Oracle® Retail Analytics

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Oracle® Retail Analytics Installation Guide, Release 13.2.4

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Value-Added Reseller (VAR) Language

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Preface

Oracle Retail Installation Guides contain the requirements and procedures that are necessary for the retailer to install Oracle Retail products.

Audience

This Installation Guide is written for the following audiences:

- Database administrators (DBA)
- System analysts and designers
- Integrators and implementation staff

Related Documents

You can find more information about this product in these resources:

- *Oracle Retail Merchandising Analytics Release Notes*
- *Oracle Retail Analytics Data Model*
- *Oracle Retail Analytics Implementation Guide*
- *Oracle Retail Analytics Operations Guide*
- *Oracle Retail Analytics User Guide*

Customer Support

To contact Oracle Customer Support, access My Oracle Support at the following URL:

https://support.oracle.com

When contacting Customer Support, please provide the following:

- Product version and program/module name
- Functional and technical description of the problem (include business impact)
- Detailed step-by-step instructions to re-create
- Exact error message received
- Screen shots of each step you take

Review Patch Documentation

When you install the application for the first time, you install either a base release (for example, 13.2) or a later patch release (for example, 13.2.1). If you are installing the base release and additional patch and bundled hot fix releases, read the documentation for all releases that have occurred since the base release before you begin installation. Documentation for patch and bundled hot fix releases can contain critical information related to the base release, as well as information about code changes since the base release.

Oracle Retail Documentation on the Oracle Technology Network

Documentation is packaged with each Oracle Retail product release. Oracle Retail product documentation is also available on the following Web site:
http://www.oracle.com/technology/documentation/oracle_retail.html

(Data Model documents are not available through Oracle Technology Network. These documents are packaged with released code, or you can obtain them through My Oracle Support.)

Documentation should be available on this Web site within a month after a product release.

Conventions

Navigate: This is a navigate statement. It tells you how to get to the start of the procedure and ends with a screen shot of the starting point and the statement "the Window Name window opens."

```
This is a code sample
    It is used to display examples of code
```

1

Preinstallation Tasks

This release of Retail Analytics incorporates optional interfaces with these Oracle Retail products which can be sources for the data warehouse: Oracle Retail Merchandising System (RMS), Oracle Retail Invoice Matching (ReIM), and Oracle Retail Price Management (RPM). Additionally, the data warehouse can also operate as a standalone product and be fed from other legacy systems. If Oracle Retail applications are used as the source systems, follow the requirements in the installation guides for each of these applications. It is recommended that the source systems be on a separate server from the data warehouse which is considered the target server.

Check for the Current Version of the Installation Guide

Corrected versions of Oracle Retail installation guides may be published whenever critical corrections are required. For critical corrections, the rerelease of an installation guide may not be attached to a release; the document will simply be replaced on the Oracle Technology Network Web site.

Before you begin installation, check to be sure that you have the most recent version of this installation guide. Oracle Retail installation guides are available on the Oracle Technology Network at the following URL:

http://www.oracle.com/technology/documentation/oracle_retail.html

An updated version of an installation guide is indicated by part number, as well as print date (month and year). An updated version uses the same part number, with a higher-numbered suffix. For example, part number E123456-**02** is an updated version of an installation guide with part number E123456-**01**.

If a more recent version of this installation guide is available, that version supersedes all previous versions. Only use the newest version for your installation.

Implementation Capacity Planning

There is significant complexity involved in the deployment of Oracle Retail applications, and capacity planning is site specific. Oracle Retail strongly suggests that before installation or implementation you engage your integrator (such as the Oracle Retail Consulting team) and hardware vendor to request a disk sizing and capacity planning effort.

Sizing estimates are based on a number of factors, including the following:

- Workload and peak concurrent users and batch transactions
- Hardware configuration and parameters
- Amount of data
- Application features utilized
- Length of time history is retained

Additional considerations during this process include your high availability needs as well as your backup and recovery methods.

Check Supported Database Server Requirements

General requirements for a database server running Retail Analytics include:

Supported on	Versions Supported
Database Server OS	OS certified with Oracle Database 11gR2 Enterprise Edition. Options are: ▪ Oracle Linux 5 Update 5 for x86-64 (actual hardware or Oracle virtual machine). ▪ Red Hat Enterprise Linux 5 Update 5 (RHEL 5.5) for x86-64 (Actual hardware or Oracle virtual machine). ▪ AIX 6.1 (actual hardware or LPARs) ▪ Solaris 10 Sparc (actual hardware or logical domains)
Database Server 11gR2	Oracle Database Enterprise Edition 11gR2 (11.2.0.2) with the following specifications: **Components:** ▪ Oracle Partitioning ▪ Examples CD (Formerly the companion CD) **Patches:** ▪ 10170431 - CTWR CONSUMING LOTS OF CPU CYCLES Apply the following patch to RDBMS home if ASM is used. ▪ 11808931 - MERGE REQUEST ON TOP OF 11.2.0.2.0 FOR BUGS 10410054 10422126 **Other components:** ▪ Perl compiler 5.0 or later ▪ X-Windows interface

Verify Single Sign-On

If a Single Sign-On is to be used, verify that Oracle Infrastructure Server 10g has been installed. Verify the Oracle Business Intelligence Enterprise Edition installation hosting Oracle Retail Analytics is registered with the Infrastructure Oracle Internet Directory.

By default, Oracle BI EE 11g uses the Oracle WebLogic Server embedded LDAP server as the authentication provider to get information from users and groups. For a production environment, Oracle recommends using another LDAP server for authentication (Oracle recommends Oracle Identity Management version 10.1.4.3). You can configure your installation to use Oracle Internet Directory to store credentials, roles, and group information.

For more information on setting up security for Retail Analytics, see the Security chapter of the *Oracle Retail Analytics Implementation Guide*.

Check Supported Web Browser and Client Requirements

General requirements for client running Retail Analytics include:

Requirement	Version
Operating system	Windows XP Professional with SP3+ Windows Server 2003 with SP2/R2+
Display resolution	1024x768
Processor	Pentium processor (minimum 450 MHz)
Memory	Minimum of 256 MB RAM
Browser	Firefox 3.5 and higher Microsoft Internet Explorer 7 or 8

Supported Oracle Retail Products

Requirement	Version
Oracle Retail Merchandising System (RMS)/Oracle Retail Oracle Retail Sales Audit (ReSA)	13.2.4
Oracle Retail Invoice Matching (ReIM)	13.2.4
Oracle Retail Price Management (RPM)	13.2.4
Merchandise Financial Planning (MFP)	13.3

Additional Supported Oracle Technologies

Integration Technology	Version
Oracle Business Intelligence Standard Edition One	11.1.1.5.0

Partitioning Prerequisites

The following are the prerequisites for using partitions in the Retail Analytics schema:

- Identify the tables that need to be partitioned
- Identify the partitioning strategy. See the section,"Establish a Retail Analytics Partitioning Strategy," for more details.
- Configure data file and configuration files, as described in the "Establish a Retail Analytics Partitioning Strategy" section.

Create a UNIX User Account to Install the Software

It is possible that ODI and Oracle BI EE have been installed on different hosts. For installing Retail Analytics files for ODI, you must be on the same host where the ODI product has been installed. For installing Retail Analytics files for Oracle BI EE product, you must be on the same host where Oracle BI EE product has been installed.

In addition, find out the owner of Oracle BI EE software. The user who installed Oracle BI EE software is the user who will install Retail Analytics files for Oracle BI EE on this server. Any user can install Retail Analytics files for ODI.

Note: If ODI or Oracle BI EE is installed on Windows, you cannot use the installer to copy ODI or Oracle BI EE-related files. You must copy files manually according to the instruction given. You can also install MMHOME files on Windows. For details on the manual installation, see "Appendix: Manual Instructions for Installing on Windows."

Create a Staging Directory for Retail Analytics Database Files

You may install all components of Retail Analytics on one host, or you may install components across multiple hosts. The files to be installed are copied locally only, so you must be logged into the target host to do the installation.

1. Log in to the server from which you want to install one or more components of Retail Analytics.
2. Create a staging directory for the Retail Analytics installation software. There should be a minimum of 800 MB disk space available in this location.
3. Copy the ora13application.zip file from the Retail Analytics 13.2 release to the staging directory. This is referred to as STAGING_DIR when installing Retail Analytics.
4. Change directories to STAGING_DIR and extract the zip file. This creates an ora/installer subdirectory under STAGING_DIR

Note: If you are currently using Oracle Retail Analytics and are upgrading to release 13.2.4, skip ahead to Chapter 6, "Retail Analytics Upgrade," at this point. Otherwise, continue to the next page.

2

Database Schemas Installation Tasks

> **Note:** If you are currently using Oracle Retail Analytics and are upgrading to release 13.2.4, skip this chapter. Move ahead to Chapter 6, "Retail Analytics Upgrade."

It is assumed that Oracle Database 11gR2 (11.2.0.2), with appropriate patches, has already been installed. If not, refer to "Check Supported Database Server Requirements" in Chapter 1 before proceeding.

> **Note:** Become familiar with the Retail Analytics application in a development environment before setting up a production system. The following instructions are recommended for development and test environments only. When implementing Retail Analytics for a production environment, refer to capacity planning information to determine size requirements for table spaces, tables, and indexes. The installation scripts provided must be modified accordingly.

If a database has already been created, it is necessary to review the contents of this section to determine if all database components have been installed and configured properly.

> **Note**: When running the scripts in this section, the following errors may be encountered:
>
> ORA-04043 object XXXX does not exist
> ORA-01432 public synonym to be dropped does not exist
> ORA-00942 table or view does not exist
> ORA-29833 indextype does not exist
> ORA-29807 specified operator does not exist
> ORA-29931 specified association does not exist
> ORA-29816 object being disassociated is not present
>
> These errors can be ignored. The ORA errors are caused by dropping the objects the script is about to create.

Establish a Retail Analytics Partitioning Strategy

Establish a partitioning strategy before creating the compressed data mart and historical tables in a production environment. In doing so, consider the database size and business requirements. For example, the amount of history to be held at various levels, and the various functional areas that might be used should be referenced when determining a partitioning strategy. Additionally, large non-compressed fact tables should be partitioned for ease of rolling off history. Refer to the O*racle Retail Analytics Operations Guide* for more detailed information regarding the partitioning strategy for both compressed and non-compressed fact tables. Refer to Chapter 18, "Very Large Databases (VLDB)," in Oracle11g Database Concepts for further details regarding partitioning concepts.

Retail Analytics does not require partitioning to function, however to achieve better performance, partitioning is very highly recommended. If you choose not to implement partitioning, the following paragraphs of the Establish Database Partitioning Strategy section may be skipped. During Retail Analytics installation, when prompted, simply choose to not setup partitioning. If you will be using partitioning, review this section in its entirety before proceeding with the installation.

Sample Partitioning

The Retail Analytics 13.2 database schema installer runs the partitioning script (partition.ksh), if the partitioning option is chosen during install. Make sure that the pre-requisites for partitioning are met before choosing this option. See "Preinstallation Tasks" for more details.

Retail Analytics provides a set of sample set of data file and configuration file. This can be used as a reference for creating additional data files and setting up the configuration file. See the details that follow about the data file and configuration file.

Production Partitioning

To prepare for production partitioning, follow the steps provided below. Since partitioning strategies are complex, the following steps should be implemented by an experienced individual who has a thorough understanding of partitioning principles and the data to be partitioned.

> **Note:** For information regarding partitioning concepts see Chapter 18, "Very Large Databases (VLDB)," in Oracle11g Database Concepts.

Step 1: Review RA_partitioned_tables.xls

Use the Microsoft Excel spreadsheet to determine an appropriate partitioning strategy (<STAGING_DIR>/ora/installer/sample/RA_partitioned_tables.xls). The Partition Type column indicates the recommended partitioning option(s) for each table. The Default Number of Partitions column indicates the number of partitions to create for each table. For hash partition, this number will be used to create DDL.

Step 2: Modify partition_attributes.cfg

Modify <STAGING_DIR>/ora/installer/ora13/mmhome/dbsql/Partitioning/partition_attributes.cfg based on the partitioning strategy defined in ra_partitioned_tables.xls. Changes to this file should be made only as indicated.

partition_attributes.cfg file: (file is comma-delimited)

Sample Entry:

```
W_RTL_SLS_IT_LC_DY_A,DT_WID,RANGE,w_rtl_sls_it_lc_dy_a.dt_wid.number,,,,,,
DM_FACT_DATA
```

Field 1: `Table Name` - *Do not modify*

Field 2: `Partition Key` - *Do not modify*

Field 3: `Partition Type` - Modify based on value in "Partition Type" column in ra13_partitioned_tables.xls - Valid values are RANGE, LIST, or HASH (case sensitive)

Field 4: `Partition Data Definition Filename` - *Do not modify - This field is ignored if Partition Method is not RANGE or LIST*

Field 5: `Partition Hash Count` – Modify based on value in "Default Number of Partitions" column in RA_partitioned_tables.xls. *This field is ignored if Partition Method is not HASH.*

Field 6: `Sub-Partition Key` - *Do not modify*

Field 7: `Sub-Partition Method` – *Do not modify*

Field 8: `Sub-Partition Data Definition Filename` - *Do not modify*

Field 9: `Sub-Partition Hash Count` – *Do not modify*

Field 10: `Tablespace Name` - *Optional*

Step 3: Modify Data Definition Files

Tables partitioned or sub-partitioned by RANGE or LIST have a corresponding data definition file in the <STAGING_DIR>/ora/installer/ora13/mmhome/dbsql/Partitioning/data_def directory and should not be removed or renamed. These files are used to define the data boundaries for each partition. Values must be entered in each file based on the Recommended Partitioning Policy column in ra_partitioned_tables.xls.

```
The format of a data definition file name is <table name>.<partition key
column>.<partition key data type>, e.g.,
w_rtl_sls_it_lc_dy_a.dt_wid.number. When placing data into these files,
enter one data partition value per line. If users already have Retail
Analytics time tables in some environments, DT_WID and WK_WID can be found
in Retail Analytics time calendar table W_MCAL_DAY_D or W_MCAL_WEEK_D.
```

When using RANGE partitioning, the data definition files will use the **value less than** concept. For example, in `w_rtl_sls_it_lc_dy_a.dt_wid.number` above, the first partition contains all data less than 2001092. The second partition contains all data greater than or equal to 2001092 and less than 2001187. A fourth MAXVALUE partition is automatically created for all data greater than or equal to 2001281.

When using LIST partitioning, the data definition files use *the value equal to* concept.

Step 4: Generate DDL for Tables – Run partition.ksh

Installer will run the partition.ksh script but if the customer wants to run the script stand alone then below are the instructions.

Change directory to <STAGING_DIR>/ora/installer/ora13/mmhome/dbsql/Partitioning, then execute "ksh partition.ksh" at the UNIX command prompt. This script reads configuration information from the partition_attributes.cfg file and generates the partitioned DDL file <STAGING_DIR>/ora/installer/ora13/mmhome/dbsql/Partitioning/ra_part.tab. This file is used later during the installation process.

Sample output from partition.ksh:

```
Checking partition_attributes.cfg for errors
Generating Partitioned DDL for W_RTL_SLS_IT_LC_DY_A
partition.ksh has generated the DDL for partitioned tables in the ra_part.tab
file.
Completed successfully
```

Create the Retail Analytics Database

It is assumed that Oracle Database 11g Release 2, with appropriate patches, has already been installed. If not, refer to "Check Supported Database Server Requirements" in Chapter 1 before proceeding. Additionally, *STAGING_DIR* in this section refers to the directory created in the section, "Create a Staging Directory for Retail Analytics Database Files," in Chapter 1.

Review the "Establish a Retail Analytics Partitioning Strategy" section before continuing.

If a database has already been created, it is necessary to review the contents of this section to determine if all database components have been installed and configured properly.

If a database instance has not been created, create one following the process in "Appendix: Create the Database Instance Using a Template."

Create Retail Analytics Tablespaces

Complete the following steps.

1. Change directories to <STAGING_DIR>/ ora/installer/create_db
2. Modify the create_ra_tablespaces.sql script as appropriate. See "Appendix: Tablespace Creation Scripts."
3. Log in to SQL*Plus as SYSDBA and execute:

   Note: In the script, create_ra_tablespaces.sql, replace <data_file_path> with the actual physical path before executing this script.

   Note: If you receive the message, "ORA-01543: table space table space name already exists," the table space is already in the database. You can ignore it.

   ```
   SQL>@create_ra_tablespaces.sql
   ```

4. Review create_ra_tablespaces.log for errors and correct as needed.

Load the Retail Analytics Database

To load the Retail Analytics database, follow the instructions below.

Create Retail Analytics Schema Owners

A total of six users will be created. Two will be created by using script cr_ra_users.sql and they are: Retail Analytics data mart schema and Retail Analytics front-end data mart schema. Two will be created by cr_odi_users.sql and they are: ODI work repository schema and ODI master repository schema. Use cr_ra_batch_user.sql to create the batch user. Use create_rms_user.sql to create the rms-read only user account that resides in the same database as RMS. Lastly, use cr_db_link.sql to create a db link such that the batch user schema can access objects in the RMS user schema.

The following table provides information about schemas.

Schema	Schema Title (examples)	Schema Description	Created by Script
Data Mart Schema	RADM01	Includes the main target tables, such as Dimensions, Facts, and Aggregates	cr_ra_users.sql
Batch User	RABE01USER	Includes all the temporary tables. ODI execution is done from this user. All data mart tables have DDL (Select) and DML (Insert, Update, Delete) grants to RABE01USER.	cr_ra_batch_user.sql
Front-End User	RAFEDM01	Reporting user with synonyms and access to RADM01 schema. The OBIEE frontend should be connected to this user. All data mart tables have DDL (Select) and DML (Insert, Update, Delete) grants to RAFEDM01.	cr_ra_users.sql
RMS Batch User for RA	RA_RMS01USER	This user has access to the source schemas where Retail Merchandising Systems tables exist for Oracle Retail applications, such as RMS and RPM.	create_rms_user.sql
ODI Master Schema	ODI_MREP_USER	This ODI Master Repository user includes ODI job definitions and topology information.	cr_odi_users.sql
ODI Work Schema	ODI_WREP_USER	This ODI Work Repository user includes ODI job status information.	cr_odi_users.sql

Complete the following steps.

1. As the SYSDBA user, change directories to
   <STAGING_DIR>/ora/installer/create_db
2. Review the contents of cr_ra_users.sql, cr_odi_users.sql, cr_ra_batch_user.sql and create_rms_user.sql scripts for the names and passwords of users that will be created. All scripts will prompt for the user name and a password when executed. Remember the user and password provided, because they are used later in the installation.

   Note: The Retail Analytics data mart, Retail Analytics front-end data mart, and Retail Analytics batch user must be created on the same database instance.

3. Log in to SQL*Plus as SYSDBA and execute the following scripts.
   - SQL>@cr_ra_users.sql

     Run this once for each of the following schemas created:
     - Retail Analytics data mart schema
     - Retail Analytics front-end data mart schema

- SQL>@cr_odi_users.sql

  Run this once for each of the following schema creation:

  – ODI work repository
  – ODI master repository
- SQL>@cr_ra_batch_user.sql

4. Log in as SYSDBA to RMS database and execute create_rms_user.sql.
   - SQL>@create_rms_user.sql

     This script is only applicable if you are integrating Retail Analytics with RMS. When asked to enter the target schema name for private synonyms, enter the name of the existing master RMS schema you are integrating with (the master RMS schema).

     Note: The RMS user schema must be created on the same database instance as the RMS master schema.
5. Log in to the Retail Analytics batch schema and execute the following script .

   `SQL>@cr_db_link.sql`

   a. When prompted ("Please enter a connection string you would like to use, for example, BATCHUSER_DB") enter a descriptive DB link name.
   b. When prompted ("Please enter the name of target database"), enter the DB instance name for RMS User schema to which you are trying to establish a connection.
   c. When prompted ("Please enter the username used to connect to the target DB"), enter the RMS User schema name
   d. When prompted ("Please enter the password for the user above (default [retek])"), enter the password for RMS User schema.

Set Environment Variable

Note that 13.2.4 is the first RA release that supports 11gR2 (11.2.0.2). Also, only 64-bit platforms (as noted in hardware specifications) are supported. Therefore, only the 64-bit version of the client libraries should be used.

Run the Retail Analytics Database Schema Installer

Complete the following steps.

Note: See "Appendix: Retail Analytics Application Installer Screens" for details on every screen and field in the database schema installer.

Note: The installer does not run on Windows. If ODI or Oracle BI EE is installed on Windows, you cannot use the installer to copy ODI or Oracle BI EE files for Retail Analytics. You must follow the manual installation process detailed in "Appendix: Manual Instructions for Installing on Windows."

1. Change directories to <STAGING_DIR>/ora/installer.
2. Set and export the following environment variables.

Variable	Description	Example
ORACLE_HOME	Oracle server home. Only applicable when you are installing the DB schema objects.	ORACLE_HOME=full_path_of_11.2.0.2_home export ORACLE_HOME
LD_LIBRARY_PATH	LD Library Path should contain the Oracle DB libraries you want to use.	LD_LIBRARY_PATH=$ORACLE_HOME/lib (64-bit) export LD_LIBRARY_PATH
JAVA_HOME	Java home. Ensure the version of Java is 64-bit.	JAVA_HOME=/opt/app/jdk/jdk1.6.0_18 export JAVA_HOME
PATH	PATH should contain directories for Oracle and Java executables	PATH=$JAVA_HOME/bin:$ORACLE_HOME/bin:$PATH export PATH
TNS_ADMIN	Only applicable if tnsname.ora is not located under $ORACLE_HOME/network/admin. Please set TNS_ADMIN to point to a directory where tnsnames.ora is found. It tnsnames.ora is located under $ORACLE_HOME/network/admin, (which is true in most cases), do not set this variable.	TNS_ADMIN=/home/user/misc export TNS_ADMIN
NLS_LANG	Locale setting for Oracle database client	NLS_LANG=AMERICAN_AMERICA.UTF8 export NLS_LANG
DISPLAY	Address and port of X server on desktop system of user running install. Optional for dbschema installer	DISPLAY=<IP address>:0 export DISPLAY

3. If you are going to run the installer in GUI mode using an X server, you need to have the XTEST extension enabled. This setting is not always enabled by default in your X server. See "Appendix: Common Installation Errors" for more details.
4. Run the install.sh script to start the installer.

Note: The following are the usage details for install.sh. The typical usage for GUI mode is no arguments.

```
install.sh [text | silent]
```

Note: Usually, if you have multiple instances, the RMS user schema would be on one instance and all RA schemas (ORA data mart, ORA front-end data mart, ORA backend) are on the other instance.

Depending on system resources, a typical installation takes about 10 to 20 minutes.

5. After the installer is complete, you can check its log file:
   <STAGING_DIR>/ora/installer/ora-install.<timestamp>.log
6. The installer leaves the <STAGING_DIR>/ora/installer/ant.install.properties file for future reference and repeat installations. This file contains all inputs you provided, excluding sensitive credentials such as passwords.

Resolving Errors Encountered During Database Schema Installation

If the database schema installer encounters any fatal errors, it halts execution immediately. To resolve this issue, you can choose one of the following options.

Restart with a Clean Set of Schemas

To restart with a clean set of schemas, complete the following steps.

1. Clean up all database schema objects created by the installer for the RMS user schema, Retail Analytics data mart schema, Retail Analytics front-end data mart schema, and Retail Analytics batch schema.
   - You may even drop these schemas and recreate them by logging into SQL*Plus as SYSDBA
2. Rerun the installer. If this message is displayed ("A previous installation attempt was detected. Do you want to resume the previous installation?"), enter no<ENTER>
3. The installation runs as if run for the first time on clean schemas.

Resume from the Previous Point of Failure

To resume from the previous point of failure, complete the following steps.

1. If a SQL file failed to complete successfully, the installation log indicates the name of the SQL file that failed and points to the directory where you can go to look at the exact errors.

   For example:

   ```
   /home/bsuh/installer/ora13/master_controllers/rms/rms_controller.ksh has
   failed.  Check error logs in
   /home/bsuh/installer/ra/installer/ora13/master_controllers/rms/error for more
   details.
   ```

   Manually resolve the DB issue therein.

   If the fatal installation error happened while importing data using the import utility, you must resolve the error also.
2. Re-run the installer. If this message is displayed ("A previous installation attempt was detected. Do you want to resume the previous installation?"), enter **yes<ENTER>** .
3. Applicable for patch process only: For the prompt, “Continue DB Schema Patching,” select Yes .
4. When the installation reaches the schema object creation step, it resumes from the last failed SQL file, skipping over previously completed SQL files.

Note: The installer knows where the last point of failure is, by generating marker files that indicate the progress of the DB object creations. Therefore, if you are using another copy of the installer in order to resume the previous installation attempt, you must copy these marker files from the previous <STAGING_DIR> to your new <STAGING_DIR> before launching the installer. To do so, copy all *.processed files from the previous <STAGING_DIR> to your new <STAGING_DIR>. The *.processed files are in the following locations:

- <STAGING_DIR>/ora13/master_controllers/rms/processed
- <STAGING_DIR>/ora13/master_controllers/radm/processed
- <STAGING_DIR>/ora13/master_controllers/radm/dbc_scripts<STAGING_DIR>/ora13/master_controllers/rabe/processed
- <STAGING_DIR>/ora13/master_controllers/rafedm/processed

Copy these *.processed files into the corresponding locations under your new <STAGING_DIR>.

3

Oracle Data Integrator Configuration Tasks

Note: If you are currently using Oracle Retail Analytics and are upgrading to release 13.2.4, skip this chapter. Move ahead to Chapter 6, "Retail Analytics Upgrade."

It is assumed that Oracle Data Integrator 11g software has already been installed. If you need more information in addition to the following tasks, refer to ODI installation documentation.

Check Supported ODI Requirements

Variable	Description
Server OS	Operating systems certified include: ▪ Oracle Linux 5 Update 5 (OEL5.5) for x86-64 (actual hardware or Oracle virtual machine).
Oracle Data Integrator 11g	Oracle Data Integrator 11g **Components:** ▪ Oracle Data Integrator 11.1.1.5 **Options:** ▪ Complete Oracle Data Integrator Installation Guide: http://download.oracle.com/docs/cd/E15985_01/doc.10136/install/ODIIG.pdf

Terminology

This section provides definitions for applicable terminology.

Database Schema Names

The following are database schema names.

- RADM01: This data mart schema holds the main target tables such as dimensions, facts, and aggregates.
- RAFEDM01: This front end data mart schema is a reporting user with synonyms and access to RADM01 schema. The OBIEE front end should be connected to this user. All data mart tables have DDL (Select) and DML (Insert, Update, Delete) grants to RAFEDM01.
- RABE01USER: This batch user schema includes all the temporary tables. ODI execution is done from this user. All the data mart tables have DDL (Select) and DML (Insert, Update, Delete) grants to RABE01USER.
- RMS01/RMS01USER: These are the source schemas that include tables for Oracle Retail applications, such as RMS and RPM.

Note: For Oracle Retail Analytics, all retail data comes from these source systems and is transformed and loaded into the staging tables.

ODI Home Directory

This directory contains the ODI installation files. For this section the ODI home is set under the following path:

```
/u00/odi/product/11.1.1.5/oracledi/agent
Please set the path of the ODI_HOME as per your ODI installation location
```

Note: GET_ODI_HOME is an ODI global variable that holds the ODI_HOME value (in this case: GET_ODI_HOME = /u00/odi/product/11.1.1.5/oracledi/agent

ODI User and Password

The default ODI user = SUPERVISOR

The default ODI password = <See ODI_Post_Install.txt for password >

JDBC Connectivity

Note that in the all the screen examples, the JDBC connection is specified as jdbc:oracle:thin@<host>:<port>:<sid>. However, during configuration, replace this with the actual credentials of your environment.

Note: OCI connectivity can also be used instead of JDBC. Contact your database administrator.

Database Links

Public Database Links need to be created between RMS01USER and RABE01USER and the DB-Links need to be explicitly mentioned in the Data Servers, configured in the ODI Topology.

Data Server for RADM01 (used in this guide): ORACLE_BI_APPLICATIONS_RA_INSTALL

Data Server for RABE01USER (used in this guide): ORACLE_BI_APPLICATIONS

Data Server for RMS01/RMS01USER (used in this guide): ORACLE_RETAIL_SOURCE

Note: The Topology Configuration for Physical and Logical Schemas section contains screen shots that show the configuration steps for the above data servers.

Configuring ODI

After installing ODI v11.1.1.5, complete the following activities.

1. From a Unix command prompt, set JAVA_HOME and DISPLAY.

   For example:

   ```
   export JAVA_HOME=/vol.rtk/java/oracle_linux/jdk1.x.0_xx.64bit
   export DISPLAY=<ipaddress>:0.0
   ```

2. Change directories to your /u00/odi/product/11.1.1.5/oracledi/client directory.

   ```
   cd /u00/odi/product/11.1.1.5/oracledi/client
   ```

Notes:

- The screen illustrations throughout the ODI configuration sections contain example values. Use the values that are correct for your installation.
- Update the heapsize to the following in <ODIHOME>/bin/odiparams.sh
  ODI_INIT_HEAP=128M
  ODI_MAX_HEAP=512M

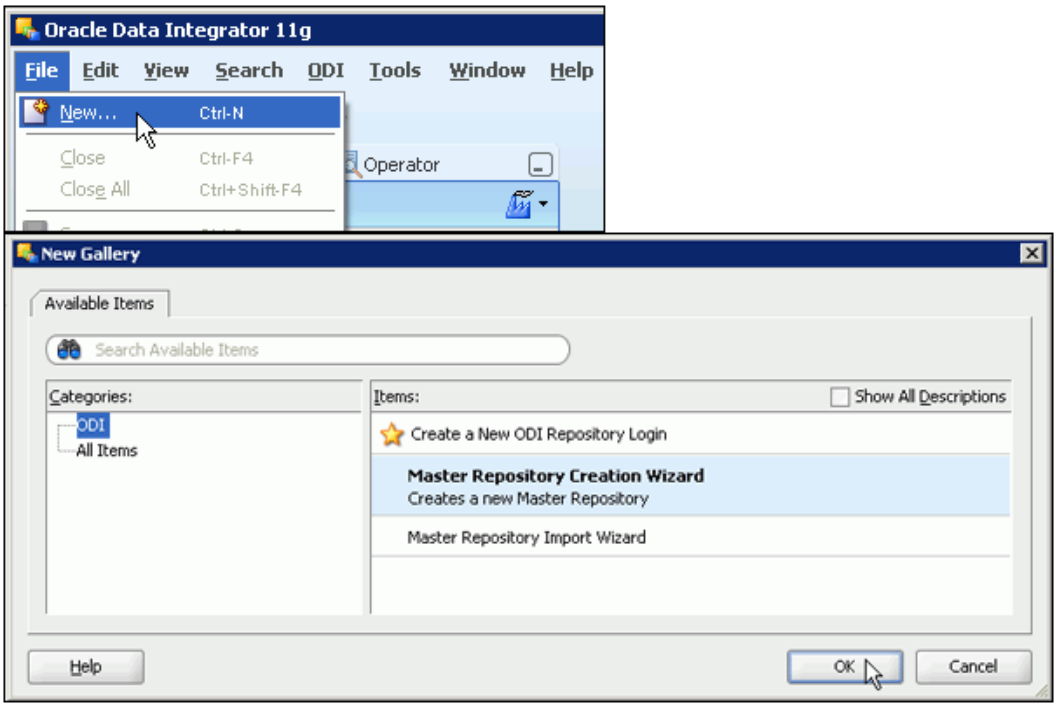
Creating the ODI Master Repository

Complete the following steps.

1. From UNIX, Launch the ODI Master Repository Creation wizard.

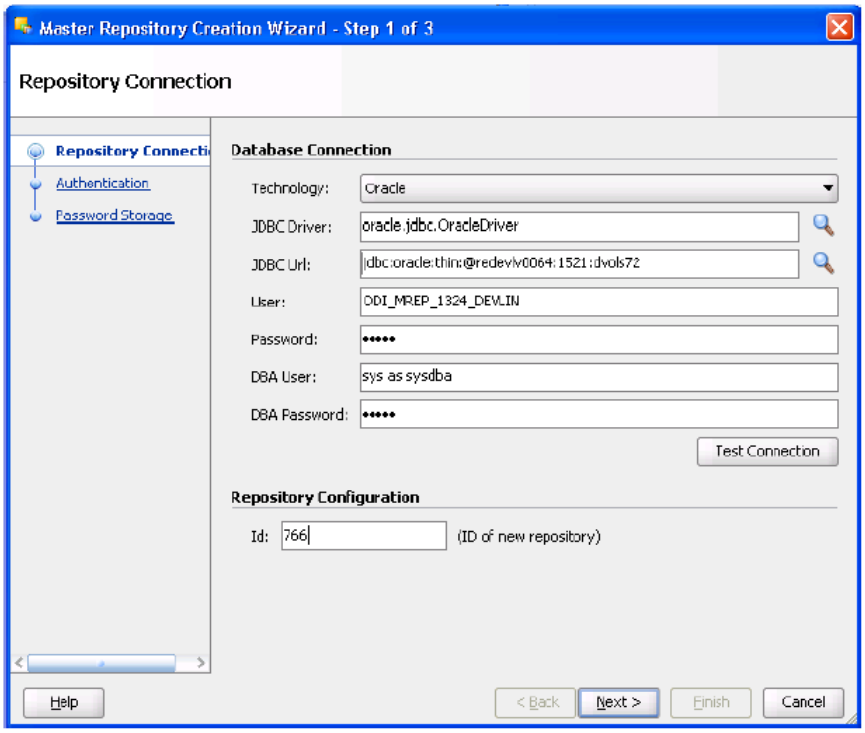
   ```
   odi.sh
   ```

Note: To launch the ODI Master Repository Creation wizard in Windows; from the Programs menu, select Oracle > Oracle Data Integrator 11.1.1.5 > ODI Studio > File > New > In the New Gallery, in the Categories tree, select ODI. From the Items list, select the Master Repository Creation Wizard. Click **OK**. The Master Repository Creation Wizard appears.



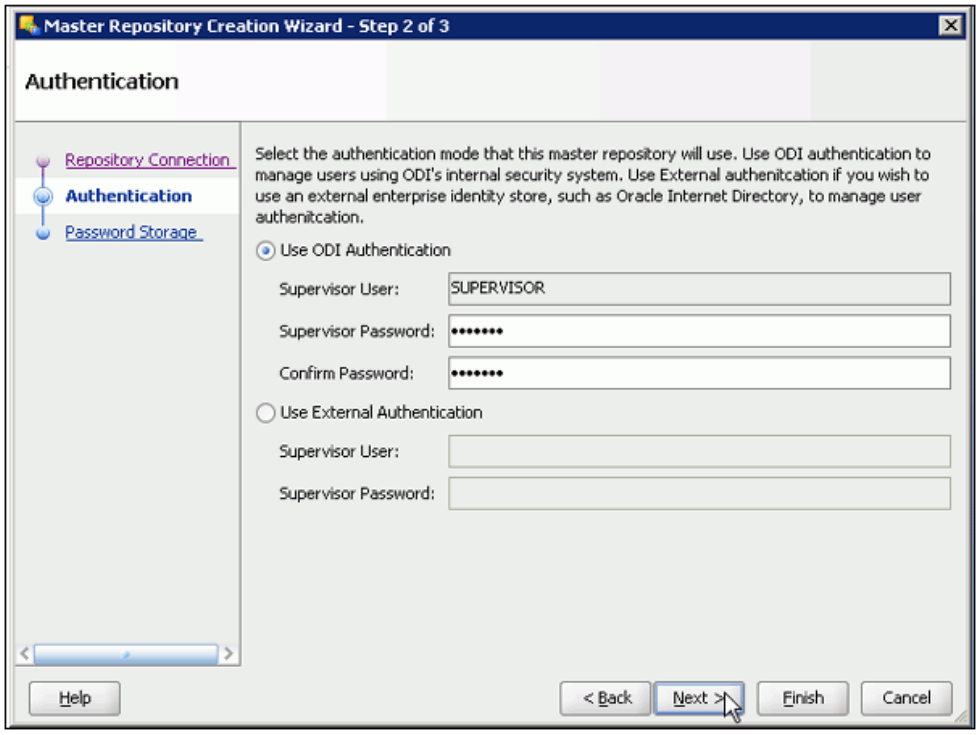
From the Master Repository Creation wizard screen, update the information based on the example in the following figure:

- Driver – Select oracle.jdbc.OracleDriver.
- URL – Enter the URL to jdbc:oracle:thin@<host>:<port>:<sid>.
- User – The schema name where the master repository needs to be created.
- Password – The password for above schema.
- Id – The Repository ID you want to use. Specify any Numeric Unique ID between 400 and 450 for the master repository.

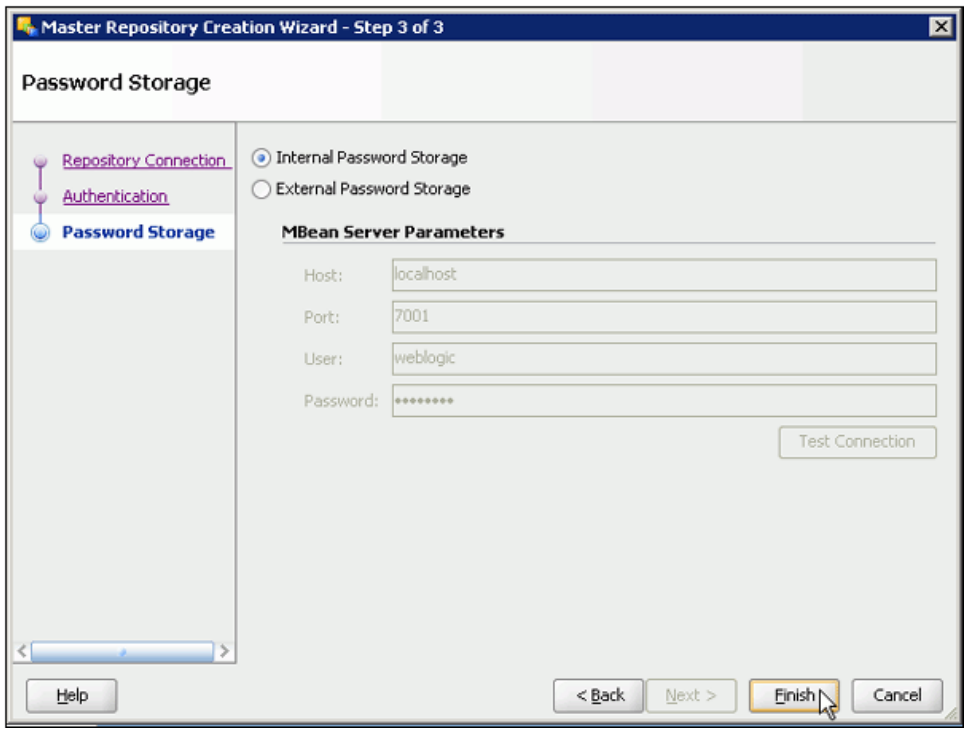


2. Click **Test Connection** to test the connection.
3. Click **Next.**
4. In the Authentication window, enter Supervisor Password as **SUNOPSIS**. Enter SUNOPSIS again to confirm the password. Click **Next.**

> **Note:** In ODI, user names and passwords are case sensitive.



5. In the Password Storage window, select Internal Password Storage. Click **Finish**. When Master Repository is successfully created, you will see the Oracle Data Integrator Information message. Click **OK**. The ODI Master repository is created.



6. When repository creation is complete, a confirmation dialog is displayed. **Click OK**.

Importing the Master Repository Zip Files into the Master Repository

Follow the procedure for either UNIX or Windows, depending on the operating system you are using to run ODI.

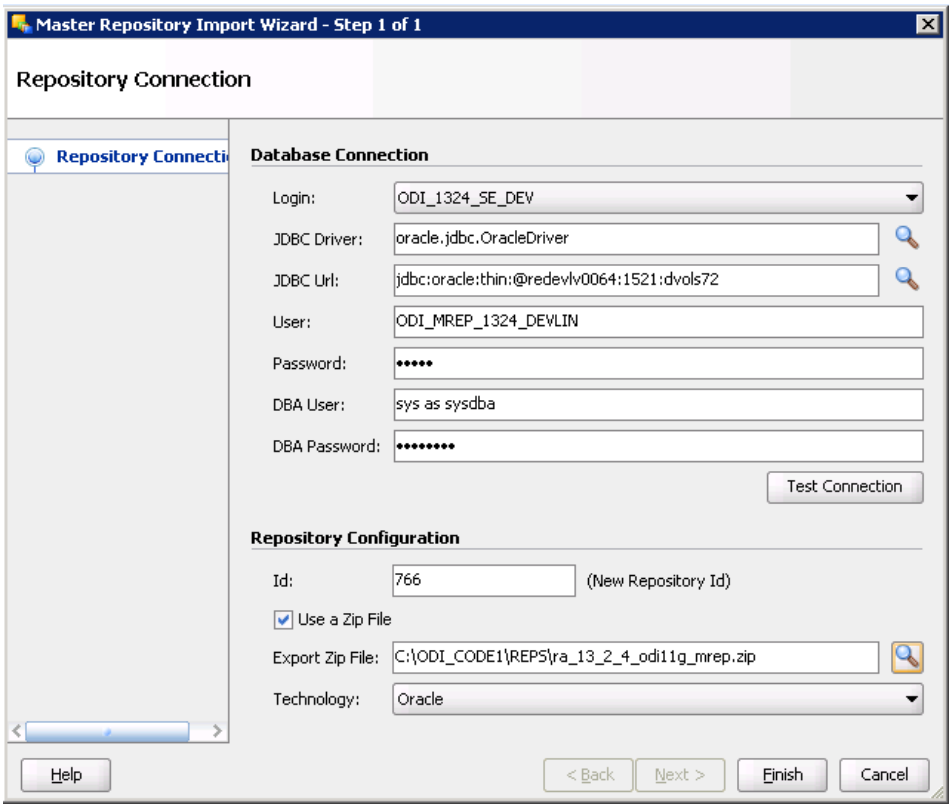
UNIX

The following steps apply to the UNIX environment.

1. From the UNIX environment, execute the following command to open the Master Repository Import window :
   `odi.sh`

   Navigate to File > New. In the New Gallery, in the Categories tree, select ODI. Select from the Items list the Master Repository Import Wizard. Click OK. The Master Repository Import Wizard appears:
   - Driver – Select the oracle.jdbc.OracleDriver.
   - URL –Enter the URL to jdbc:oracle:thin@<host>:<port>:<sid>.
   - User – Enter the schema name where the master repository needs to be created.
   - Password – Enter the password for the schema.
   - ID – Enter the Repository ID you want to use. Use the same ID that was used when creating the master repository.
2. Click **Use Zip File**.

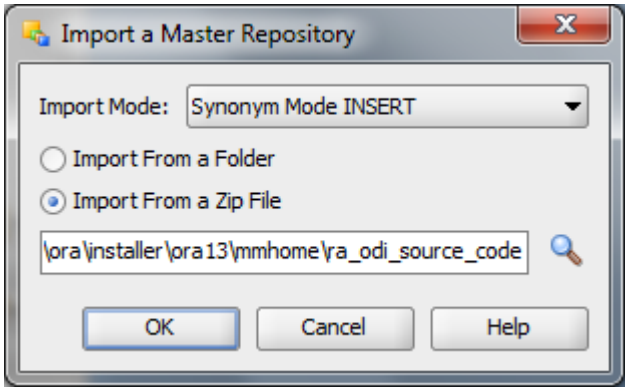
   Path: Browse to the location of the zip files, and select the zip file to import from <MMHOME>/ra_odi_source_code/ ra_13_2_4_odi11g_mrep.zip.



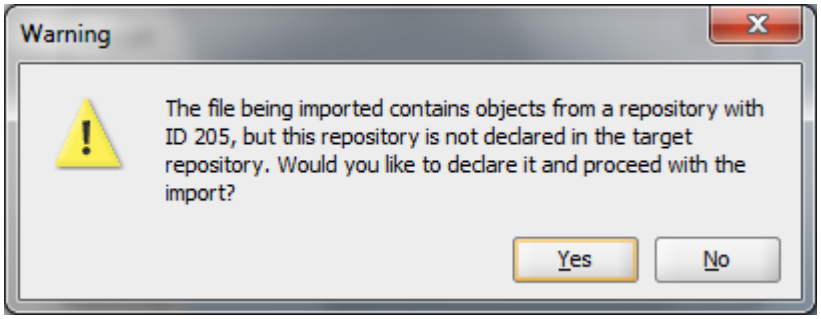
3. In the Master Repository Import Wizard, click **Finish** to validate your entries.

4. In the Import a Master Repository window, do the following:
   a. In the Import Mode field, select Synonym Mode INSERT.
   b. Select Import from a Zip file.
5. Browse to the location of the zip files and select the zip file to import from the location <MMHOME>/ra_odi_source_code/ra_13_2_4_odi11g_mrep.zip

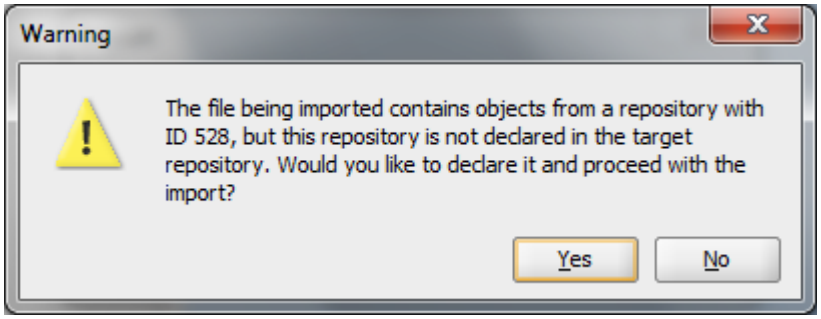
   For example, the path in this case is <MMHOME>/ ra_odi_source_code/ra_13_2_4_odi11g_mrep.zip.
6. Click **OK** to start the import.



7. For the following warning, click **Yes**.



8. For the following warning, click **Yes**.



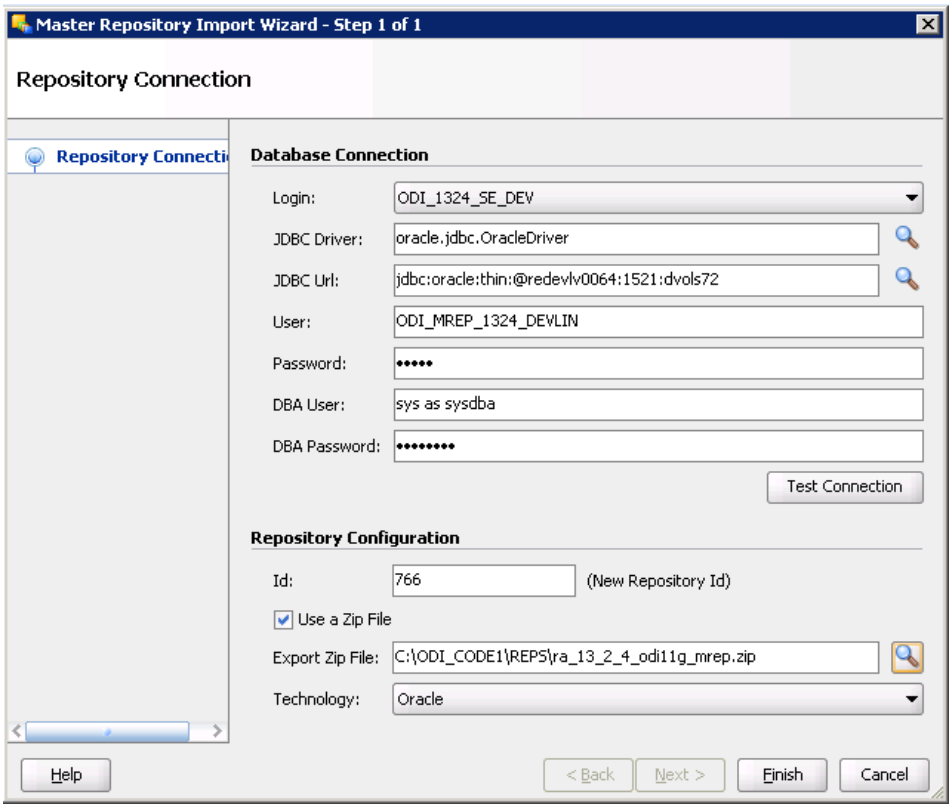
9. When the message, "Repository Creation Successful," appears, click **OK**.

