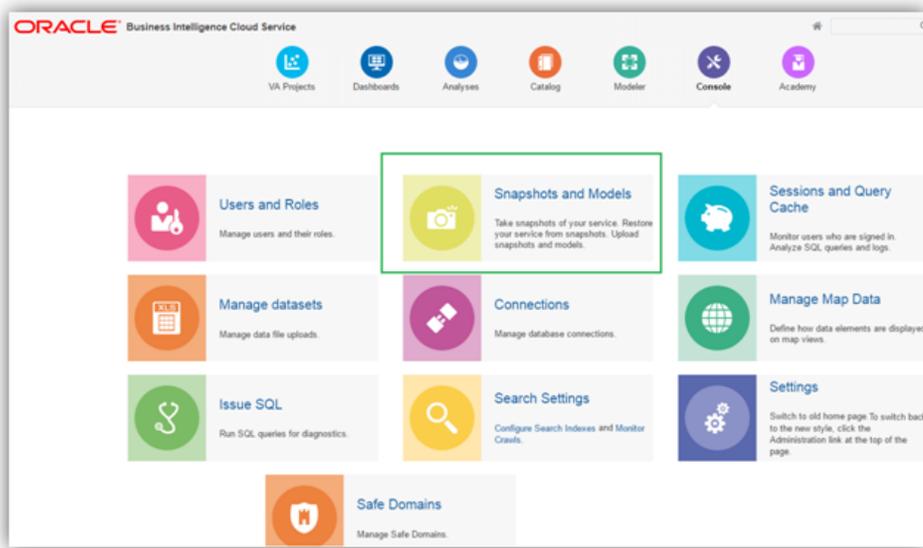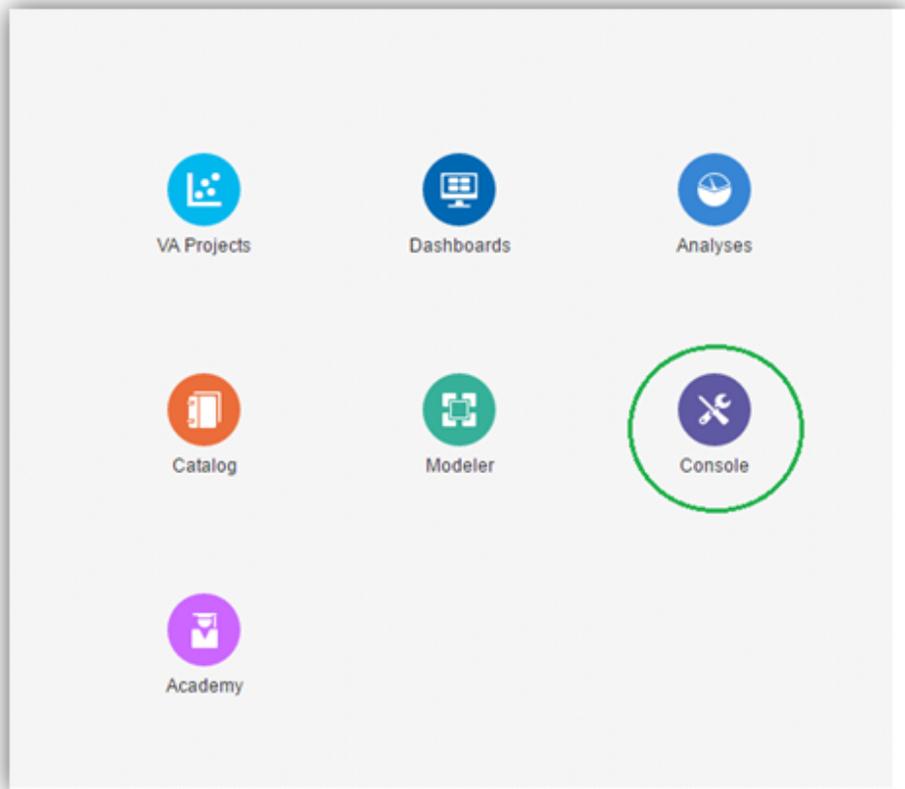
3. Click *Replace Data Model* to upload the modified on-premise repository, `ocdm.rpd`.
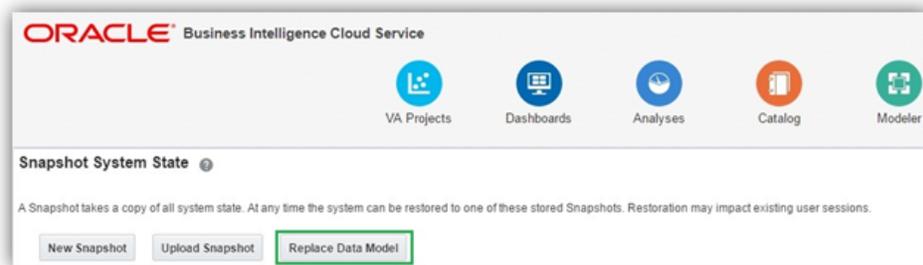
