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ODI Artifacts Installation Guide for TFM

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Oracle Revenue Management and Billing ODI Artifacts Installation Guide for TFM

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Preface

About This Document

This document will help you to understand how to install the ODI artifacts for TFM. It also explains how to upload and import the transaction data from the flat file to various tables in the target database.

Intended Audience

This document is intended for the following audience:

- End-Users
- System Administrators
- Consulting Team
- Implementation Team

Organization of the Document

The information in this document is organized into the following sections:

Section No.	Section Name	Description
Section 1	Preparing for Installation	Lists the prerequisites for installing ODI artifacts for TFM. It also explains how to download and decompress the TFM ODI package.
Section 2	Configuring Variables and Properties	Lists and explains the environment variables and properties that you need to set prior to ODI artifacts installation.
Section 3	Installing TFM ODI Artifacts	Explains how to install the ODI artifacts for TFM. It also lists and explains a set of activities that you need to perform in ODI once the ODI artifacts are installed.
Section 4	Uploading and Importing the Transaction Data	Explains how to upload a transaction data file through ODI interface. It also explains how to import the transaction data to map the flat file to various tables in the target database.

Related Documents

For more information, you can refer to the following artifacts on My Oracle Support:

- Oracle Data Integrator 11g Documentation

Contents

1. Preparing for Installation

Oracle Revenue Management and Billing provides you with a facility to upload banking transactions received from various product processors or banking applications for billing. You can use Oracle Data Integrator (ODI) to upload transaction data files in the .CSV format. The out of box sample interface with ODI maps the flat file in the .CSV format to various tables (such as, CI_TXN_DETAIL_STG, CI_TXN_HEADER, CI_TXN_REC_TYPE, and CI_TXN_SOURCE) in the database.

Note: You need to ensure that the CSV file is in the required format. For more information about the CSV file format, refer to the *Oracle Revenue Management and Billing Banking User Guide*.

This section lists the prerequisites for installing ODI artifacts for TFM. It also explains how to download and decompress the TFM ODI package.

1.1 Prerequisites

Before you install the ODI artifacts for TFM, you need to do the following:

- Install Oracle Database Client 11.2.0.1
- Install Oracle Revenue Management and Billing Version V2.3.0.1.0
- Install Oracle Data Integrator (ODI) 11g (11.1.1.5.0)

Note:

While installing Oracle Data Integrator, you must select any combination of these options:

>> Standalone Installation and Developer Installation

>> Java EE Installation and Developer Installation

Oracle Data Integrator should have the following components – Agent, Designer, Operator, Security Manager, Topology Manager, and Software Development Kit (SDK).

- Create the database for ODI
- Add an entry for the ORMB and ODI database in the `tnsnames.ora` file on your local machine

Note: For more information on how to install the software, refer to the respective product documentation.

1.2 Downloading TFM ODI Package

To download and decompress the TFM ODI package:

1. Download the Oracle Financial Services Revenue Management and Billing V2.3.0.1.0 Interface for Transaction Feed Management package from the Oracle Revenue Management and Billing V2.3.0.1.0 media pack which is available on Oracle Software Delivery Cloud. A zip file is downloaded.
2. Create a temporary folder named `TEMPDIR` on your local machine.
3. Unzip the downloaded file in the `TEMPDIR` folder. The contents of the zip file are extracted in the `TEMPDIR` folder. The contents include the `readme.txt` and `RMB_VMA_ODI_INSTALL_HOME.zip` files.

4. Unzip the `RMB_VMA_ODI_INSTALL_HOME.zip` file in the `<DESTINATION_FOLDER>` folder. The contents of the zip file are extracted in the `<DESTINATION_FOLDER>` folder. The contents include the following files and folders:
   - bin – This folder contains class files.
   - repo – This folder contains the MasterRepository.zip and WorkRepository.zip files.
   - config.properties – This config file allows you to define various properties for the master and work repositories that you want to create in ODI.
   - Installation.pl – This utility allows you to install ODI artifacts for TFM.
   - ojdbc6dms.jar – This jar file contains JDBC driver class files.

2. Configuring Variables and Properties

Before you install the ODI artifacts for TFM, you need to do the following:

- Define the environment variables
- Set the properties in the `config.properties` file

This section lists and explains the environment variables and properties that you need to set prior to ODI artifacts installation.