Windows

For Windows, do the following.

1. To launch the ODI Master Repository Import in Windows, do the following.
   a. From the Programs menu, select Oracle -> ODI Studio > File > New > In the New Gallery, in the Categories tree, select ODI. Select from the Items list the Master Repository Import Wizard. Click OK. The Master Repository Import Wizard appears.
   b. Enter the information based on the example in the following figure.
      – Driver – Select the oracle.jdbc.OracleDriver.
      – URL –Enter the URL to jdbc:oracle:thin@<host>:<port>:<sid>.
      – User – Enter the schema name where the master repository needs to be created.
      – Password – Enter the password for the schema.
      – Id – Enter the Repository ID you want to use. Use the same ID that was used when creating the master repository.
2. Click **Use a Zip File.**

   Path: Browse to the location of the zip files, and select the zip file to import from <MMHOME>/ra_odi_source_code/ra_13_2_4_odi11g_mrep.zip.

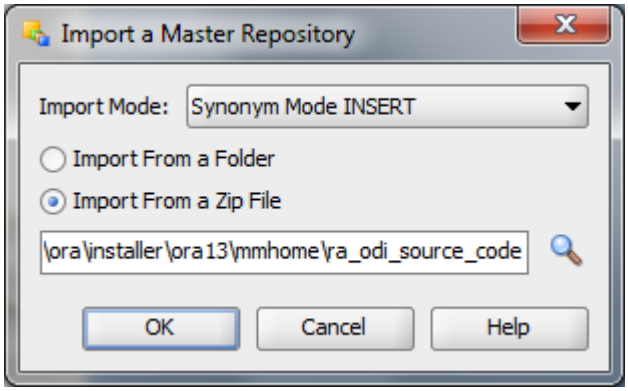


3. In the Master Repository Import Wizard click **Finish** to validate your entries.
4. In the Import a Master Repository window, do the following:
   a. In the Import Mode field, select Synonym Mode INSERT.
   b. Select Import from a Zip file.

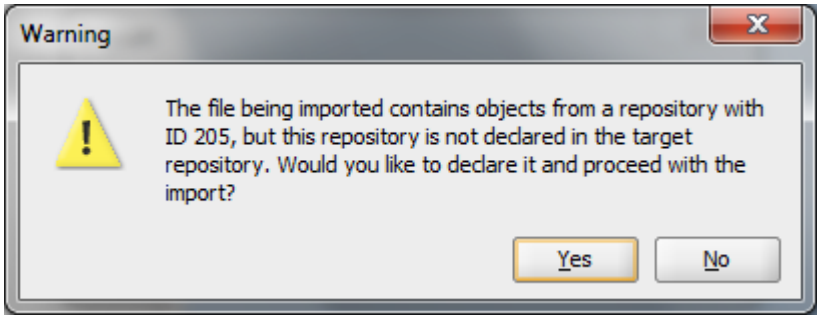
5. Browse to the location of the zip files and select the zip file to import from the location <MMHOME>/ra_odi_source_code/ra_13_2_3_odi10g_mrep.zip.

   For example, the path in this case is <MMHOME>/ ra_odi_source_code/ra_13_2_4_odi11g_mrep.zip.

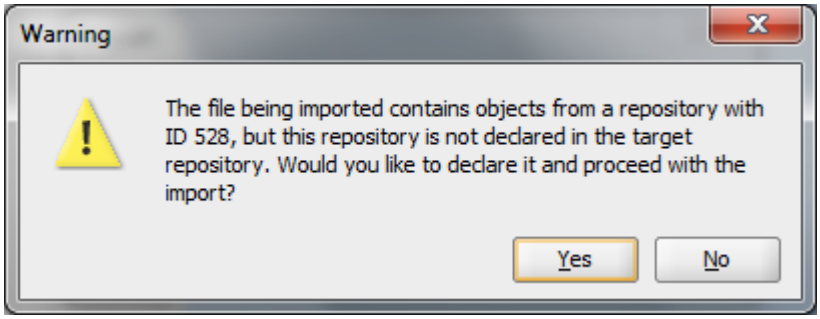
6. Click **OK** to start the import.



7. For the following warning, click **Yes**.

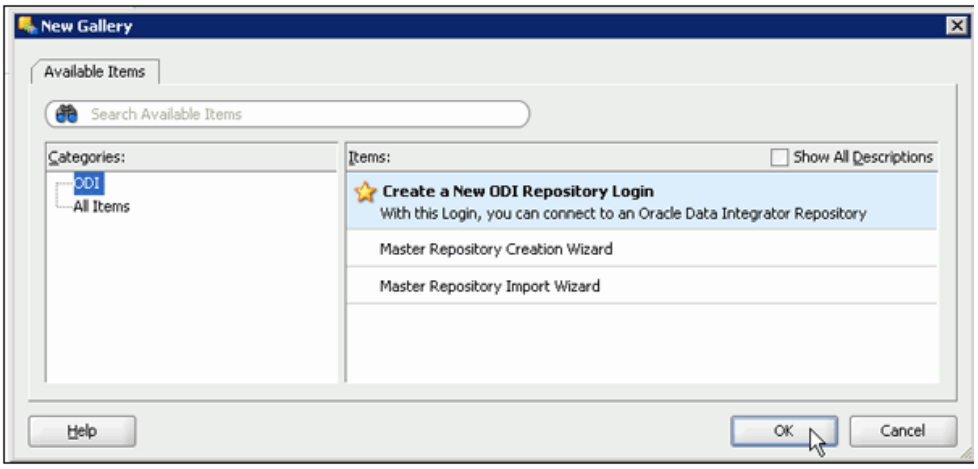


8. For the following warning, click **Yes**.

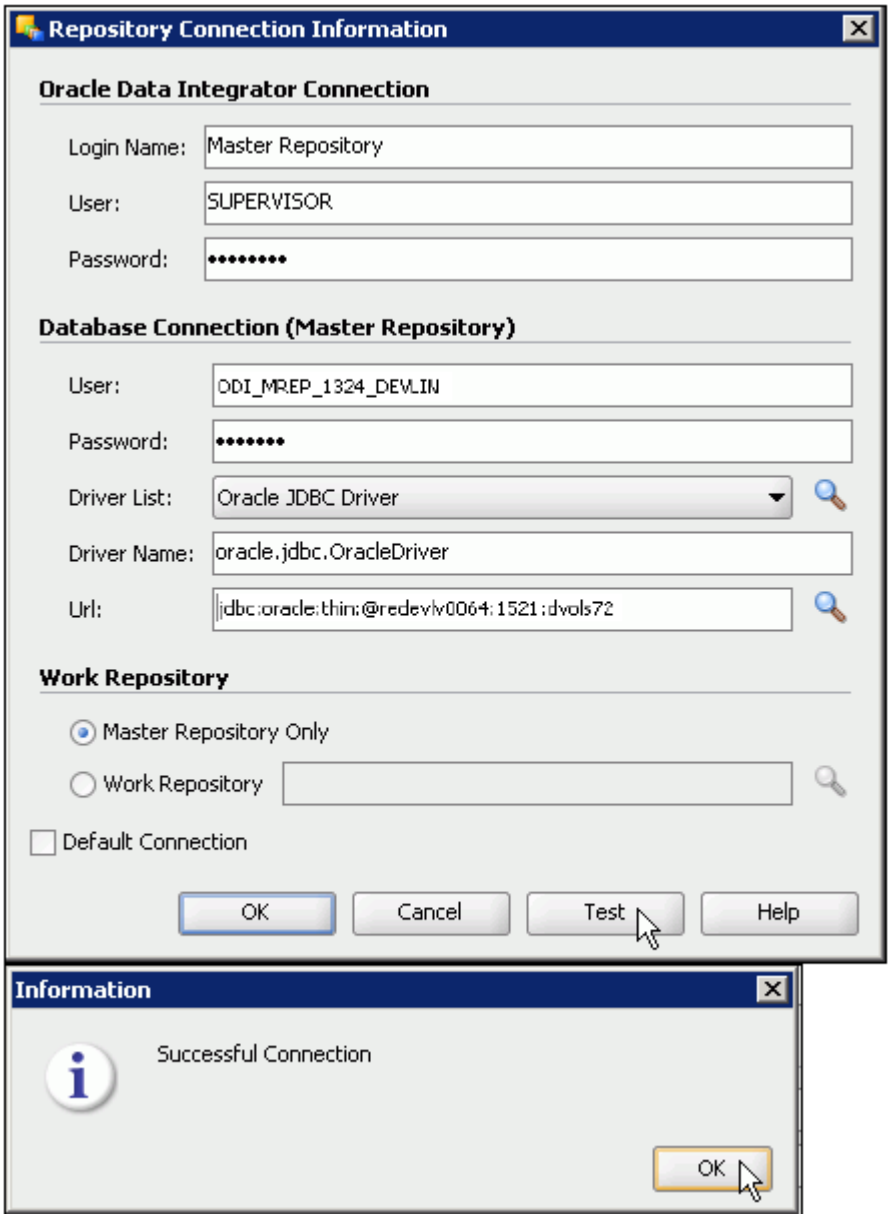


9. When the message, "Repository Creation Successful," appears, click **OK.**

10. To connect to the ODI Master repository, create a new ODI Master Login as follows. Select File > New to open the New Gallery. In the New Gallery, in the Categories tree, select ODI. From the Items list, select **Create a New ODI Repository login**.



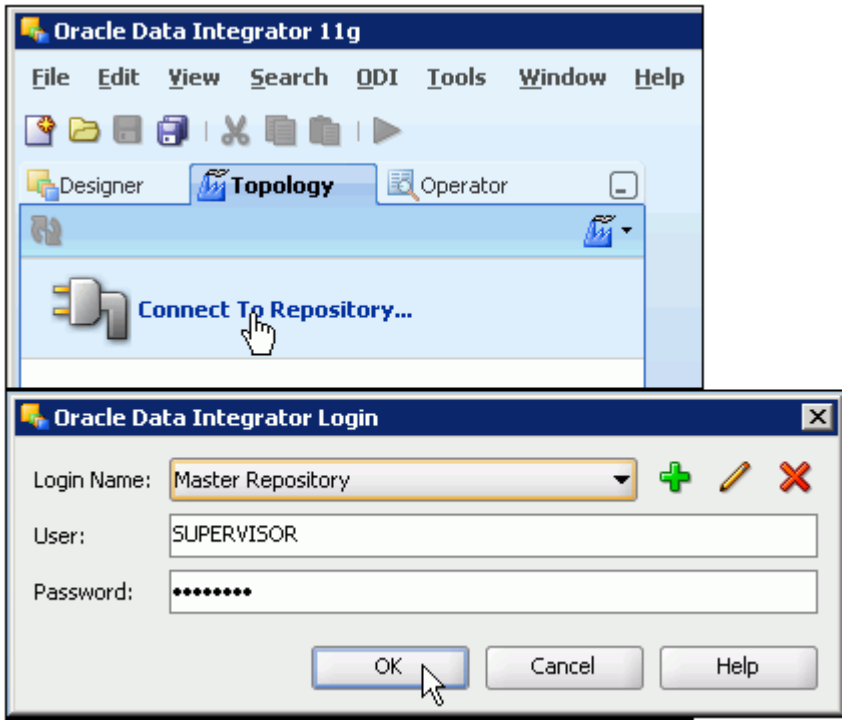
11. Configure Repository Connections with the parameters as shown in the following screen. To enter the JDBC URL, click the button next to JDBC URL field and select jdbc:oracle:thin:@<host>:<port>:<sid>. Edit the URL. Click **Master Repository Only**. Click **Test**. Verify successful connection. Click **OK**. Click **OK** to save the connection.

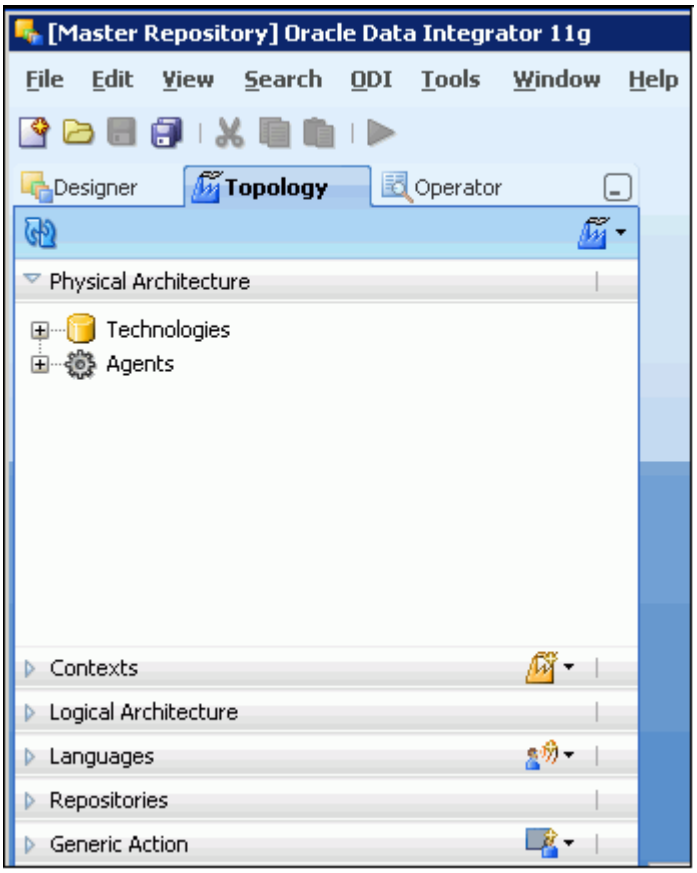

Repository Connection Information
Oracle Data Integrator Connection
Login Name:
Master Repository
User:
SUPERVISOR
Password:
Database Connection (Master Repository)
User:
ODI_MREP_1324_DEVLIN
Password:
Driver List:
Oracle JDBC Driver
Driver Name:
oracle.jdbc.OracleDriver
Url:
jdbc:oracle:thin:@redevlv0064:1521:dvols72
Work Repository
Master Repository Only
Work Repository
Default Connection
OK
Cancel
Test
Help
Information
Successful Connection
OK

Creating the Work Repository

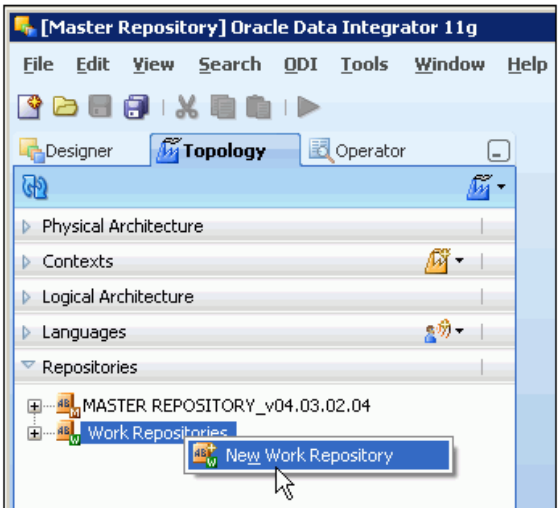
To create the work repository, do the following.

1. From a UNIX prompt, launch the Security Repository Connections utility.
   `odi.sh`
2. Click **Connect to Repository**. Select the newly created repository connection Master Repository from the drop down list. Click **OK**. The ODI Topology Manager starts. You are now successfully logged in to the ODI Topology Manager.

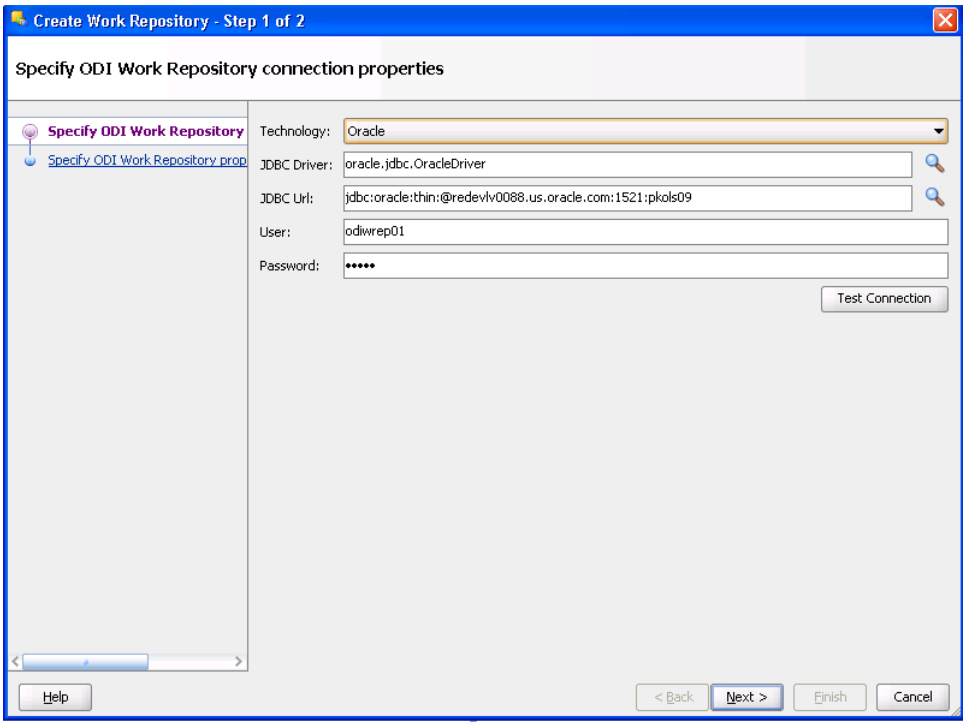




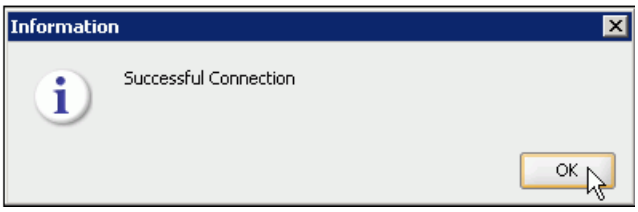
3. In ODI, click the Topology Navigator tab. Click to the Repositories panel. Right-click the Work Repositories node. Select New Work Repository. The Create Work Repository Wizard opens.



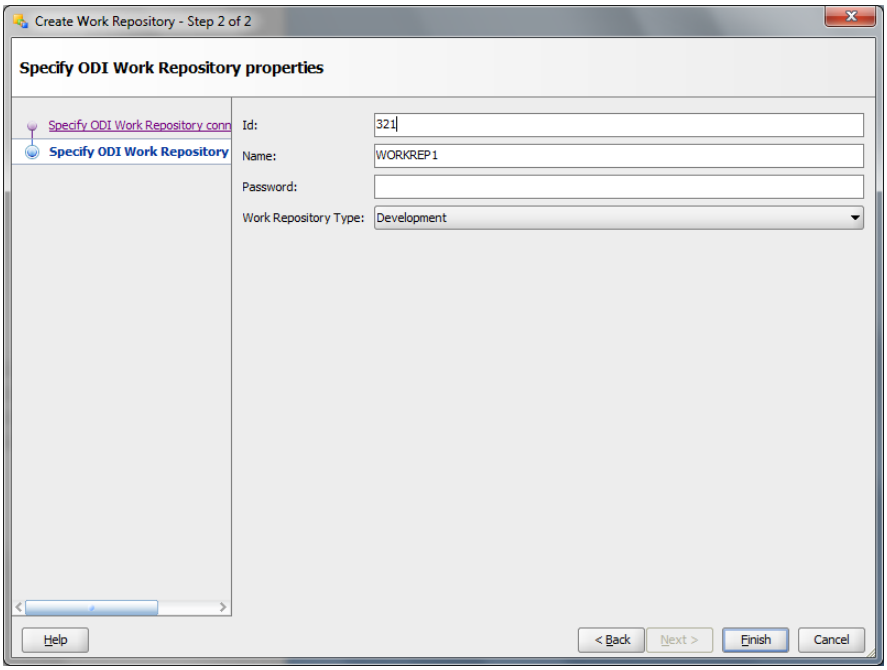
4. Enter the required information as shown below. Click **Test** to check the connection information.


Create Work Repository - Step 1 of 2
Specify ODI Work Repository connection properties
Specify ODI Work Repository
Specify ODI Work Repository prop
Technology:
Oracle
JDBC Driver:
oracle.jdbc.OracleDriver
JDBC Url:
jdbc:oracle:thin:@redevlv0088.us.oracle.com:1521:pkols09
User:
odiwrep01
Password:
Test Connection
Help
< Back
Next >
Finish
Cancel

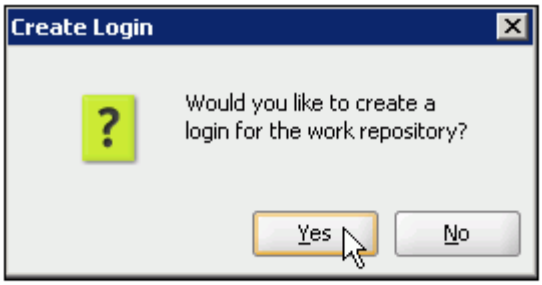
5. If testing is successful, a confirmation dialog is displayed. Click **OK** to return to the Repository Connections screen.

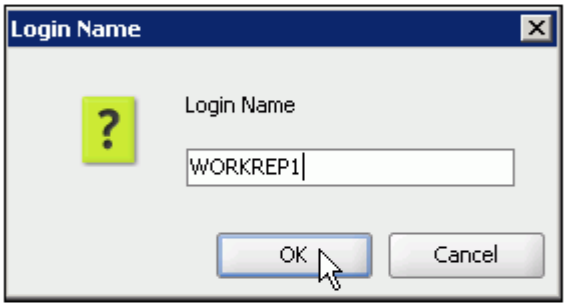


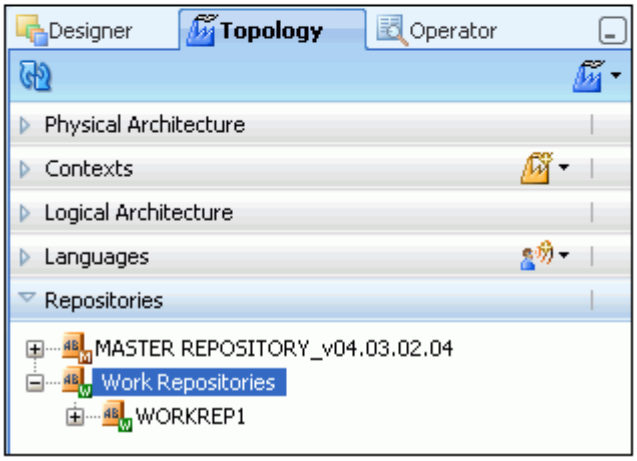
6. In the Specify Work Repository properties screen, set ID to any unique numeric ID between 400 and 450 for the work repository, other than what is provided during master repository creation. This will ensure that future Retail Analytics patches can be integrated easily.
7. Set the Name to WORKREP1. For Password, enter SUNOPSIS. For Work Repository Type, retain Development. Click **Finish.**



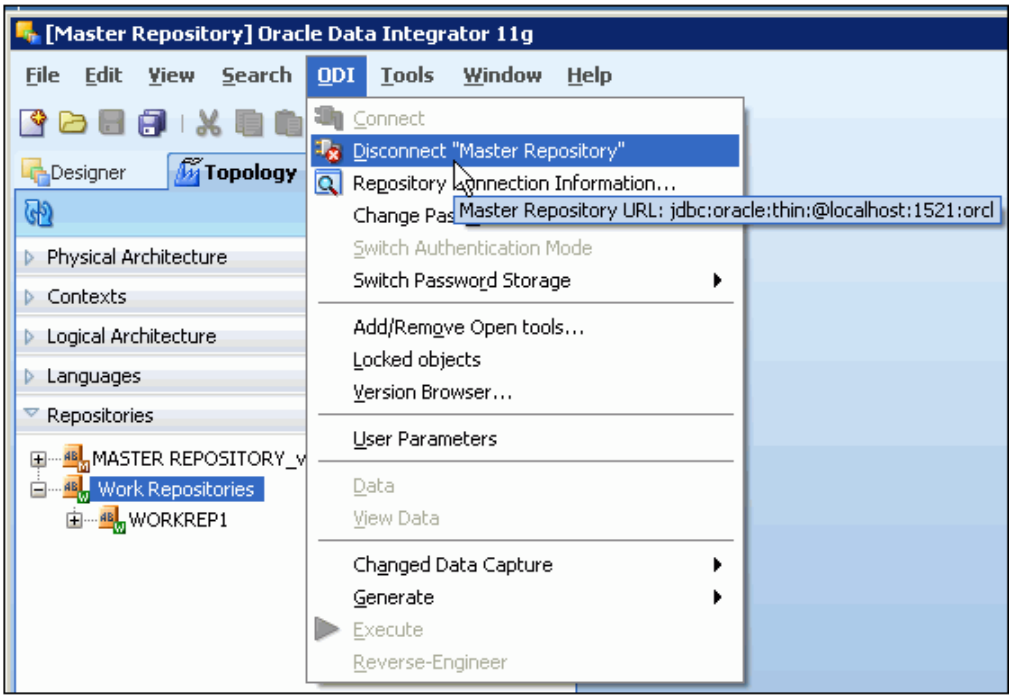
8. In the Create Work Repository Login window, click **Yes**. For log in name, enter WORKREP1 as shown in the previous screen. Click **OK**. Verify that the newly created Work repository is in the work repositories tree view.



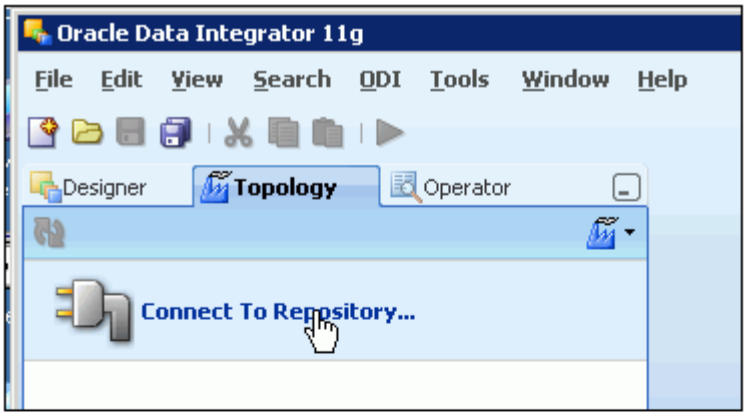


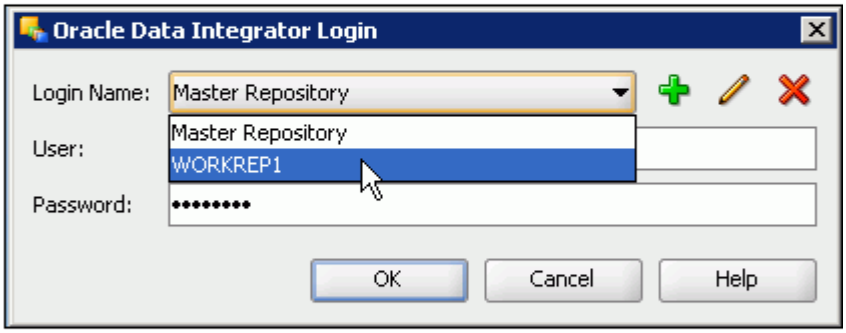


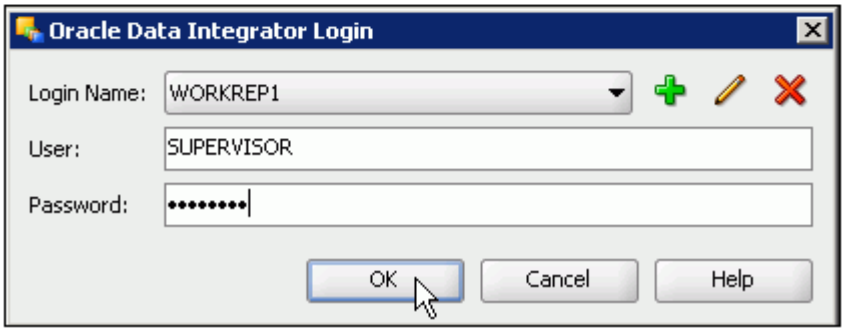
9. Disconnect from the Master repository. Connect to the Work repository. Click ODI menu. Select Disconnect Master Repository.



10. Click **Connect to Repository**. From the LoginName drop down, select WORKREP1. For Password, enter SUNOPSIS. Click **OK**. Click the Designer tab. The following ODI Designer screen appears. The ODI Work repository has been created, and you are connected.



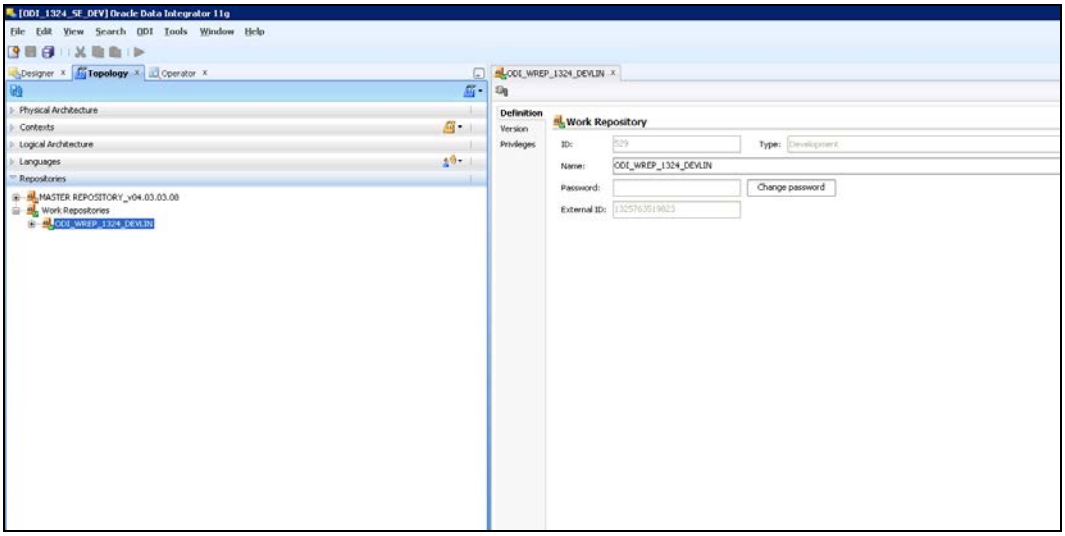




Note: When the process is completed, the progress window appears to still be active. Loading is done when you see a line similar to the following, and the focus returns to the GUI, allowing you to exit.

01/11/2012 03:48:36 PM(AWT-EventQueue-0): DwgXmlSession.execute : execute order : ALTER TABLE SNP_VAR ADD CONSTRAINT FK_VAR FOREIGN KEY (I_PROJECT) REFERENCES SNP_PROJECT (I_PROJECT)

11. After the work repository installation is complete, double-click the work repository to view the credential.



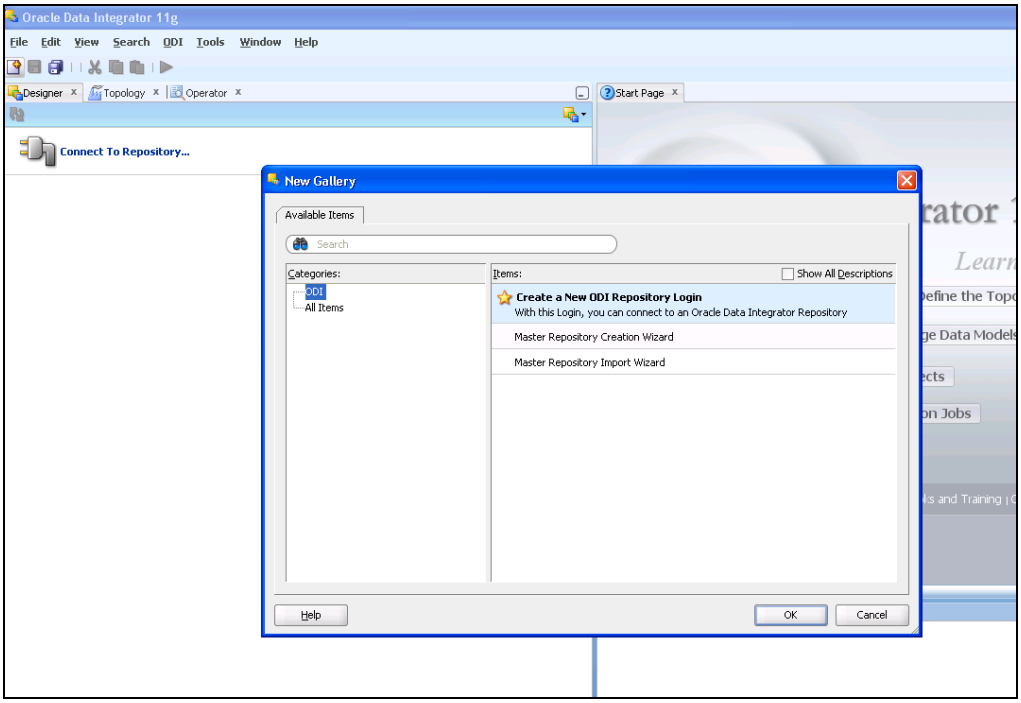
Importing Zip files into the Work Repository

Complete the following steps.

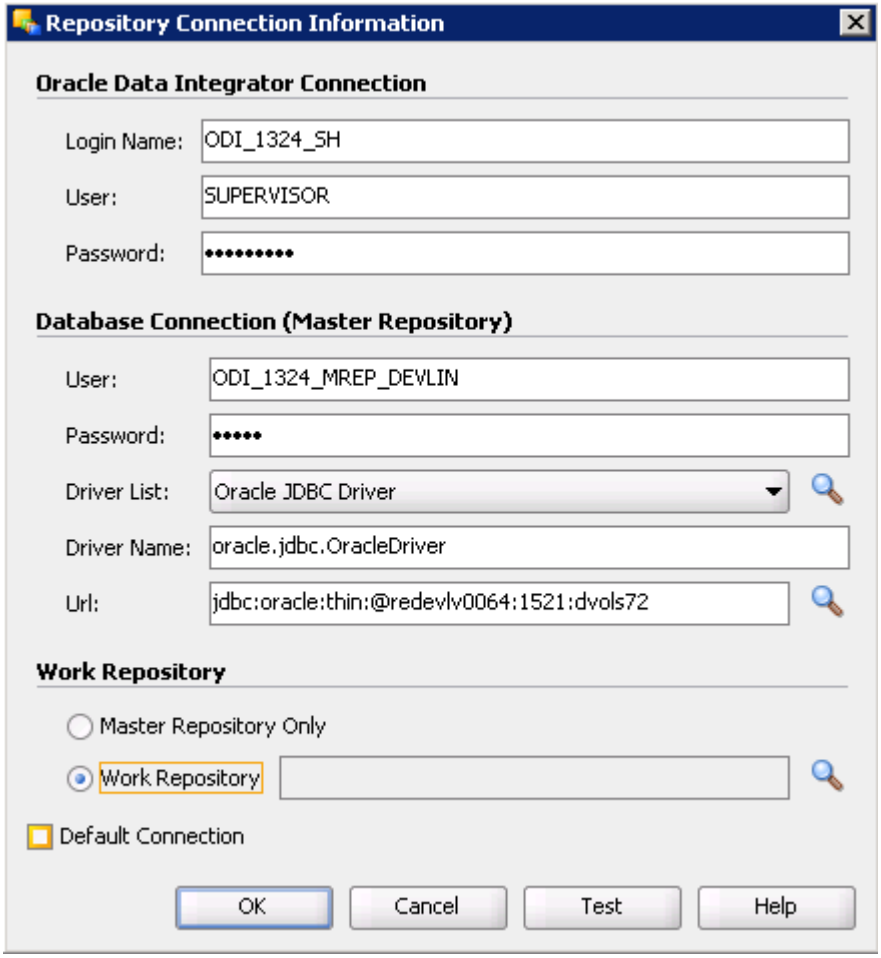
1. From a UNIX prompt, launch OracleDI Designer.
   `odi.sh`

   > **Note:** To launch OracleDI Designer in Windows; from the Programs menu, select Oracle -> Oracle Data Integrator 11.1.1.5.0 -> Designer.

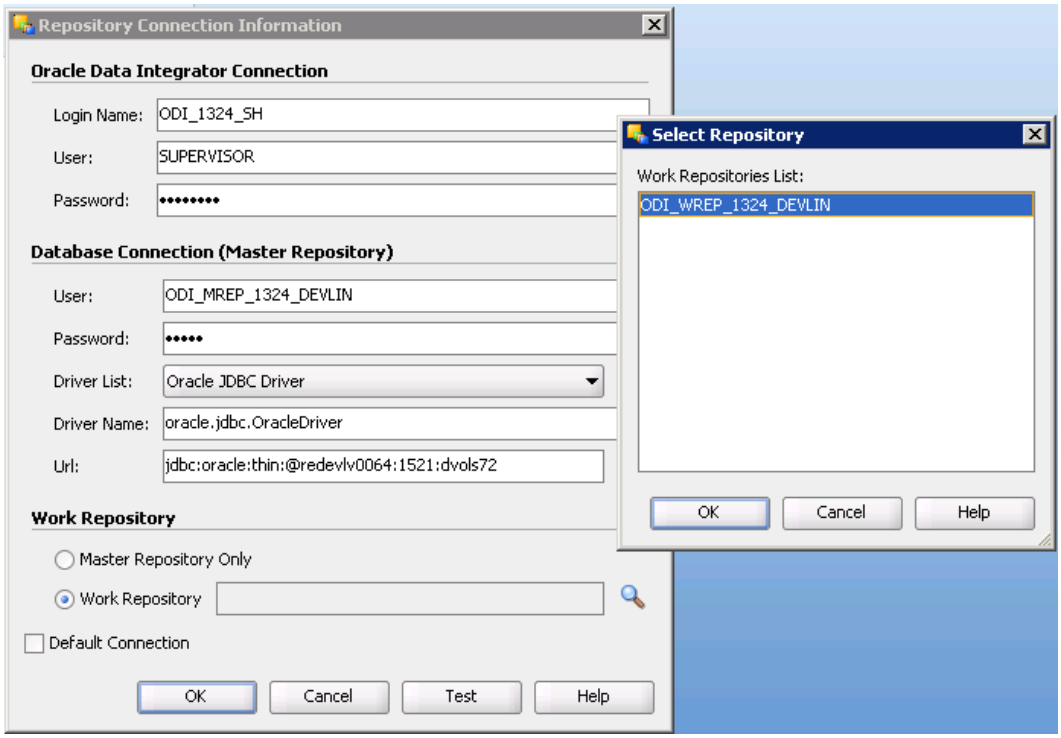
2. Navigate to File > New > Select Create a new ODI Repository Login. Click **OK**.



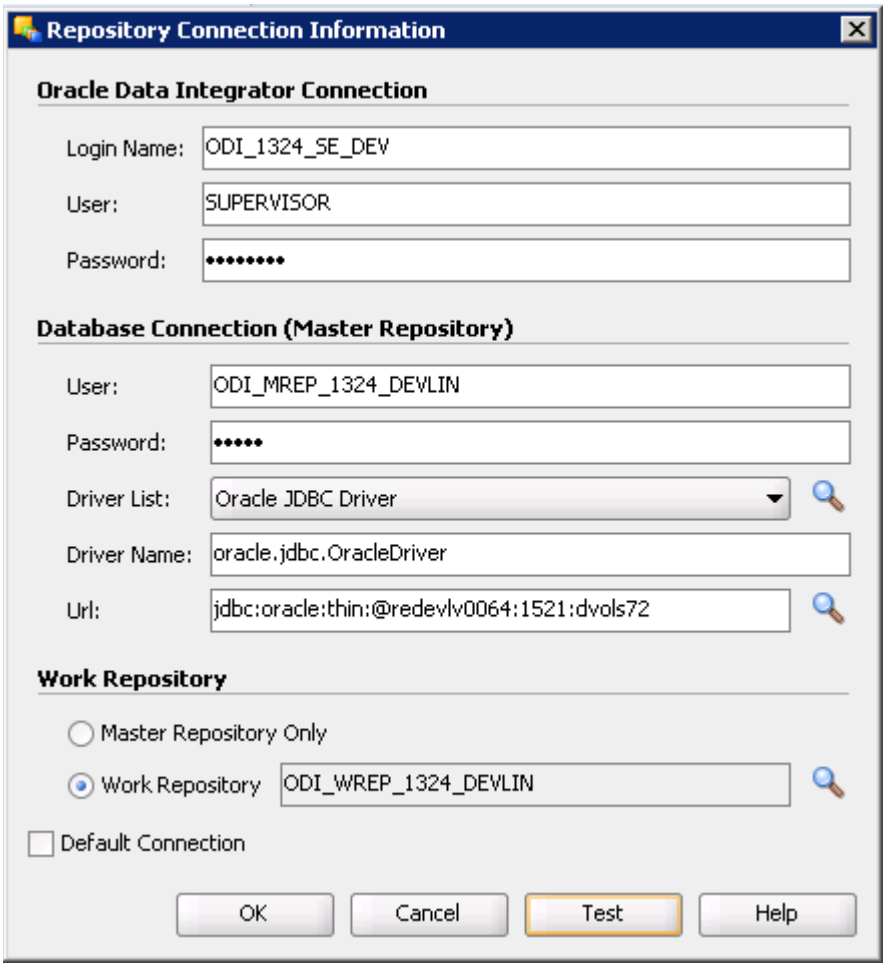
3. Enter the repository information.
   After entering a valid database URL, click the icon next to the Repository Name field.



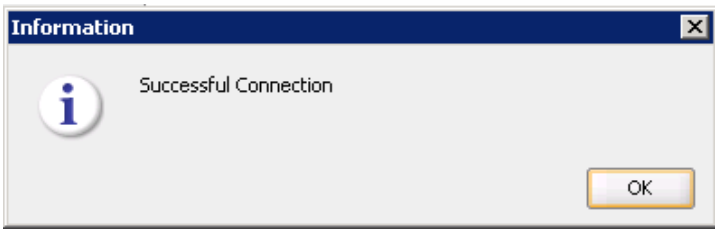
4. Select the work repository and click **OK**.



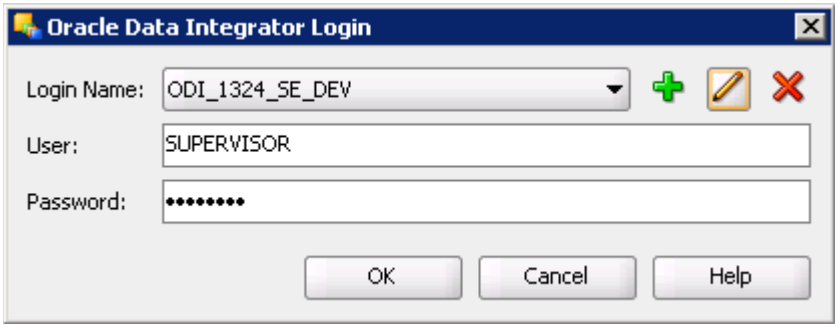
5. From the Work Repository Connection window, click **OK**.



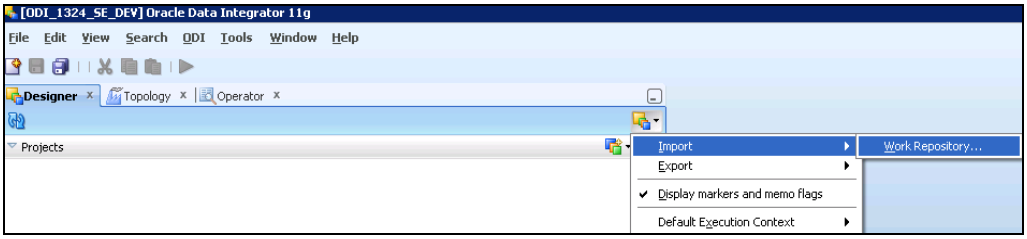
6. From the Connection Verification dialog, click **OK**.



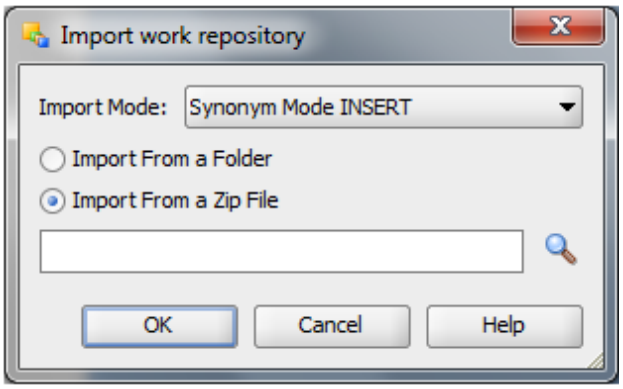
7. Click **OK** to create Work Repository login.
8. On ODI Studio, click **Connect to Repository**. Enter Work repository name, and provide username and password.



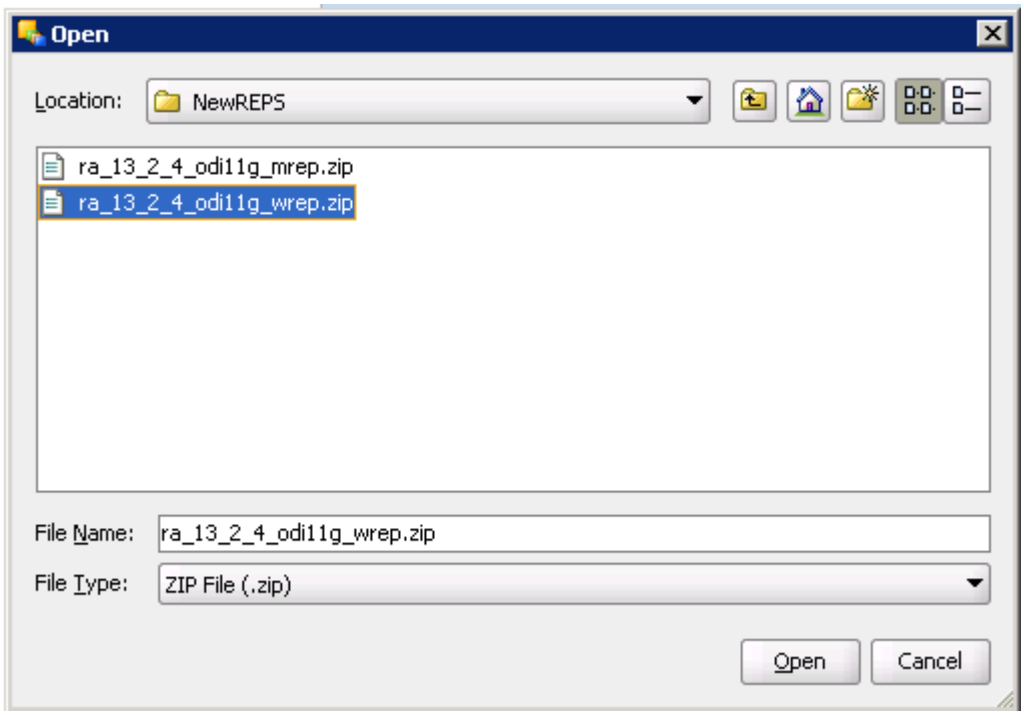
9. From the Designer tab, click the drop down list on the right side of the panel and select Import > Work Repository.



10. In the Import Mode field, select **Synonym Mode Insert** and select **Import** from the .zip file.

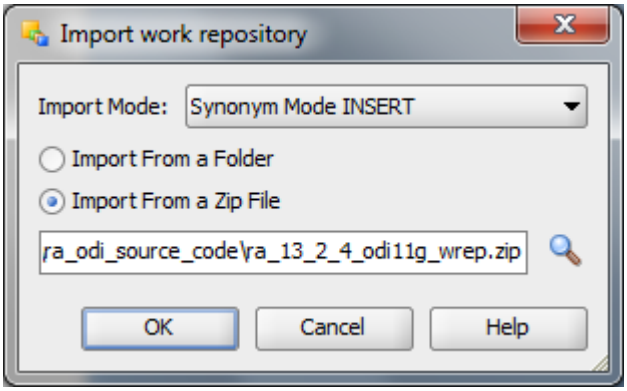


11. Browse to the location of the zip files, select the zip file to import. Click **Open**.
    Select from location
    <MMHOME>/ra_odi_source_code/ ra-13_2_4_odi11g_wrep.zip.