4. Browse to select `ocdm.rpd`. Enter the RPD password, and click **OK**.
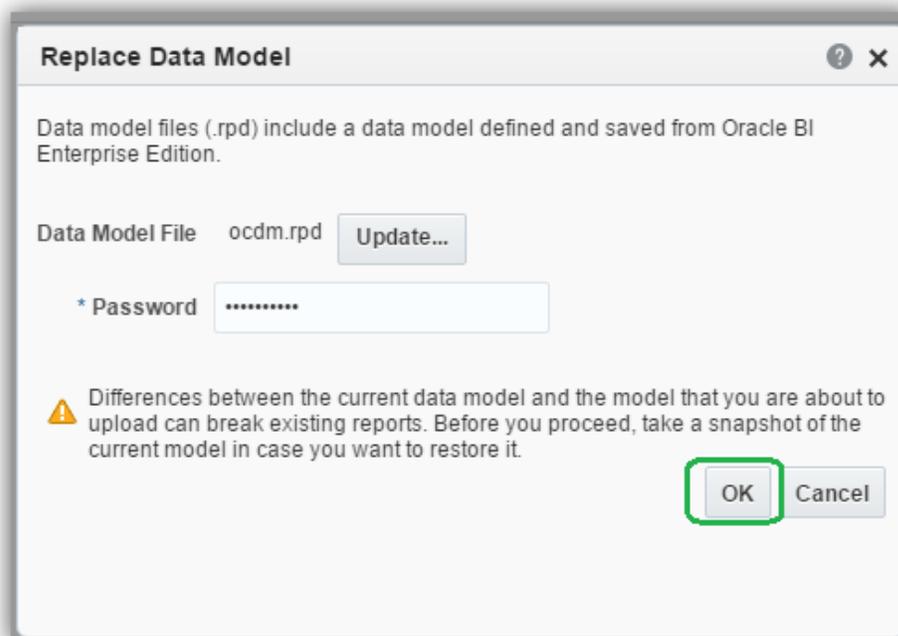
The Oracle Business Intelligence Cloud Service console shows a message if the RPD uploads successfully. Otherwise the display shows an error message.