2.1 Defining Environment Variables

The following table lists the environment variables that you need to define on the machine where you want to install the ODI artifacts for TFM:

Variable	Description	Example
INT_INSTALL_HOME	Used to indicate the directory where the RMB_VMA_ODI_INSTALL_HOME zip file is extracted.	**AIX, Linux:** INT_INSTALL_HOME =<PATH>/<DESTINATION_FOLDER> **Windows**: INT_INSTALL_HOME =<PATH>\<DESTINATION_FOLDER>
ODI_LIB	Used to indicate the path where the ODI SDK library folder is located.	**AIX, Linux:** ODI_LIB=<PATH>/odi/oracledi.sdk/lib **Windows:** ODI_LIB=<PATH>\odi\oracledi.sdk\lib
ODI_HOME	Used to indicate the directory where ODI is installed.	**AIX, Linux:** ODI_HOME=<PATH>/odi/ **Windows:** ODI_HOME=<PATH>\odi\
JAVA_HOME	Used to indicate the directory where Java is installed.	**AIX, Linux:** JAVA_HOME=<PATH>/Java1.6 **Windows:** JAVA_HOME=<PATH>\Java1.6
PERL_HOME	Used to indicate the directory where Perl is installed.	**AIX, Linux:** PERL_HOME=<PATH>/app/oracle/product/11.2.0/client_3/perl/bin **Windows:** PERL_HOME=<PATH>\app\oracle\product\11.2.0\client_3\perl\bin

2.2 Configuring Property File

The `config.properties` file contains several properties that you need to set before installing ODI artifacts for TFM. These properties help you to create master and work repositories in ODI. The `config.properties` file is located in the directory where the `RMB_VMA_ODI_INSTALL_HOME` zip file is extracted.

The following table lists and describes the properties available in the `config.properties` file.

Property	Description	Value
odiSupervisorUser	Used to specify the ODI supervisor user name that you want to use to login to ODI.	SUPERVISOR
odiSupervisorPassword	Used to specify the password for the ODI supervisor user.	SUPERVISOR
masterRepositoryJdbcUrl	Used to specify the JDBC URL that you want to use to connect to the master repository.	jdbc:oracle:thin:@<host>:<port>:<SID> Where, • <host> is the IP address of the machine where you want to create the master repository • <port> is the port number • <SID> is the name of the database
masterRepositoryJdbcDriver	Used to specify the JDBC driver that you want to use to connect to the master repository.	oracle.jdbc.OracleDriver
masterRepositoryJdbcUser	Used to specify the user name that you want to use to connect to the master repository.	odi_master
masterRepositoryJdbcPassword	Used to specify the password for the user name.	odi_master
masterRepositoryId	Used to specify the ID that uniquely identifies the master repository.	600

Property	Description	Value
workRepositoryJdbcUrl	Used to specify the JDBC URL that you want to use to connect to the work repository.	jdbc:oracle:thin:@<host>:<port>:<SID> Where, • <host> is the IP address of the machine where you want to create the master repository • <port> is the port number • <SID> is the name of the database
workRepositoryJdbcDriver	Used to specify the JDBC driver that you want to use to connect to the work repository.	oracle.jdbc.OracleDriver
workRepositoryJdbcUsername	Used to specify the user name that you want to use to connect to the work repository.	odi_work
workRepositoryJdbcPassword	Used to specify the password for the user name.	odi_work
workRepositoryName	Used to specify the name for the work repository.	ODIREPO
workRepositoryId	Used to specify the ID that uniquely identifies the work repository.	610
oracleSysDBUser	Used to specify the user name that you want to use to connect to the ORMB database.	system
oracleSysDBPass	Used to specify the password for the user name.	manager
repoType	Used to indicate the type of the work repository.	DEVELOPMENT

workRepoPath	Used to specify the path where the `WorkRepository.zip` file is located. The XML files in this zip file are used while creating the work repository.	**AIX, Linux:**
		`<PATH>/<DESTINATION_FOLDER>/repo/WorkRepository.zip`
		Windows:
		`<PATH>\<DESTINATION_FOLDER>\repo\WorkRepository.zip`

Property	Description	Value

masterRepoPath	Used to specify the path where the `MasterRepository.zip` file is located. The XML files in this zip file are used while creating the master repository.	**AIX, Linux:**
		`<PATH>/<DESTINATION_FOLDER>/repo/MasterRepository.zip`
		Windows:
		`<PATH>\<DESTINATION_FOLDER>\repo\MasterRepository.zip`

scenariosPath	Used to specify the path where updated XML files are located. This property is used when you want to upgrade the existing work repository.	**AIX, Linux:**
		`<PATH>/<DESTINATION_FOLDER>/repo`
		Windows:
		`<PATH>\<DESTINATION_FOLDER>\repo`

3. Installing TFM ODI Artifacts

This section explains how to install the ODI artifacts for TFM. It also lists and explains a set of activities that you need to perform in ODI once the ODI artifacts are installed.

3.1 Installing the ODI Artifacts for TFM

To install the ODI artifacts for TFM:

1. Change to the directory where the `RMB_VMA_ODI_INSTALL_HOME zip` file is extracted using the following command:

   AIX, Linux:

   ```
   cd <PATH>/<DESTINATION_FOLDER>
   ```

   Windows:

   ```
   cd <PATH>\<DESTINATION_FOLDER>
   ```

2. Execute the `Installation.pl` utility using the following command:

   AIX, Linux, Windows:

   ```
   perl Installation.pl
   ```

   A list of options appears in the command line as shown in the following figure.