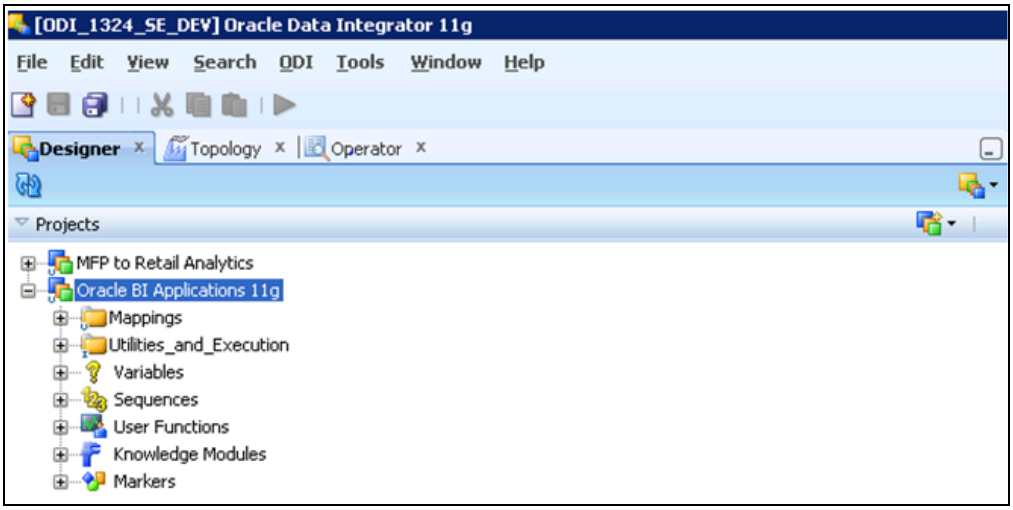


12. From the Import work repository screen, click **OK**.

> **Note:** For example, in this case the path is /u00/odi/product/11.1.1.5/oracledi/ra_13_2_4_odi11g_wrep.zip.



13. After the .zip file is imported, the Projects screen appears.



Important: Importing the Work Repository can take as long as an hour. Do not close the Designer window until the import is complete, because closing it interrupts the import process.

Once import is done you should see the projects imported into the work repository on the left hand side of Designer.

The following are notes regarding creation of the ODI Agent:

1. Configure ODI PARAMS. These parameters are used by Agent.
2. Configure odiparams.sh file before creating physical agent. This file is located under $ODIHOME\bin.

   UNIX: odiparams.sh

   The following parameters must be configured:

   - ODI_SECU_DRIVER: JDBC driver used to connect the Master Repository.
   - ODI_SECU_URL: JDBC URL used to connect the Master Repository.
   - ODI_SECU_USER: Database account used to connect the Master Repository.
   - ODI_SECU_ENCODED_PASS: Database account password. The password must be encoded by running the following command ./agent.sh encode <password> command.
   - ODI_SECU_WORK_REP: Name of the Work Repository to connect. This Work Repository must be attached to the master repository.
   - ODI_USER: OracleDI user used to launch a scenario.
   - ODI_ENCODED_PASS: OracleDI user password. The password must be encoded with the **agent encode <password>** command. You can run this command by going to the bin directory of ODI and run the above command that will return the encoded version of the password.

For the Location from where the above command can be executed, do the following.

1. Go to the bin directory under ODI Home: $ODI_HOME\bin.
2. Execute the command, agent.sh encode <password>.

Note: agent.sh is for UNIX, and agent.bat is for Windows.

Topology Configuration for Physical and Logical Schemas

To configure schemas, do the following.

Configure the Batch User Schema [ORACLE_BI_APPLICATIONS]

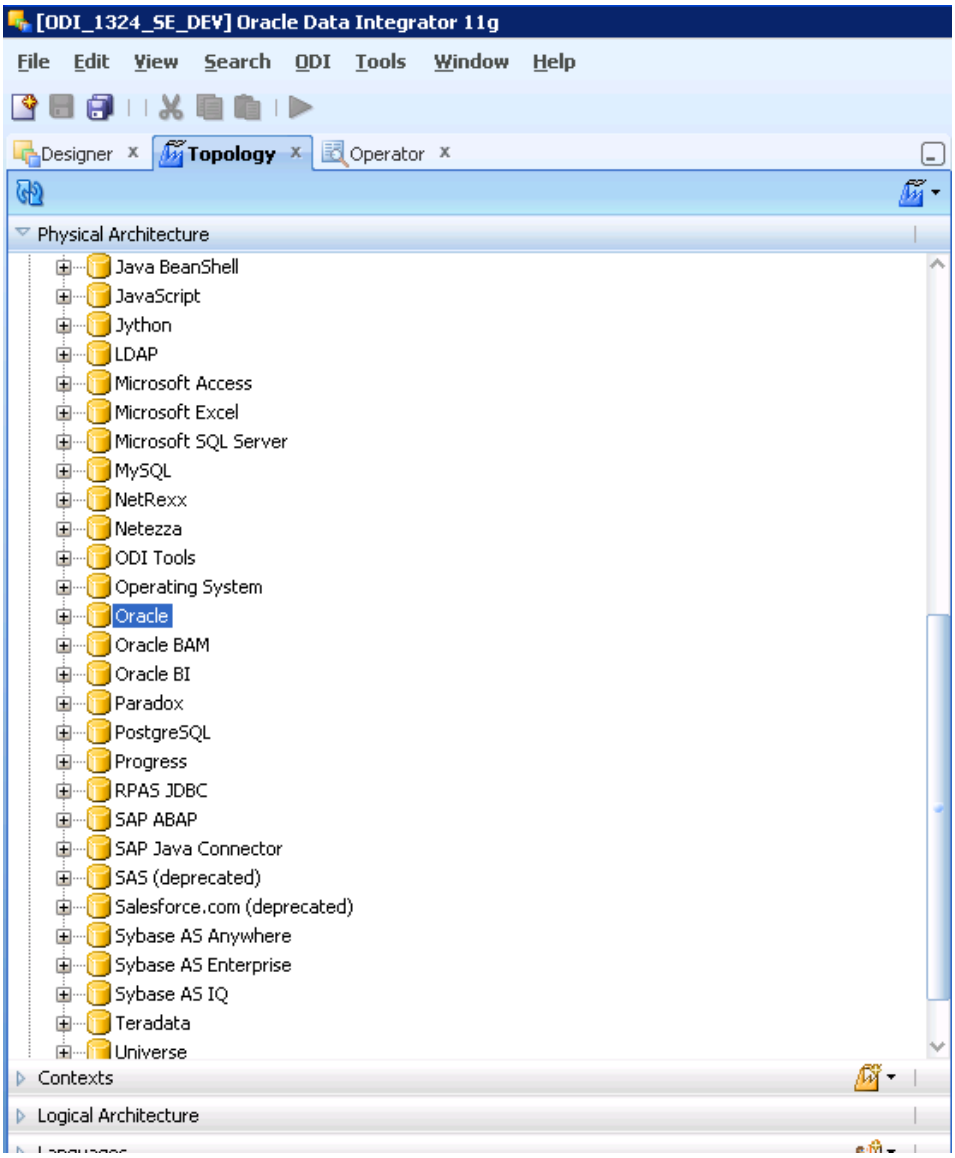
To configure the batch user schema, do the following.

1. From a UNIX prompt, execute

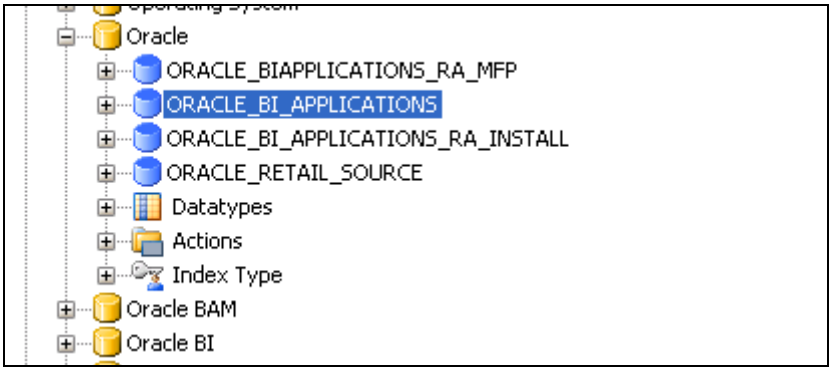
```
./odi.sh
Navigate to Topology
```

> **Note:** From the Programs menu, to launch in Windows, select Oracle -> ODI Studio -> Topology.

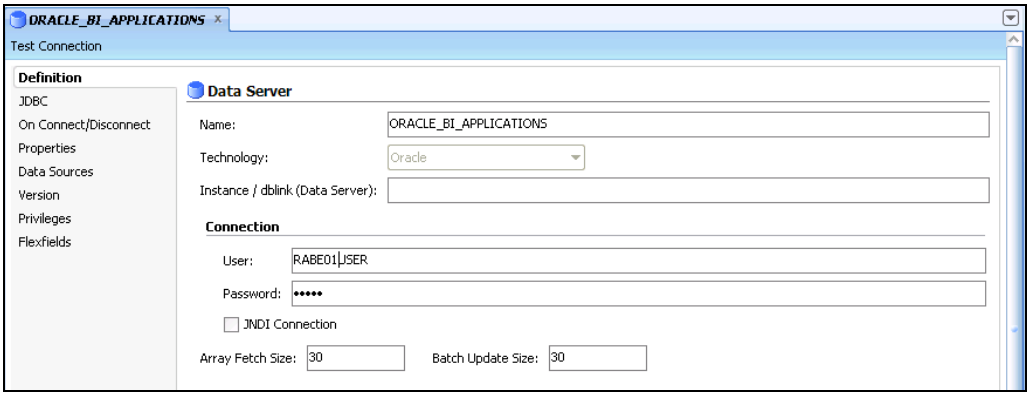
2. Click the Physical Architecture tab to configure the Physical Schemas.
3. Select Technologies → Oracle.



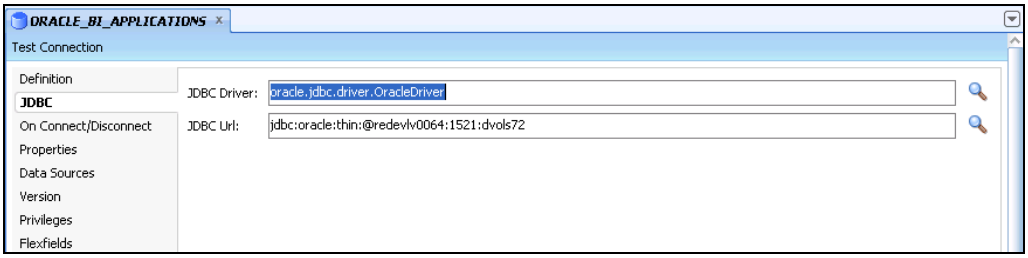
Select the respective data server to Update/Modify the connection details based on your database connectivity credentials.



4. Provide the database connection details for the data server.

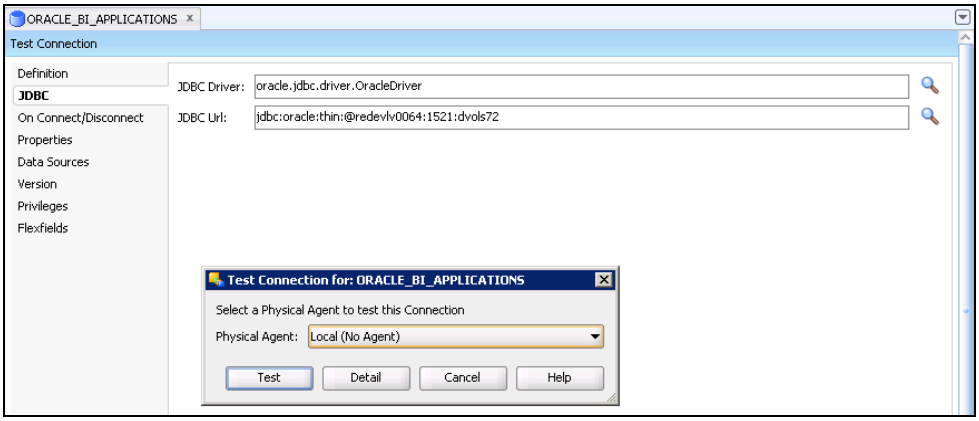


5. Provide the JDBC connection details:

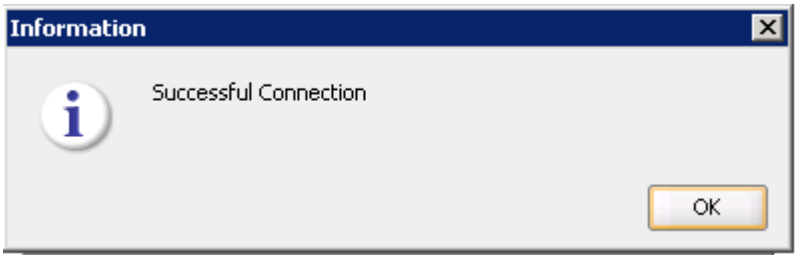


6. Click **Test Connection** to test the connection.

7. Select an Agent to test the connection and click **Test**.

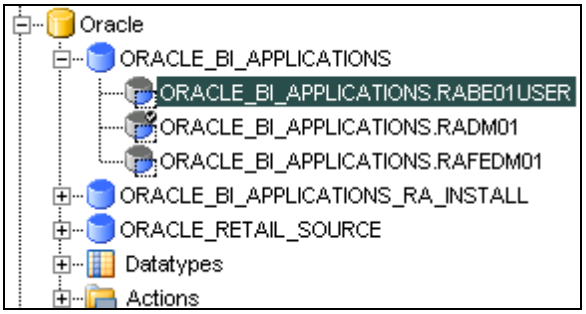


8. When the test is complete, click **OK**. The Data Server is now successfully modified/ updated.



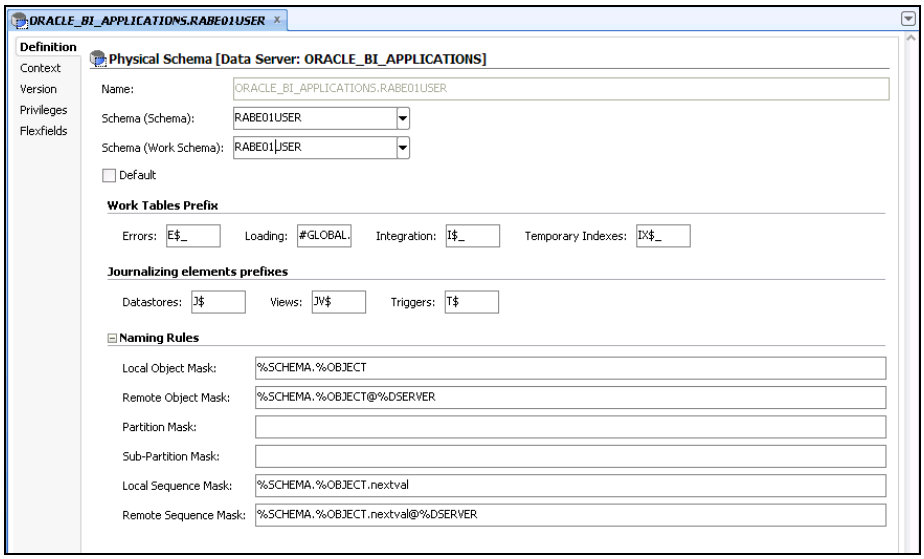
The physical schemas inside the data server must be modified.

9. Select the physical Schema under the data server:



10. Enter the database details such as Master Schema and Work Schema as follows:
    a. Choose the proper Schemas from the drop down list (highlighted).
    b. Choose the Schema as default if you want to make it as a Default schema.
    c. Leave the values for E$, Loading, I$, Data stores, Views, and Triggers options as they are.

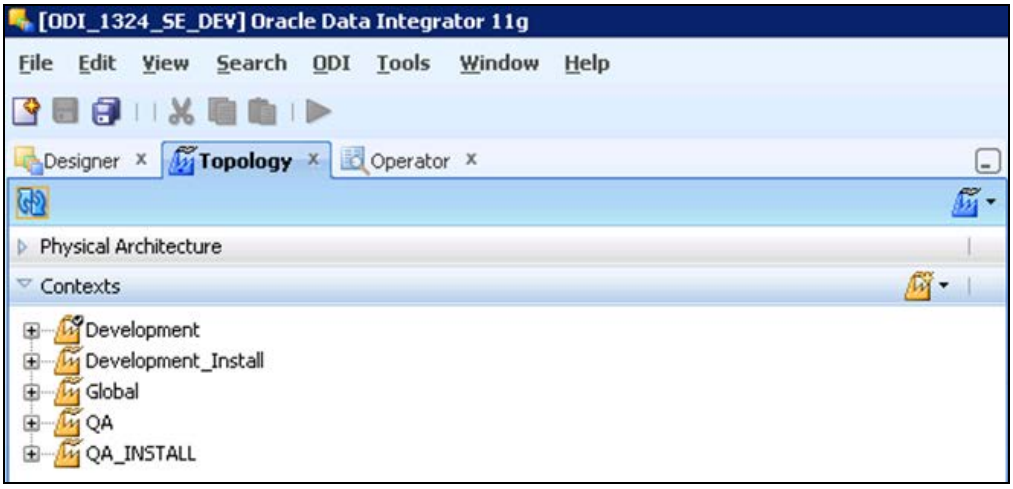
> **Note:** The LOADING_TAB_PREFIX is a Global variable defined in the ODI designer Module which is used in all the Retail Analytics SDE Packages as a REFRESH VARIABLE. The Default value of the variable is C$. This variable tracks the Session number of the SDE Jobs.
>
> Refer to the "ODI Designer Configuration" section for details.



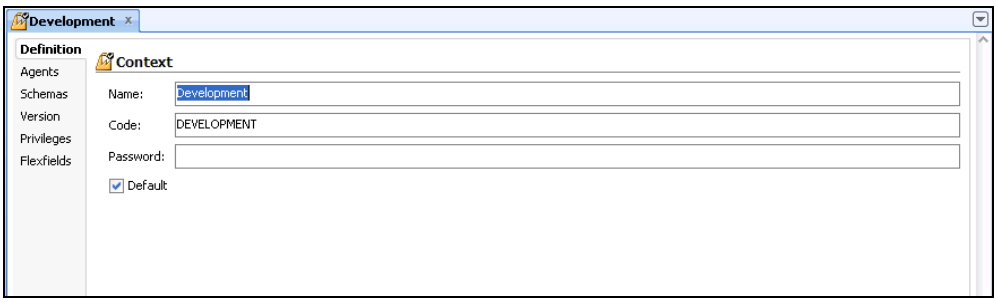
11. Leave the Context tab blank and Click **OK**. Ignore any warnings.

> **Note:** Configure as many physical schemas, as required by the project.

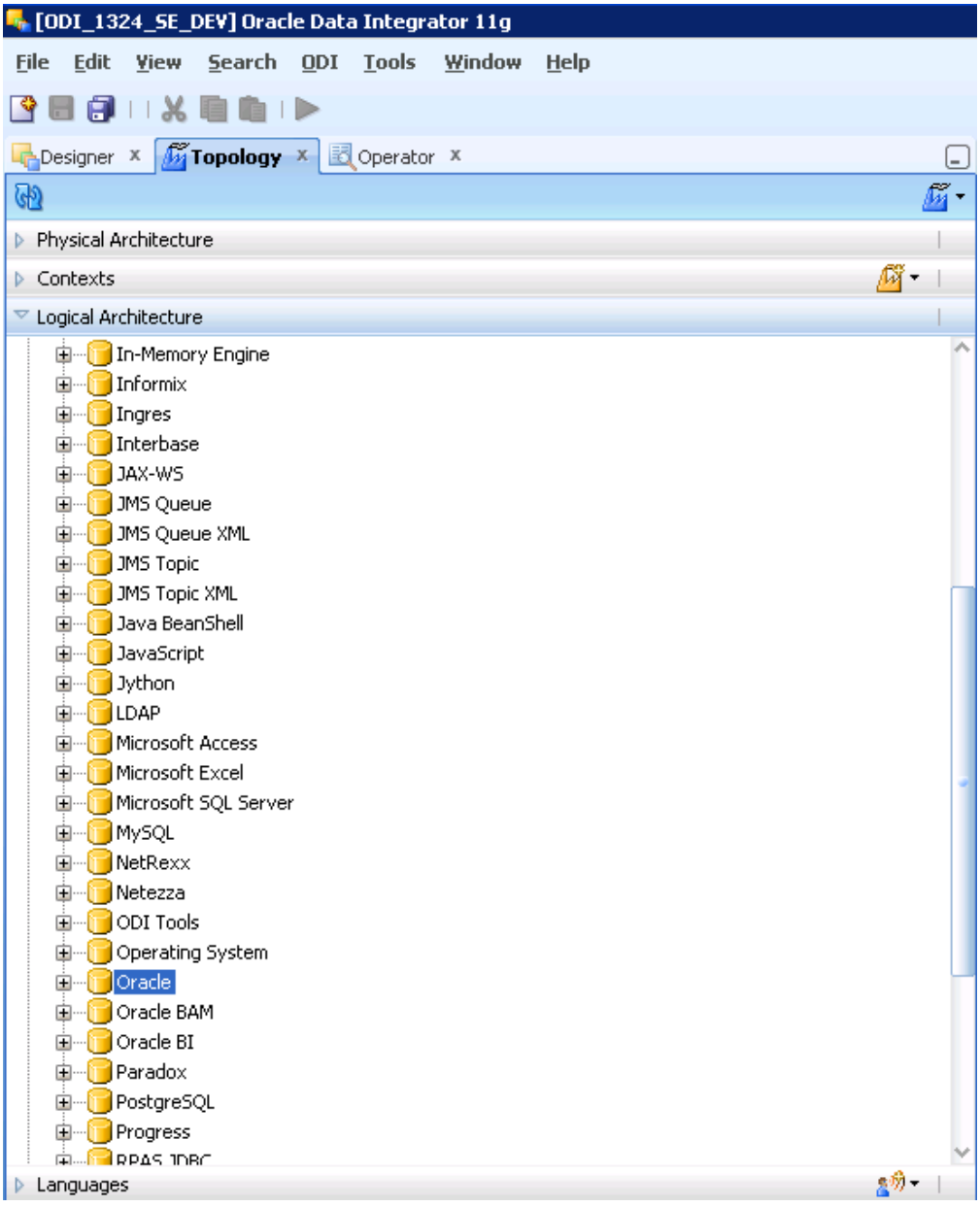
12. Refer to Contexts, which are already created with the import of the master rep zip file. See the "Importing the Master Repository Zip Files into the Master Repository " section for more information.



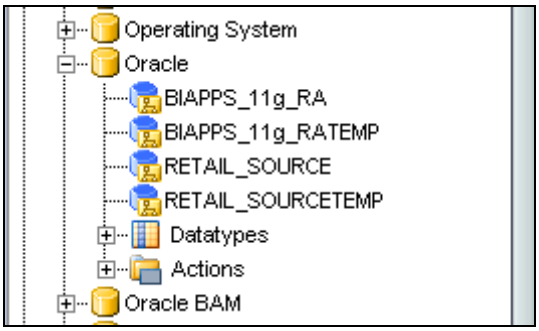
13. Check the **Context Details**.



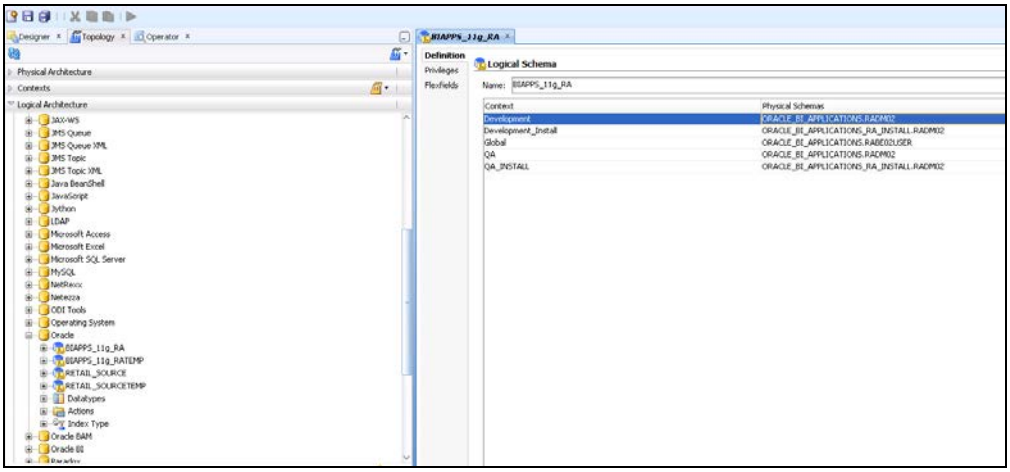
14. Map the respective Logical schemas with the Physical schemas by means of a Context. This ensures setup for specific execution environments like Development, QA or Production.
15. Go to the Logical Architecture tab and select Technologies as Oracle.



16. Check the Logical schemas



17. Enter the logical schema details like context and physical schema.



The physical and logical schema configurations are complete. You are now ready for execution through ODI.

Configure the Source User Schema [ORACLE_RETAIL_SOURCE]

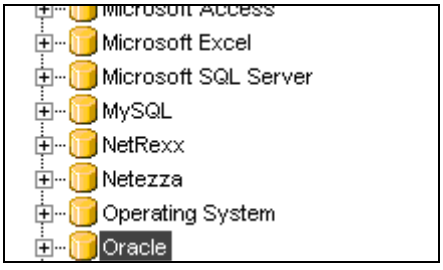
Complete the following steps.

1. From UNIX, open Topology manager:

```
./odi.sh
Navigate to Topology
```

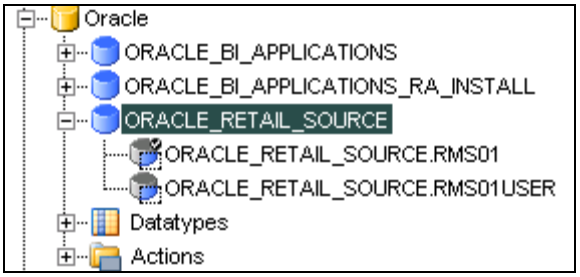
> **Note:** To launch in Windows; from the Programs menu, select Oracle -> Oracle Data Integrator 11.1.1.5.0 -> Topology.

2. Go to Topology manager → Physical Architecture and choose Technologies = Oracle.



3. Expand Oracle. Select ORACLE_RETAIL_SOURCE to configure the data server.

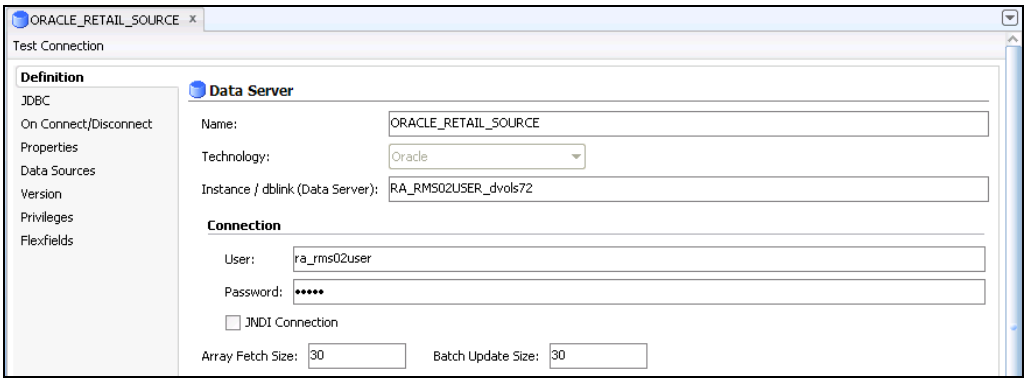
4. Double-click **ORACLE_RETAIL_SOURCE** to configure the settings.



5. Provide the dblink name which points to RMS batch user.

> **Note:** Enter the DB Link Name created in the RABE01USER Schema in the **Instance/dblink (Data Server)** text box

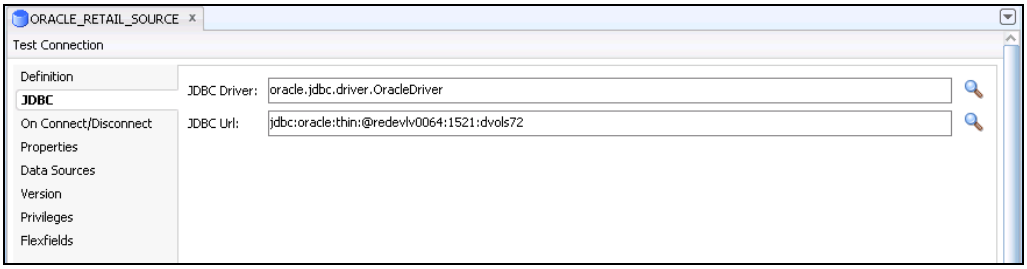
Dvols72 is an example in this case which is a dblink created by the Retail Analytics batch user pointing to the RMS batch user.



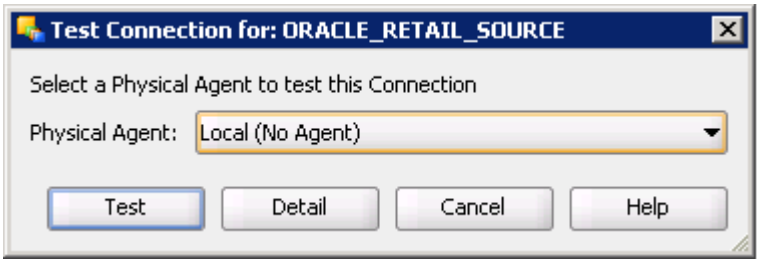
6. Go to the JDBC tab to set up the Connection Details.

> **Note:** The Connection details shown below are for demonstration purposes. Configure your connection strings for your own requirements and settings.

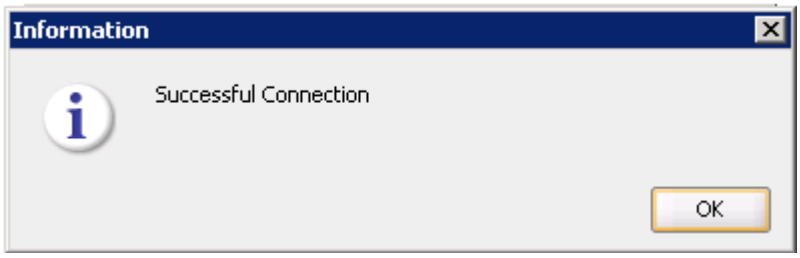
7. Click **Test Connection** to test the connection details and save the changes.



8. From the Test Connection dialog, click **Test**.

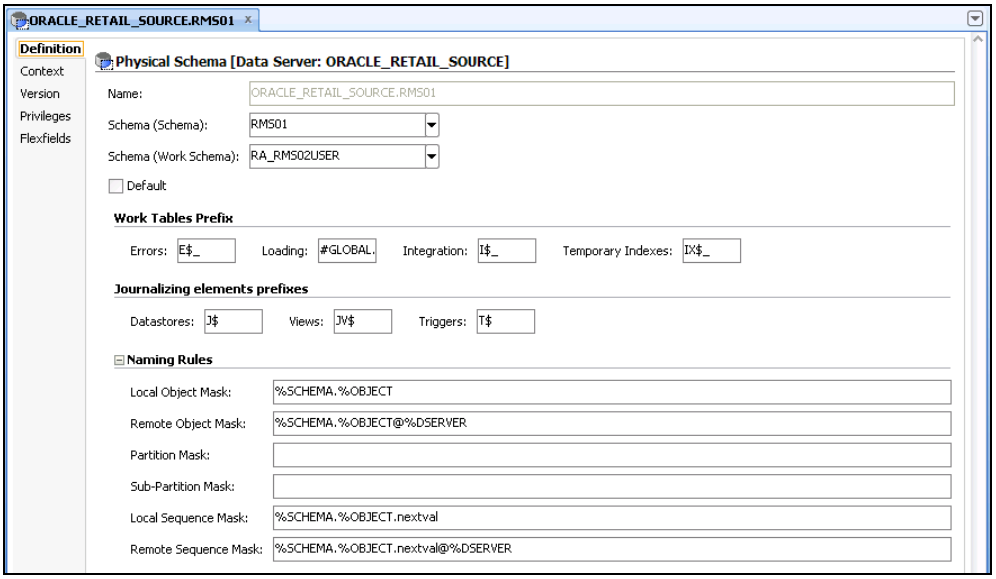


9. When the test is complete, click **OK**.

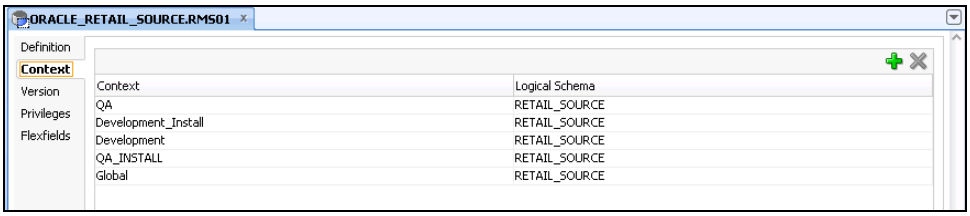


10. Check the Physical Schemas and the Context Mappings.

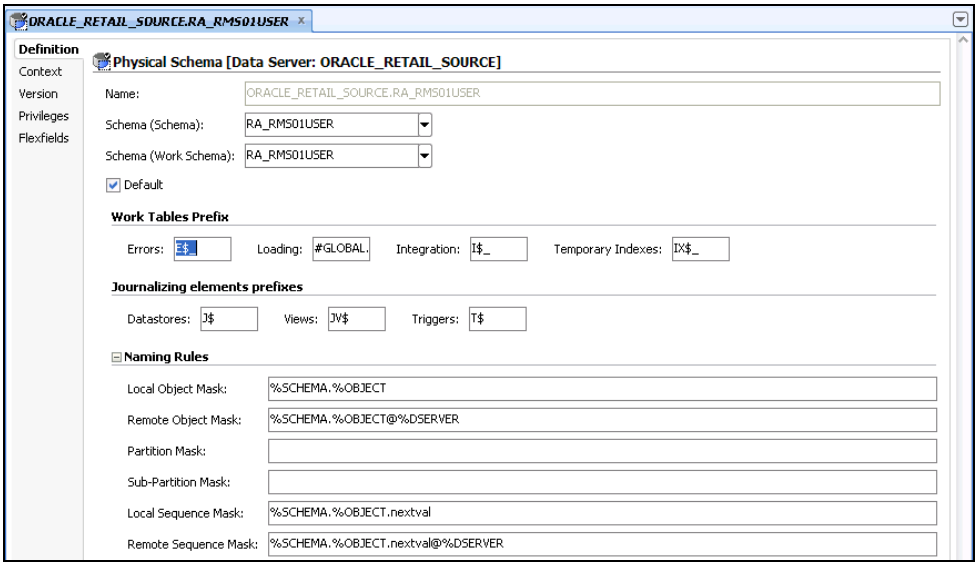
Physical Schema: Check for ORACLE_RETAIL_SOURCE_RMS01



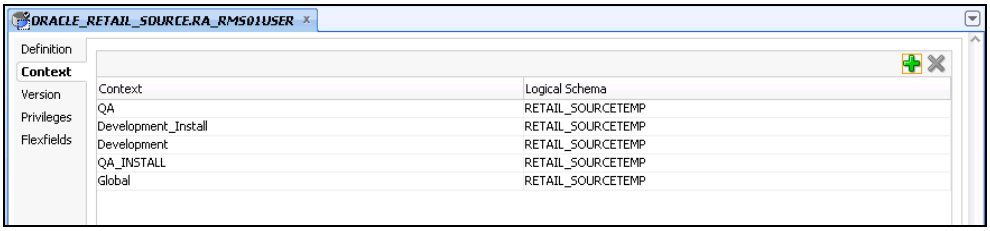
Context for RMS01:



Physical Schema: Check for ORACLE_RETAIL_SOURCE_RMS01USER



Context for RMS01USER:



Configure the RADM01 Data Schema [ORACLE_BI_APPLICATIONS_RA_INSTALL]

Complete the following steps.

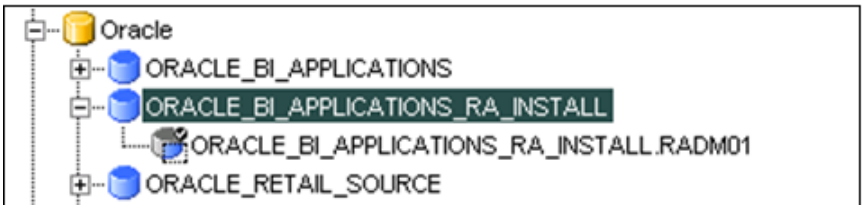
1. From UNIX Open Topology manager:

```
./odi.sh
Navigate to Topologyh
```

> **Note:** To launch in Windows, from the Programs menu, select Oracle -> ODI Studio -> Topology.

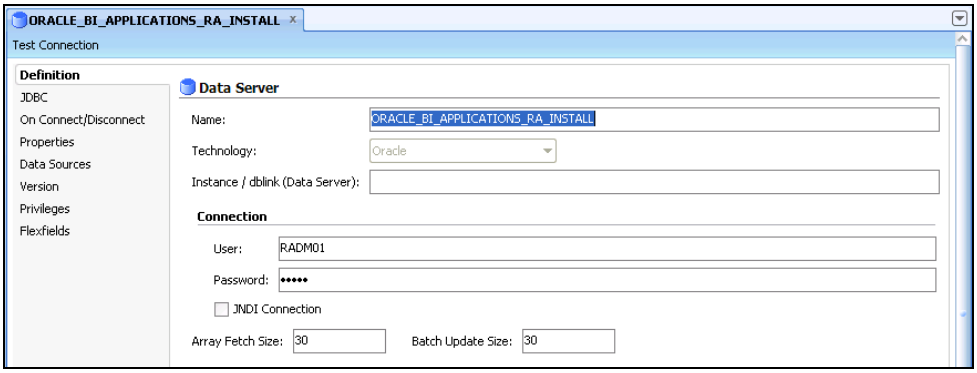
2. Go to Topology manager → Physical Architecture and choose Technologies=Oracle.

3. Expand Oracle Technology. Select ORACLE_BI_APPLICATIONS_RA_INSTALL



4. Double-click the Data Server to configure the connections/settings.
5. Optional: Enter the Instance/dblink (Data Server) information.

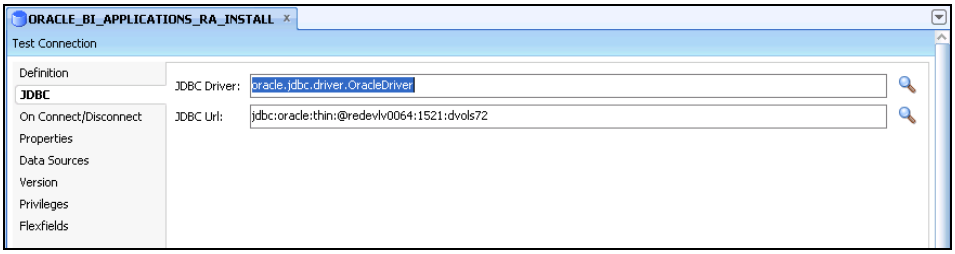
   The dblink is optional and does not need to be specified if you do not have DB links created in the database.
6. Enter User and corresponding Password. The User/Password name shown below is an example.



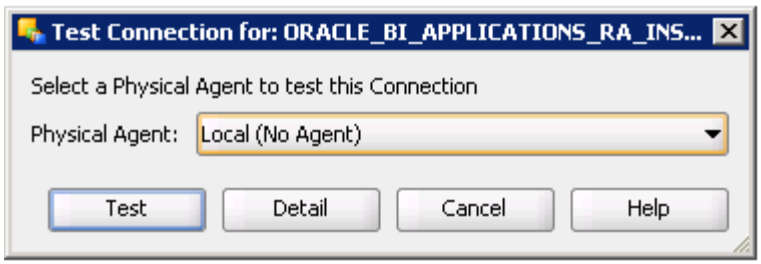
7. Go to the JDBC tab and enter your connectivity settings.

> **Note:** The Connection details shown below are for demonstration purposes only. Configure the connection strings as per your own requirements and settings.

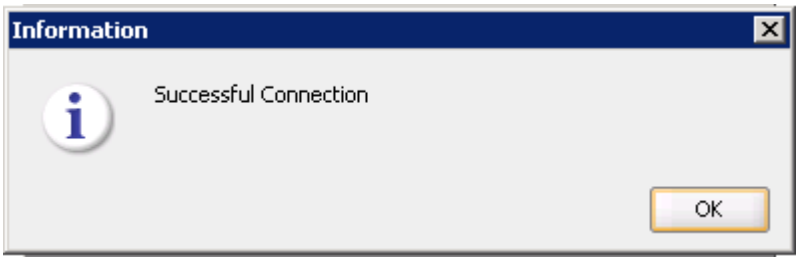
8. Click **Test** to test your connection.



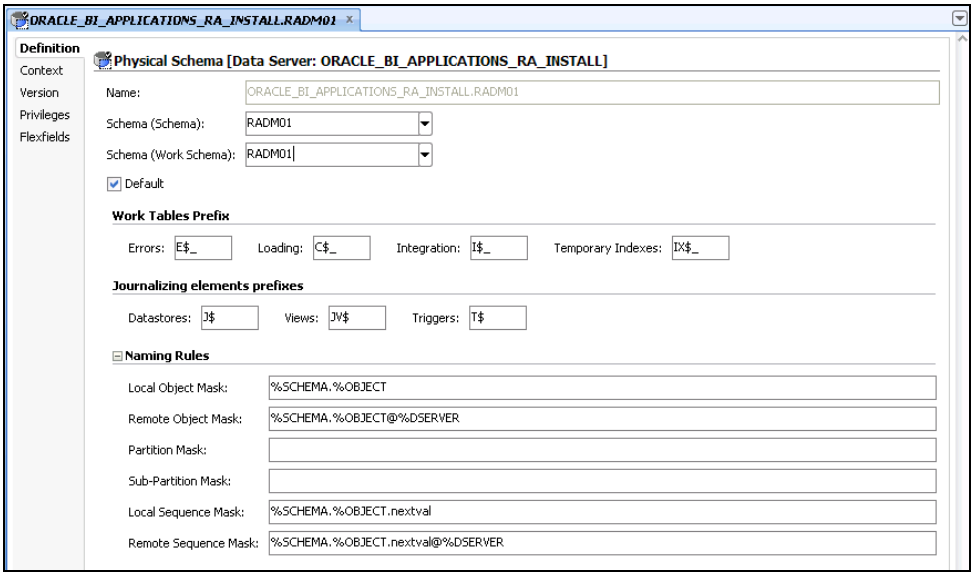
9. From the Test Connection dialog, click **Test** to test the connection details.



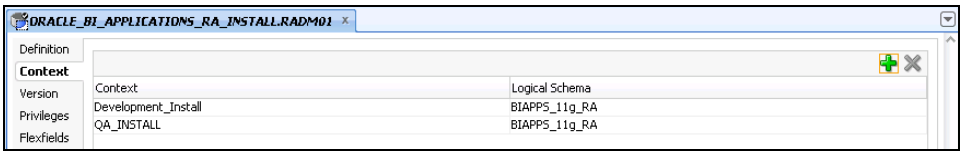
10. After the test is complete, click **OK**.



11. Check the Physical Schema(s) and check the Context Mappings.
12. Double-click **ORACLE_BI_APPLICATIONS_RA_INSTALL.RADM01**.

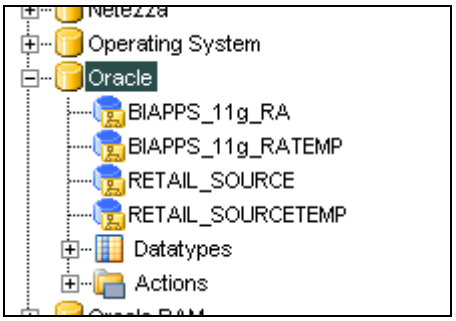


13. Check and Verify the context mappings.

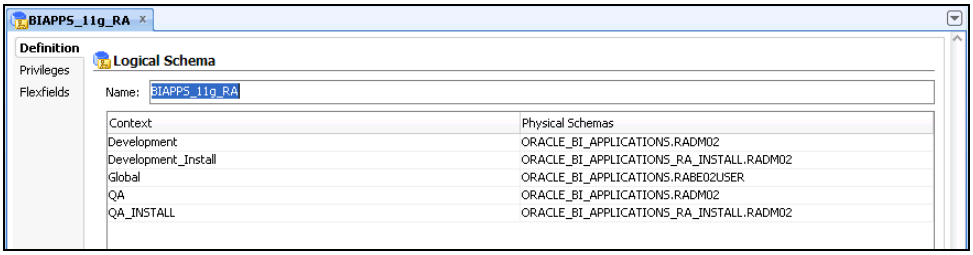


The Data Servers and Physical Schemas present in the Demo environment are now configured.

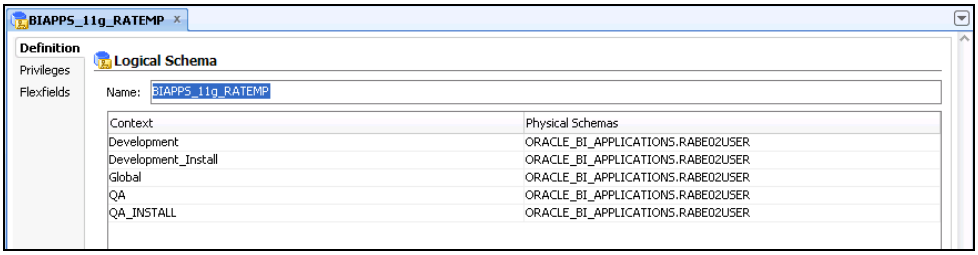
14. Check and Verify the Physical/Logical Schema Mapping in the Logical Architecture tab.
15. From the Logical Architecture tab, select Technology Oracle.