6.6 Uploading Oracle Communications Data Model Catalog to Oracle Business Intelligence Cloud Service

After you create an Oracle Business Intelligence Cloud Service instance and upload the modified on-premise Oracle Communications Data Model RPD to Oracle Business Intelligence Cloud Service, then upload the OCDM catalog.

You should already have an Oracle Business Intelligence Cloud Service instance. To determine the Oracle Business Intelligence Cloud Service instance URL, go to My Services (http://myservices.us.oraclecloud.com) page, click the Oracle Business Intelligence Cloud Service instance, then find the Service Instance URL.

1. Open the Oracle Business Intelligence Cloud Service instance URL in your browser. From the home page, navigate to **Catalog**.
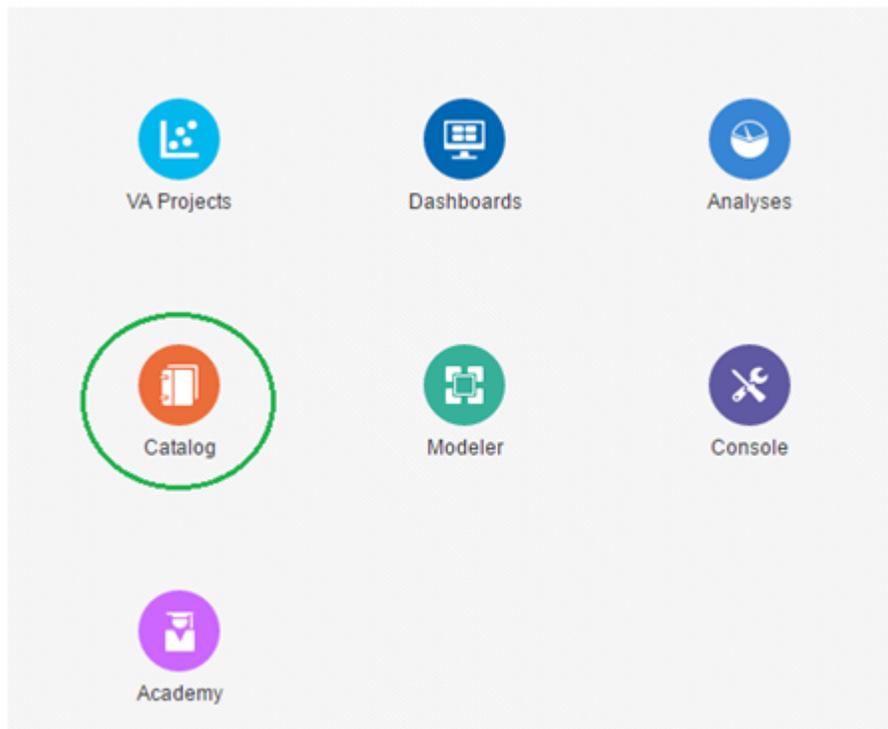
2. Click the **Company Shared** folder in the **Folders** pane.
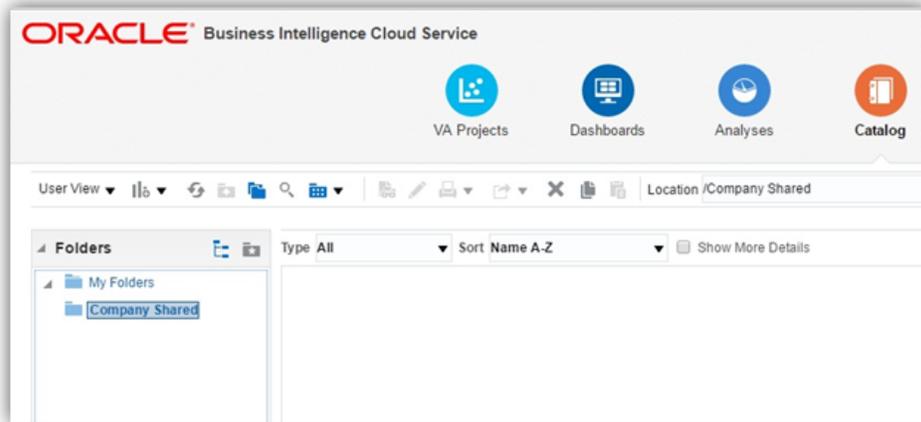
3. By default, the **Company Shared** folder contains the **Sample App** folder of the Sample App catalog. Create a new folder OCDM in the **Company Shared** folder.