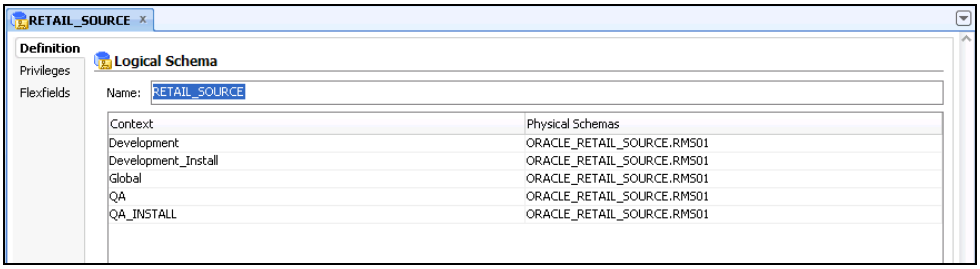
Logical Schema: **BIAPPS_11g_RA**



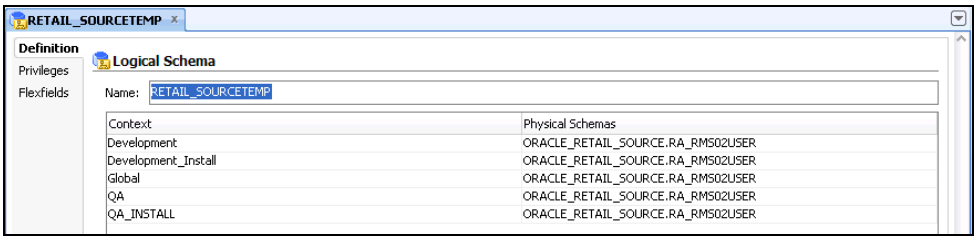
Logical Schema: **BIAPPS_11g_RATEMP**



Logical Schema: **RETAIL_SOURCE**



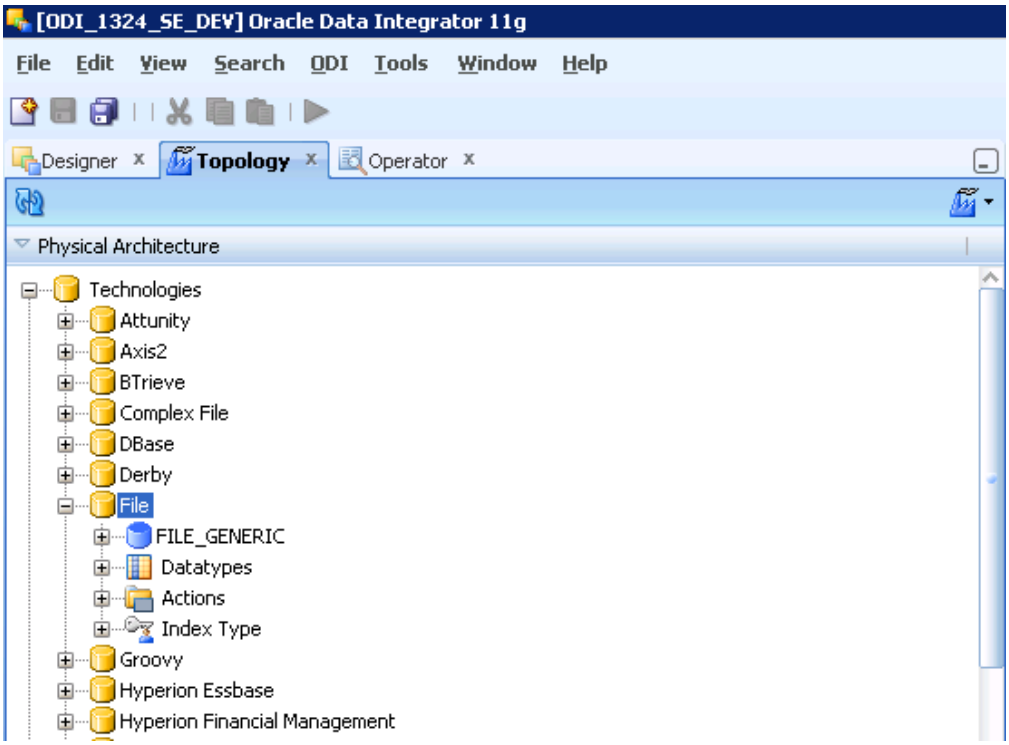
Logical Schema: **RETAIL_SOURCETEMP**



File Configuration in Topology Manager

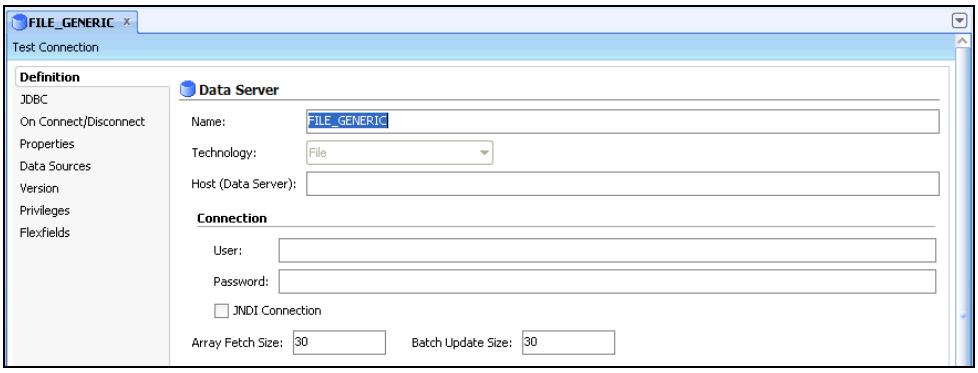
Complete the following steps.

1. Open ODI Topology.
   - From a UNIX prompt, execute
     ```
     ./odi.sh
     Navigate to Topology
     ```
   - In Windows, from the Programs menu, select Oracle -> ODI Studio -> Topology
2. From the Topology manager, select Physical Architecture and choose Technologies=File.
3. Check for file data server that is already imported with the import of the master rep zip file. See Import the Master Repository Zip files into the Master Repository section for additional information.

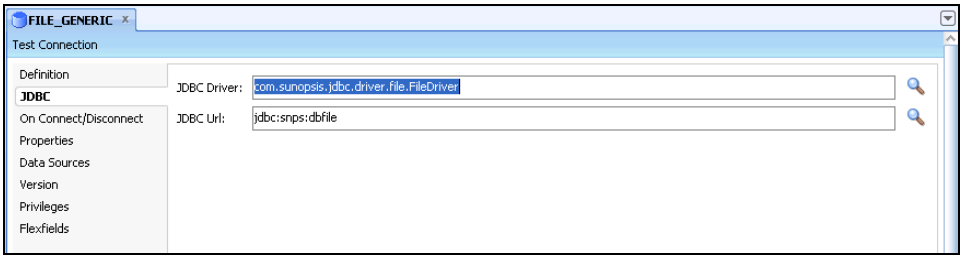


4. Key in the Data Server Details, as necessary.

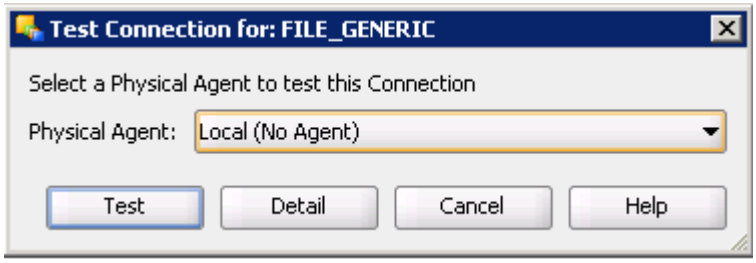
> **Note:** For File Technology you may not need to enter the user/password.



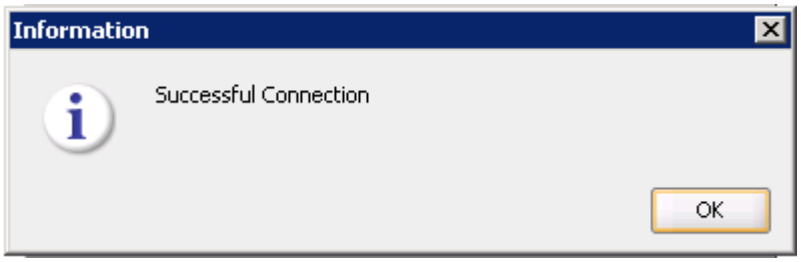
5. Enter the JDBC information in the JDBC tab.



6. Select an Agent to test the connection and click **Test**.

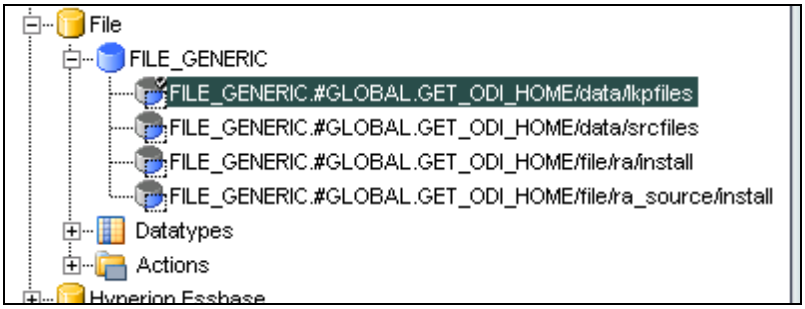


7. When the test is complete, click **OK**. The Data Server is now successfully modified/updated.

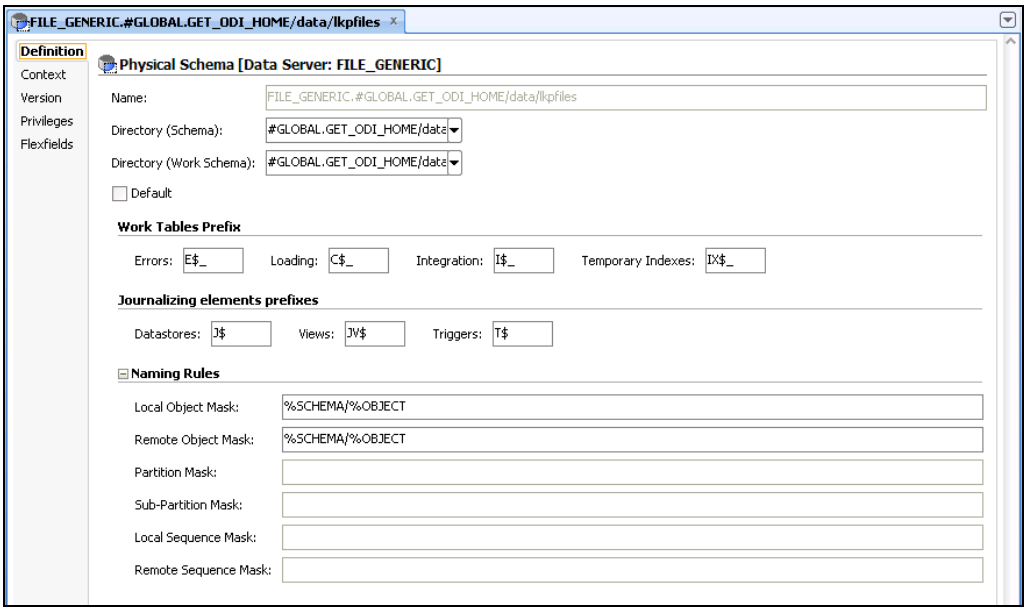


8. Click **OK** to save.

9. Check for the file physical schema under the Data Server:



10. Enter the details of the file physical schema that need to be modified/updated.
11. Specify the directory for parent and work schemas where the file is located.
12. Keep the default values for E$, loading and I$ fields same as defined by ODI.



Note: File name:

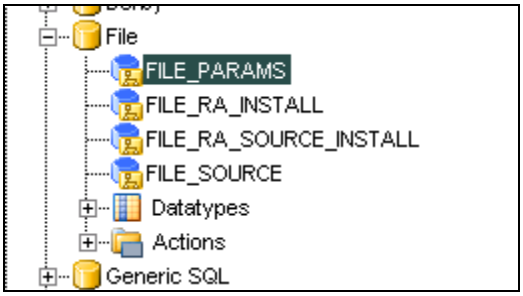
FILE_GENERIC = Name of the Data Server

#GLOBAL.GET_ODI_HOME = Global Variable which stores the Path of ODI Home

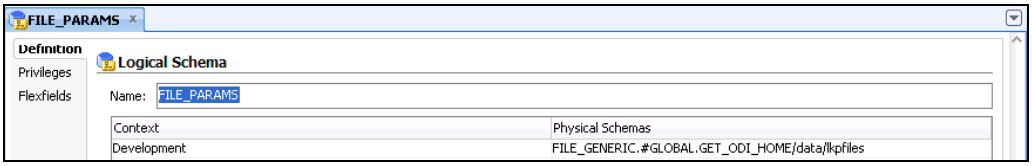
/data/lkpfiles = The directories under ODI Home which has the respective Source File.

13. Click **OK** to complete the setup.

14. Check the logical schemas: Go to the Logical Architecture tab.



15. Enter the logical schema details.



16. Click **OK** to save.

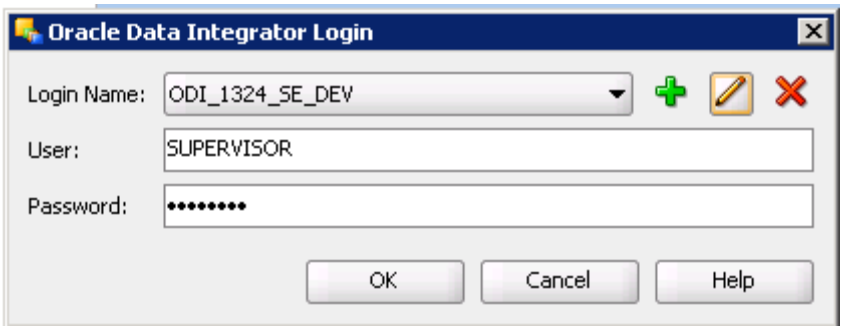
The FILE topology configuration is now complete.

> **Note:** Because the CONTEXT was already created, use the same context throughout the development/QA/production life cycle.

ODI Designer Configuration

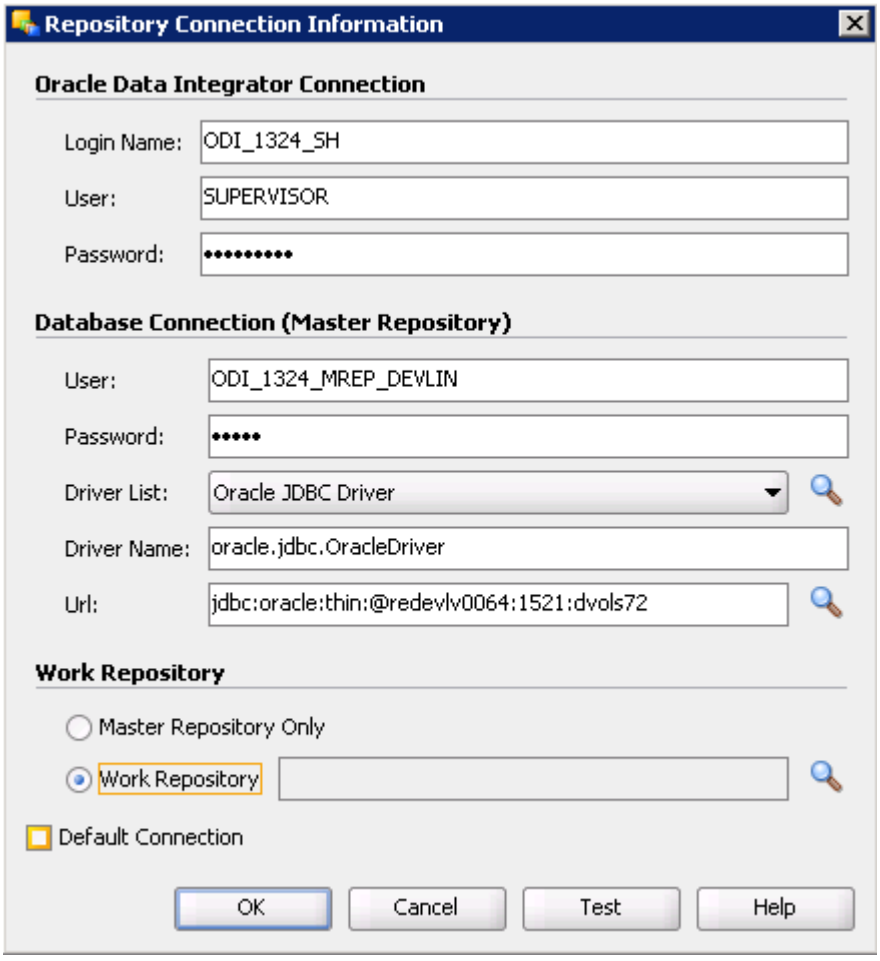
Complete the following steps.

1. Open ODI Designer
   - From a UNIX prompt, execute `./odi.sh`
   - In Windows, from the Programs menu, select Oracle -> ODI Studio -> Designer
2. Open a new Designer connection by clicking Connect to Repositories.



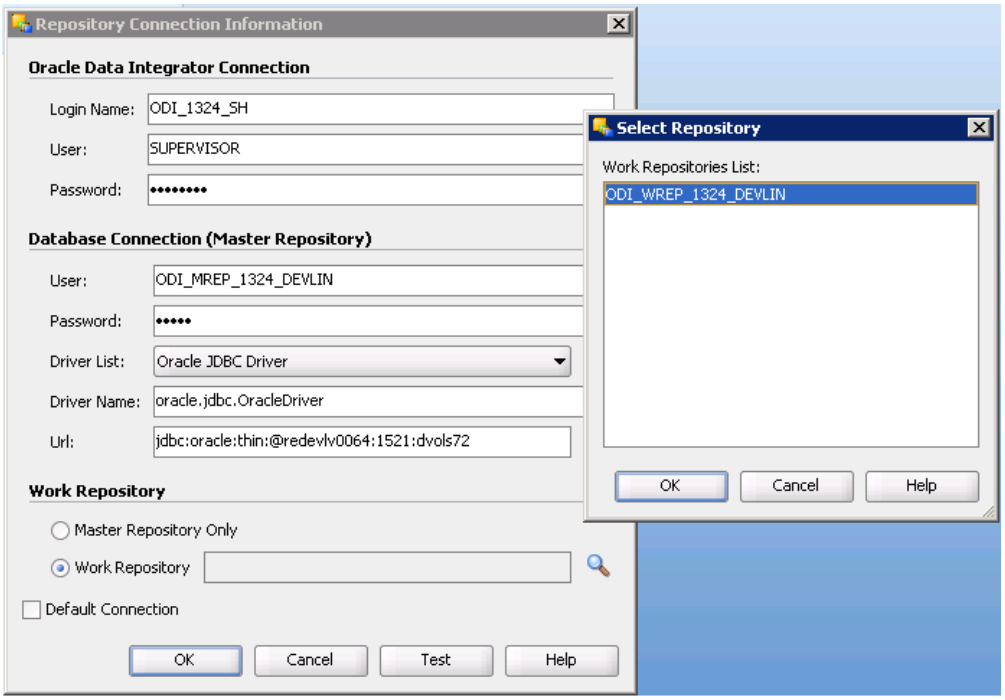
> **Note:** For example, Admin User/Pass: SUPERVISOR/SUNOPSIS

3. Enter the connection details.

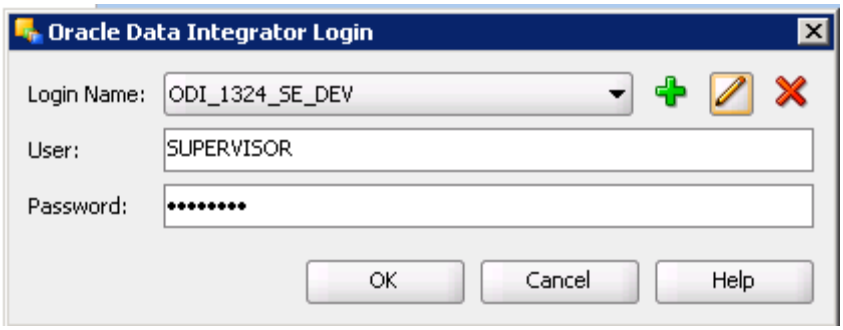


4. Enter the valid database details in the URL section.

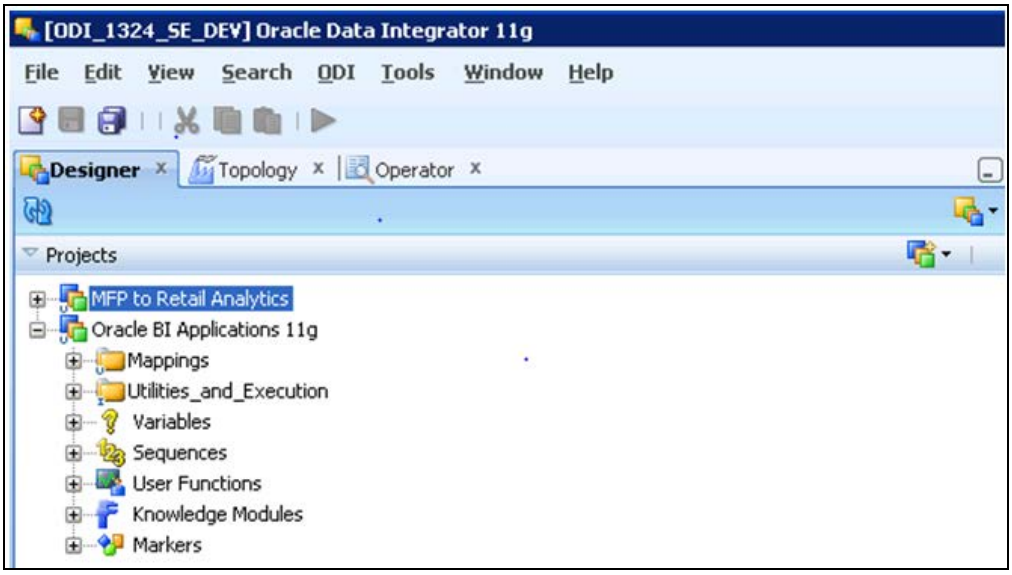
5. Click the highlighted icon (shown above) to retrieve the work repository name created under the master repository. Click **OK**.



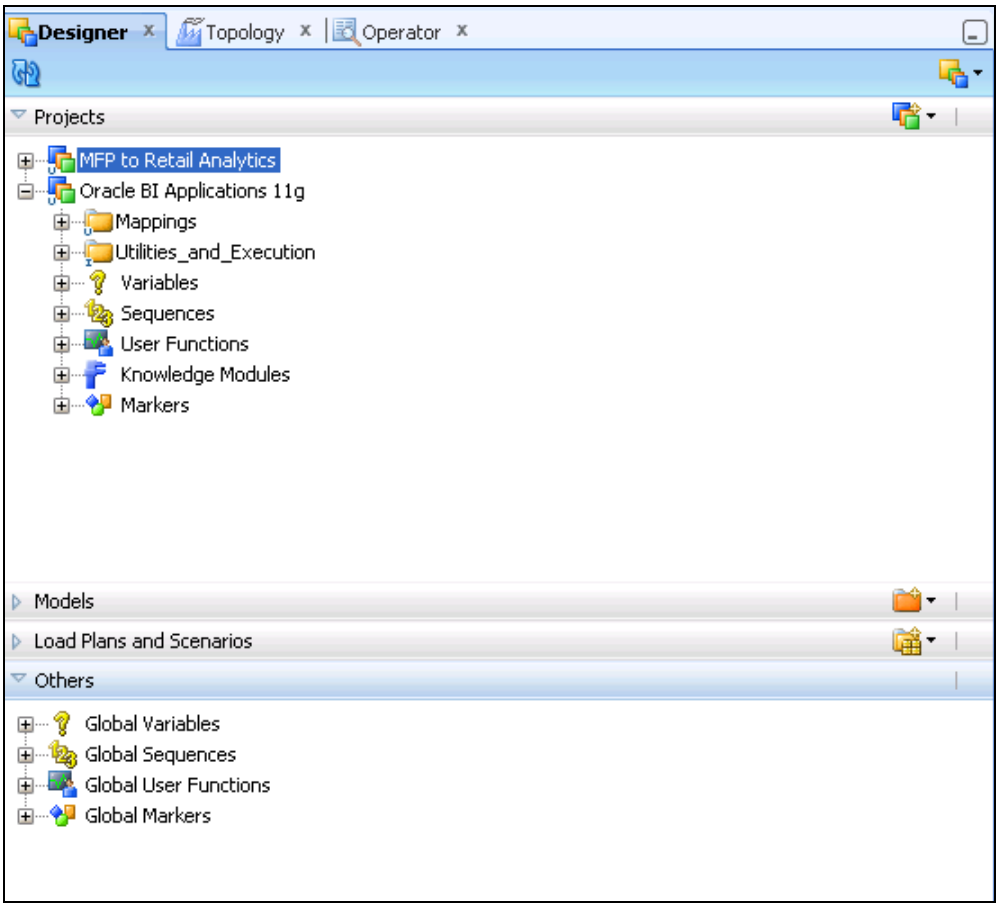
6. Click **OK** to save the connection details.



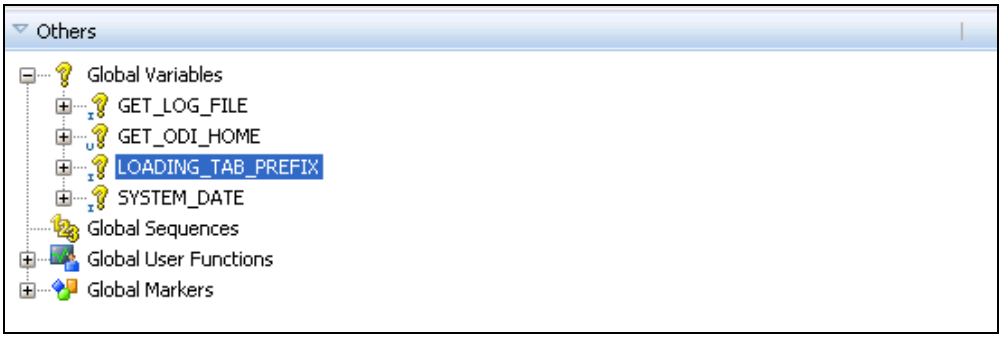
7. Click **OK** to enter into the ODI Designer.



8. Check the LOADING_TAB_PREFIX global variable.
9. Go to the **Others** tab.

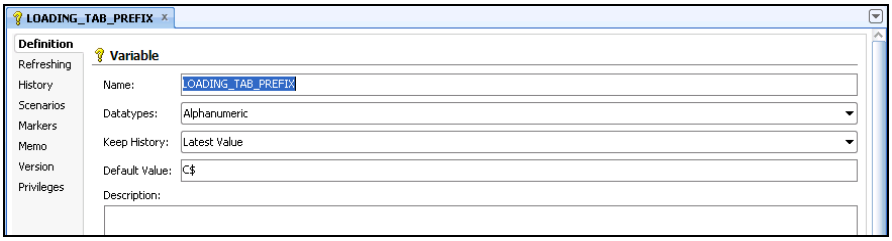


10. Check for the variable.

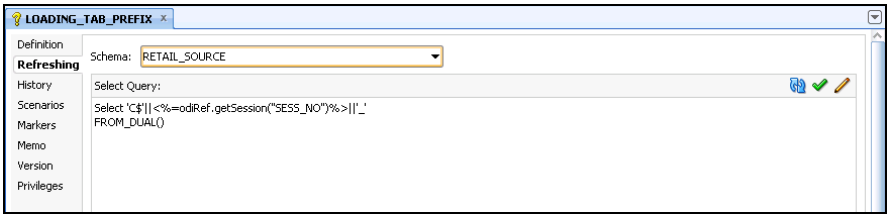


11. Check the LOADING_TAB_PREFIX variable as follows.

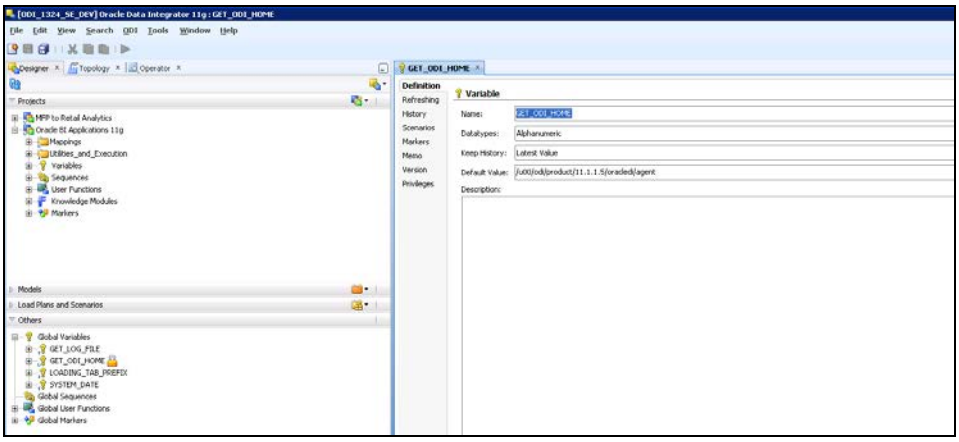
    a. Define the variable.



    b. Go to Refreshing Tab:Refresh logic.



12. Change the Default Value of GET_ODI_HOME variable as per the below screen. GET_ODI_HOME variable should have a value of $ODI_HOME where ODI is installed.



Retail Analytics Seed Data Setup

This section describes the steps required for Retail Analytics seed data setup.

Seed Control Load for Source Dependent Extracts (SDE)

Complete the following steps.

1. Modify rows for the following PARAM_NAME as necessary in C_ODI_PARAM.csv both on source and target side.
   - ORG_ID
   - CALENDAR_ID
   - SRC_BASE_HOME
2. Run **SDE_RetailLoadControlSeedData.ksh** from UNIX to load seed data into RA source table C_ODI_PARAM and RA_SRC_CURR_PARAM_G.

Seed Control Load for Source Independent Load (SIL)

Complete the following steps.

> **Note:** To configure the environment file ra.env (MMHHOME/etc/ra.env) with the correct parameters, contact the administrator for the ODI Home and Oracle Home parameters. ODI Home can be the same as Java Home.

1. Modify C_ODI_PARAM.csv as necessary to have correct pair of Name-Value pair. The values of the GLOBAL parameters, mentioned below should be set with the correct values.
   - ORG_ID
   - CALENDAR_ID
   - BASE_HOME
   - ORG_ID and CALENDAR_ID values can be any numbers that maintain the uniqueness of the calendar in the RA environment. Changing ORG_ID and CALENDAR_ID values is not required; you can use the default C_ODI_PARAM.csv.

     > See the *Oracle Retail Analytics Data Model* for more information about C_ODI_PARAM table.

2. Modify <odihome>/file/ra/install/C_ODI_PARAM.csv and replace PARAM_VALUE entry to MMHOME location.

   (For example, the default row that comes with the installer is as follows: 5,GLOBAL~001~SRC_BASE_HOME~/<../SRC_BASE_HOME>,,)

   Change that row to read as follows.

   5,GLOBAL~001~SRC_BASE_HOME,<replace with actual MMHOME>,,

   Repeat this process for the C_odi_param.csv file, which is located here: <odihome>/file/ra_source/install/

3. Modify W_RTL_CURR_MCAL_G.csv, as needed to load W_RTL_CURR_MCAL_G table to set up the values of the calendar credentials. MCAL_NUM in this file gives the Retail Analytics current business date.
4. Modify file_mcal_config_g.csv to load W_MCAL_CONFIG_G table.
5. Modify W_MCAL_CONTEXT_G.csv to load the W_MCAL_CONTEXT_G table. This seed data sets up the ORG_ID and CALENDAR_ID values for a given organization. Make sure the .csv file has Retail Calendar~41 as the value for calendar_id.
6. Modify RA_TRUNCATE_TBL.csv to include OWNER, TRUNCATE_TABLE_NAME and TYPE [Truncate (T) or Analyze (A)] to load RA_TRUNCATE_TBL table.
7. Modify W_GLOBAL_CURR_G.csv to load W_GLOBAL_CURR_G table. This seed data file sets up the data for global currency codes, such as USD.
8. Modify W_RTL_PARTITION_MAP_G.csv to load W_RTL_PARTITION_MAP_G table. This seed file sets up the table-partition level data for partitioned tables.

   W_LANGUAGES_G.csv loads the W_LANGUAGE_G table. This seed file consists of 18 languages out of the box. The SRC_LANGUAGE_CODE column defines the primary language for the product. Note that Retail Analytics primary languages should be supported within the source system. Refer to the section, "Setup and Maintenance for Partitioning Retail Analytics Compressed Inventory Table," in the *Oracle Retail Analytics Implementation Guide*.
9. Modify the W_EMPLOYEE_D.csv file to load ONLY one record in W_EMPLOYEE_D table. This one record is considered as a dummy record which gives EMPLOYEE_NUM = -1 for EMPLOYEE_NAME = No Employee
10. Run **SIL_RetailLoadControlSeedData.ksh** from UNIX to load seed data into following Retail Analytics data warehouse tables:
    - C_ODI_PARAM
    - W_RTL_CURR_MCAL_G
    - W_MCAL_CONTEXT_G
    - W_LANGUAGES_G
    - W_GLOBAL_CURR_G
    - W_RTL_PARTITION_MAP_G
    - RA_TRUNCATE_TBL
    - W_EMPLOYEE_D
11. Execute the following scripts to complete the SIL seeding process:
    - SIL_TimeDimension_CalConfig.ksh – loads W_MCAL_CONFIG_G
    - SIL_TimeDimension_MCalCalendar_Generated.ksh – loads W_MCAL_CAL_D
    - SIL_RetailLoadControlSeedData.ksh – Re-execute this Script to complete the Seeding Process

      Note: All the seed and general scripts must be executed under $MMHOME/src folder in UNIX.

Retail Analytics Source Data Set Up

The SDE_RetailTransactionTypeDimension program must be set up during program execution.

Before executing the seed data load programs, ensure that the input file for transaction type is copied to its correct location. The file should be located here: <ODI_HOME>/data/lkpfiles.

Preload Retail Analytics Business Calendar

This section describes the loading of time into Retail Analytics. The time dimension can be loaded with a 454 calendar, 13 period time calendar or a 454 with Gregorian calendar. Populate these tables according to business requirements. If RMS is implemented, the time dimension with 454-calendar time or 454 with Gregorian calendar the calendar information can be extracted from this system. For information on the tables loaded for the Time dimension refer to the *Oracle Retail Analytics Data Model* documentation.

Extract the 4-5-4 or 4-5-4 with Gregorian Time Calendar

If RMS is being used as the source of the time calendar, run RA time calendar SDE program mcalperiodsde.ksh under $MMHOME/src directory. Refer to the *Oracle Retail Analytics Operations Guide* on how to execute this program.

If RMS is not being used as Retail Analytics source system, users have to manually populate Retail Analytics business calendar staging table W_MCAL_PERIOD_DS. Refer to the *Oracle Retail Analytics Operations Guide* for API of this staging table.

Extract the 13-Period Time Calendar

Since Retail Analytics source system RMS does not support 13 period calendar, users have to prepare 13 period data in the file ra_time_13.csv under $ODI_HOME/data/srcfiles directory Refer to the sample file for how to create Retail Analytics 13 period source file.

Execute Retail Analytics time calendar SIL program mcal13periodsil.ksh to load 13 period time data from ra_time_13.csv file to Retail Analytics staging table W_MCAL_PERIOD_DS. Refer to the *Oracle Retail Analytics Operations Guide* for how to execute this program.

Load the 4-5-4 or 4-5-4 with Gregorian or 13-Period Time Calendar

Under $MMHOME/src directory, execute programs gregcaldaysil.ksh, gregcalmthsil.ksh, gregcalqtrsil.ksh, gregcalweeksil.ksh, gregcalyearsil.ksh, mcalcfgsil.ksh, mcaldaysil.ksh, mcalperiodsil.ksh, mcalqtrsil.ksh, mcalsil.ksh, mcalwk454sil.ksh,, mcalyrsil.ksh, timedaysil.ksh, timeminutedaysil.ksh to populate all Retail Analytics calendar tables. Refer to the *Oracle Retail Analytics Operations Guide* on how to execute these programs and the execution order.

4

Configuring ODI to Integrate Retail Analytics with Merchandise Financial Planning (MFP)

> **Note:** If you are currently using Oracle Retail Analytics and are upgrading to release 13.2.4, skip this chapter. Move ahead to Chapter 6, "Retail Analytics Upgrade."

This chapter describes the configuration of ODI for integration between Retail Analytics and MFP.

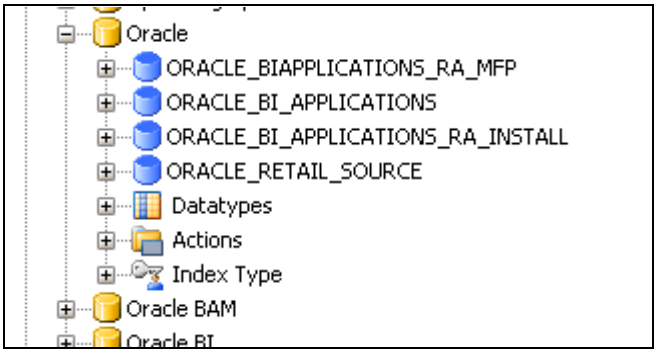
> **Note:** Before you begin the procedures in this chapter, MFP must be configured to enable integration with Retail Analytics. See the *Oracle Retail Merchandise Financial Planning Operations Guide*.

> **Note:** The owner of the odbcserver process must have read/write permissions for all files and directories in both domains, and execute permission for all directories in both domains. That owner/user should also have execute permission for all files in RPAS_HOME/bin, RPAS_HOME/lib, and RPAS_HOME/applib.

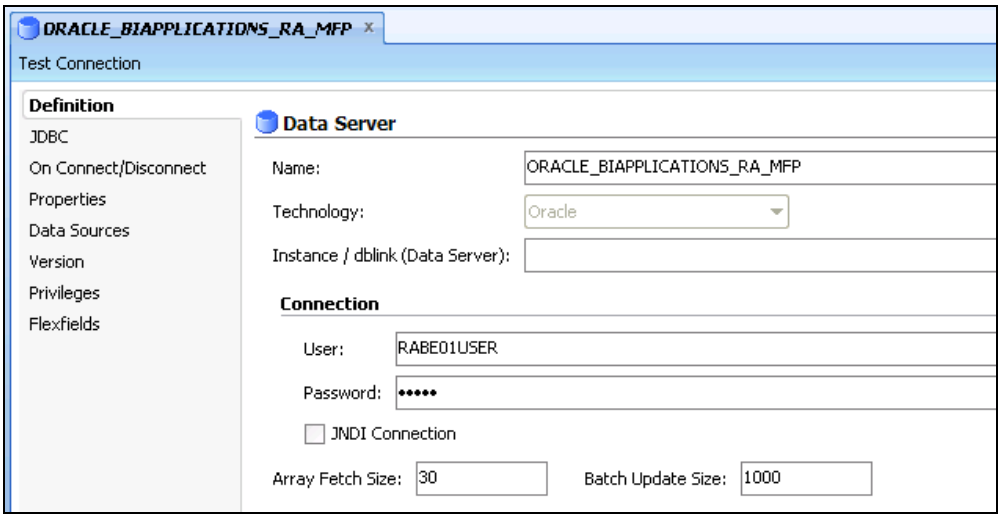
Check Oracle Data Server

Complete the following steps.

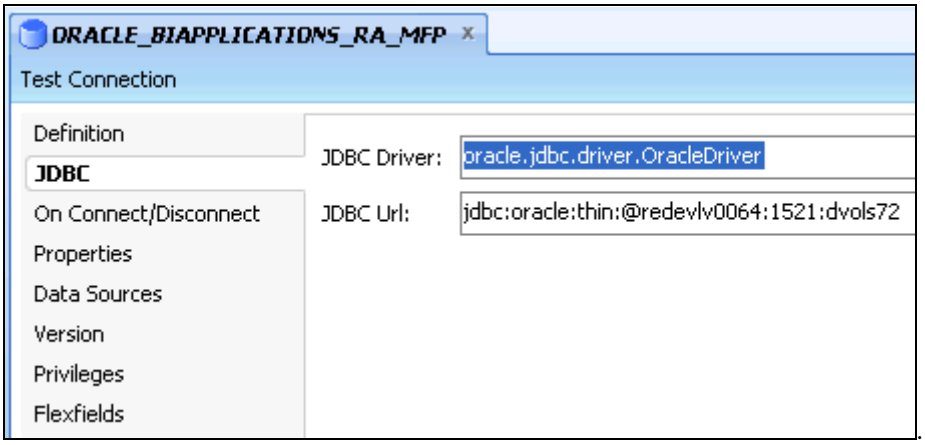
1. Log in to the ODI Topology Manager and click Physical Architecture. Expand the Technologies drop down list.
2. Expand the Oracle folder. The following Data Servers should appear.



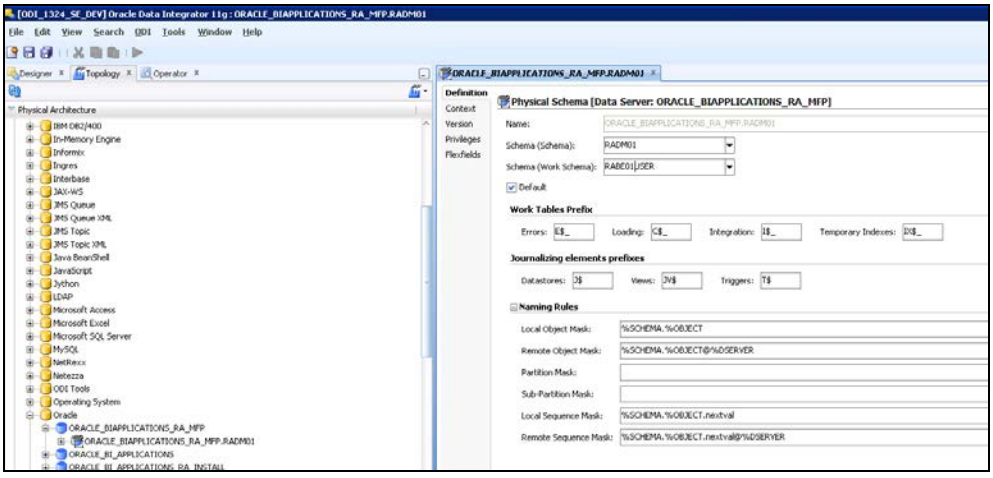
3. Check the ORACLE_BIAPPLICATIONS_RA_MFP and update the User and Password values for the Retail Analytics batch user.



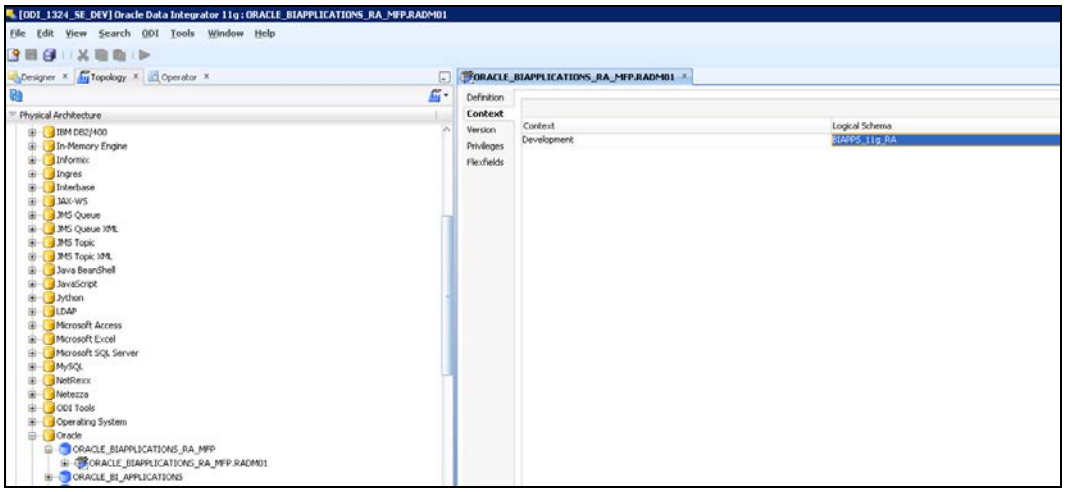
4. Click to open the jdbc tab and update the jdbc url as shown in the following screen.



5. Expand the entry for data server ORACLE_BIAPPLICATIONS_RA_MFP.



6. Double-click the physical schema, and check that the following values are correct:
   - Schema is the Retail Analytics data mart user (for example, RADM01).
   - Schema (Work Schema) is the Retail Analytics batch user (for example, RABE01USER).
7. From the physical schema, click the **Context** tab.
8. Check if the context is mapped to the corresponding logical schema BIAPPS_11g_RA.



Install the RPAS JDBC Drivers

Install the RPAS JDBC drivers on the ODI server as follows.

1. Extract the file jdbcclient.tar.zip to create the jdbcclient directory, as follows:

   ```
   cd "$RPAS_HOME"
   unzip -q   jdbcclient.tar.zip
   tar xf jdbcclient.tar
   ```

2. The database administrator should copy the following files to the ODI server under the directory $ODI_HOME/drivers:

   jdbcclient/driver/lib/ORjc.jar

   jdbcclient/driver/lib/ORssl14.jar

   jdbcclient/driver/lib/iaik_jce_full.jar

   jdbcclient/spy/lib/ORy.jar

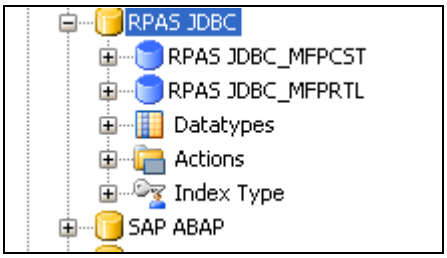
3. If the jdbcclient directory is on the same machine as the ODI server, the database administrator can execute the following commands:

   ```
   cd  "$RPAS_HOME/jdbcclient/driver/lib"
   cp -p ORjc.jar  ORssl14.jar  iaik_jce_full.jar  "$ODI_HOME/drivers"
   cp -p ../../spy/lib/ORy.jar  "$ODI_HOME/drivers"
   ```

Check RPAS JDBC Technology

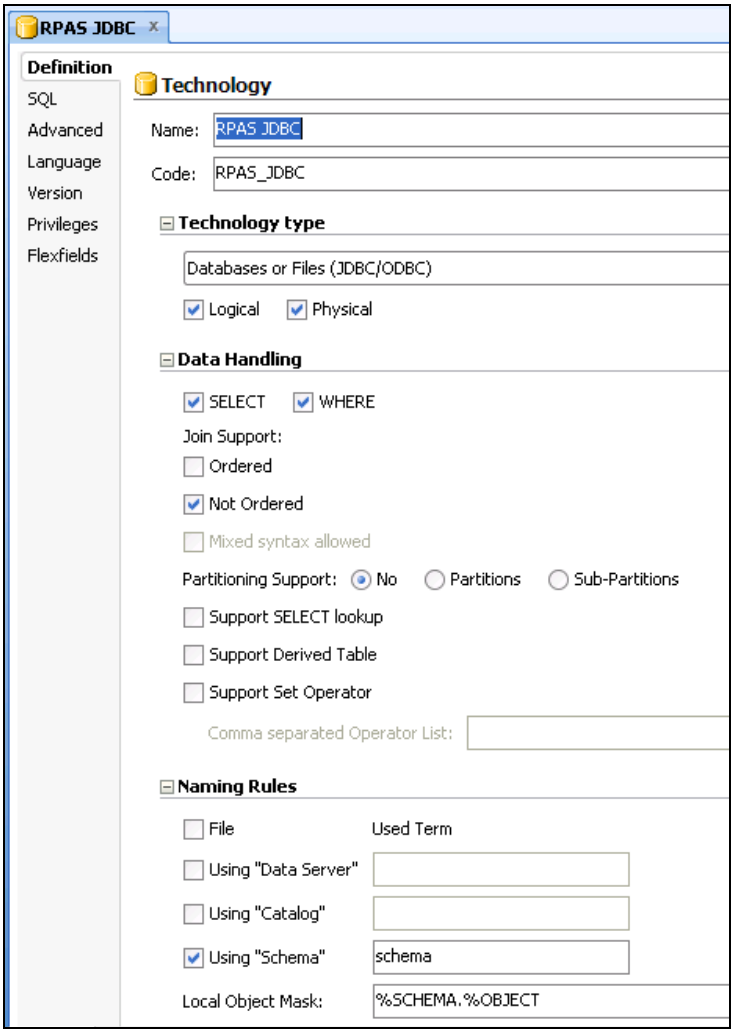
The RPAS JDBC technology must be present in the ODI master repository. Follow these steps to check the connectivity:

1. Go to ODI Topology → Expand RPAS JDBC data server.



For more information about $RPAS_HOME, see the *Oracle Retail Predictive Application Server Installation Guide*.

2. Open RPAS JDBC data server:



Check RPAS Data Servers

Before you begin this procedure, obtain the following information from your RPAS administrator. This information is required to complete this section:

- RPAS JDBC driver URL for the MFP Cost domain
- RPAS JDBC driver URL for the MFP Retail domain

  These URLs have the following form:

  `jdbc:RPAS://<host>:<port>;ServerDataSource=<data-source-name>`
- User name and password for the MFP Cost domain
- User name and password for the MFP Retail domain

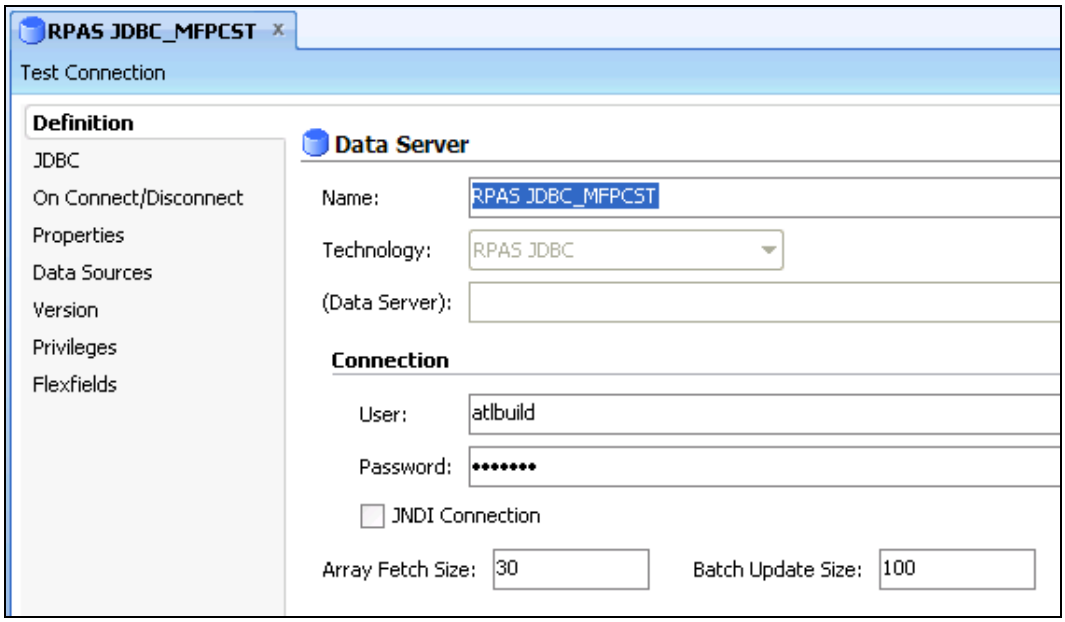
For more information about RPAS and the RPAS JDBC driver, see either of the following guides:

- *Oracle Retail Predictive Application Server Administration Guide for the Classic Client*
- *Oracle Retail Predictive Application Server Administration Guide for the Fusion Client*

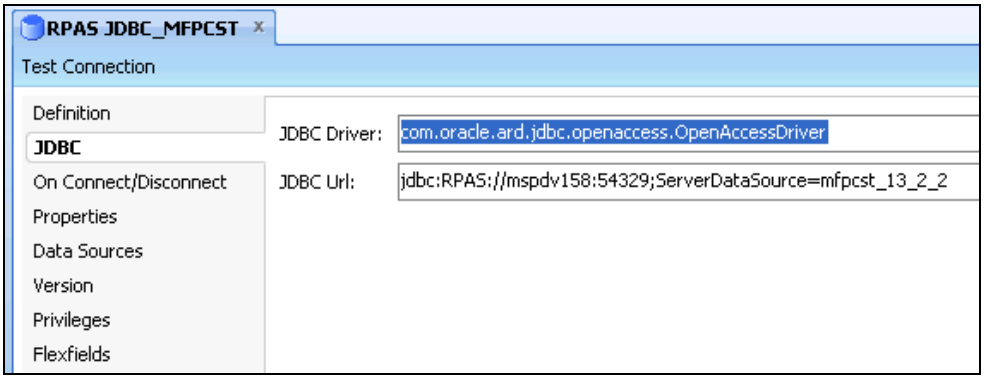
Procedure

Complete the following steps.

1. Log in to the ODI Topology Manager and click Physical Architecture.
2. Expand RPAS JDBC data server → Open RPAS JDBC_MFPCST and update the credentials.

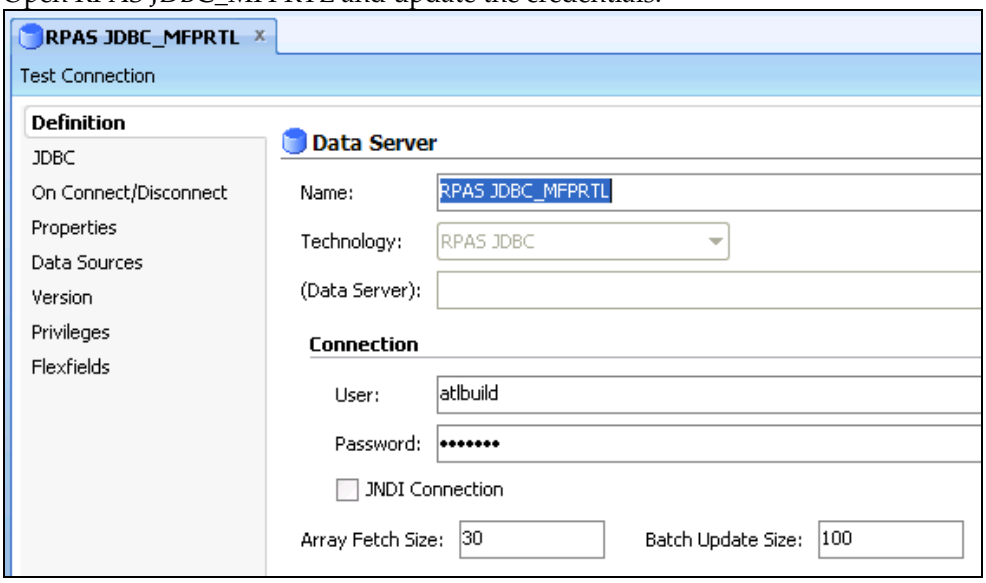


3. Open the JDBC tab and update the credentials.

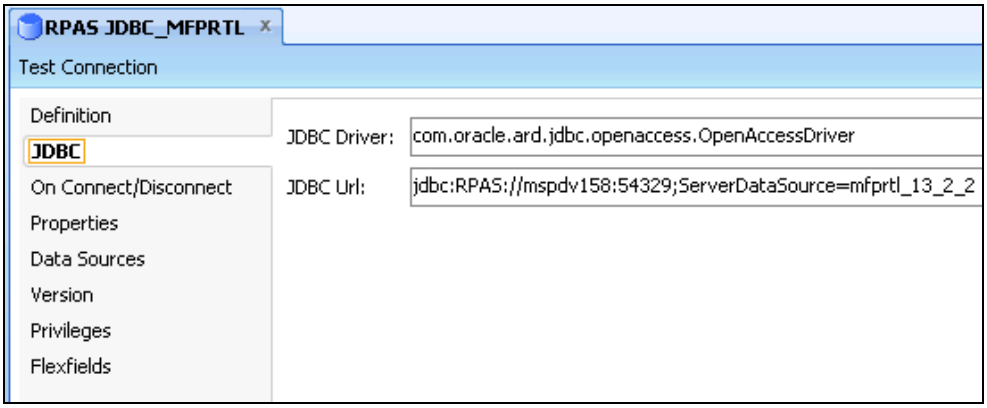


4. Click Test Connection.
5. Click **Test**. Click **OK**.

   Open RPAS JDBC_MFPRTL and update the credentials.



6. Open the JDBC tab and update the credentials.



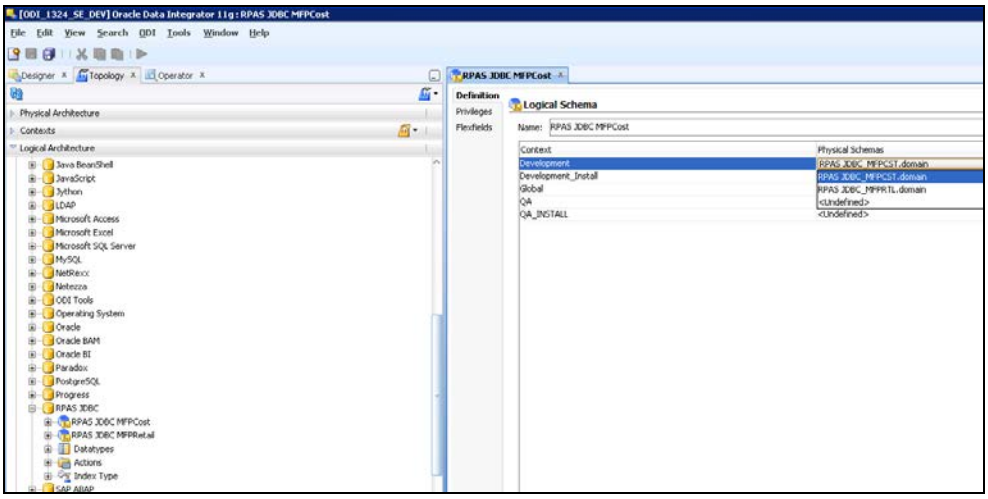
7. Click **Test Connection**.
8. Click **Test.**
9. Click **OK**.

Logical Architecture

Complete the following steps.

1. In the Topology Manager Logical Architecture tab, right-click RPAS JDBC and select RPAS JDBC MPFCost.
2. The logical schema's development context should be mapped to the physical schema RPAS JDBC_MFPCST.domain.

   In the Topology Manager Logical Architecture tab, right-click RPAS JDBC and Select RPAS JDBC MFPRetail
3. The logical schema's development context should be mapped to the physical schema RPAS JDBC_MFPRTL.domain.



Start the ramfp_agent ODI Agent

> **Note:** If the agent is already running when the .jar files are copied (in the previous step), the database administrator must stop and restart the agent.

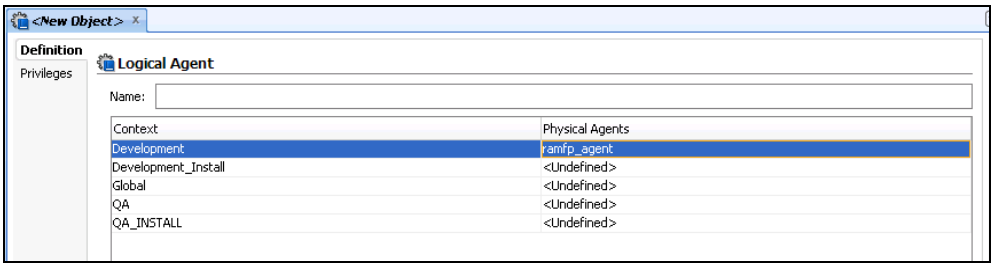
1. Request the application database administrator to run an agent from <ODI_HOME>/bin.

   For example:

   ```
   .agentstop.sh [-port=<port>]
   nohup agent.sh -PORT=1055 -NAME=ramfp_agent &
   ```

2. After the agent is running, check the physical agent as follows:
   a. Go to Topology → Physical Architecture.
   b. Expand the Agents and open ramfp_agent.

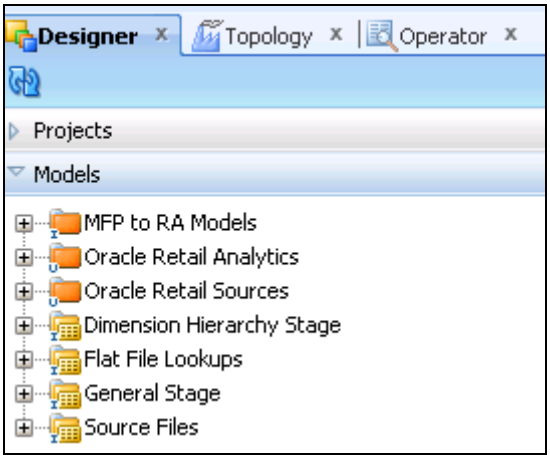
3. Go to Topology → Logical Architecture.
4. Expand the Agents and open ramfp_agent.
5. ramfp_agent should be mapped to the Development context, as shown in the following figure.



Check the MFPtoRAModels Folder

Check the following steps.

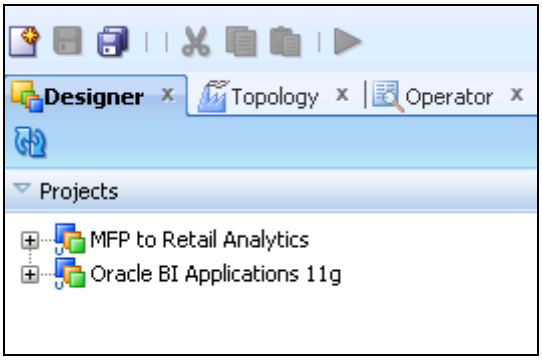
1. Go to the Models tab.
2. MFP to RA Models folder should exist.



Check the MFP to Retail Analytics Project

Check the following steps.

1. In the Projects tab, MFP to Retail Analytics Project should exist.



2. Open these two packages and check to make sure that the LOADING_TAB_PREFIX is linked:
   - SDE_MFPCostFact
   - SDE_MFPRetailFact

   If the LOADING_TAB_PREFIX is not linked, drag and drop this variable from the Others tab into each package.
3. Open each of the following interfaces:

   SDE_RetailCurrentPlanCostLoad

   SDE_RetailOriginalPlanCostLoad

   SDE_RetailCurrentPlanRetailLoad

   SDE_RetailOriginalPlanRetailLoad
4. Regenerate the scenarios.

> **Note:** The wrapper scripts mfpcstsde.ksh and mfprtlsde.ksh are also installed under <MMHOME>/ra_mfp_odi_source_code. These scripts can be used to invoke SDE_MFPCOSTFACT and SDE_MFPRETAILFACT scenarios through the scheduler.

5

Oracle BI EE Infrastructure Installation and Configuration Tasks

Note: If you are currently using Oracle Retail Analytics and are upgrading to release 13.2.4, skip this chapter. Move ahead to Chapter 6, "Retail Analytics Upgrade."

Depending on your requirements, Oracle Retail Analytics can be deployed using Oracle Business Intelligence Enterprise Edition (BI EE) or Oracle Business Intelligence Standard Edition One (BI SE One) as the front-end tool.

Refer to *Oracle BI EE Enterprise Deployment Guide* and the *Oracle BI EE Installation Guide* for best practices and considerations.

This chapter provides general installation instructions and recommended configuration considerations for Oracle Business Intelligence Enterprise Edition.

Check Supported Oracle BI EE Requirements

Supported on	Versions Supported
Oracle BI EE Server OS	OS certified with Oracle BI EE includes: ▪ Oracle Linux 5 Update 5 (OEL5.5) for x86-64 (actual hardware or Oracle virtual machine). ▪ Red Hat Enterprise Linux 5 Update 5 (RHEL 5.5) for x86-64 (actual hardware or Oracle virtual machine). ▪ AIX 6.1 (actual hardware or LPARs) ▪ Solaris 10 Sparc (actual hardware or logical domains)Windows XP Professional with SP3 or higher ▪ Windows Server 2003 R2 with SP2
Oracle BI EE Server OS	OS certified with Oracle BI EE includes: ▪ Oracle Linux 5 Update 5 (OEL5.5) for x86-64 (actual hardware or Oracle virtual machine). ▪ Red Hat Enterprise Linux 5 Update 5 (RHEL 5.5) for x86-64 (actual hardware or Oracle virtual machine). ▪ AIX 6.1 (actual hardware or LPARs) ▪ Solaris 10 Sparc (actual hardware or logical domains)Windows XP Professional with SP3 or higher ▪ Windows Server 2003 R2 with SP2
Java	Java: JDK 1.6.0+ 64 bit or Jrockit 1.6 R28 build or later, within the 1.6 code line. 64 bit. For Linux and Solaris OS only.

Install Oracle BI

For step-by-step instructions on how to install Oracle BI EE or Oracle BI SE One, see the "Installing Oracle Business Intelligence" chapter of the *Oracle BI EE Installation Guide*.

> **Note:** You must complete all the steps described in the Retail Analytics Database Schema Installation Tasks section of this document before performing the following steps.

Installing Retail Analytics 13.2 Repository

This section provides instructions for configuring the repository, setting up the database connection, and configuring the catalog.

Configure the Repository (rpd)

Complete the following steps.

1. Stop Oracle BI services by executing opmnctl.bat or opmnctl stopall from <BI_INSTALL_DIRECTORY>\instances\instance1\bin.
2. Update the configuration file located at <BI_INSTALL_DIRECTORY>\instances\instance1\config\OracleBIServerComponent\coreapplication_obis1/NQSConfig.INI. Add a new line under the [REPOSITORY] section. For example:

```
 [ REPOSITORY ]
Star    =   Retail_Analytics.rpd, DEFAULT;
```

3. Other default repositories should be commented out in the NQSConfig.INI. For example:

```
       [ REPOSITORY ]
Star    =   Retail_Analytics.rpd, DEFAULT;
#Star   =   SampleAppLite.rpd, DEFAULT;
```

4. Change the following setting from FMW_UPDATE_ROLE_AND_USER_REF_GUIDS = NO; to FMW_UPDATE_ROLE_AND_USER_REF_GUIDS= YES;
5. Save and close NQSConfig.INI.
6. Make sure that the tnsnames.ora file exists under <BI_INSTALL_DIRECTORY>\Oracle_BI1/network/admin and the file has an entry of the database used by Retail Analytics.
7. Proceed to set up the database connection.

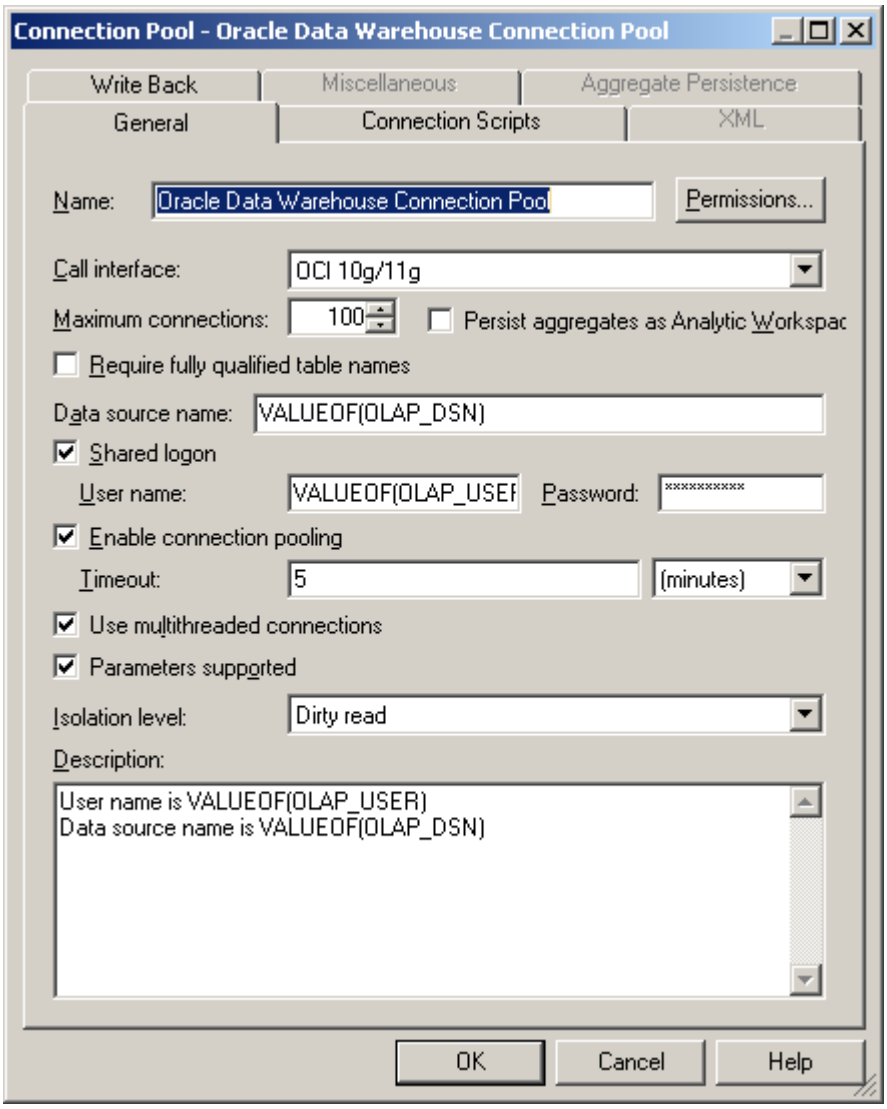
Set up the Database Connection

Refer to the "Configuring Repositories" chapter of the *Oracle BI EE System Administrator's Guide* for additional details.

> **Note:** The screen illustrations in the following steps are only examples. The screens that appear depend on the setup of your system.

1. This change requires moving the rpd to a windows system which has OBI EE installed. Rpd is located at <BI_INSTALL_DIRECTORY>\instances\instance1\bifoundation\OracleBIServerComponent\coreapplication_obis1\repository.

2. Once the Retail_Analytics.rpd is moved to windows system, open it using the Oracle BI Server Administration tool.
3. When prompted for the password, refer to the RPD_post_install.txt located at <BI_INSTALL_DIRECTORY>\instances\instance1\bifoundation\OracleBIServerComponent\coreapplication_obis1\repository.
4. At this time the password of the rpd can be changed if desired. For more details on changing the password refer to the chapter, "Managing Oracle BI Repository Files" of the OBI EE Metadata Repository Builder's Guide.
5. When the rpd is opened, from the menu, go to Manage > Variables.
6. Under Repository Static variables, edit OLAP_DSN with Front End Data Mart user (for example, RAFEDM01) and OLAP_DSN with Data Source Name of the Data Warehouse.
7. In the Physical Layer, open the Connection Pool (Oracle Data Warehouse Connection Pool) under Oracle Data Warehouse and update the password for the Front End Data Mart User. The following is a sample of the Oracle Data Warehouse Connection Pool screen.



Connection Pool Editor

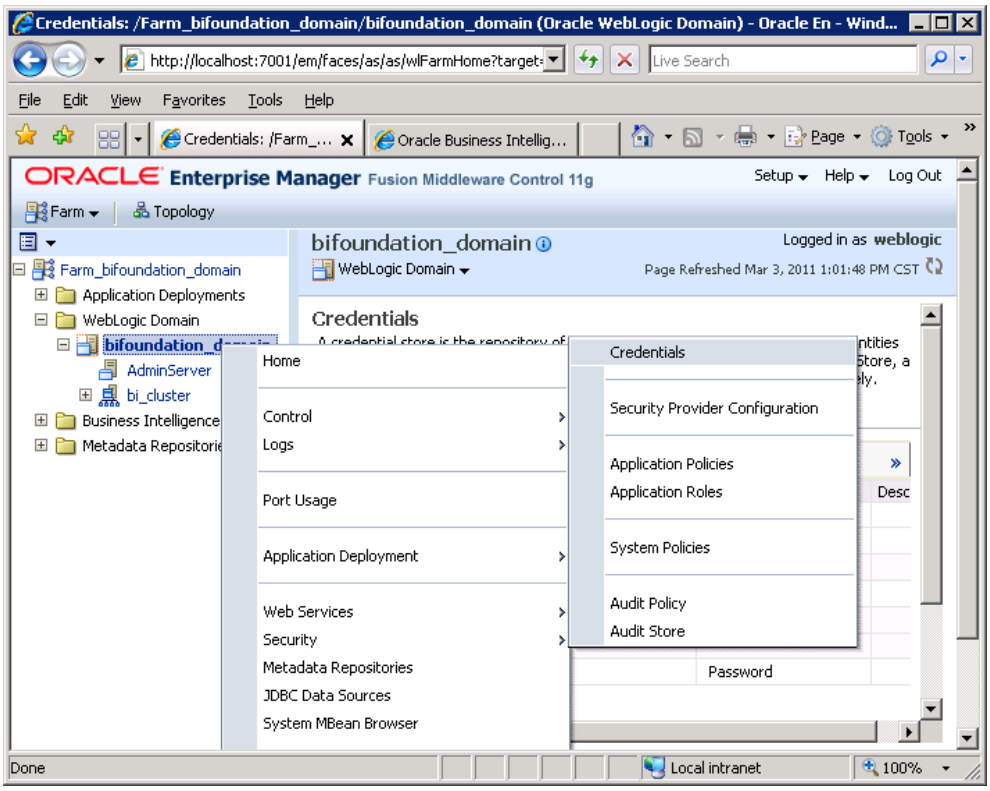
8. Save the Retail_Analytics.rpd file.
9. Make sure tnsnames.ora file exists under <BI_INSTALL_DIRECTORY>\Oracle_BI1/network/admin and the file has an entry of the database which is used by Retail Analytics.
10. Test the database connection by right-clicking on any of the tables in the Physical Layer, and select Update Row Count. The number of rows will be shown when that table is highlighted if the database connection is successful.
11. FTP the rpd back to <BI_INSTALL_DIRECTORY>\instances\instance1\bifoundation\OracleBIServerComponent\coreapplication_obis1\repository. Make sure it is copied in binary mode.
12. Proceed to the next section for to configure the catalog.

Configure Catalog

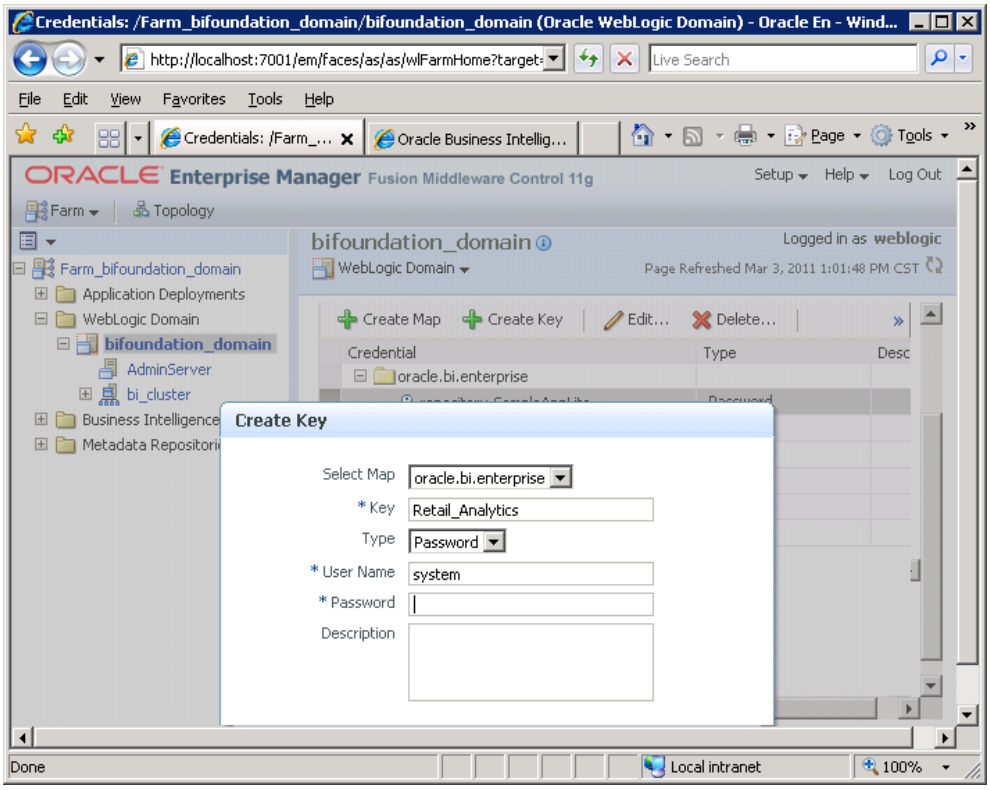
To configure the catalog, complete the following steps.

1. Update the instanceconfig.xml file to point to Retail_Analytics catalog. Instanceconfig.xml is found at <BI_INSTALL_DIRECTORY>/instances\instance1\config\OracleBIPresentationServicesComponent\coreapplication_obips1. Change the catalog path within the file to point to Retail_Analytics. For example:

   <CatalogPath><BI_INSTALL_DIRECTORY>\instances\instance1/bifoundation/OracleBIPresentationServicesComponent/coreapplication_obips1/catalog/</CatalogPath>
2. Save and close instanceconfig.xml.
3. Log in to WebLogic Enterprise Manager (EM) via web browser with the URL as http://<hostname>:7001/em. Note that the 7001 port number can be different for every installation. Log in with the username and password created during Oracle BI EE installation.
4. Go to WebLogic Domain > right click bifoundation_domain > Security > Credentials as shown in the below screenshot.



5. Click **Create Key**.



6. For Key, enter repository.Retail_Analytics. For User Name, enter system. Enter the password of the rpd.
7. Click **OK** and log out.
8. Start Oracle BI services by executing opmnctl.bat or opmnctl startall from <BI_INSTALL_DIRECTORY>\instances\instance1\bin.
9. Test Retail Analytics Installation by opening the browser with the URL as http://<hostname>:9704/analytics with the username and password created during Oracle BI EE installation.

Manage Users and Security

For information regarding creating users, user groups, security roles, permissions and privileges refer to the *Oracle BI EE Security Guide*.

Language Selection with SSO

See the "Enabling SSO Authentication" chapter in the *Oracle BI EE Security Guide* for more information on the configuration changes. For the end user, language display is determined by the language selected in the user's browser settings.

Other Notes

Consider also the following:

- Retail Analytics supports retail 4-5-4, combined 4-5-4/Gregorian, or 13 period calendar. You can choose which calendar to use during database installation. The default calendar is retail 4-5-4. To implement either combined 4-5-4/Gregorian or 13 period, see "Appendix: Time."
- When making any changes to the repository, you should open the .rpd file offline and perform a global consistency check before saving the changes. The global consistency check should not show any errors.

6

Retail Analytics Upgrade

This chapter describes how to upgrade a RA 13.2.3.1 installation to RA 13.2.4.

Be sure read the upgrade instructions in their entirety before starting the upgrade.

RA Upgrade Scope and Support

As of RA 13.2.4, only the 13.2.3.1 code line exists for RA. It is directly patchable to RA 13.2.4.

Customers using any previous release of RA (for example, RA 13.2.3), must upgrade their installation to RA 13.2.3.1 before upgrading to RA 13.2.4.

RA Packaged Content

This section explains the differences between the RA 13.2.4 upgrade package and the RA 13.2.4 full installation package. Although the full installation and upgrade packages are different, the resulting RA 13.2.4 installations are equivalent.

The delivery mechanism for the full installation is the RA 13.2.4 Installer, which is a UNIX command-line or graphical user interface program that unpacks the RA 13.2.4 release package and installs the RA database, ODI components, OBIEE components, scripts and configuration according to customer input directories and environment variables.

The delivery mechanism for the upgrade release is the RA 13.2.4 Installer, which provides the delta components that are expected to be imported into ODI manually or by using the odi_import.ksh.

RA 13.2.4 Upgrade Steps

This section provides instruction for upgrading to RA 13.2.4.

> **Note:** It is assumed that Oracle Data Integrator 11.1.1.5 software has already been installed. For more information, refer to ODI installation documentation.

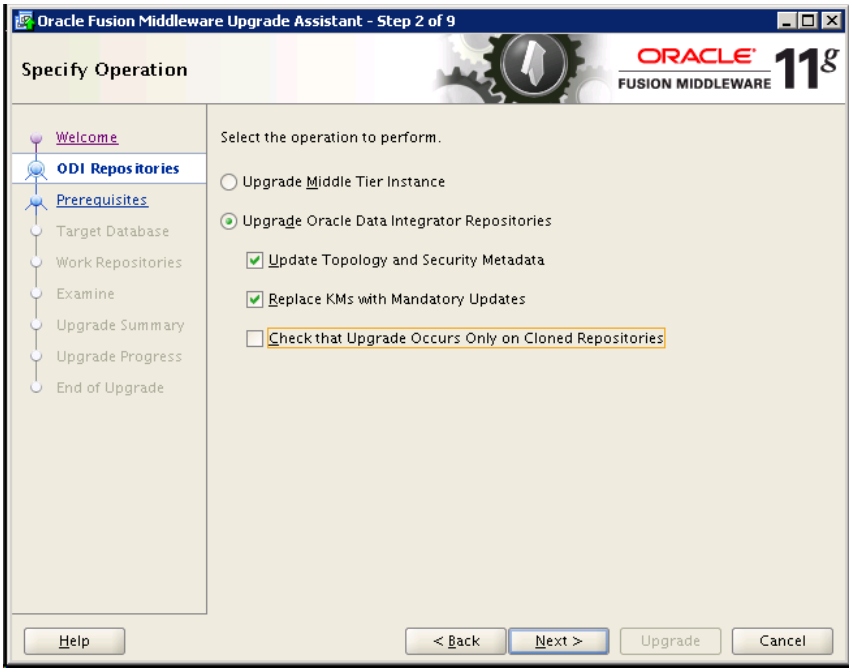
Upgrade path: 13.2.3.1 -> 13.2.4

Database Upgrade: None

To complete the ODI upgrade, do the following.

1. Take a backup of the MREP and the WREP schemas.
2. Navigate to the following directory: <ODI_BASE_DIRECTORY>/bin:
   For example: /u00/odi/product/11.1.1.5/bin
3. From the UNIX command prompt, export the display.
   For example: - export DISPLAY=<ipaddress>:0.0
4. Invoke the Upgrade Assistant using the following command: ./ua

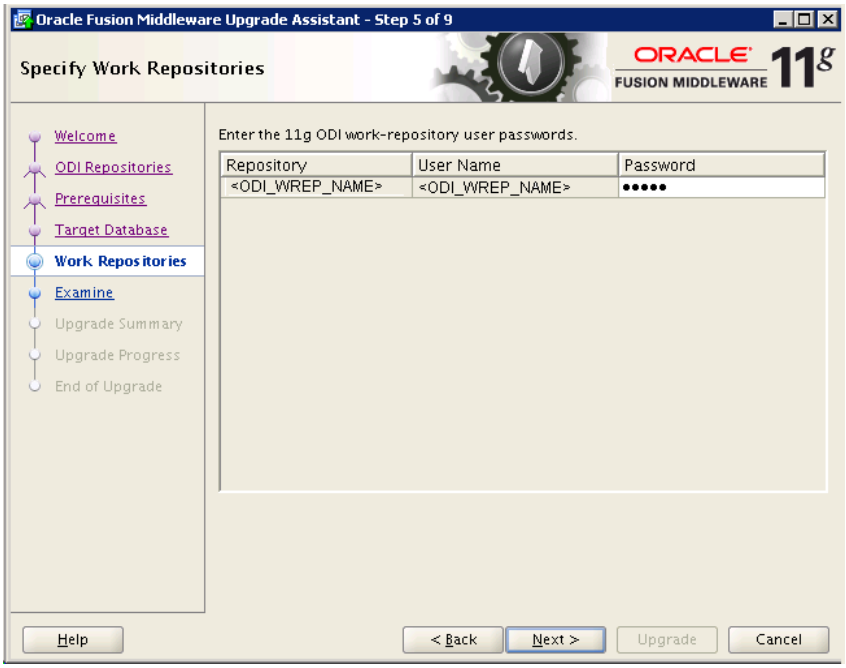
5. Select the second radio button, **Upgrade Oracle Data Integrator Repositories**. Uncheck the last check box, **Check that upgrade occurs only on Cloned Repositories**.



6. Check the boxes, **Database backup completed** and **Database version is certified**.

7. Provide the credentials as shown in the following screen.

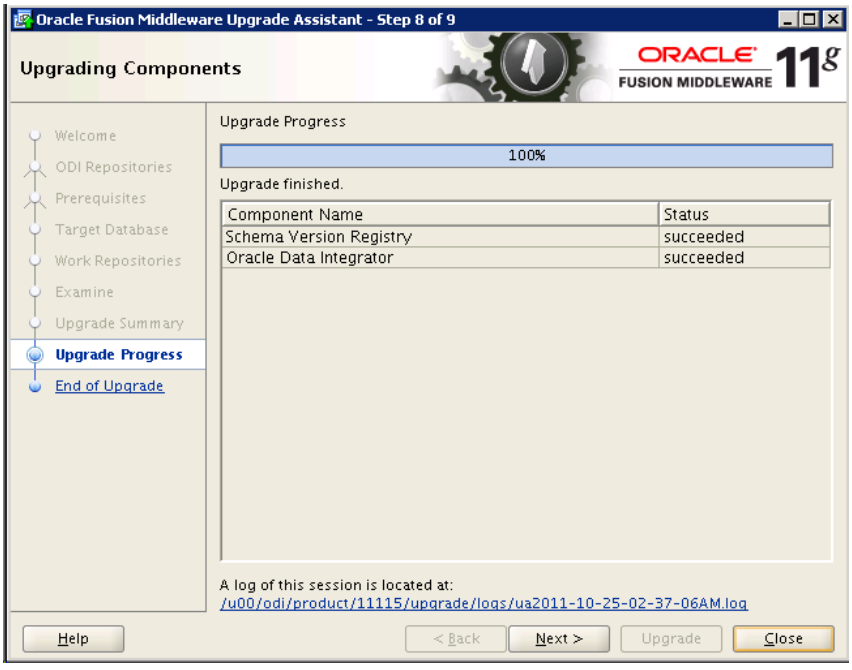
8. Enter the WREP user password.



9. The following screen appears.

10. Check the summary of the ODI repository upgrade before proceeding with the upgrade. After confirming the summary, check the Upgrade button.

11. When the upgrade is finished, the following screens appear.



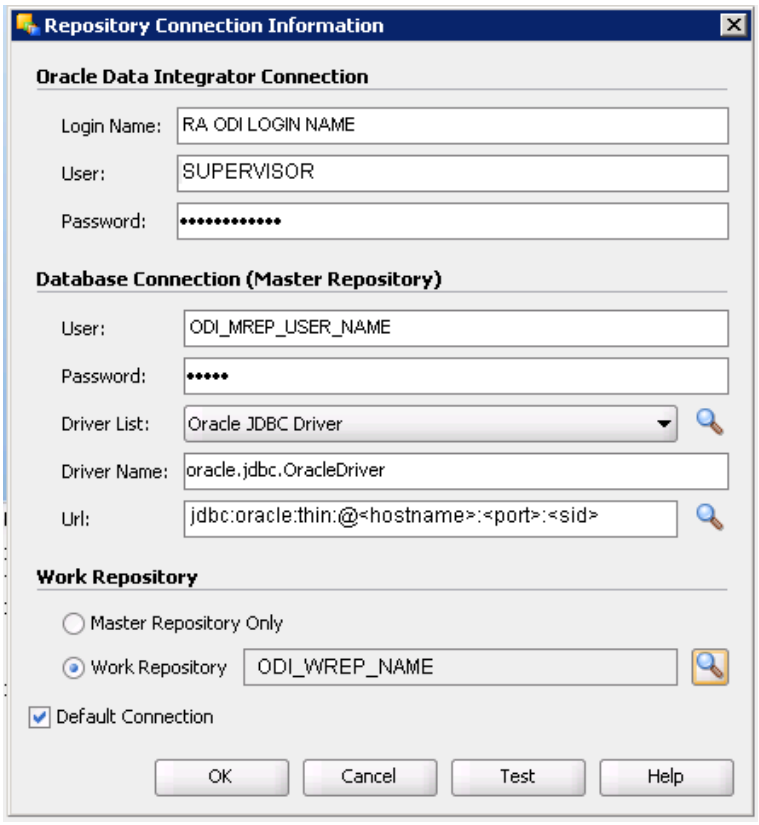
12. From the Unix command prompt, Export the DISPLAY

    For example: - export DISPLAY=10.149.111.22:0.0

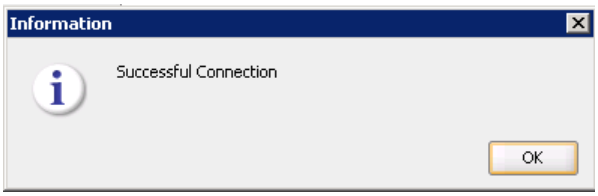
13. From the unix command prompt navigate to $ODI_HOME/../client and run the following command to open the Designer.

    `odi.sh`

14. Configure the MREP and WREP as shown in the following screen. Test the connection.



15. From the Connection Verification dialog, click **OK**.



16. Download the RA 13.2.4 package from My Oracle Support (https://support.oracle.com/) to a staging folder (for example, <STAGING_DIR>) that is accessible to all components of your RA 13.2.4 installation.
17. All files should be copied from the following location:
    <STAGING_DIR>/installer/ora13/mmhome/odi-patches/13.2.3.1_13.2.4/
18. Edit the file odi_import.ksh and set the ODI_HOME and LOGDIR.
19. The Knowledge Modules should be manually imported to ODI in Import-Replace Mode in ODI Designer.
20. For all other components, run the following command to import all ODI components.

    ```
    ksh odi_import.ksh
    ```

    Note: It is assumed that <ODI_HOME>/bin/odiparams.sh is properly configured before running odi_import.ksh

    For every successful import of the components, a file named done.<filebasename> is created.

    If the import is unsuccessful, a file named err.<filebasename> is created in the $LOGDIR directory, as mentioned in the odiparams.sh.

If odi_import.ksh fails while processing a certain XML file, you can resolve the issue and rerun odi_import.ksh, which will skip the already-loaded file and start with the last XML file that failed. If you want to reload everything from scratch, delete done.<filebasename> from the log directory(set through LOGDIR).

21. If you encounter a message similar to the following, ignore it. You will see this type of message for FOLD, TAB, UFN and SCEN object types.

```
<STAGING_DIR>/installer/ora13/mmhome/odi-patches/13.2.3.1_13.2.4/SCEN: No such file or directory.
```

> Steps 22 and 23 are optional. Only those customers who have set up the MFP agent should complete them.

22. Navigate to the following folder:

```
$ODI_HOME/bin/
```

23. Start the mfp agent using the following command:

```
nohup agent.sh -PORT=1055 -NAME=ramfp_agent &
```

> **Note:** If you get the error (ODI-1405: Agent OracleDIAgent start failure: the agent is not defined in the topology for master repository), the ramfp_agent is not yet configured in the TOPOLOGY. Configure it the ramfp_agent.

24. After applying the 13.2.4 release code, regenerate all scenarios in ODI.

A

Appendix: Oracle Database 11gR2 Parameter File

```
###########################################################################################
# Oracle 11.2.0.x Parameter file
#
# NOTES: Before using this script:
#        1.  Change <datafile_path>, <admin_path>, <utl_file_path>, <diag_path>
and <hostname>
#            values as appropriate.
#        2.  Replace the word SID with the database name.
#        3.  Size parameters as necessary for development, test, and production
environments.
# ----------------------------------------------------------------------
# MAINTENANCE LOG
#
# Date     By          Parameter           Old/New         Notes
# +------+ +---------+ +-----------------+ +-------------+ +-------------+
#
#
###########################################################################################
# ----------------------------------------------------------------------------------------
# The policy is to give 60% for sga and 40% for PGA out of Memory Target at
startup
# ----------------------------------------------------------------------------------------
memory_target                           = 2000M
# ----------------------------------------------------------------------------------------
audit_file_dest               = <admin_path>/adump
compatible            = 11.2.0
control_files                           = (<datafile_path>/control01.ctl
                                          ,<datafile_path>/control02.ctl)
db_block_size             = 8192      # Default is 2k; adjust before db creation,
cannot change after db is created
db_file_multiblock_read_count        = 16        # Platform specific (max io
size)/(block size)
db_name               = SID
diagnostic_dest                         = '<diag_path>'
java_pool_size            = 100M
job_queue_processes           = 5         # Oracle Retail required; number of
cpu's + 1
local_listener                =
"(ADDRESS=(PROTOCOL=TCP)(HOST=<hostname>)(PORT=1521))"
nls_calendar                            = GREGORIAN
nls_date_format               = DD-MON-RR # Oracle Retail required; if RA database
see later entry for proper format
nls_language              = AMERICAN  # Default
nls_numeric_characters        = ".,"      # Should be explicitly set to ensure all
users/batch get the same results
nls_sort              = BINARY    # Should be explicitly set to ensure all
sessions get the same order
nls_territory             = AMERICA   # Default
open_cursors              = 900       # Oracle Retail required (minimum=900);
default is 50
plsql_optimize_level                    = 2         # 10g change; use this setting
to optimize plsql performance
```

```
processes             = 2000       # Max number of OS  processes that can connect
to the db
query_rewrite_enabled         = TRUE      # Oracle Retail required for function-
based indexes
session_cached_cursors                  = 900       # Oracle Retail required;
undo_management           = AUTO
undo_retention            = 1800      # Currently set for 30 minutes; set to avg
length of transactions in sec
undo_tablespace           = undo_ts
user_dump_dest            = <admin_path>/udump
utl_file_dir                            = <utl_file_path>
workarea_size_policy                    = auto          # Should be set to auto
when pga_aggregate_target is set
#
# ***  Set these parameters for Oracle Retail Analytics database ***
#nls_date_format              = DD-MON-RRRR  # Required by MicroStrategy
#query_rewrite_integrity                = TRUSTED
#star_transformation_enabled            = TRUE
#utl_file_dir                           = <Windows_utl_file_path>,
<UNIX_util_file_path>
#
# ***  Archive Logging, set if needed  ***
#log_archive_dest_1                     = 'location=<admin_path>/arch/'
#log_archive_format               = SIDarch_%r_%s_%t.log
#log_buffer            = 10485760    # Set to (512K or 128K)*CPUs
#log_checkpoint_interval                = 51200     # Default:0 - unlimited
#log_checkpoint_timeout                 = 7200      # Default:1800 seconds
```

B

Appendix: Create the Database Instance Using a Template

Before trying to create databases using a template, the following files must be present in the $ORACLE_HOME/assistants/dbca/templates directory:

- Retail_DB_Template_13.2.4_11.2.0.2_OS_Platform_Release.dfb
- Retail_DB_Template_13.2.4_11.2.0.2_OS_Platform_Release.ctl
- Retail_DB_Template_13.2.4_11.2.0.2_OS_Platform_Release_variables.txt
- Retail_DB_Template_13.2.4_11.2.0.2_OS_Platform_Release.dbc

If the files are not there, copy Retail_DB_Template_13.2.3_ OS_Platform _Release.tar.gz from STAGING_DIR/ora/installer/create_db into this directory then unzip and untar to extract the file as follows:

```
gzip –d Retail_DB_Template_13.2.4_11.2.0.2_ OS_Platform _Release.tar.gz
tar –xvf  Retail_DB_Template_13.2.4_11.2.0.2_ OS_Platform _Release.tar
```

Interactive Instance Creation Mode Using DBCA

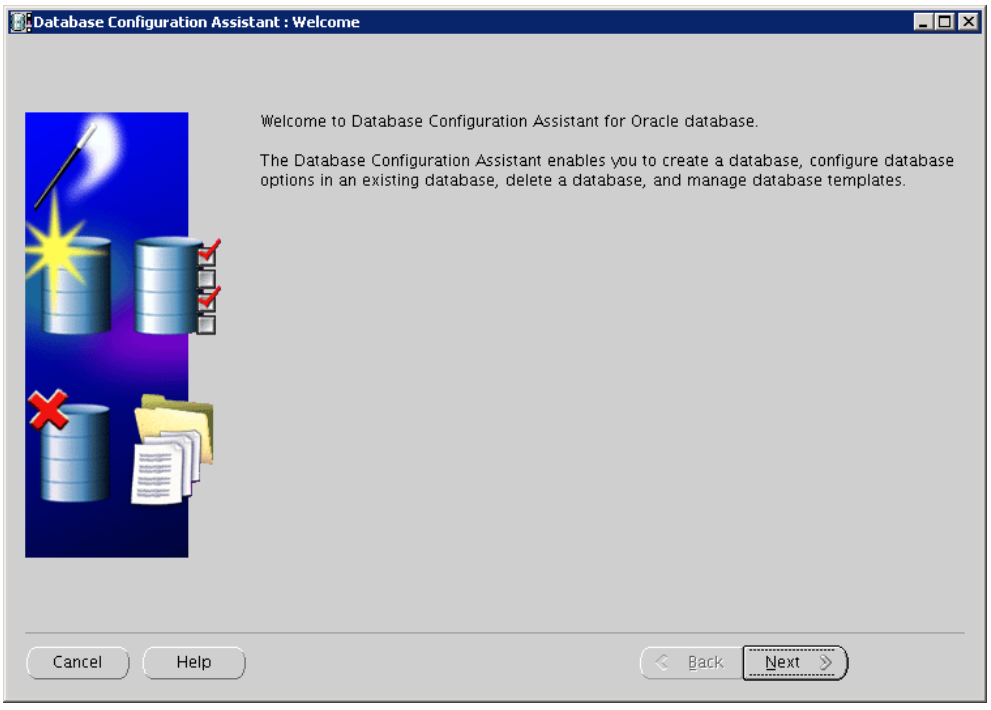
Complete the following steps.