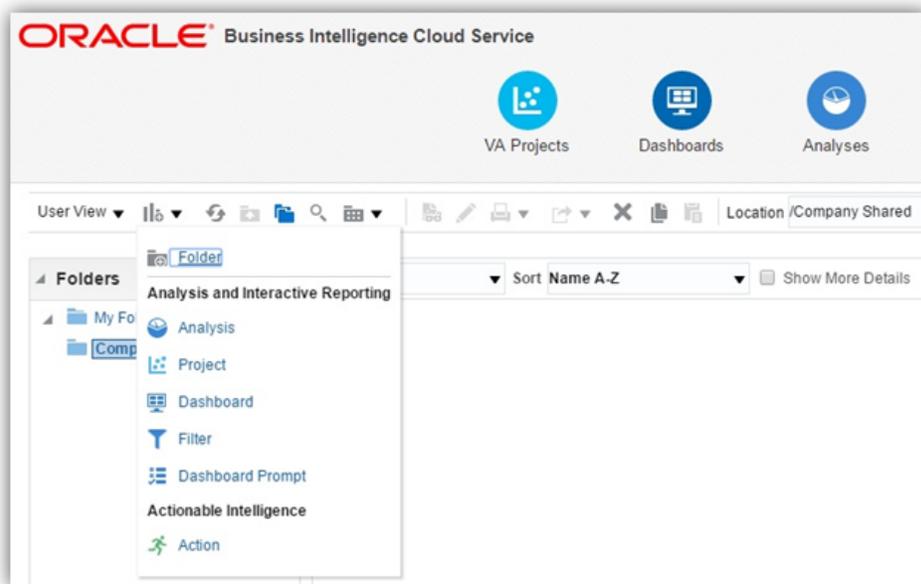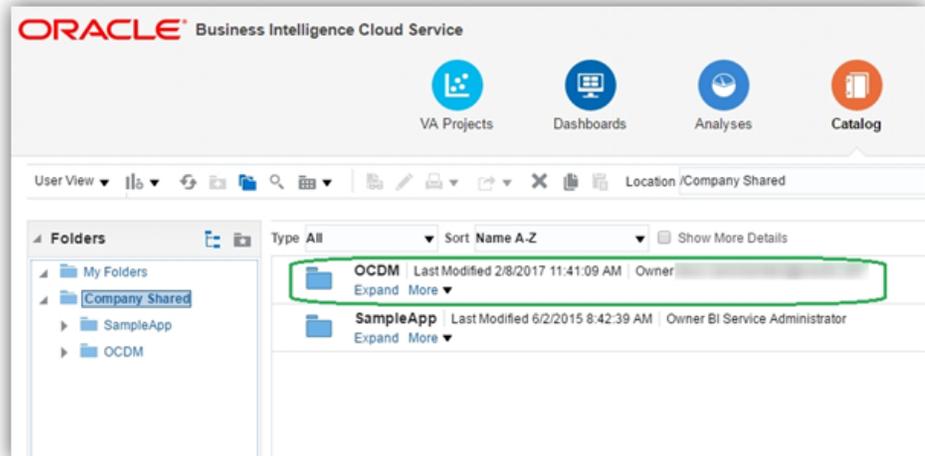
4. Upload the Oracle Communications Data Model catalog file (`ocdm.catalog`). Click the **OCDM** folder in **Folders** pane, and then click **Unarchive** in the **Tasks** pane.
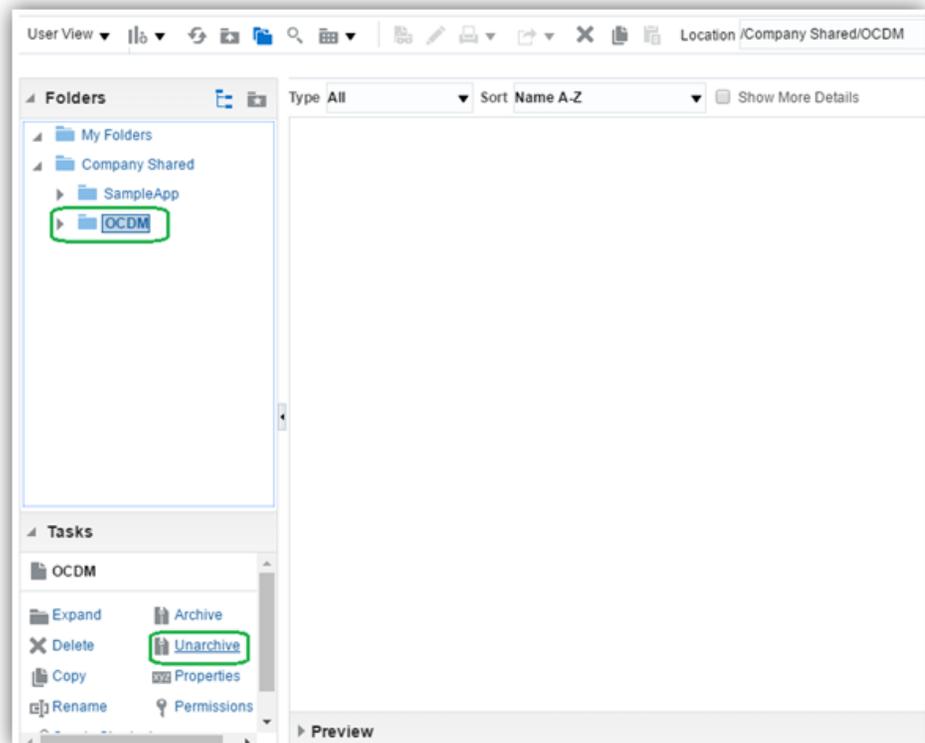
5. In the Unarchive dialog click **Browse** to select `ocdm.catalog`. In the **Replace** field select **None** and click **OK**.
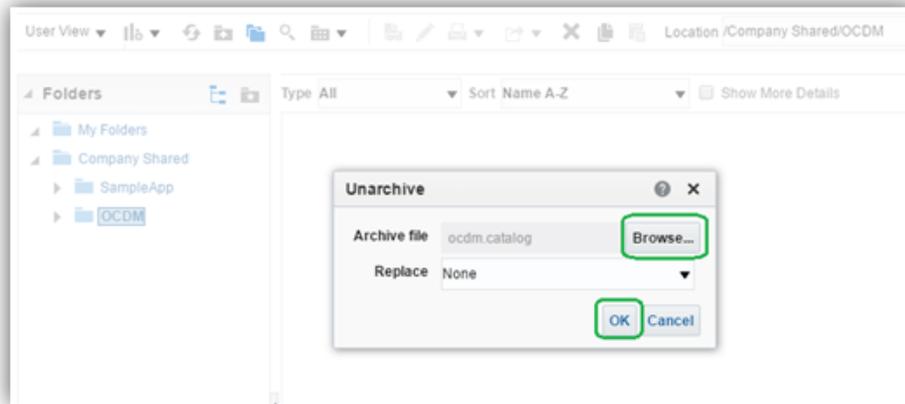
The **Shared Folders** are created in the **OCDM** folder.
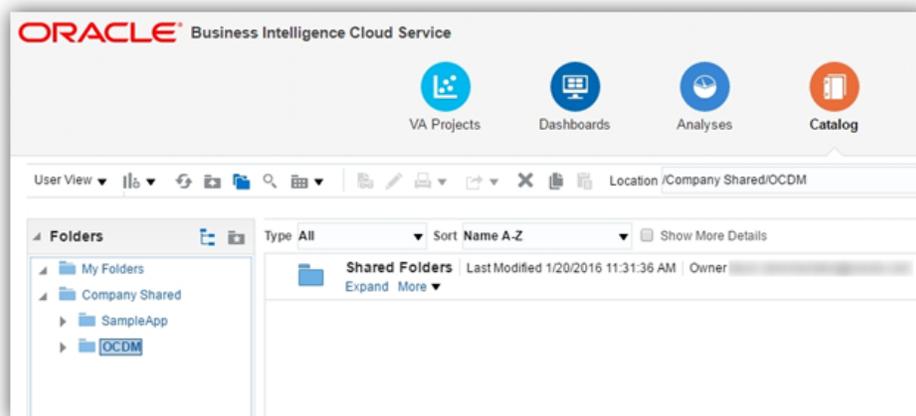
6. Navigate to dahsboards/reports: *Shared Folders* folder to open *Welcome to OCDM* dashboard.

A

License Information

Table A-1   License Information

Product	Subproduct	Licensing Description
Oracle Communications Data Model	Oracle Communications Data Model	Oracle Communications Data Model is a standards-based, pre-built approach to communications data warehousing enabling a communications company to realize the power of insight more quickly.
		Oracle Communications Data Model includes the following:
		• Communications industry specific data model conformance certified with TM Forum's Information Framework (SID).
		• Physical implementation of the data model consisting of a foundation layer in third-normal-form schema, as well as dimensional models leveraging star schemas and OLAP cubes.
		• Automatic data movement (intra-ETL) to populate the dimensional models based on data from the foundation layer.
		• Pre-defined data mining models for churn prediction, churn factors, customer segmentation, customer sentiment, and others.
		• Pre-built sample reports and dashboards.
		Prerequisites: Oracle Communications Data Model requires the use of other Oracle software, which must be licensed separately. Please contact your Oracle sales representative for additional information.

Index

S

sample reports for Oracle Communications Data
   Model, installing, *1-1*
sample reports, Oracle Communications Data Model,
   1-1, *3-15*

U

unlocking
   OCDM_SAMPLE account, *3-15*
   OCDM_SYS account, *3-15*