1. Log in to UNIX as the Oracle user; typically the user that owns the Oracle Database software.

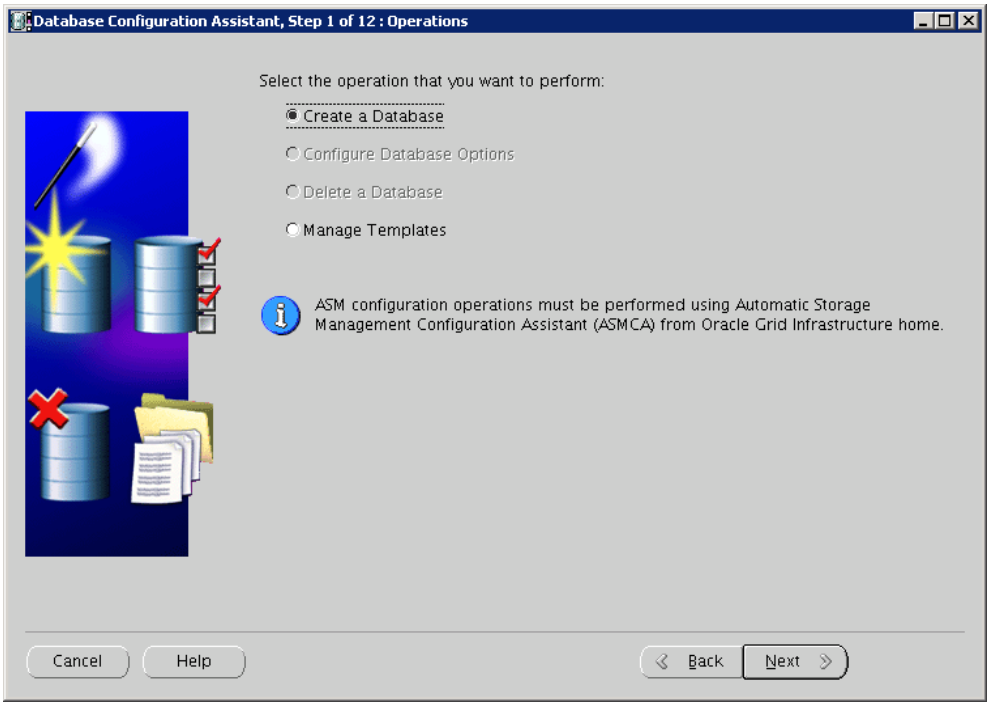
   ```
   $> cd $ORACLE_HOME/bin
   $> . export DISPLAY=<set DISPLAY>

   $>./dbca
   ```

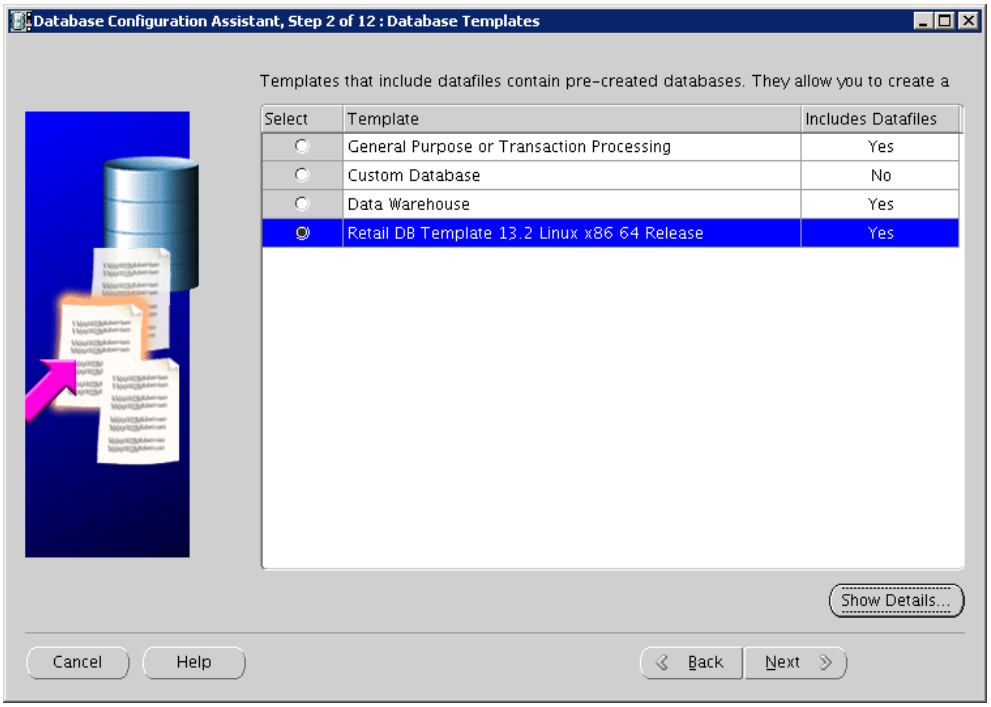
2. From the Welcome window, click **Next**.



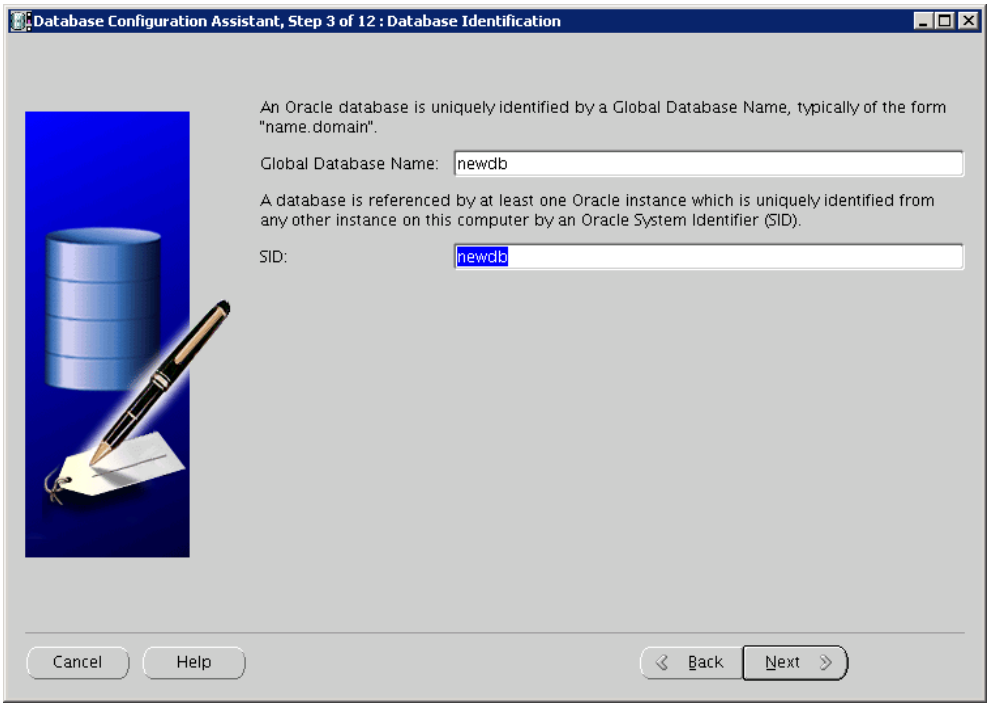
3. Select the Create Database option and click **Next**.



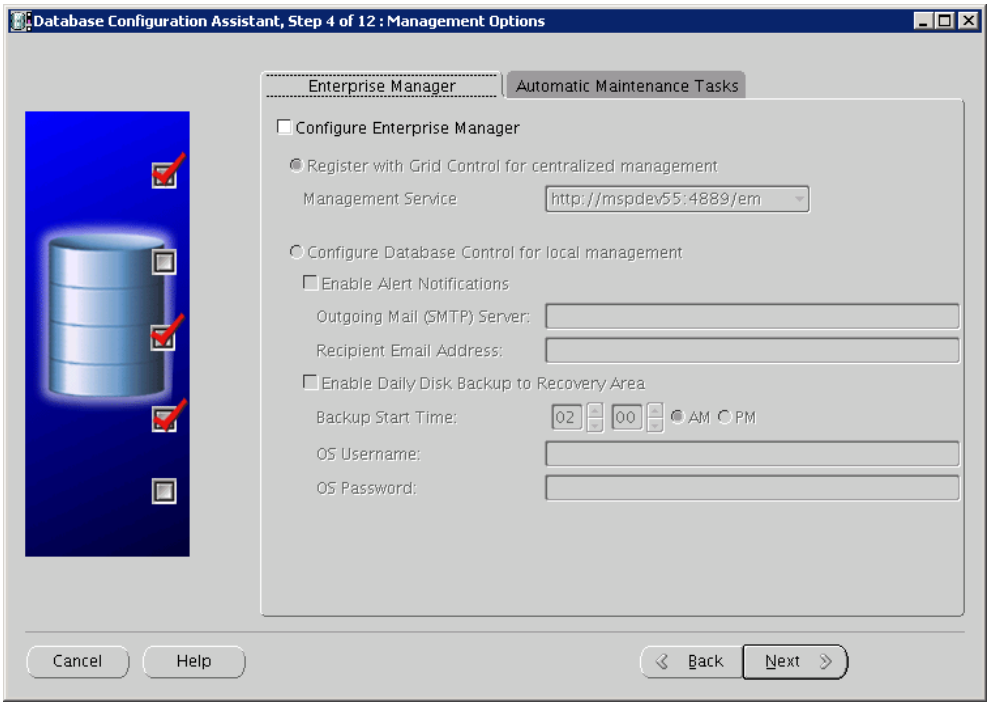
4. Select Retail DB Template 13.2 Linux x86_64 Release and click **Next**.



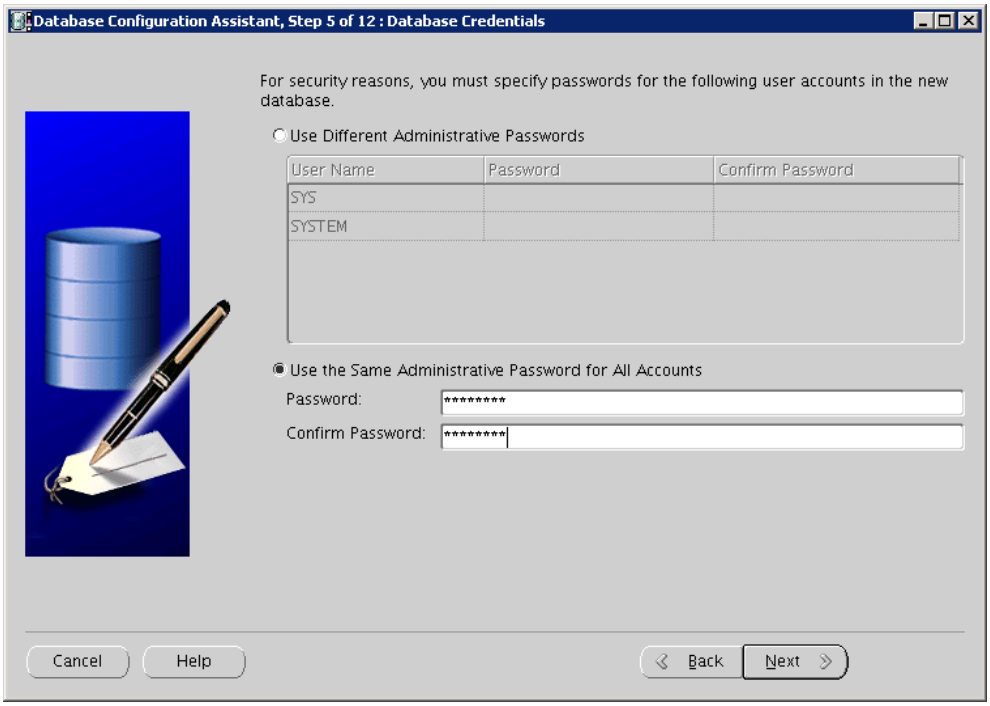
5. Enter the new database name in the Global Database Name and the SID in the SID field. Click **Next**.



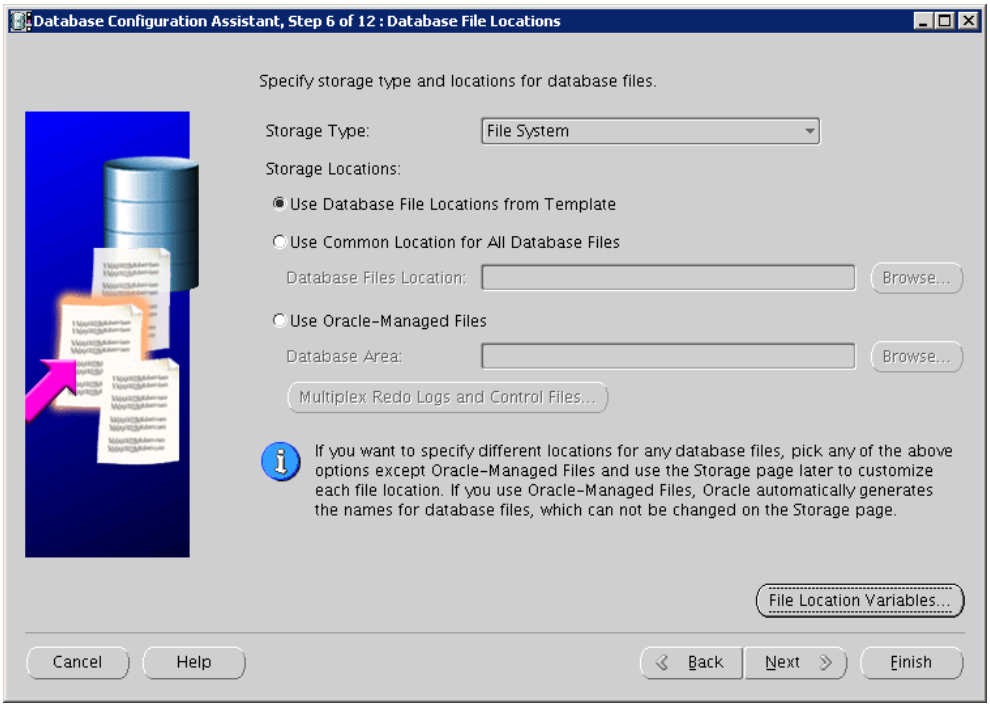
6. Deselect Configure Enterprise Manager if the option is checked and click **Next**.



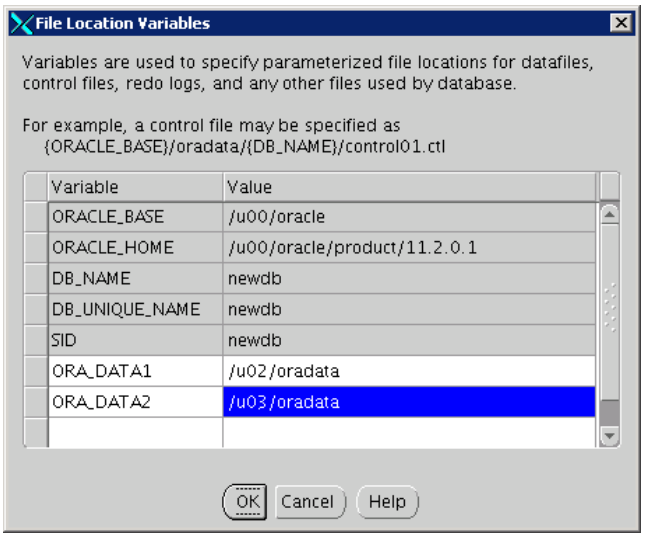
7. Determine whether you will use the same passwords for both the SYS and the SYSTEM accounts and select the appropriate option. Enter the passwords for both accounts accordingly and click **Next**.



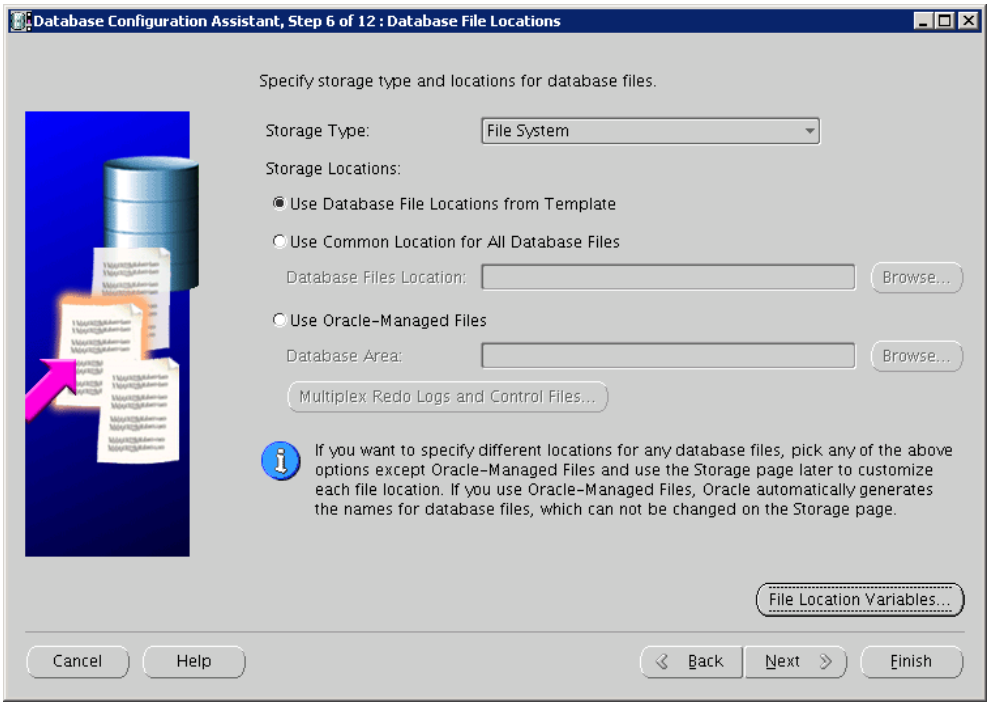
8. Select Use Database File Location from Template and click the File Location Variables button to bring up the File Location Variables screen.



9. Verify that the values of ORACLE_BASE, ORACLE_HOME, DB_NAME, DB_UNIQUE_NAME and SID are set correctly, and then enter the locations of the datafiles in ORA_DATA1 and ORA_DATA2. ORA_DATA1 and ORA_DATA2 hold the values for the locations of datafiles, redolog files, and controlfiles.
10. Click **OK** to exit this screen. You are returned to the Database Files Location screen.

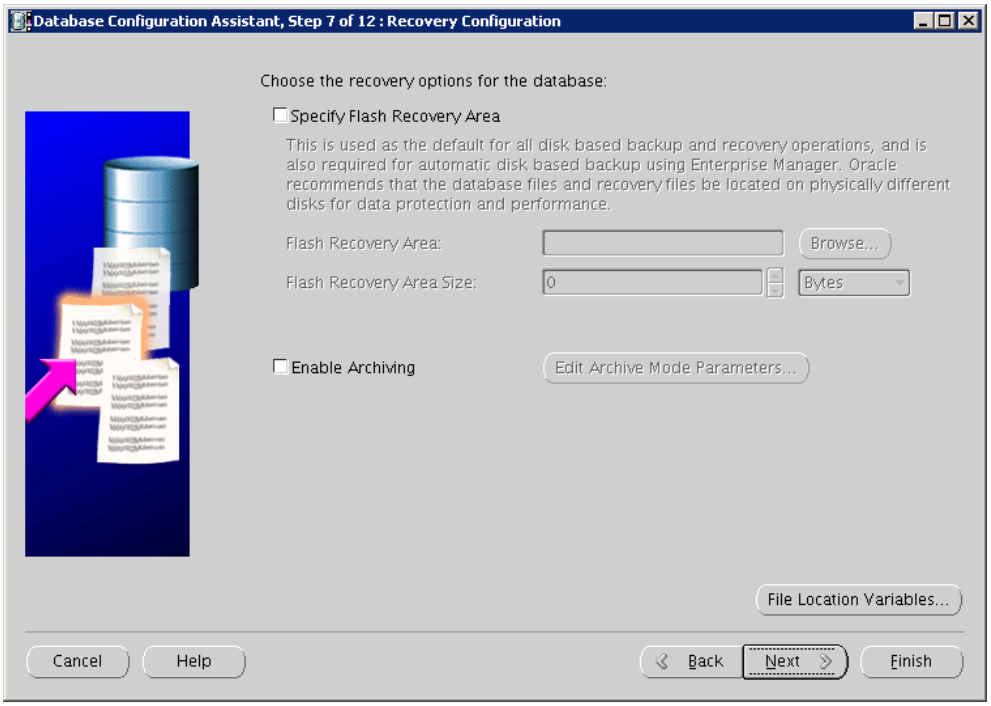


11. From the Database File Locations screen, click **Next**.

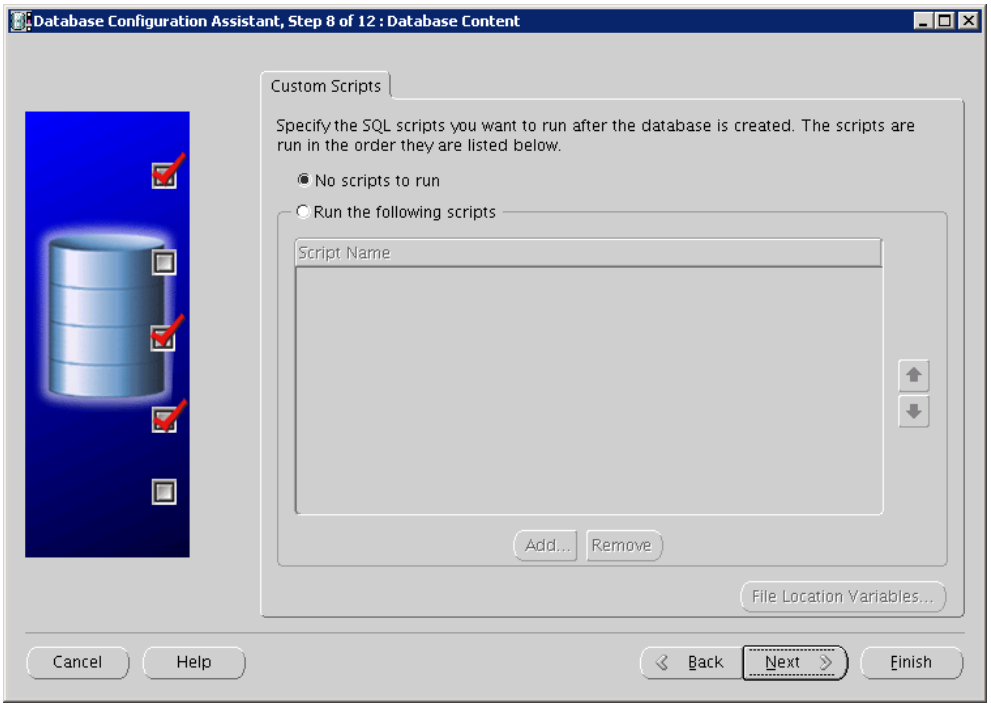


12. If you use flash recovery area, select Specify Flash Recovery Area and then enter values for the Flash Recovery Area and Flash Recovery Area Size fields.
13. Select Enable Archiving if the database is going to be in archived mode.

14. Click **Next**.

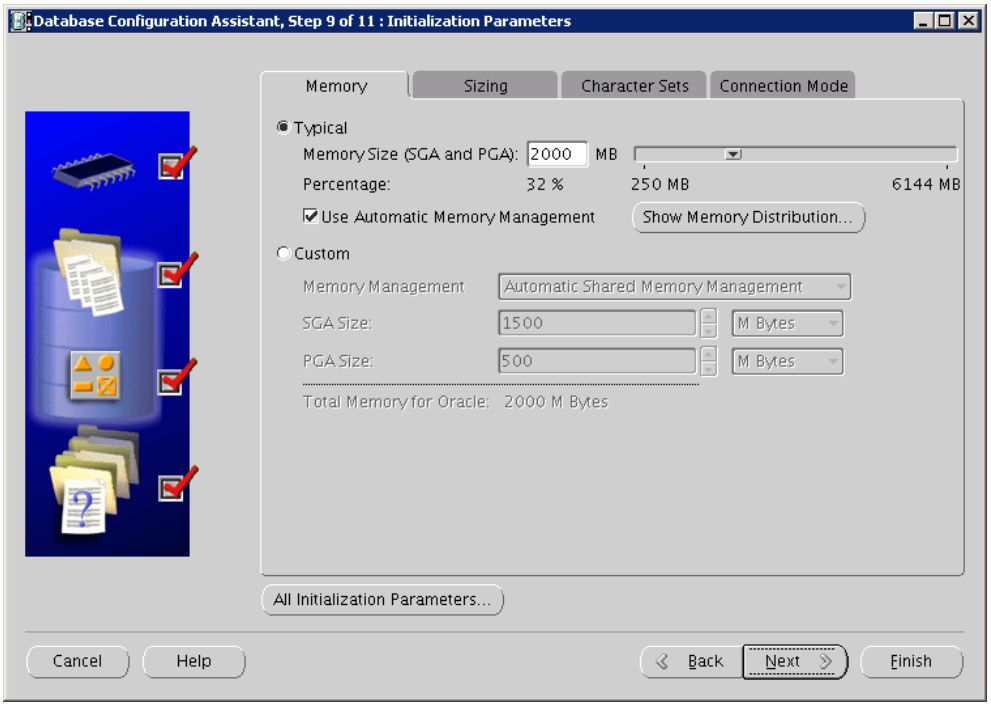


15. If there are any scripts to be run during the database creation process, select Run the following scripts. Enter the names of the scripts. If no scripts are to be run, select No scripts to run.
16. Click **Next**.

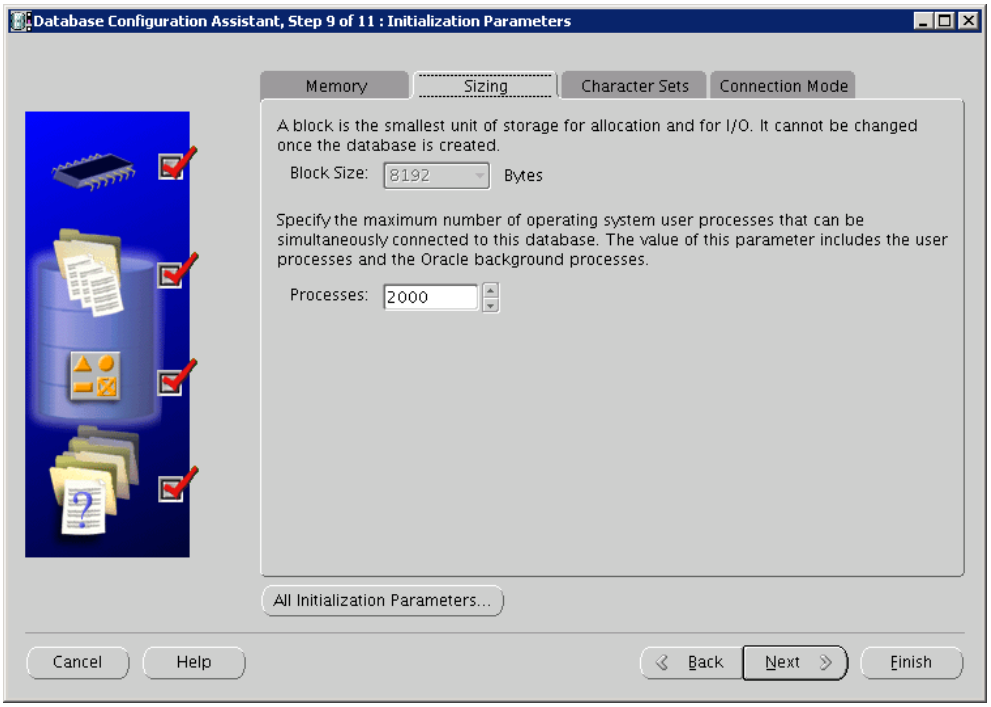


17. If the setting of Typical is acceptable, leave the field selected. If not, check the Custom field and enter the values in the SGA Size and PGA Size accordingly.

18. Click **Next**.

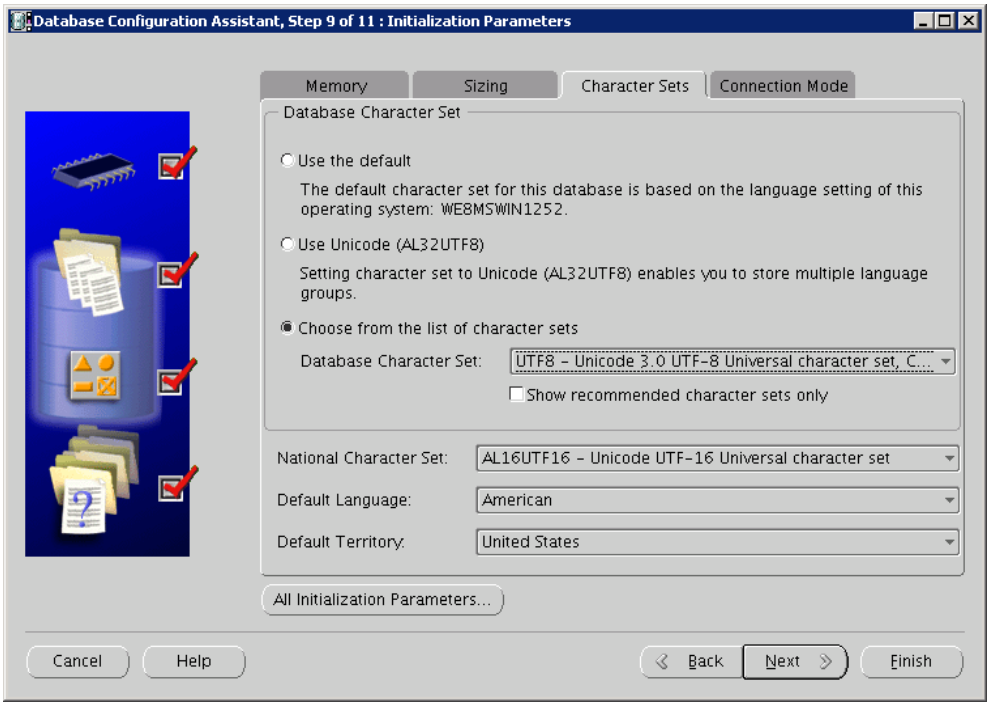


19. Adjust the values of Processes if necessary and click **Next**.

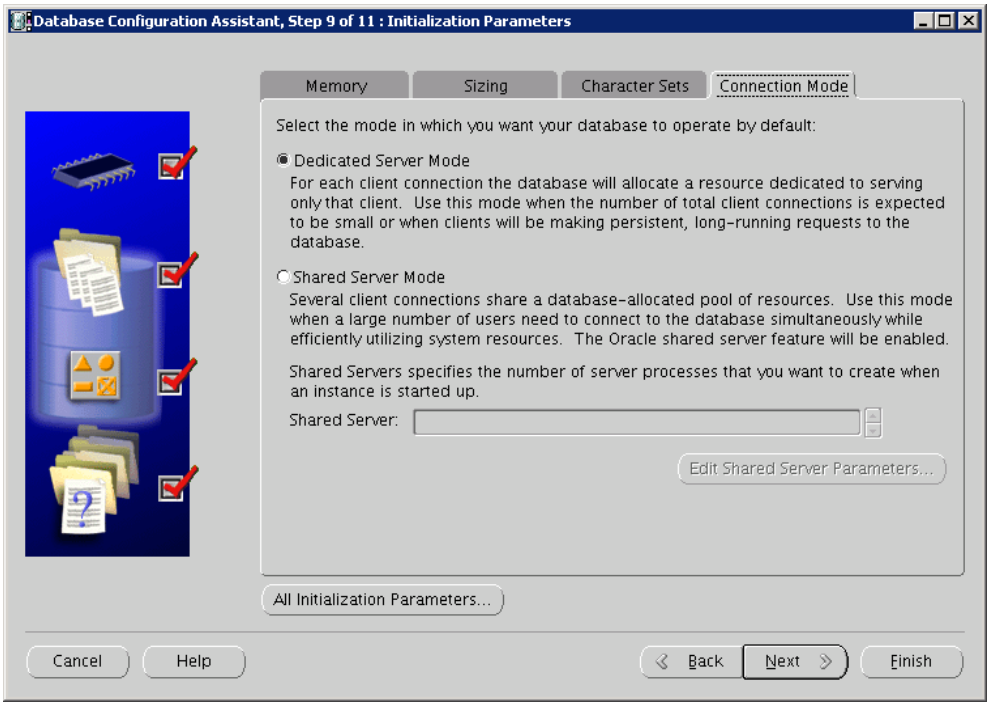


20. Uncheck **Show recommended character set only** to bring up a complete list of character sets. Select **UTF8**.

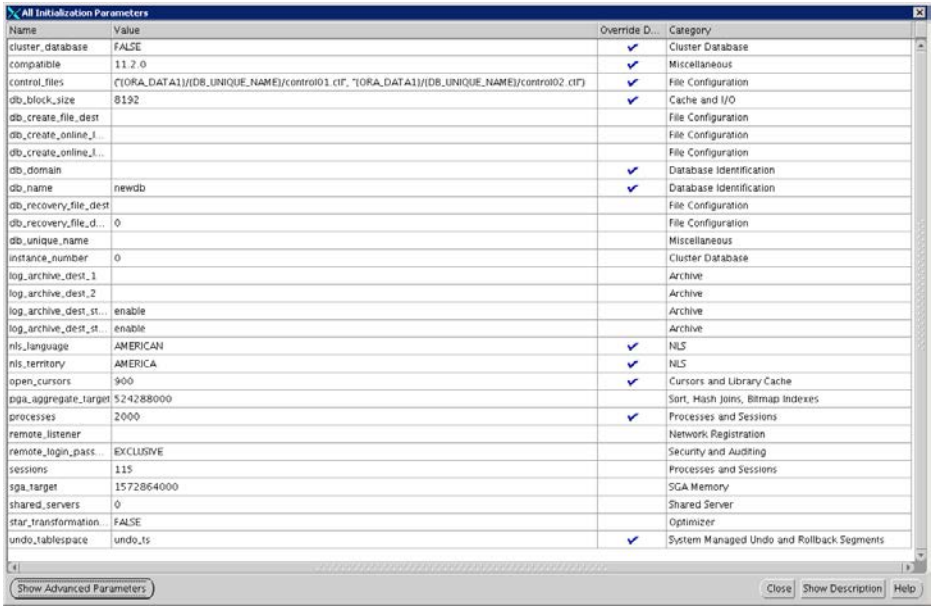
21. Click **Next**.



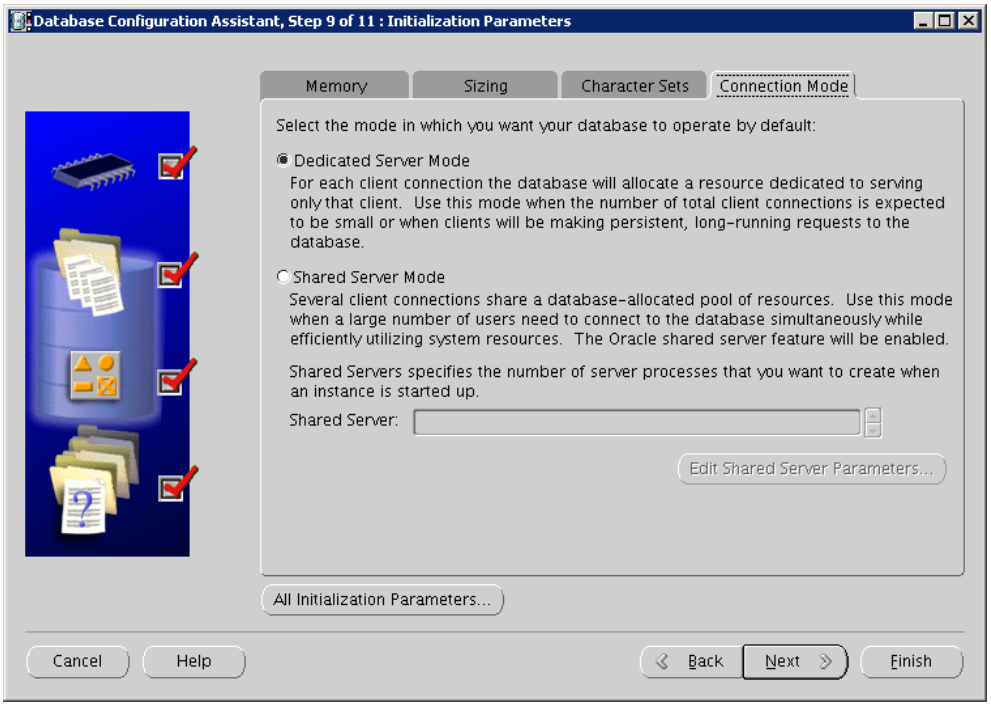
22. Select Dedicated Mode and click All Initialization Parameters to bring up a complete list of parameters.



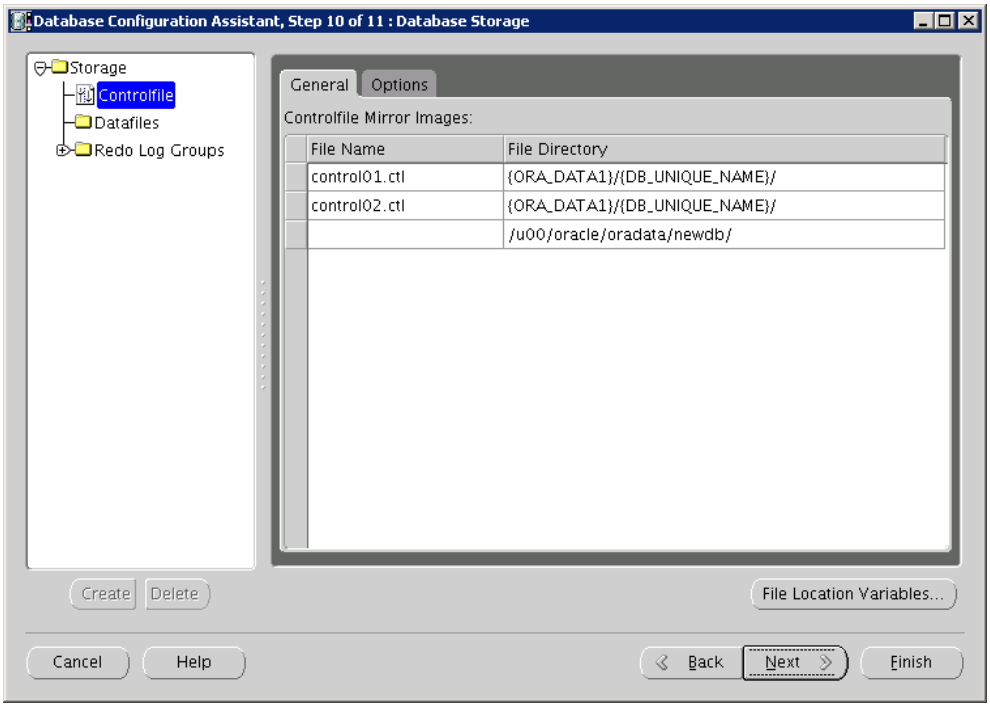
23. Select the values of the initialization parameters and adjust them if necessary. Click **Close** to exit.



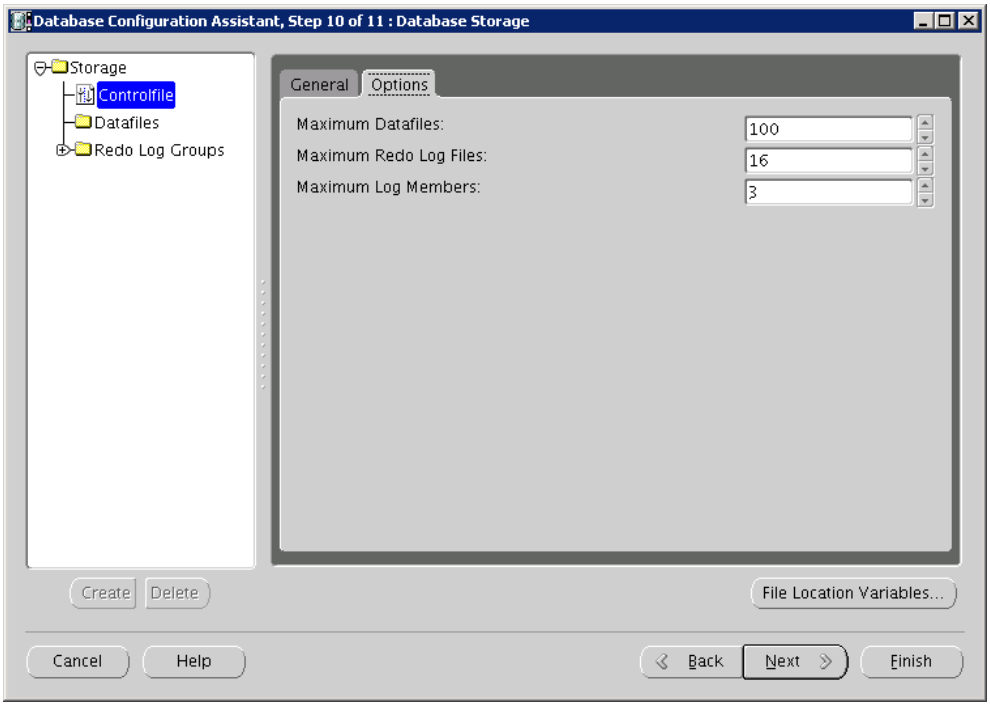
24. Ensure Dedicated Server Mode is checked then click **Next**.



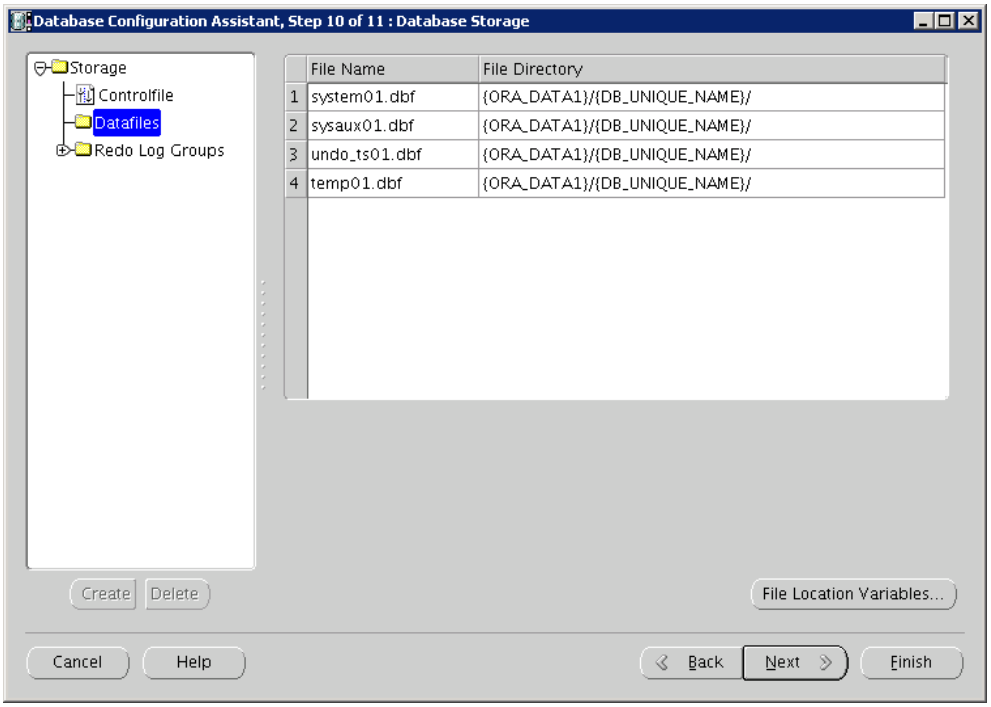
25. Click the Controlfile tab in the left window and check the locations and the names of the control files.



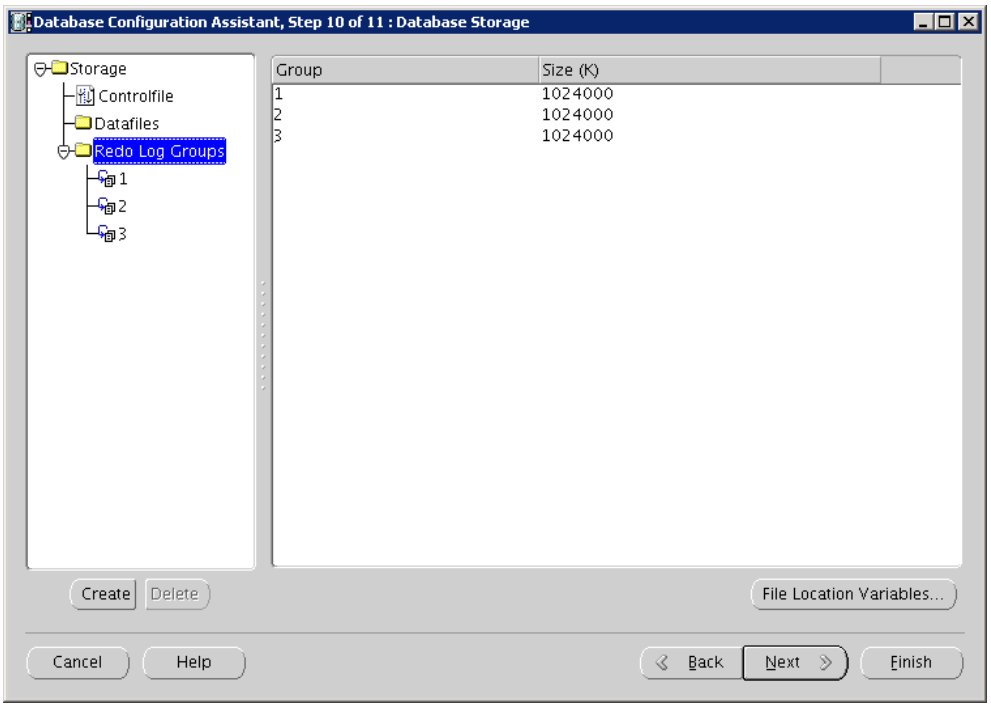
26. Click the Options tab to verify the values shown.



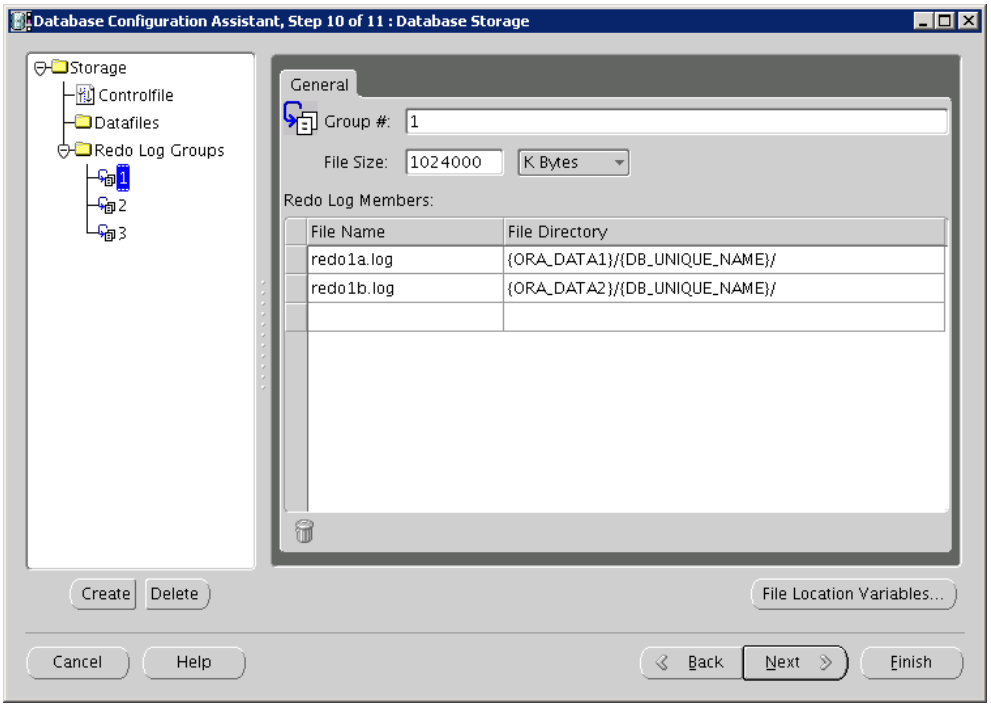
27. Click the Datafile tab on the left window and check the locations and the names of the datafiles.



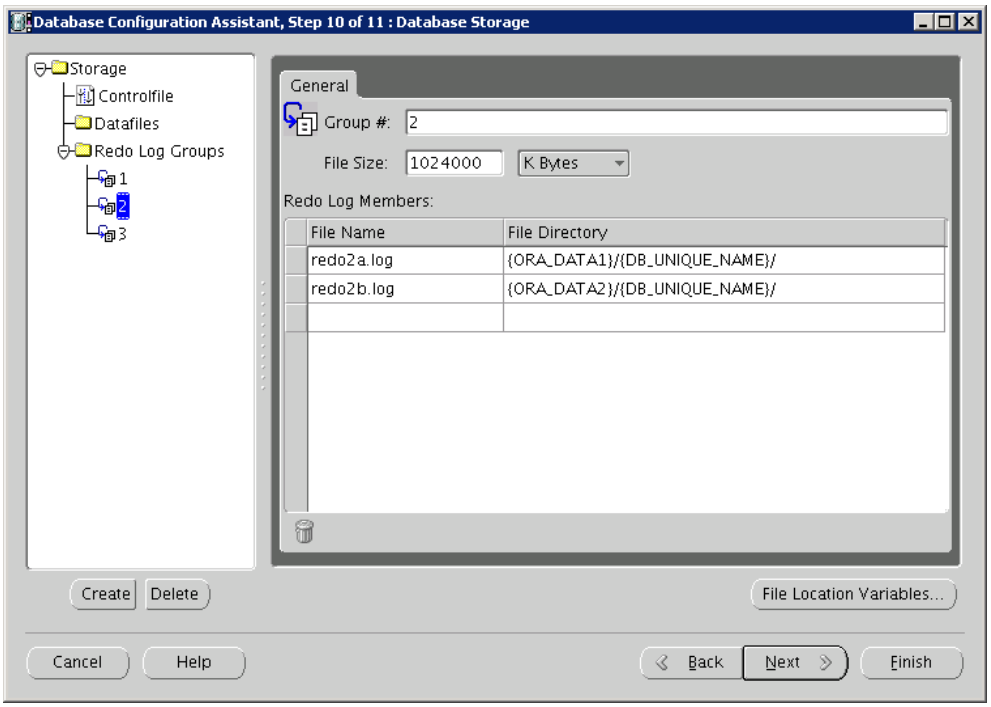
28. Click the Redo Log Groups tab on the left window and check the groups and their sizes.



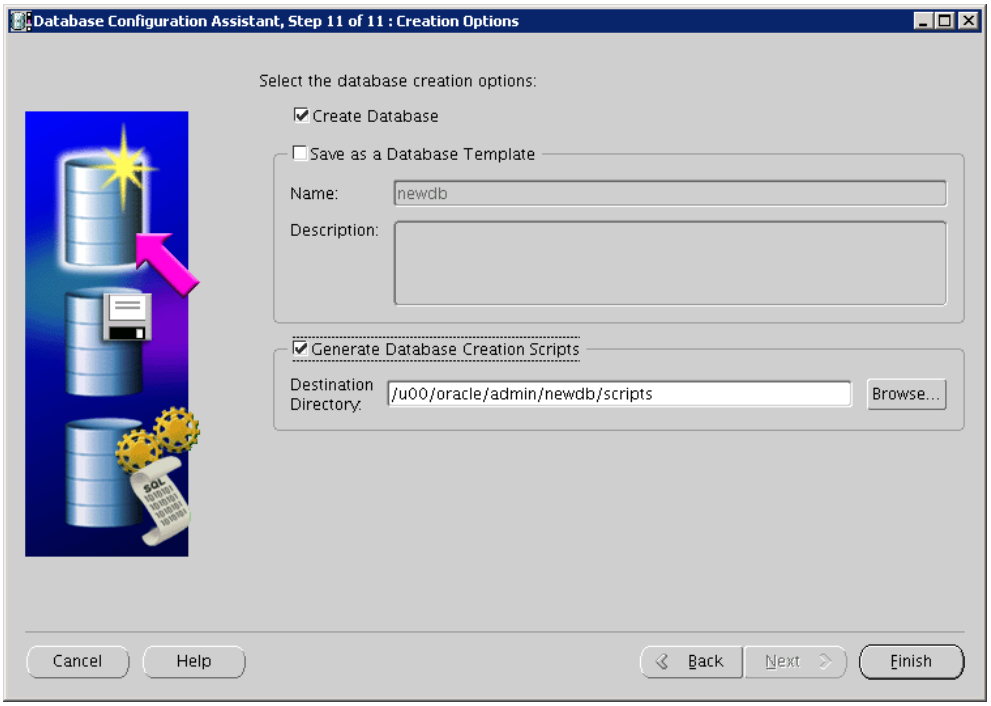
29. Click the Redo Log Groups 1 on the left window and verify the locations and names of the members.



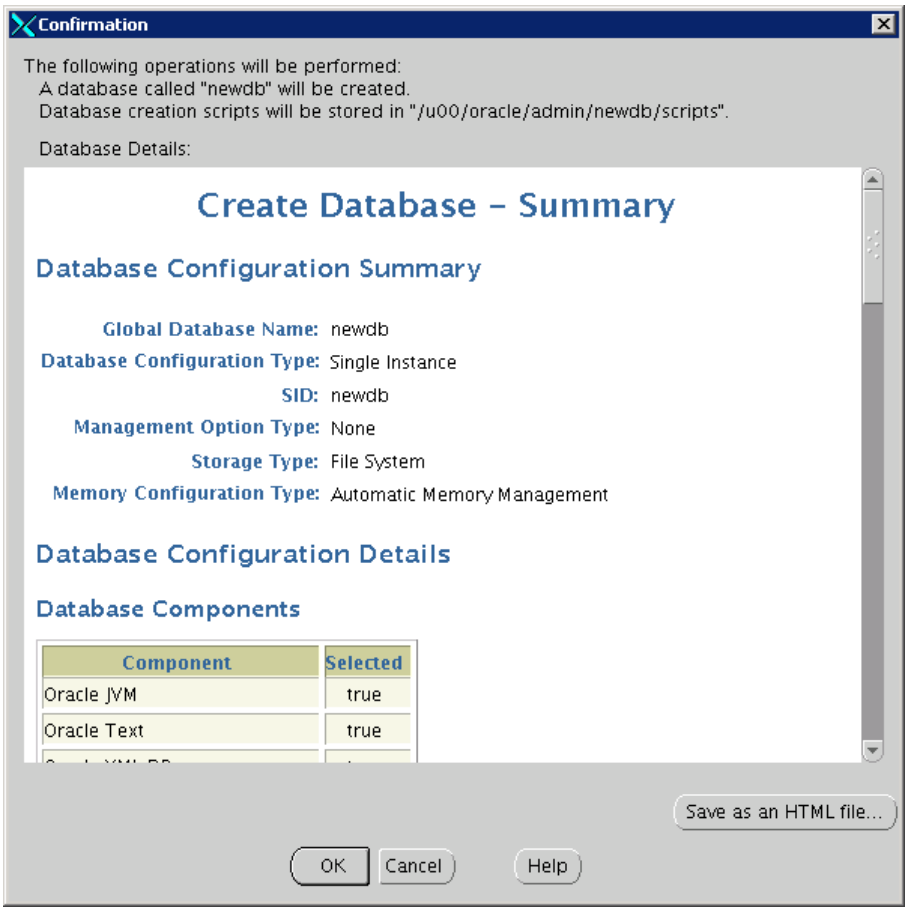
30. Click Redo Log Groups 2 and 3 on the left window and verify the locations and names of the members. When all groups have been verified, click **Next**.



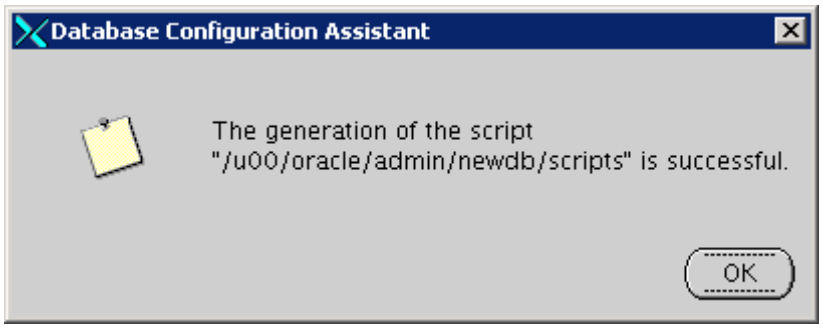
31. Select Create Database and Generate Database Creation Scripts and click **Finish**.



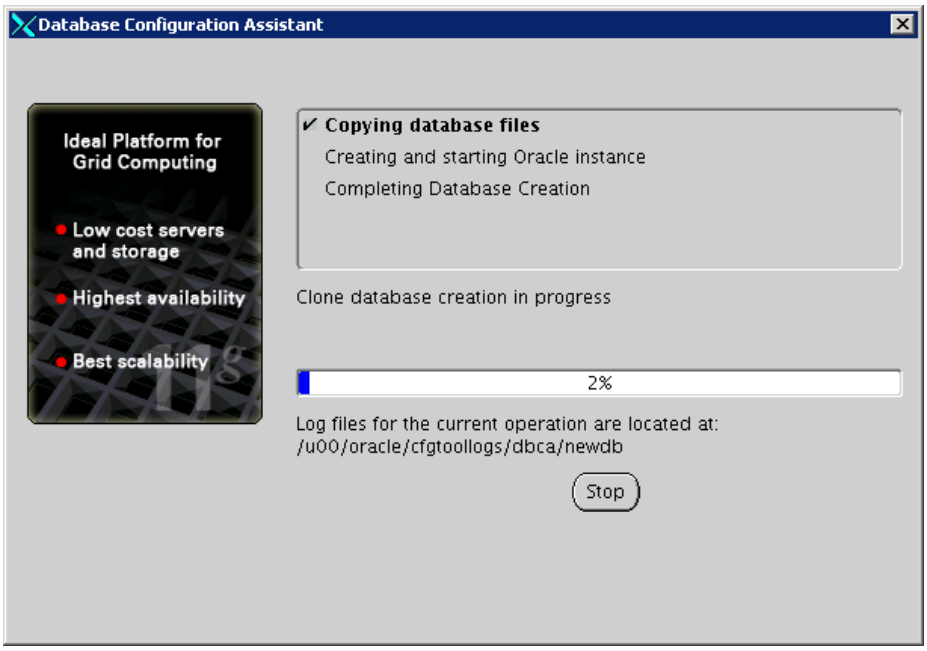
32. A summary page is shown, displaying all settings for the instance about to be created. Validate their values for the last time and click **OK**.



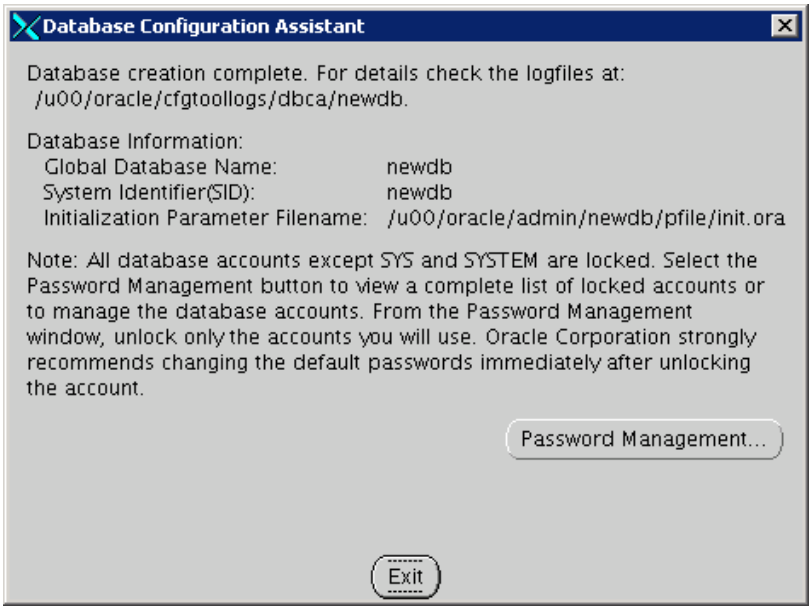
33. The database creation script is generated. Click **OK** to start the database creation process.



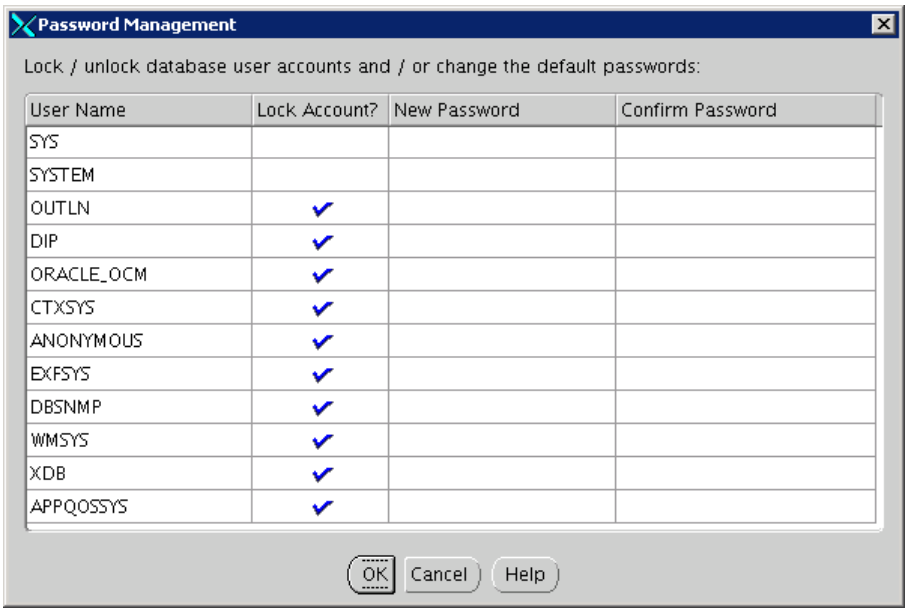
The Database creation in progress screen is displayed.



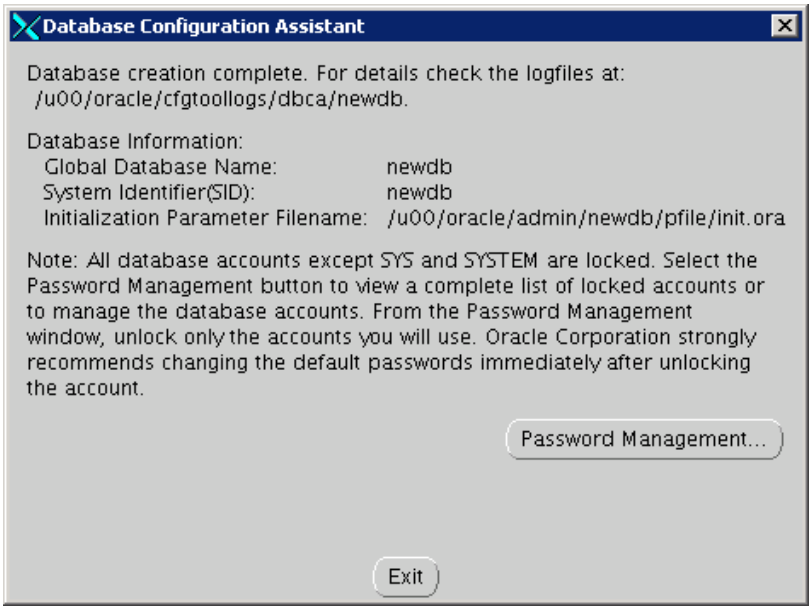
34. When the Database Configuration Assistant screen appears, click the Password Management button to lock/unlock the user accounts and manage their passwords.



35. Lock/Unlock database user accounts accordingly. You may also set their passwords on this screen if you do not want to keep the default passwords.
36. Click **OK** to close the dialog box. You are returned to the Database Configuration Assistant screen.



37. When the database creation process has completed, click **Exit**.



38. Configure the listener and create the tnsnames entry.

Silent Mode Instance Creation Using DBCA

T o create a silent mode instance, do the following.

1. Log in to UNIX as the Oracle user; typically the user that owns the Oracle Database software.
2. Set values ORACLE_HOME for ORACLE_BASE.

   ```
   $> . export ORACLE_HOME=<full_path_of_ORACLE_HOME>
   $> . export ORACLE_BASE=<path_of_ORACLE_BASE>
   ```
3. Update/set the values of ORA_DATA1 and ORA_DATA2 in the file $ORACLE_HOME/assistants/dbca/templates /Retail_DB_Template_13.2.4_11.2.0.2_OS_Platform_Release_variables.txt so they hold the paths of the datafile locations as seen in the example below:

   ```
   ORA_DATA1=/u02/oradata
   ORA_DATA2=/u03/oradata
   ```
4. Execute dbca in silent mode to create the database.

   ```
   cd $ORACLE_HOME/bin
   ./dbca -silent -createDatabase -templateName Retail_DB_Template_13.2.
   4_11.2.0.2_OS_Platform_Release.dbc -gdbname <DB NAME> -sid <DB NAME> -
   characterSet UTF8 -nationalCharacterSet AL16UTF16 -sysPassword <SYS PASSWORD>
   -systemPassword <SYSTEM PASSWORD> -emConfiguration NONE -variablesFile
   $ORACLE_HOME/assistants/dbca/templates/Retail_DB_Template_13.2.4_11.2.0.2_
   OS_Platform _Release_variables.txt -continueOnNonFatalErrors true
   ```

   Substitute <DB NAME> , <SYS PASSWORD> and <SYSTEM PASSWORD>with appropriate values.
5. A database instance is created. Configure the listener and create the tnsnames entry.

C

Appendix: Tablespace Creation Scripts

```
--------------------------------------------------------------------------------
---
--- Script:        create_ra_tablespaces.sql
--- Execute as:    sysdba
--- Note:          Before running this script:
---                  Modify <datafile_path> values.
---                  Modify datafile storage parameters and sizes based on
partitioning strategy.
--------------------------------------------------------------------------------
spool create_ra_tablespaces.log

set echo on
CREATE TABLESPACE DM_DIM_DATA
   DATAFILE '<datafile_path>/dm_dim_data01.dbf' SIZE 300M    AUTOEXTEND
ON NEXT 100M MAXSIZE 2000M
    EXTENT MANAGEMENT LOCAL
    SEGMENT SPACE MANAGEMENT AUTO
;

CREATE TABLESPACE DM_DIM_INDEX
DATAFILE '<datafile_path>/dm_dim_index01.dbf' SIZE 300M AUTOEXTEND ON
NEXT 100M MAXSIZE 2000M
    EXTENT MANAGEMENT LOCAL
    SEGMENT SPACE MANAGEMENT AUTO
;

CREATE TABLESPACE DM_FACT_DATA
   DATAFILE '<datafile_path>/ dm_fact_data01.dbf' SIZE 300M
    AUTOEXTEND ON NEXT 100M MAXSIZE 2000M
    EXTENT MANAGEMENT LOCAL
    SEGMENT SPACE MANAGEMENT AUTO
;

CREATE TABLESPACE DM_FACT_INDEX
   DATAFILE '<datafile_path>/dm_fact_index01.dbf'  SIZE 300M
    AUTOEXTEND ON NEXT 100M MAXSIZE 2000M
    EXTENT MANAGEMENT LOCAL
    SEGMENT SPACE MANAGEMENT AUTO

;

CREATE TABLESPACE RETAIL_INDEX
   DATAFILE '<datafile_path>/retail_index01.dbf'  SIZE 100M
    AUTOEXTEND ON NEXT 100M MAXSIZE 2000M
    EXTENT MANAGEMENT LOCAL
    SEGMENT SPACE MANAGEMENT AUTO
;

CREATE TABLESPACE RETAIL_DATA
   DATAFILE '<datafile_path>/retail_data01.dbf'  SIZE 100M
    AUTOEXTEND ON NEXT 100M MAXSIZE 2000M
```

```
    EXTENT MANAGEMENT LOCAL
    SEGMENT SPACE MANAGEMENT AUTO
;

CREATE TABLESPACE USERS
   DATAFILE '<datafile_path>/users01.dbf'  SIZE 100M
    AUTOEXTEND ON NEXT 100M MAXSIZE 1000M
    EXTENT MANAGEMENT LOCAL
    SEGMENT SPACE MANAGEMENT AUTO
;
spool off
```

D

Appendix: Retail Analytics Application Installer Screens

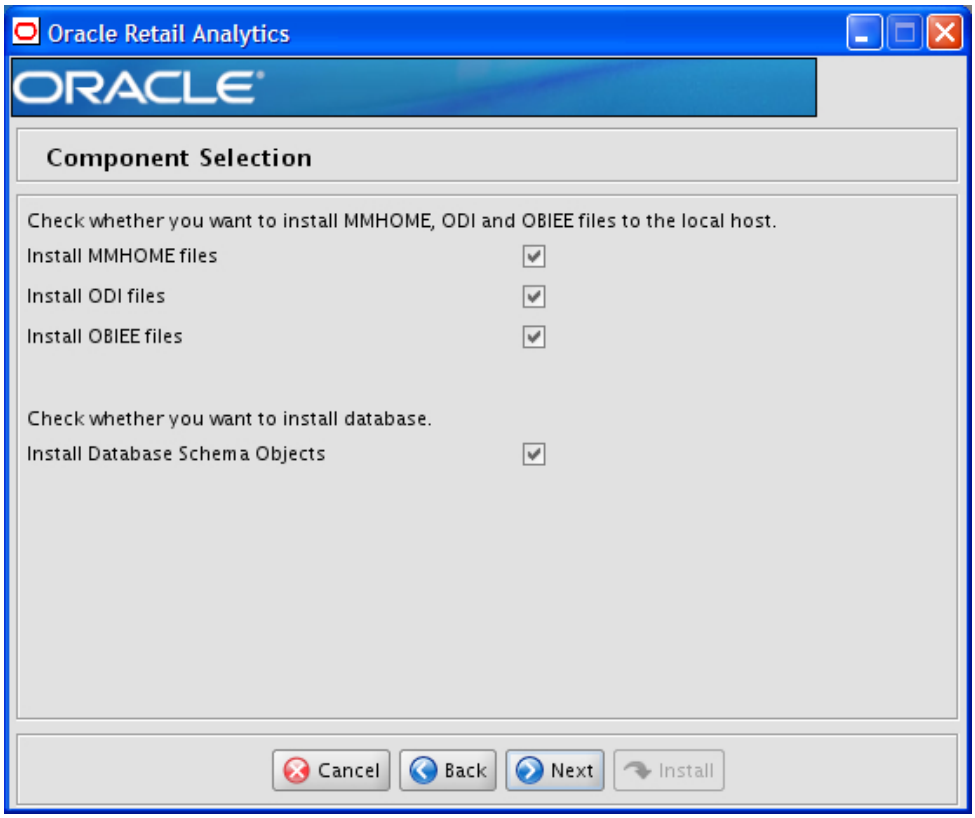
Understanding of the following details about your environment is required to ensure the installer successfully deploys the Retail Analytics application. Depending on the options you select, you may not see some screens or fields.

Note: The values shown in the text fields in the screenshots and in examples are sample values. Enter appropriate values for your organization for all text fields as you go through the UI screens.

Note: When running in text mode, and when you are presented with questions having to do with making choices, you are expected to fully spell out the selected item. For example, a checkbox control in graphical user interface will appear as (yes/no) question in text mode. You must enter Yes or No. Entering anything other than Yes in this case will result in No.

Screen: Component Selection

You can make selections for the product component you want to install. These choices allow you to install certain components on one host and others on another host per your requirement.



Field Title	Install MMHOME files
Field Description	Check this box if you want to install MMHOME files Do not check this box if you do not want to install MMHOME files
Notes	MMHOME files contain DB schema object creation files, ODI wrapper scripts, ODI source seed files, Oracle BI EE source seed files. MMHOME files can be installed anywhere locally. A pre-existing destination path is not required.

Field Title	Install ODI files
Field Description	Check this box if you want to install ODI files Do not check this box if you do not want to install ODI files
Notes	ODI files contain ODI source seed files. They must be installed on the same machine on which ODI and Oracle DB are installed. (ODI and Oracle DB must exist on the same machine.) The installer must also be run from the same machine. The installer copies files to the specified ODI Home directory.

Field Title	Install OBIEE files
Field Description	Check this box if you want to install Oracle BI EE files Do not check this box if you do not want to install Oracle BI EE files
Notes	Oracle BI EE files contain Oracle BI EE source seed files (report files, catalog, translated string). If you select this component, the installer will be copying files into Oracle BI EE product directories, so you must run this installer on the same machine where OBIEE is installed, and as the same user that owns Oracle BI EE product. Otherwise, the installer will fail. Also, the installer files must be owned by this user, as the installer must be run by the user that has ownership of the installer files. This means you should unzip the installer package as this user.

Note: MMHOME, ODI, and Oracle BIEE files for Retail Analytics are installed locally. If these components are to be installed on different hosts, you must run the installer from each target host and select the correct components for that host.

Field Title	Install Database Schema Objects
Field Description	Check this box if you want to install Database Schema Objects Do not check this box if you do not want to install Database Schema Objects
Notes	When selected, this option creates database objects for Oracle Retail Analytics. **Important:** If this box is selected, and you also intend to install RMS User schema objects, you must also select the ODI files checkbox. (ODI files must be installed during the same installation run.)

Note: If for any reason RMS User schema objects are installed without also installing ODI files during the same installation run (and ODI files are installed at another time, before or after), be sure to run the following SQL statement by connecting to RMS user schema, where <odi_home> is the path where ODI is installed.

SQL> create or replace directory xtern_data_dir as <odi_home>/data;

Note: If you forget to run the above SQL when you should, you will encounter an error similar to the following when running shell scripts for working with ODI, for example, slsiltsde.ksh:

29913 : 99999 : java.sql.SQLException: ORA-29913: error in executing ODCIEXTTABLEOPEN callout

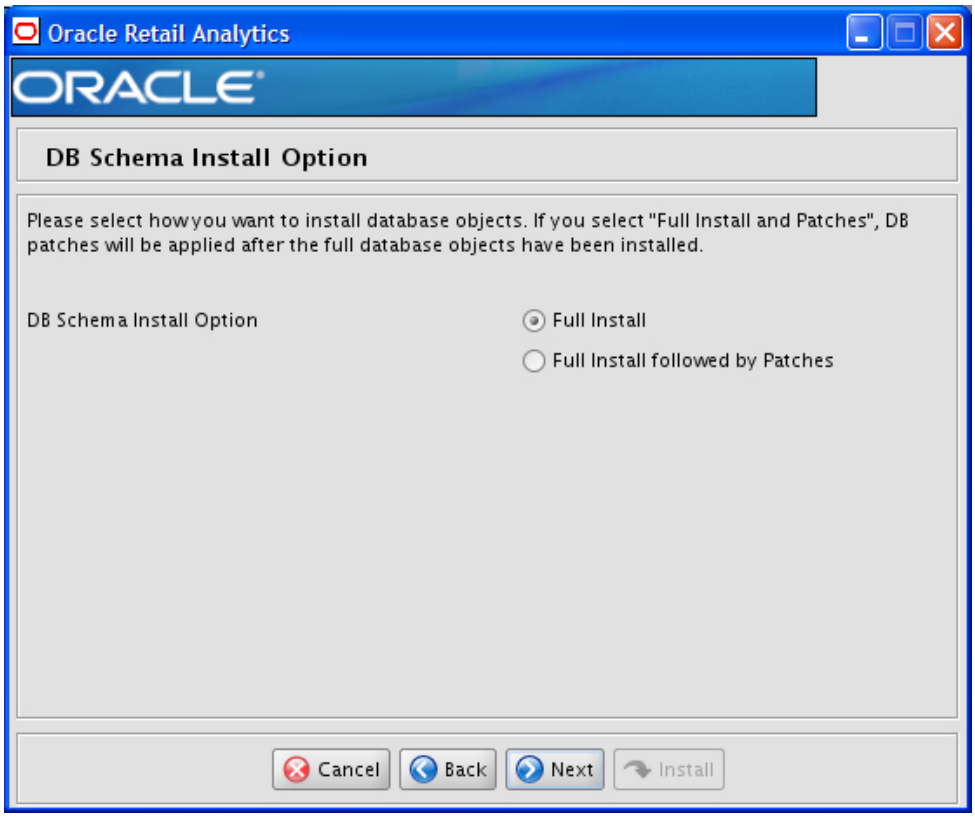
ORA-29400: data cartridge error

error opening file /data/XTERN_RDWT_12250.log

Note: If later you do not remember whether ODI files and RMS User schema objects were installed during the same installation run, you can run the above SQL anyway, as doing so is not harmful in any way.

Screen: DB Schema Install Option

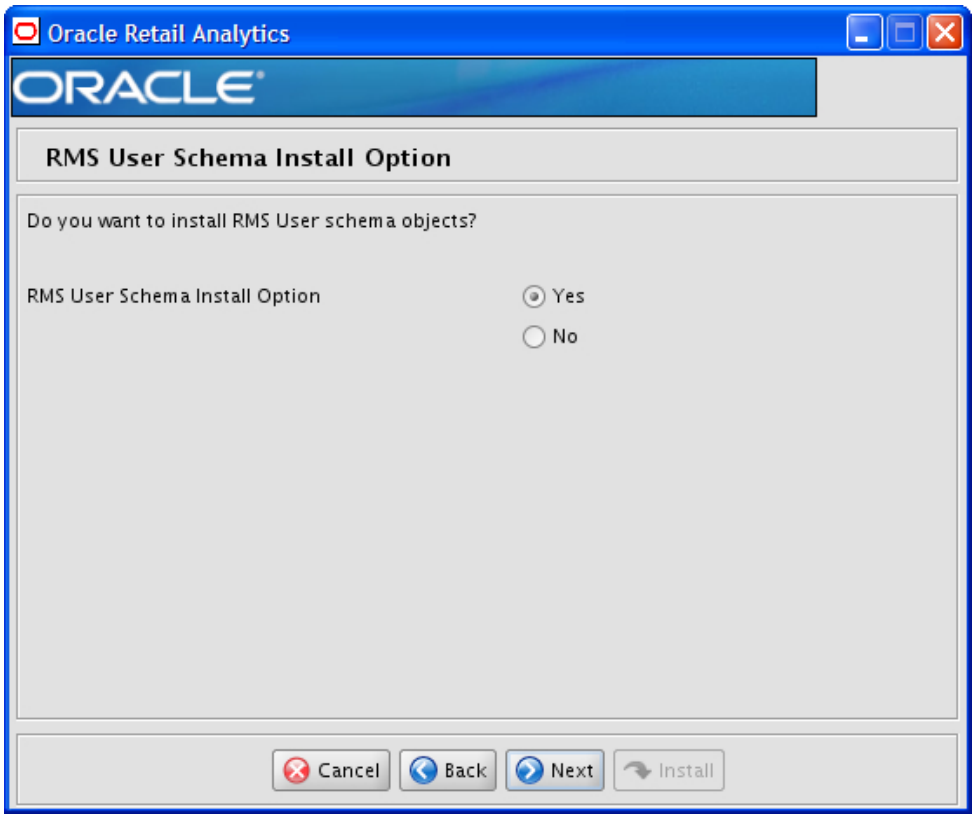
This screen is displayed only if you had checked off the Install Database Schema Objects box from the Component Selection screen.



Field Title	DB Schema Install Option
Field Description	Select **Full Install** if you want to create the full set of database objects, which results in a fresh installation. Select **Full Install followed by Patches** if you would like to apply patches after creating the full set of database objects.

Screen: RMS User Schema Install Option

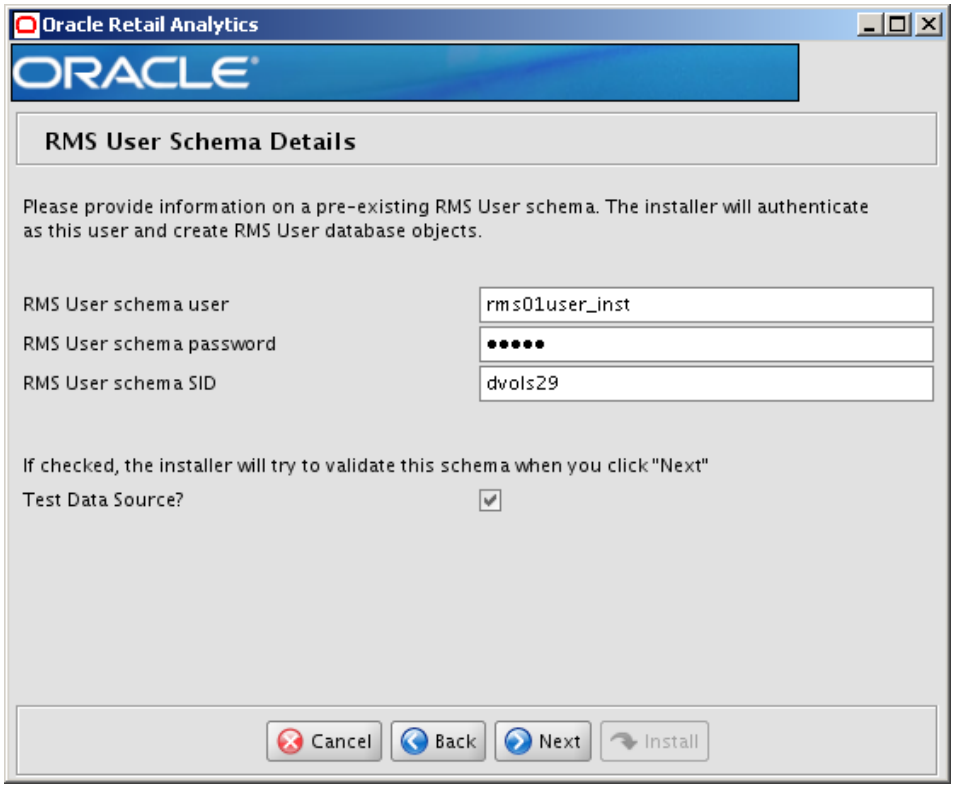
This screen is displayed only if you checked off the Install Database Schema Objects box from the Component Selection screen. This screen asks if you have RMS product and intend to integrate Oracle Retail Analytics with it.



Field Title	RMS User Schema Install Option
Field Description	Select **Yes** if you want to integrate Oracle Retail Analytics with RMS by creating RMS User schema objects for Oracle Retail Analytics. Select **No** if you do have RMS or do not want to integrate it with Oracle Retail Analytics.

Screen: RMS User Schema Details

This screen is displayed only if you had checked off the **Install Database Schema Objects** box from the Component Selection screen and also had chosen to integrate with RMS product by selecting **Yes** from RMS User Schema Install Option screen.



Field Title	RMS User schema user
Field Description	RMS User schema name that will integrate with the master RMS schema from RMS product.
Example	rms01user_inst

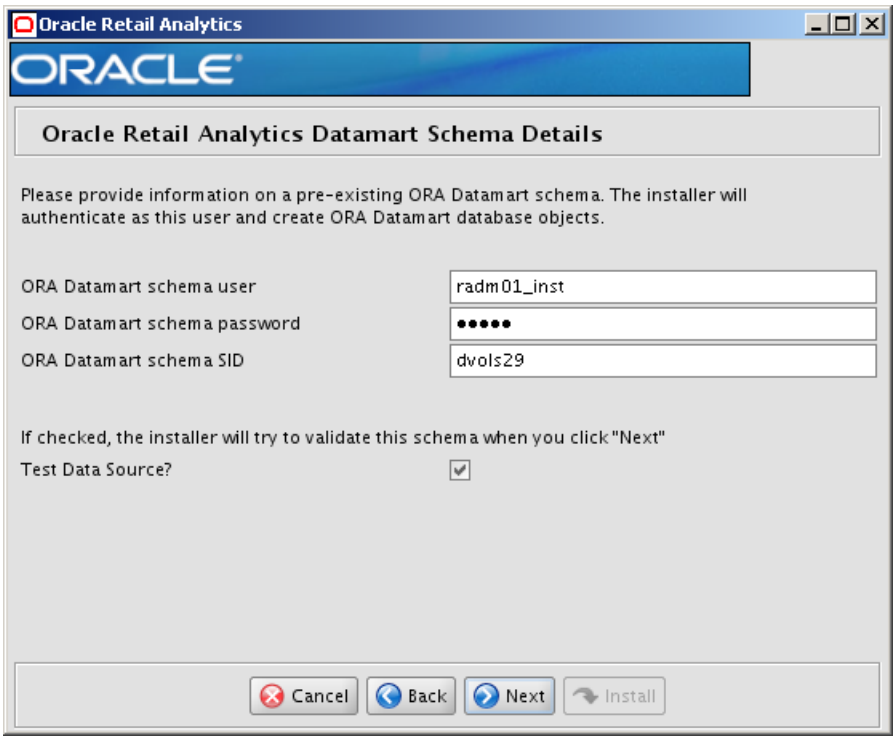
Field Title	RMS User schema password
Field Description	RMS User schema password.

Field Title	RMS User schema SID
Field Description	RMS User schema SID
Example	pkols07

Field Title	Test Data Source?
Field Description	Select **Yes** if you want the installer to test the connection to the schema upon clicking Next. Select **No** if you want to bypass the validation.

Screen: Oracle Retail Analytics Datamart Schema Details

This screen is displayed only if you had checked the **Install Database Schema Objects** box from the Component Selection screen.



Field Title	ORA Datamart schema user
Field Description	ORA Datamart schema name
Example	radm01_inst

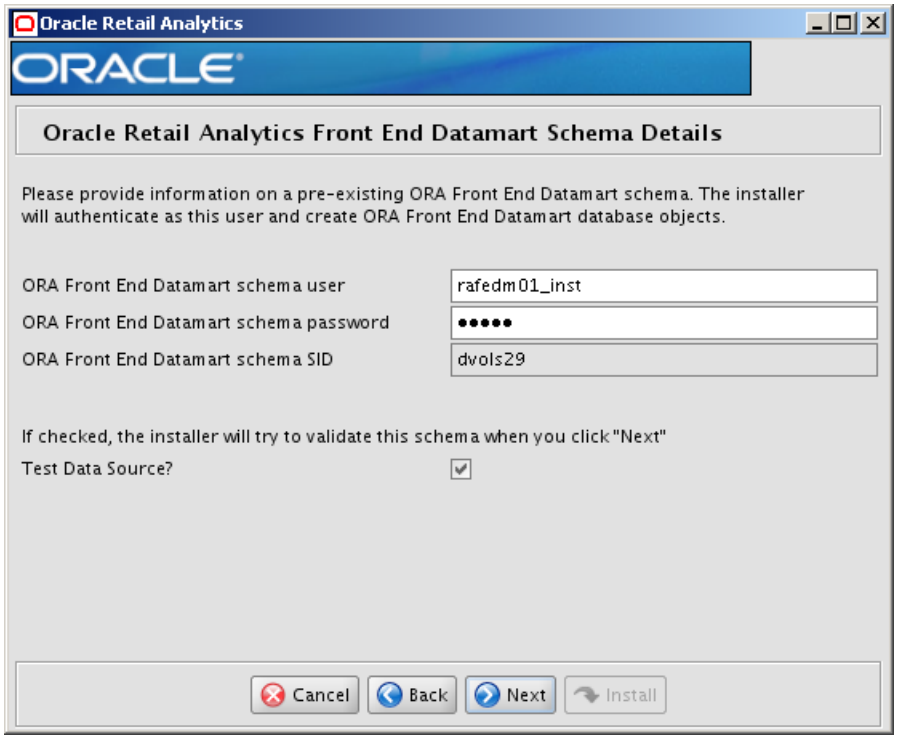
Field Title	ORA Datamart schema password
Field Description	ORA Datamart schema password

Field Title	ORA Datamart schema SID
Field Description	ORA Datamart schema SID
Example	pkols07

Field Title	Test Data Source?
Field Description	Select **Yes** if you want the installer to test the connection to the schema upon clicking Next. Select **No** to bypass the validation.

Screen: Oracle Retail Analytics Front End Datamart Schema Details

This screen is displayed only if you had checked off the Install Database Schema Objects box from the Component Selection screen.



Field Title	ORA Front End Datamart schema user
Field Description	ORA Front End Datamart schema name
Example	rafedm01_inst

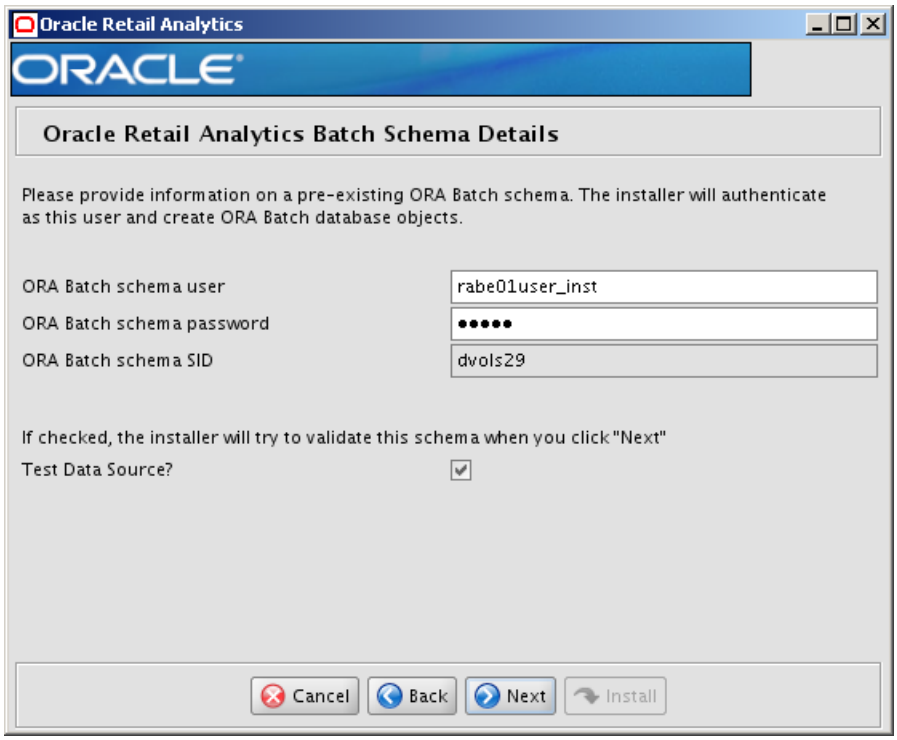
Field Title	ORA Front End Datamart schema password
Field Description	ORA Front End Datamart schema password

Field Title	ORA Front End Datamart schema SID
Field Description	ORA Front End Datamart schema SID
Example	pkols07
Notes	This field is informational only and is disabled. Its value is taken from ORA Datamart schema SID because ORA Front End Datamart schema must be on the same database instance as the ORA Datamart schema resides.

Field Title	Test Data Source?
Field Description	Select **Yes** if you want the installer to test the connection to the schema upon clicking Next. Select **No** to bypass the validation.

Screen: Oracle Retail Analytics Batch Schema Details

This screen is displayed only if you had checked **the Install Database Schema Objects** box from the Component Selection screen.



Field Title	ORA Batch schema user
Field Description	ORA Batch schema name
Example	rabe01user_inst

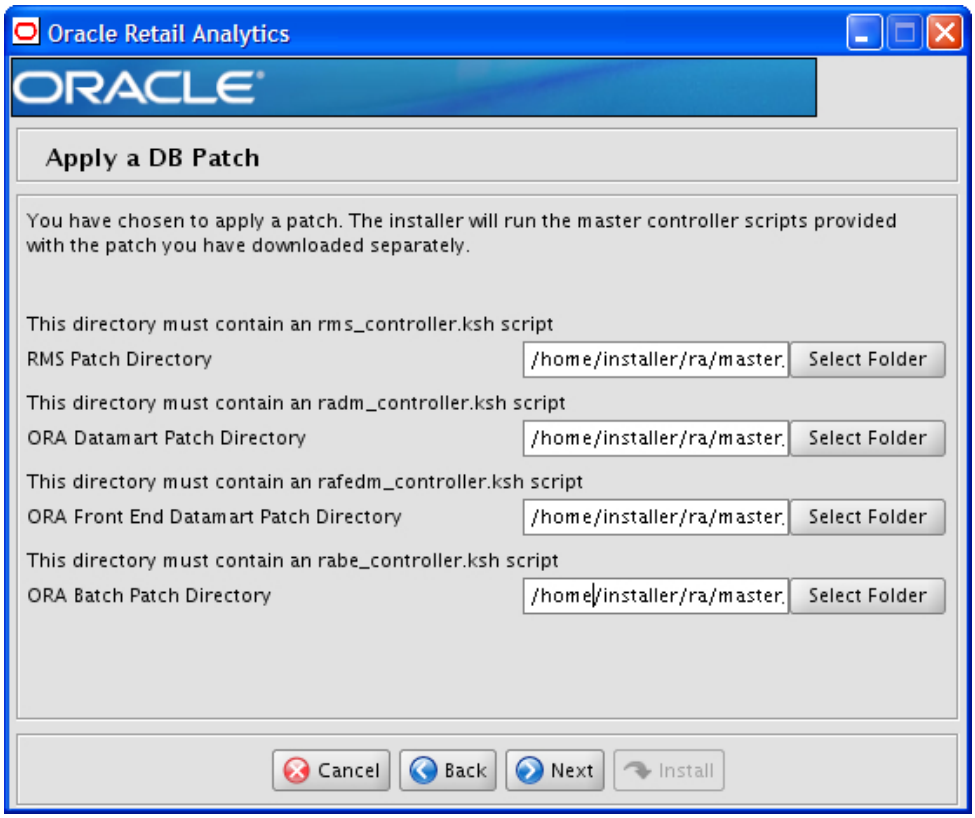
Field Title	ORA Batch schema password
Field Description	ORA Batch schema password

Field Title	ORA Batch schema SID
Field Description	ORA Batch schema SID
Example	pkols07
Notes	This field is informational only and is disabled. Its value is taken from ORA Datamart schema SID because ORA Batch schema must be on the same database instance as the ORA Datamart schema resides.

Field Title	Test Data Source?
Field Description	Select **Yes** if you want the installer to test the connection to the schema upon clicking **Next**. Select **No** to bypass the validation.

Screen: Apply a DB Patch

This screen is displayed only if you had checked off the Install Database Schema Objects box from the Component Selection screen and had selected Full Install followed by Patches on DB Schema Install Option screen.



Field Title	RMS Patch Directory
Field Description	Directory that contains rms_controller.ksh and the necessary SQL scripts to apply the patch in the RMS User schema.
Example	/home/installer/rapatch/master_controller/rms
Notes	This field is visible only if you had selected **Yes** on the RMS User Schema Install Option screen.

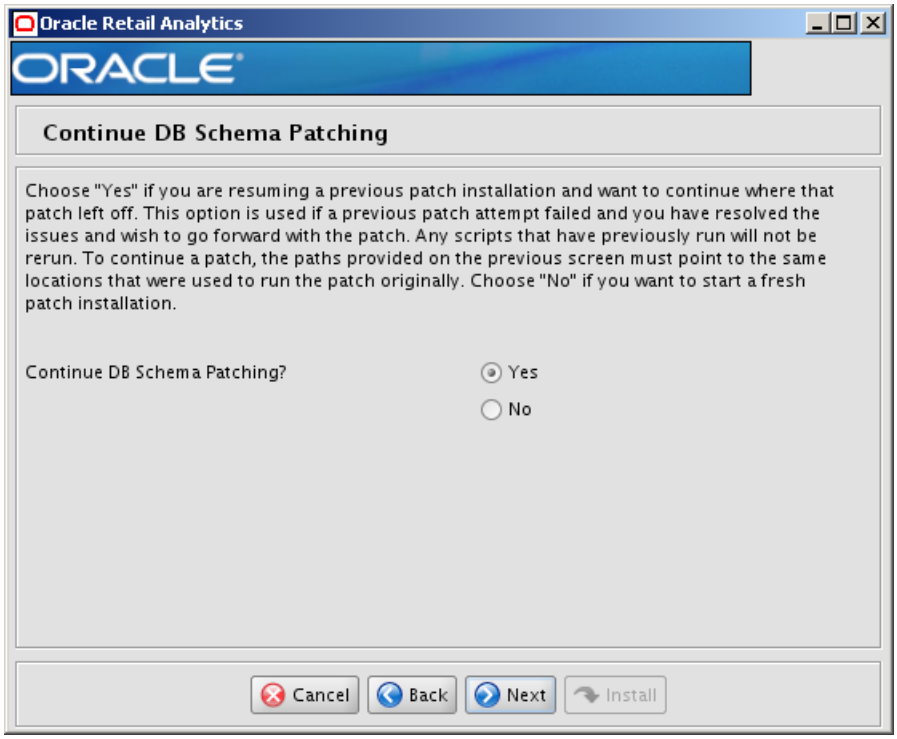
Field Title	ORA Datamart Patch Directory
Field Description	Directory that contains radm_controller.ksh and the necessary SQL scripts to apply the patch in the ORA Datamart schema.
Example	/home/installer/rapatch/master_controller/radm

Field Title	ORA Front End Datamart Patch Directory
Field Description	Directory that contains rafedm_controller.ksh and the necessary SQL scripts to apply the patch in the ORA Front End Datamart schema
Example	/home/installer/rapatch/master_controller/rafedm

Field Title	ORA Batch Patch Directory
Field Description	Directory that contains rabe_controller.ksh and the necessary SQL scripts to apply the patch in the ORA Batch schema.
Example	/home/installer/rapatch/master_controller/rabe

Screen: Continue DB Schema Patching

This screen is displayed only if you had checked off the Install Database Schema Objects box from the Component Selection screen and had selected Full Install followed by Patches on DB Schema Install Option screen.



Field Title	Continue DB Schema Patching?
Field Description	Select **Yes** if the previous patching attempt failed in the middle and you have fixed the problem and want to continue from the last-failed SQL script. Select **N**o if you fixed schemas in such a way that you want to re-apply all SQL scripts used for patching.
Notes	In all likelihood, you would not be selecting Yes if you are doing **Full install followed by patches**.

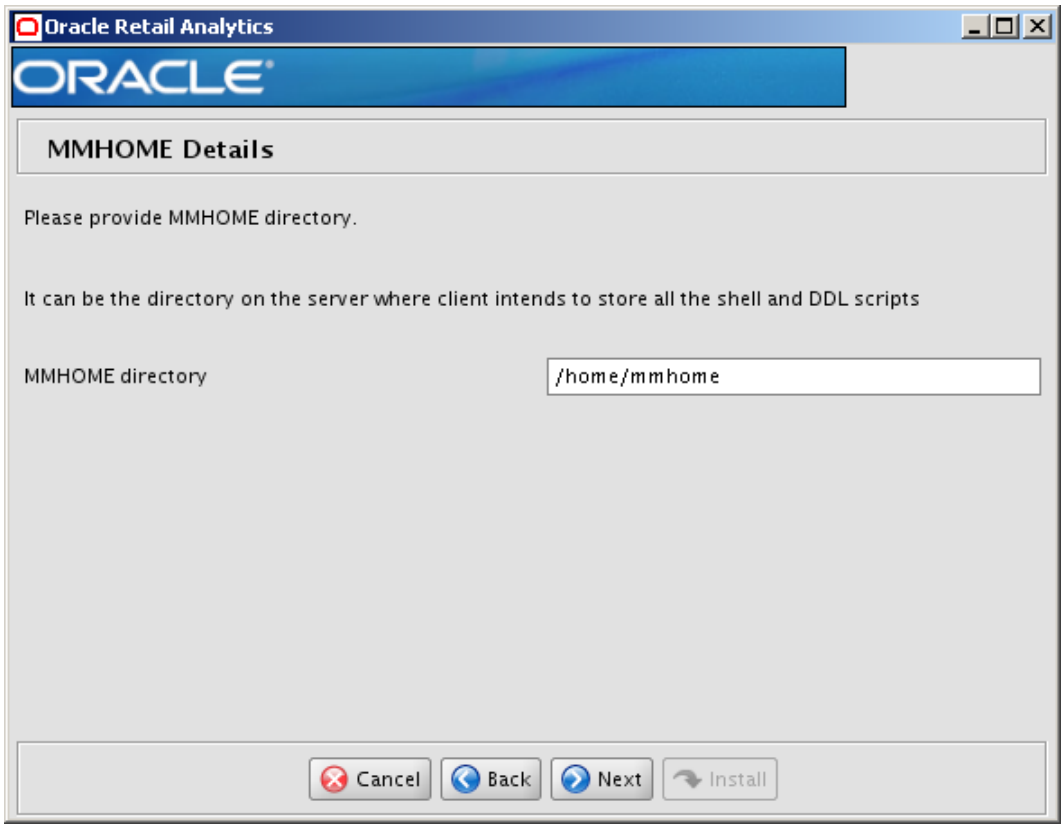
Screen: Oracle Retail Analytics Partitioning

This screen is displayed only if you had checked off the Install Database Schema Objects box from the Component Selection screen and had selected Full Install followed by Patches on DB Schema Install Option screen.

Field Title	Partition Tables?
Field Description	Select **Yes** if you have configured a partition strategy and want to create tables with this strategy. Select **No** if you want to create tables without partitioning.
Notes	Refer to the Establish a Retail Analytics Partitioning Strategy section for details about how to configure a partition strategy.

Screen: MMHOME Details

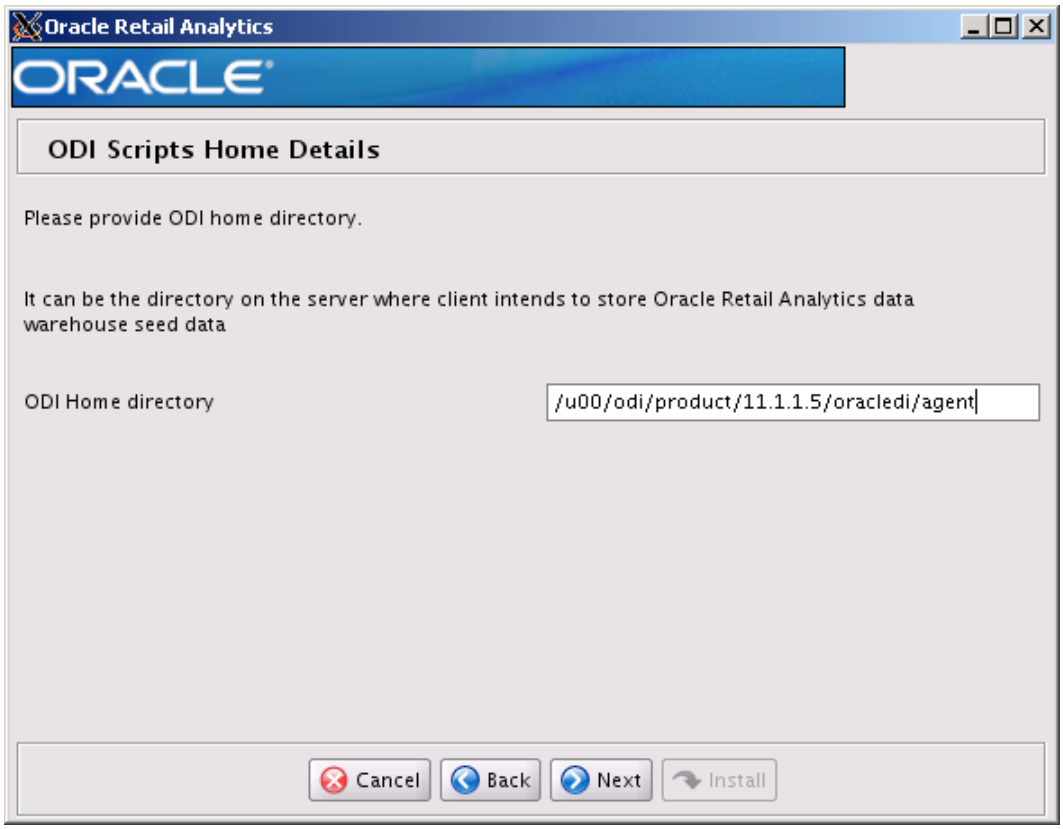
This screen is displayed only if you had checked off the **Install MMHOME files** box from the **Component Selection** screen.



Field Title	MMHOME directory
Field Description	MMHOME directory path
Example	/home/mmhome
Notes	It can be a directory on the local host where you want to store all shell and DDL scripts.

Screen: ODI Scripts Home Details

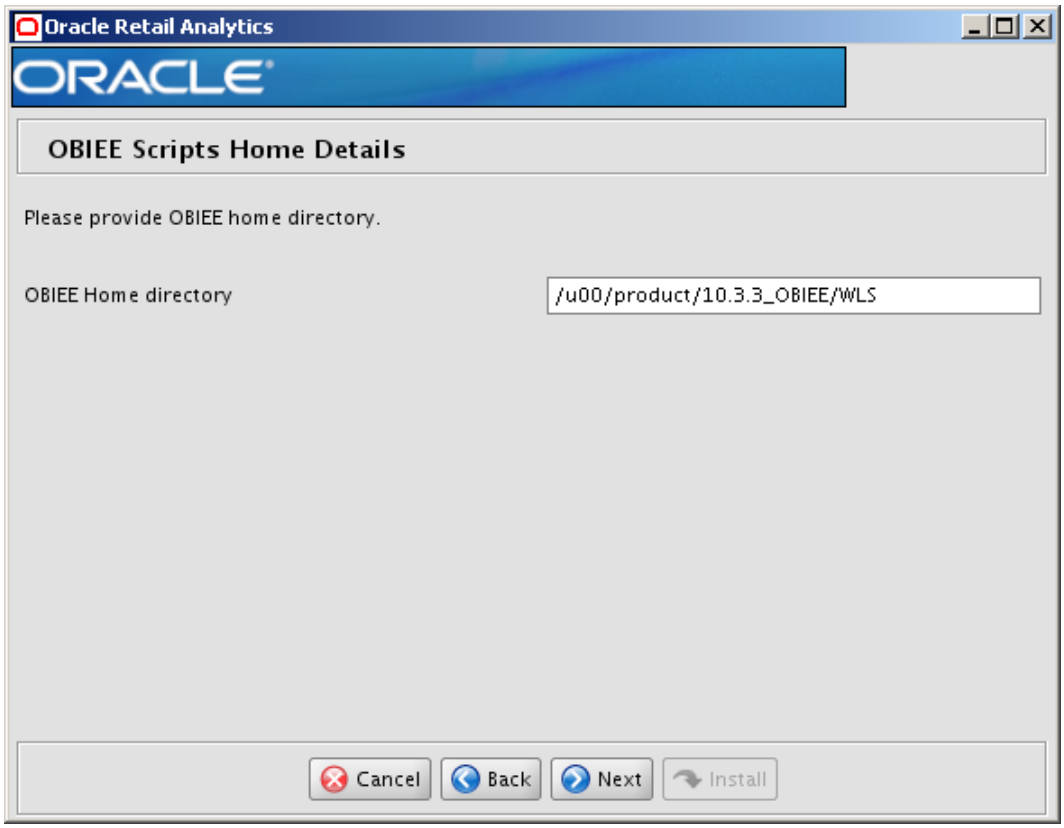
This screen is displayed only if you had checked off the **Install ODI files** box from the Component Selection screen.



Field Title	ODI Home directory
Field Description	ODI Home directory
Example	/u00/odi/product/11.1.1.5/oracledi/agent
Notes	▪ ODI seed data files will be copied into one or more directories under the directory you specify. ▪ This directory must to be where ODI is installed. ▪ You must run the installer as the ODI user. Also, the installer files must be owned by the ODI user.

Screen: OBIEE Scripts Home Details

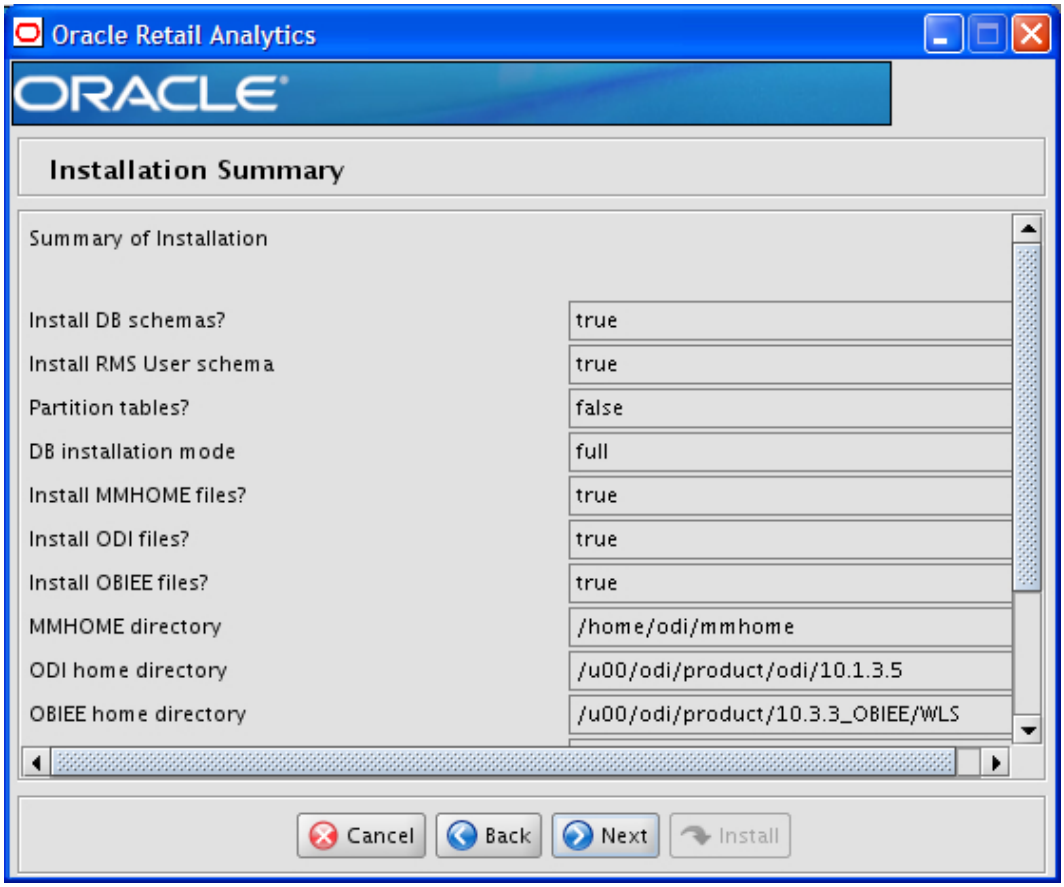
This screen is displayed only if you had checked off the **Install OBIEE files** box from the Component Selection screen.



Field Title	OBIEE Home directory
Field Description	Oracle BI EE Home directory, where instances subdirectory exists.
Example	/u00/product/10.3.3_OBIEE/WLS
Notes	▪ You must enter a middleware home for Oracle BI EE installation, where instances subdirectory exists. Example: /u00/webadmin/product/10.3.3_OBIEE/WLS ▪ Be sure to run the installer as the same user who owns Oracle BI EE, because the installer will be copying files into the multiple Oracle BI EE directories. Also, the installer files must be owned by this user (Oracle BI EE product owner), because the installer must be run by the user with ownership of the installer files. This means you should unzip the installer package as this user.

Screen: Installation Summary

This screen shows the selections you have made so far. Not all fields will be displayed. For example, DB schema user passwords are not displayed regardless of whether you selected to do DB schema installation.



E

Appendix: Installer Silent Mode

In addition to the GUI and text interfaces of the Retail Analytics installer, there is a silent mode that can be run. This mode is useful if you want to run a repeat installation without retyping the most settings you provided in the previous installation. It is also useful if you encounter errors in the middle of an installation and want to continue.

The installer runs in two distinct phases. The first phase involves gathering settings from the user. At the end of the first phase, a properties file named ant.install.properties is created with the settings that were provided. Then the second phase begins, where this properties file is used to provide your settings for the installation.

> **Note:** Sensitive credential information such as schema passwords are deleted from ant.install.properties, so you will need to provide them again before running the installer in silent mode

To skip the first phase and re-use the ant.install.properties file from a previous run, follow these instructions:

1. Edit the ant.install.properties file and correct any invalid settings that may have caused the installer to fail in its previous run.
2. Look for duplicate properties in the ant.install.properties file. Some properties are set on multiple pages to ensure default values when a page is only displayed under certain conditions. For example, if there are two instances of input.property.name, remove all but the last one.

   > **Note:** If you are resuming from the previous point of failure that happened while applying patches, ensure the input.db.do.continue.patch property is set toTrue.

3. Run the installer again with the **silent** argument.

   > **Example:** install.sh silent

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Appendix: Common Installation Errors

This section provides some common errors encountered during installation of Retail Analytics.

Installer Hangs on Startup

Symptom:

When the database schema installer is run, the following is written to the console and the installer hangs indefinitely:

```
Running pre-install checks
Running tnsping to get listener port
```

Solution:

The installer startup script is waiting for control to return from the **tnsping** command, but tnsping is hanging. Type Control+C to cancel the installer, and investigate and solve the problem that is causing the **tnsping <sid>** command to hang. This can be caused by duplicate database listeners running.

Unreadable Buttons in the Installer

If you are unable to read the text within the installer buttons, it probably means that your JAVA_HOME is pointed to a pre-1.5 JRE or JDK.

Set JAVA_HOME with the appropriate JDK (the same JDK that has been used by WebLogic Server).

Warning: Could not create system preferences directory

Symptom:

The following text appears in the installer Errors tab:

```
May 22, 2006 11:16:39 AM java.util.prefs.FileSystemPreferences$3 run
WARNING: Could not create system preferences directory. System preferences are
unusable.
May 22, 2006 11:17:09 AM java.util.prefs.FileSystemPreferences
checkLockFile0ErrorCode
WARNING: Could not lock System prefs. Unix error code -264946424.
```

Solution:

This is related to Java bug 4838770. The /etc/.java/.systemPrefs directory may not have been created on your system. See http://bugs.sun.com for details.

This is an issue with your installation of Java and does not affect the Oracle Retail product installation.

Warning: Couldn't find X Input Context

Symptom:

The following text appears in the console window during execution of the installer in GUI mode:

```
Couldn't find X Input Context
```

Solution:

This message is harmless and can be ignored.

Message: SP2-0734: unknown command beginning

Symptom:

Installation outputs the message that looks like:

```
SP2-0734: unknown command beginning "old   5:  ..." - rest of line ignored.
```

or

```
SP2-0734: unknown command beginning "new   4:  ..." - rest of line ignored.
```

Solution:

You can ignore this error. This warning is generated from invalids.sql if no objects need to be validated.

Message: Invalid Username/Password; Login Denied

Symptom:

Installation outputs the message:

```
Error: java.sql.SQLException: ORA-01017: invalid username/password; logon denied
```

Solution:

The installer cannot log into the database as one of the users you have supplied it. Verify that they have been created with SQL files in <STAGING_DIR>/ora/installer/create_db per "Create Retail Analytics Schema Owners" in Chapter 2 and verify that you can manually log into the database with them.

Message: Error Connecting to Database URL

Symptom:

After entering database credentials in the installer screens and hitting next, a message pops up with an error like this:

```
Error connecting to database URL <url> as user <user>
details...
```

The message prevents you from moving on to the next screen to continue the installation.

Solution:

This error occurs when the installer fails to validate the user credentials you have entered on the screen. Make sure that you have entered the credentials properly.

You may receive a message similar to this:

```
Error connecting to database URL <url> as user <user>
java.lang.Exception: UnsatisfiedLinkError encountered when using the Oracle driver.
Please check that the library path is set up properly or switch to the JDBC thin client.
```

This message means that bit-width for your Java and Oracle client libraries are not compatible with each other. Make sure that you are using only the 64-bit version of Java and Oracle client libraries.

Message: Cannot access NLS data files or invalid environment specified

Symptom:

After entering database credentials in the installer screens and hitting next, a message pops up with an error like this:

```
Error connecting to database URL jdbc:oracle:oci:@pkols07 as user XYZ
java.sql.SQLException: ORA-12705: Cannot access NLS data files or invalid environment
```

Solution:

This error occurs if the NLS_LANG environment variable has not been set and exported with a valid value expected by the Oracle database server. See the section, Run the Retail Analytics Database Schema Installer, in Chapter 2.

Message: User XYZ lacks CREATE SESSION privilege; log on denied

Symptom:

After entering database credentials in the installer screens and hitting next, a message pops up with an error like this:

```
Error connecting to database URL jdbc:oracle:oci:@pkols07 as user rarms1
java.sql.SQLException: ORA-01045: user RARMS1 lacks CREATE SESSION privilege;
logon denied
```

Solution:

This error occurs if the schema user in question has not been created properly. Make sure there was no error when you ran one of the schema user creation scripts in <STAGING_DIR>/ora/installer/create_db per "Create Retail Analytics Schema Owners" in Chapter 2. You may find it easier to drop the schema user and re-create it as opposed to manually granting the missing privilege(s).

Message: Some of the objects have errors

Symptom:

During DB schema object creations step for a given schema, after all objects have been successfully created, it gives "Some of the objects have errors" when it tries to compile any invalid objects.

```
     [exec] Execution of INV_OBJ_COMP script
     [exec] Some of the objects have errors. Open a sql session and run the
command below to find out the invalid objects
     [exec] ******************************************************
     [exec] * select * from user_objects where status != 'VALID'
     [exec] ******************************************************
```

Solution:

As the error message suggests, find out the invalid objects and resolve accordingly. This error can manifest itself for a variety of reasons but here are some possible causes:

- You created temporary invalid objects in the schema and forgot to drop them when the installer was run.
- If this happened in the RMS user schema, it is possible that the invalid objects reported came from the master RMS schema.
  - Someone might have created invalid objects in the master RMS schema that may not have anything to do with Retail Analytics, and may be outside of your control as the master RMS schema. If you want to resolve these invalid objects, consult someone responsible for maintaining the master RMS schema to resolve the invalid objects, and rerun the installation.

    Alternatively, you may want to ignore this error message and continue with the rest of the schema objects installations. You can do this if, after reviewing the list of invalid objects that failed to compile, according to the log indicated by the installer, you determine they do not need to be recompiled during the installation. In this case you can rerun the installation by choosing to resume from the previous point of failure and clearing the "RMS User Schema Install Option" check box. In silent mode, you should set input.do.install.rms.db to "false" in the installer properties file, ant.install.properties, in order to not install RMS user schema objects. This will cause the RMS user schema object installation to be skipped, and the installation will continue with the next schema. For details on how to resume database schema object installations from the previous point of failure, see "Resuming from the Previous Point of Failure" in the section, Resolving Errors Encountered During Database Schema Installation.

WARNING: Expected * SYNONYM objects, found X

Symptom:

Toward the end of the installation involving database schema objects, the installer will issue: "WARNING: Expected * SYNONYM objects, found 9026" for RMS user schema.

Solution:

This warning can be ignored. The installer does not validate the number of SYNONYM objects for RMS user schema.

Fatal exception: Width (0) and height (0) cannot be <= 0 java.lang.IllegalArgumentException: Width (0) and height (0) cannot be <= 0

Symptom:

When running the installer in GUI mode, the screens fail to open and the installer ends, returning to the console without any error message. The ant.install.log file contains this error. This is an error encountered when the installer is used in GUI mode with certain X Servers.

Solution:

Until this is fixed permanently, employ the workaround solution below should you encounter this issue:

1. Copy ant.install.properties.sample to ant.install.properties
2. Re-run the installer

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Appendix: Retail Analytics Code Tree

The following table describes the contents of each of the Retail Analytics code tree directories created during the Retail Analytics installation.

Path	Directory	Description
<base_directory>	dbasql	This directory contains all SQL scripts necessary to maintain the permissions for the database users.
<base_directory>	batch	Empty directory used for development and testing purposes only.
<base_directory>	data	This directory contains the text files that serve as the input to Retail Analytics ODI SDE modules. (For Example RDWT.txt file)
<base_directory>/data	lkpfiles	This directory consists of all the csv files required for ODI jobs to run Example Transaction Types file
<base_directory>/data	srcfiles	This directory consists of all the csv files required for ODi jobs to execute Time Dimension
<base_directory>	error	This directory holds all program error files, and status files. Directory is empty on installation.
<base_directory>/error	out	Out subdirectory consists of files which are as a result of ODI job execution
<base_directory>	install	For future releases only. Not applicable for release Retail Analytics 13.2
<base_directory>	log	This directory holds log files of program execution. Directory is empty on installation.
<base_directory>	etc	This directory contains files that hold variables used by Retail Analytics batch modules. The configuration file ra.env is found in this directory. Modify the parameters in this ra.env as per your installation of ODI, ORACLE DB. Set ODI_JAVA_HOME variable value same as ODI_HOME.
<base_directory>	odi-patches	For future releases only. Not applicable for release RA13.2
<base_directory>	ra_obiee_source_code	This directory consists of OBI EE source code (catalog, translated string)
<base_directory>	ra_odi_source_code	This directory consists of ODI Information

Path	Directory	Description
<base_directory>	src	This directory contains of shell scripts which invoke Retail Analytics ODI modules upon execution.
<base_directory>	ra_mfp_odi_source_code	This directory contains RA-MFP integration code, which consists of the following: ▪ ODI topology information about how to access the MFP source (RPAS DOMAINS) system. ▪ RA-MFP integration code content (packages, interfaces and scenarios, and shell script), which enables the loading of Planning content to Retail Analytics.

H

Appendix: Time

This appendix provides time definitions.

Time Calendar (4-5-4)

Retail Analytics provides support for the retail 4-5-4 calendar. The fiscal 4-5-4 calendar is the calendar supported by RMS and other Oracle Retail applications and is populated in Retail Analytics via an extract from RMS. The 4-5-4 calendar is the default calendar used when viewing the time dimension through the Oracle BI middle tier layer of Retail Analytics.

> **Note:** Even if 4-5-4 is the default calendar for Retail Analytics, you can still see the Gregorian Time attributes and transformations from within Oracle BI. However, you can only utilize these objects if you have opted for Gregorian calendar during database installation.

Time Calendar (4-5-4/Gregorian)

Retail Analytics provides support for the combined 4-5-4 calendar/Gregorian calendar. If a user chooses to use the combined 4-5-4/Gregorian calendar, the user must execute the batch program that generates the text files needed to populate the Gregorian time dimension.

Time Calendar (13-Period)

The 13-Period calendar can also be used, but RMS does not support it. If a user chooses to use the 13-Period calendar, the user can either provide a flat file with its 13-period time, or utilize a sample 13-period time flat file, and then ETL scripts populate the time dimension with this file during Retail Analytics installation. Within the middle-tier application, all references to Month must be manually updated to Period, to comply with the 13-Period nomenclature.

To update Retail Analytics to report in 13-Period time, follow these steps:

1. Update the time dimension tables. (For instructions, see "Database Schemas Installation Tasks.")
2. Within the repository, delete the attribute Half Year, and re-name the objects referencing month.
   - Highlighting the object in the Business Layer and pressing the delete key deletes the attribute Half Year. All relationships and hierarchies are automatically updated. The table TIME_HALF_DM and its Aliases can also be deleted the same way in the Physical layer. Global Consistency check is recommended after the change.
   - Each repository object referencing Month can be re-named by selecting the object and pressing F2. After all the changes, Global Consistency check is recommended before saving the repository.

I

Appendix: Configuring Retail Analytics and Oracle BI for Single Sign-On

Single Sign-On (SSO) is a term for the ability to sign onto multiple Web applications via a single user ID/Password. There are many implementations of SSO – Oracle currently provides three different implementations: Oracle Single Sign-On (OSSO), Java SSO (with the 10.1.3.1 release of OC4J) and Oracle Access Manager (provides more comprehensive user access capabilities).

Most, if not all, SSO technologies use a session cookie to hold encrypted data passed to each application. The SSO infrastructure has the responsibility to validate these cookies and, possibly, update this information. The user is directed to log on only if the cookie is not present or has become invalid. These session cookies are restricted to a single browser session and are never written to a file.

Another facet of SSO is how these technologies redirect a user's Web browser to various servlets. The SSO implementation determines when and where these redirects occur and what the final screen shown to the user is.

Most SSO implementations are performed in an application's infrastructure and not in the application logic itself. Applications that leverage infrastructure managed authentication (such as deploying specifying "Basic" or "Form" authentication) typically have little or no code changes when adapted to work in an SSO environment.

What Do I Need for Oracle Single Sign-On?

The nexus of an Oracle Single Sign-On system is the Oracle Identity Management Infrastructure installation. This consists of the following components:

- An Oracle Internet Directory (OID) LDAP server, used to store user, role, security, and other information. OID uses an Oracle database as the back-end storage of this information.
- An Oracle HTTP Server 11g Release 1 as a front end to the Oracle WebLogic Server. The Oracle HTTP Server is included in the Oracle Web Tier Utilities 11g Release 1 (11.1.1).
- An Oracle Single Sign-On Plug-in, used to authenticate the user and create the OSSO session cookie. This is available in the Oracle Fusion Middleware 11g Web Tier Utilities (11.1.1.20) package.
- The Delegated Administration Services (DAS) application, used to administer users and group information. This information may also be loaded or modified via standard LDAP Data Interchange Format (LDIF) scripts.
- Additional administrative scripts for configuring the OSSO system and registering HTTP servers.

For more information on setting up single sign-on, refer to the *Oracle Retail Predictive Application Server Installation Guide*.

Additional WebLogic managed servers will be needed to deploy the business applications leveraging the OSSO technology.

Can Oracle Single Sign-On Work with Other SSO Implementations?

Yes, OSSO has the ability to interoperate with many other SSO implementations, but some restrictions exist.

Oracle Single Sign-On Terms and Definitions

The following terms apply to Oracle Single Sign-On

Authentication

Authentication is the process of establishing a user's identity. There are many types of authentication. The most common authentication process involves a user ID and password.

Dynamically Protected URLs

For a dynamically protected URL, the implementing application is aware of the OSSO environment. The application may allow a user limited access when the user has not been authenticated. Applications that implement dynamic OSSO protection typically display a Login link to provide user authentication and gain greater access to the application resources.

Identity Management Infrastructure

The Identity Management Infrastructure is the collection of product and services which provide Oracle Single Sign-on functionality. This includes the Oracle Internet Directory, an Oracle HTTP server, and the Oracle Single Sign-On services. The Oracle Application Server deployed with these components is typically referred as the Infrastructure instance.

MOD_OSSO

mod_osso is an Apache Web Server module an Oracle HTTP Server uses to function as a partner application within an Oracle Single Sign-On environment. The Oracle HTTP Server is based on the Apache HTTP Server.

MOD_WEBLOGIC

mod_weblogic operates as a module within the HTTP server that allows requests to be proxied from the Apache HTTP server to the WebLogic server.

Oracle Internet Directory

Oracle Internet Directory (OID) is an LDAP-compliant directory service. It contains user ids, passwords, group membership, privileges, and other attributes for users who are authenticated using Oracle Single Sign-On.

Partner Application

A partner application is an application that delegates authentication to the Oracle Identity Management Infrastructure. One such partner application is the Oracle HTTP Server (OHS) supplied with the Oracle Application Server. OHS uses the MOD_OSSO module to configure this functionality.

All partner applications must be registered with the Oracle Single Sign-On server. An output product of this registration is a configuration file the partner application uses to verify a user has been previously authenticated.

Realm

A Realm is a collection users and groups (roles) managed by a single password policy. This policy controls what may be used for authentication (for example, passwords, X.509 certificates, and biometric devices). A Realm also contains an authorization policy used for controlling access to applications or resources used by one or more applications.

A single OID can contain multiple Realms. This feature can consolidate security for retailers with multiple banners or to consolidate security for multiple development and test environments.

Statically Protected URLs

A URL is considered to be statically protected when an Oracle HTTP server is configured to limit access to this URL to only SSO authenticated users. Any attempt to access a statically protected URL results in the display of a login page or an error page to the user.

Servlets, static HTML pages, and JSP pages may be statically protected.

Note: Dynamically Protected URL and Statically Protected URL are within the context of the Oracle Software Security Assurance (OSSA). The static protection for URLs is a common JEE feature.

What Single Sign-On Is Not

Single Sign-On is NOT a user ID/password mapping technology.

However, some applications can store and retrieve user IDs and passwords for non-SSO applications within an OID LDAP server. An example of this is the Oracle Forms Web Application framework, which maps OSSO user IDs to a database logins on a per-application basis.

How Oracle Single Sign-On Works

Oracle Single Sign-On involves a couple of different components. These are:

- The Oracle Single Sign-On (OSSO) servlet, which is responsible for the back-end authentication of the user.
- The Oracle Internet Directory LDAP server, which stores user IDs, passwords, and group (role) membership.
- The Oracle HTTP Server associated with the Web application, which verifies and controls browser redirection to the OSSO servlet.
- If the Web application implements dynamic protection, then the Web application itself is involved with the OSSO system.

Statically Protected URLs

When an unauthenticated user accesses a statically protected URL, the following occurs:

1. The user's Web browser makes an HTTP request to a protected URL serviced by the Oracle HTTP Server (OHS).
2. The Oracle HTTP Server processes the request and routes it to the mod_oss module.

3. This module determines whether the user is already authenticated. If the authentication is required, it directs the browser to the OSSO server. The OSSO server checks for a secure cookie containing the authentication information. If the cookie is not found, the following occurs:
   a. The OSSO servlet determines the user must authenticate, and displays the OSSO login page.
   b. The user must sign in via a valid user ID and password. If the OSSO servlet has been configured to support multiple Realms, a valid realm must also be entered. The user ID, password, and realm information is validated against the Oracle Internet Directory LDAP server. The browser is then redirected back to the Oracle HTTP Server with the encrypted authentication credentials. It does NOT contain the user's password.
4. The mod_osso module then decrypts the user credentials and sets HTTP headers with relevant user attributes, marking the user's session as authenticated.
5. The mod_weblogic module (within the Oracle HTTP Server) then forwards the request to the Oracle WebLogic Server.
6. The Oracle WebLogic Server then invokes the configured authentication providers that decode the headers and provide the user's role membership. In an OSSO implementation, ensure that the OSSO Identity Asserter is invoked and Oracle Internet Directory (OID) Authenticator is executed to provide the user's role membership.
7. Once the authentication is established, the relevant application logic is initiated and the response is sent back to the user through the Oracle HTTP Server.
   Because the Web browser session is now authenticated, subsequent requests in that session are not redirected to the OSSO server for authentication.

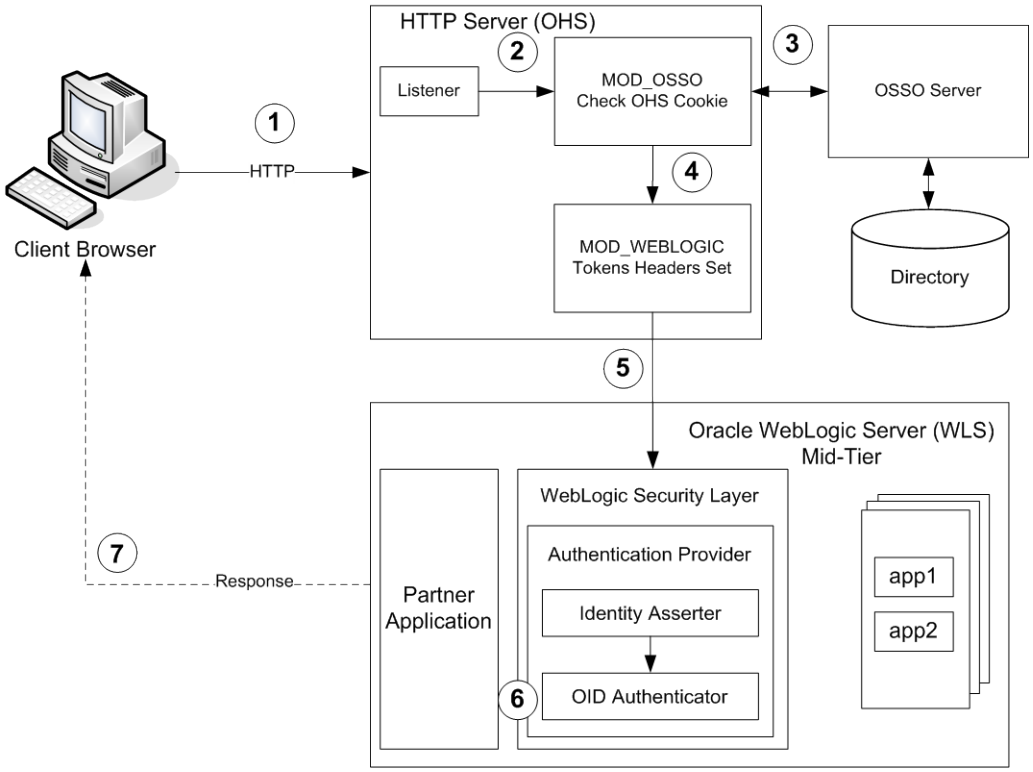
Dynamically Protected URLs

When an unauthenticated user accesses a dynamically protected URL, the following occurs:

1. The user's Web browser makes an HTTP request to a protected URL serviced by the Oracle HTTP Server (OHS). The Oracle HTTP server recognizes the user has not been authenticated, but allows the user to access the URL.
2. The application determines the user must be authenticated and send the Oracle HTTP Server a specific status to begin the authentication process.
3. The Oracle HTTP Server processes the request and routes it to the mod_oss module.
4. This module determines whether the user is already authenticated. If the authentication is required, it directs the browser to the OSSO server. The OSSO server checks for a secure cookie containing the authentication information. If the cookie is not found, the following occurs:
   a. The OSSO servlet determines the user must authenticate, and displays the OSSO login page.
   b. The user must sign in via a valid user ID and password. If the OSSO servlet has been configured to support multiple Realms, a valid realm must also be entered. The user ID, password, and realm information is validated against the Oracle Internet Directory LDAP server. The browser is then redirected back to the Oracle HTTP Server with the encrypted authentication credentials. It does NOT contain the user's password.
5. The mod_osso module then decrypts the user credentials and sets HTTP headers with relevant user attributes, marking the user's session as authenticated.

6. The mod_weblogic module (within the Oracle HTTP Server) then forwards the request to the Oracle WebLogic Server.
7. The Oracle WebLogic Server then invokes the configured authentication providers that decode the headers and provide the user's role membership. In an OSSO implementation, ensure that the OSSO Identity Asserter is invoked and Oracle Internet Directory (OID) Authenticator is executed to provide the user's role membership.
8. Once the authentication is established, the relevant application logic is initiated and the response is sent back to the user through the Oracle HTTP Server.
   Because the Web browser session is now authenticated, subsequent requests in that session are not redirected to the OSSO server for authentication.

Single Sign-on Topology



Installation Overview

Installing Oracle Single Sign-On consists of installing the following components:

1. Installing the Oracle Internet Directory (OID) LDAP server and the Infrastructure Oracle Application Server (OAS). These are typically performed using a single session of the Oracle Universal Installer and are performed at the same time. OID requires an Oracle relational database and if one is not available, the installer will also install this as well.

   The Infrastructure OAS includes the Delegated Administration Services (DAS) application as well as the OSSO servlet. The DAS application can be used for user and realm management within OID.
2. Installing additional mid tier instances (such as OAS 10.1.4) for the Oracle Retail applications, such as RMS, that are based on Oracle Forms technologies. These instances must be registered with the Infrastructure OAS installed in step 1.
3. Installing additional application servers to deploy other Oracle Retail applications and performing application specific initialization and deployment activities.

Infrastructure Installation and Configuration

The Infrastructure installation for OSSO is dependent on the environment and requirements for its use. Deploying an Infrastructure OAS to be used in a test environment does not have the same availability requirements as for a production environment. Similarly, the Oracle Internet Directory (OID) LDAP server can be deployed in a variety of different configurations. See the *Oracle Application Server Installation Guide* and the *Oracle Internet Directory Installation Guide* for more details.

OID User Data

Oracle Internet Directory is an LDAP v3 compliant directory server. It provides standards-based user definitions out of the box.

The current version of Oracle Single Sign-On only supports OID as its user storage facility. Customers with existing corporate LDAP implementations may need to synchronize user information between their existing LDAP directory servers and OID. OID supports standard LDIF file formats and provides a JNDI compliant set of Java classes as well. Moreover, OID provides additional synchronization and replication facilities to integrate with other corporate LDAP implementations.

Each user ID stored in OID has a specific record containing user specific information. For role-based access, groups of users can be defined and managed within OID. Applications can thus grant access based on group (role) membership saving administration time and providing a more secure implementation.

OID with Multiple Realms

OID and OSSO can be configured to support multiple user Realms. Each realm is independent from each other and contains its own set of user IDs. As such, creating a new realm is an alternative to installing multiple OID and Infrastructure instances. Hence, a single Infrastructure OAS can be used to support development and test environments by defining one realm for each environment.

Realms may also be used to support multiple groups of external users, such as those from partner companies. For more information on Realms, see the *Oracle Internet Directory Administrators Guide*.

User Management

User Management consists of displaying, creating, updating or removing user information. There are two basic methods of performing user management: LDIF scripts and the Delegate Administration Services (DAS) application.

OID DAS

The DAS application is a Web-based application designed for both administrators and users. A user may update their password, change their telephone number of record, or modify other user information. Users may search for other users based on partial strings of the user's name or ID. An administrator may create new users, unlock passwords, or delete users.

The DAS application is fully customizable. Administrators may define what user attributes are required, optional or even prompted for when a new user is created.

Furthermore, the DAS application is secure. Administrators may also what user attributes are displayed to other users. Administration is based on permission grants, so different users may have different capabilities for user management based on their roles within their organization.

LDIF Scripts

Script based user management can be used to synchronize data between multiple LDAP servers. The standard format for these scripts is the LDAP Data Interchange Format (LDIF). OID supports LDIF script for importing and exporting user information. LDIF scripts may also be used for bulk user load operations.

User Data Synchronization

The user store for Oracle Single Sign-On resides within the Oracle Internet Directory (OID) LDAP server. Oracle Retail applications may require additional information attached to a user name for application-specific purposes and may be stored in an application-specific database. Currently, there are no Oracle Retail tools for synchronizing changes in OID stored information with application-specific user stores. Implementers should plan appropriate time and resources for this process. Oracle Retail strongly suggests that you configure any Oracle Retail application using an LDAP for its user store to point to the same OID server used with Oracle Single Sign-On.

Enabling Single Sign-on for Oracle Business Intelligence Enterprise Edition

Single sign-on for Retail Analytics is enabled in Oracle Business Intelligence Enterprise Edition (Oracle BI EE). See the *Oracle Business Intelligence Deployment Guide* for information.

> **Note:** The Oracle Business Intelligence Deployment Guide has you use the **mail** attribute to uniquely identify users. When this is done, a user's SSO username must match their e-mail address or a Not Logged In page appears when using SSO with Oracle BI. Oracle Retail strongly suggests Oracle BI is configured to use the **uid** attribute to uniquely identify users.

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Appendix: Manual Instructions for Installing on Windows

The installer will not run on a Windows platform. Therefore, if ODI or OBIEE product has been installed on Windows platform, you will need to follow manual instructions to install Retail Analytics files needed on ODI and OBIEE hosts.

In addition, even though MMHOME files for Retail Analytics are not tied to ODI or OBIEE product, you can also install MMHOME files to a windows machine manually if you choose to do so.

Installing ODI files for Retail Analytics

Complete the following steps.

1. On the ODI host, determine your <ODI Home>. This directory does not necessarily have to be where ODI product is installed.
2. Copy all files under <STAGING_DIR>/ora/installer/ora13/mmhome/files/ra to <ODI Home>/files/ra.
3. Copy all files under <STAGING_DIR>/ora/installer/ora13/mmhome/files/ra_source to <ODI_Home>/files/ra_source

Installing Oracle BI EE files for Retail Analytics

Complete the following steps.

1. On the Oracle BI EE host, locate <OBIEE_Home> directory. This must be a middleware home for Oracle BIEE installation, where “instances” subdirectory exists. Example: C:\10.3.3_OBIEE\WLS
2. Copy all files under <STAGING_DIR>/ora/installer/ora13/mmhome/ra_obiee_source_code/rpd to <OBIEE_Home>/instances/instance1/bifoundation/OracleBIServerComponent/coreapplication_obis1/repository
3. Copy all files under <STAGING_DIR>/ora/installer/ora13/mmhome/ra_obiee_source_code/catalog to <OBIEE_Home>/instances/instance1/bifoundation/OracleBIPresentationServicesComponent/coreapplication_obips1/catalog
4. Unzip the content of <STAGING_DIR>/ora/installer/ora13/mmhome/ra_obiee_source_code/translations/translations.zip to <OBIEE_Home>/instances/instance1/bifoundation/OracleBIPresentationServicesComponent/coreapplication_obips1/msgdb

Installing MMHOME files for Retail Analytics

Complete the following steps.

1. On a Windows host, determine your <MMHOME>. This host does not necessarily need to have ODI or Oracle BI EE installed.
2. Copy all files under <STAGING_DIR>/ora/installer/ora13/mmhome to your <MMHOME>

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Appendix: Installation Order

This section provides a guideline as to the order in which the Oracle Retail applications should be installed. If a retailer has chosen to use some, but not all, of the applications the order is still valid less the applications not being installed.

> **Note:** The installation order is not meant to imply integration between products.

Enterprise Installation Order

1. Oracle Retail Merchandising System (RMS), Oracle Retail Trade Management (RTM), Oracle Retail Sales Audit (ReSA), Optional: Oracle Retail Fiscal Management (ORFM)

   > **Note:** ORFM is an optional application for RMS if you are implementing Brazil localization.

2. Oracle Retail Service Layer (RSL)
3. Oracle Retail Extract, Transform, Load (RETL)
4. Oracle Retail Active Retail Intelligence (ARI)
5. Oracle Retail Warehouse Management System (RWMS)
6. Oracle Retail Allocation
7. Oracle Retail Invoice Matching (ReIM)
8. Oracle Retail Price Management (RPM)

   > **Note:** During installation of RPM, you are asked for the RIBforRPM provider URL. Since RIB is installed after RPM, make a note of the URL you enter. If you need to change the RIBforRPM provider URL after you install RIB, you can do so by editing the remote_service_locator_info_ribserver.xml file.

9. Oracle Retail Central Office (ORCO)
10. Oracle Retail Returns Management (ORRM)
11. Oracle Retail Back Office (ORBO) or Back Office with Labels and Tags (ORLAT)
12. Oracle Retail Store Inventory Management (SIM)

    > **Note:** During installation of SIM, you are asked for the RIB provider URL. Since RIB is installed after SIM, make a note of the URL you enter. If you need to change the RIB provider URL after you install RIB, you can do so by editing the remote_service_locator_info_ribserver.xml file.

13. Oracle Retail Predictive Application Server (RPAS)
14. Oracle Retail Demand Forecasting (RDF)
15. Oracle Retail Category Management (CM)
16. Oracle Retail Replenishment Optimization (RO)

17. Oracle Retail Analytic Parameter Calculator Replenishment Optimization (APC RO)
18. Oracle Retail Regular Price Optimization (RPO)
19. Oracle Retail Merchandise Financial Planning (MFP)
20. Oracle Retail Size Profile Optimization (SPO)
21. Oracle Retail Assortment Planning (AP)
22. Oracle Retail Item Planning (IP)
23. Oracle Retail Item Planning Configured for COE (IP COE)
24. Oracle Retail Advanced Inventory Planning (AIP)
25. Oracle Retail Integration Bus (RIB)
26. Oracle Retail Point-of-Service (ORPOS)
27. Oracle Retail Markdown Optimization (MDO)
28. Oracle Retail Clearance Optimization Engine (COE)
29. Oracle Retail Analytic Parameter Calculator for Markdown Optimization (APC-MDO)
30. Oracle Retail Analytic Parameter Calculator for Regular Price Optimization (APC-RPO)
31. Oracle Retail Promotion Intelligence and Promotion Planning and Optimization (PI-PPO)
32. Oracle Retail Analytics
33. Oracle Retail Workspace (ORW)