Figure 1: Utility Options

The following table lists and describes these utility options:

Option	Description
1 – Create ODI Work and Master repository database Users	Used to create database schema users for the master and work repositories.
2 – Create ODI repositories and Import Artifacts	Used to create the master and work repositories in the database.
3 – Upgrade for existing user	Used to upgrade the existing work repository in the database.
4 – Review your config.properties	Used to verify the values defined for the properties in the `config.properties` file.
5 - Exit	Used to exit the utility.

3. Type 1 and then press **Enter**. The database schema users are created for the master and work repositories.
4. Type 2 and then press **Enter**. The master and work repositories are created in the database. The ODI artifacts for TFM are deployed in the repositories.

3.2 Post Installation Tasks

Once you install the ODI artifacts for TFM, you need to do the following:

1. Create Login for Master Repository
2. Create Login for Work Repository
3. View Packages and Interfaces in a Work Repository
4. View Model of a Work Repository
5. View the Physical Architecture of Source File (VMA_FLATFILES)
6. View the Physical Architecture of Target Database (VMA_APP_DB)
7. View the Logical Architecture of Source File (VMA_FLATFILES)
8. View the Logical Architecture of Target Database (VMA_APP_DB)

3.2.1 Creating Login for Master Repository

Once you have installed the ODI artifacts for TFM, you need to create a login for the master repository. To create a login for the master repository:

1. Launch ODI Studio. The **Oracle Data Integrator 11g** screen appears.

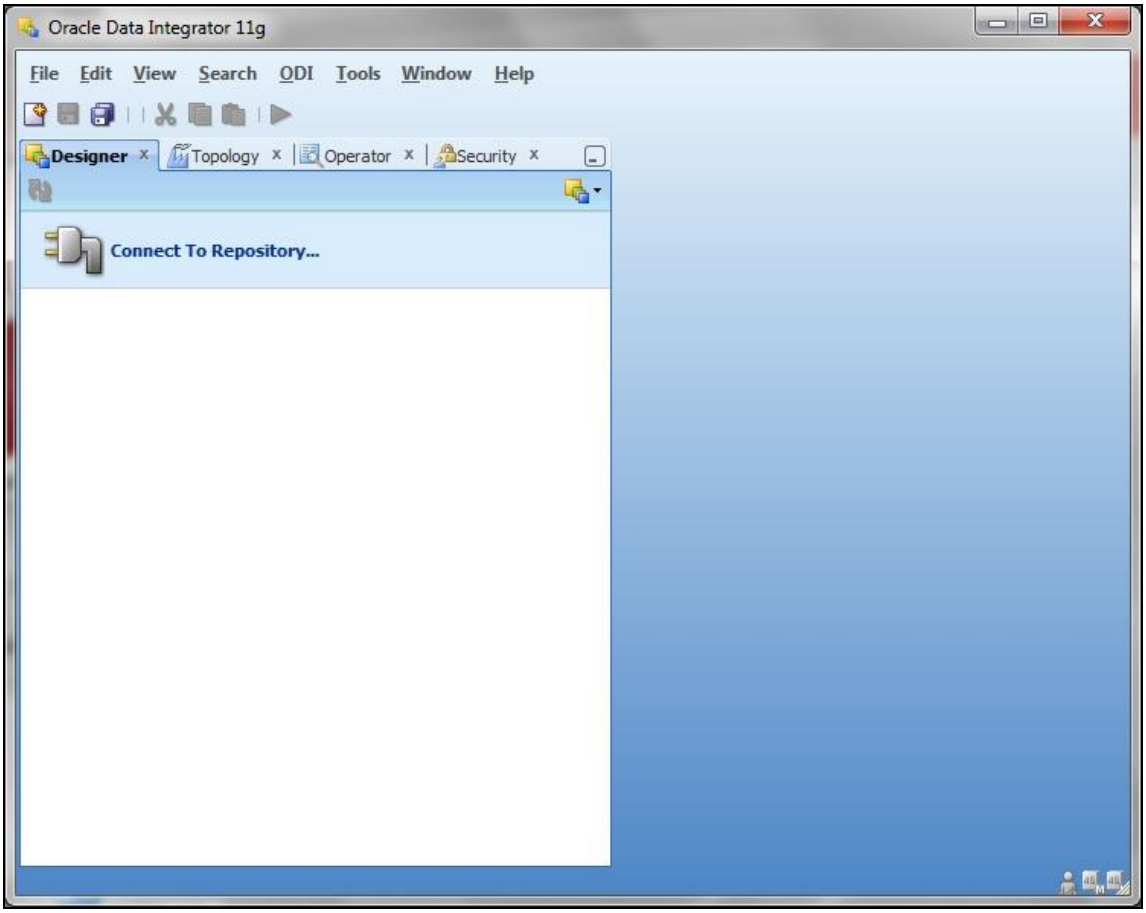

Figure 2: Oracle Data Integrator 11g Screen

2. Click **File** and then select **New**. The **New Gallery** dialog box appears.

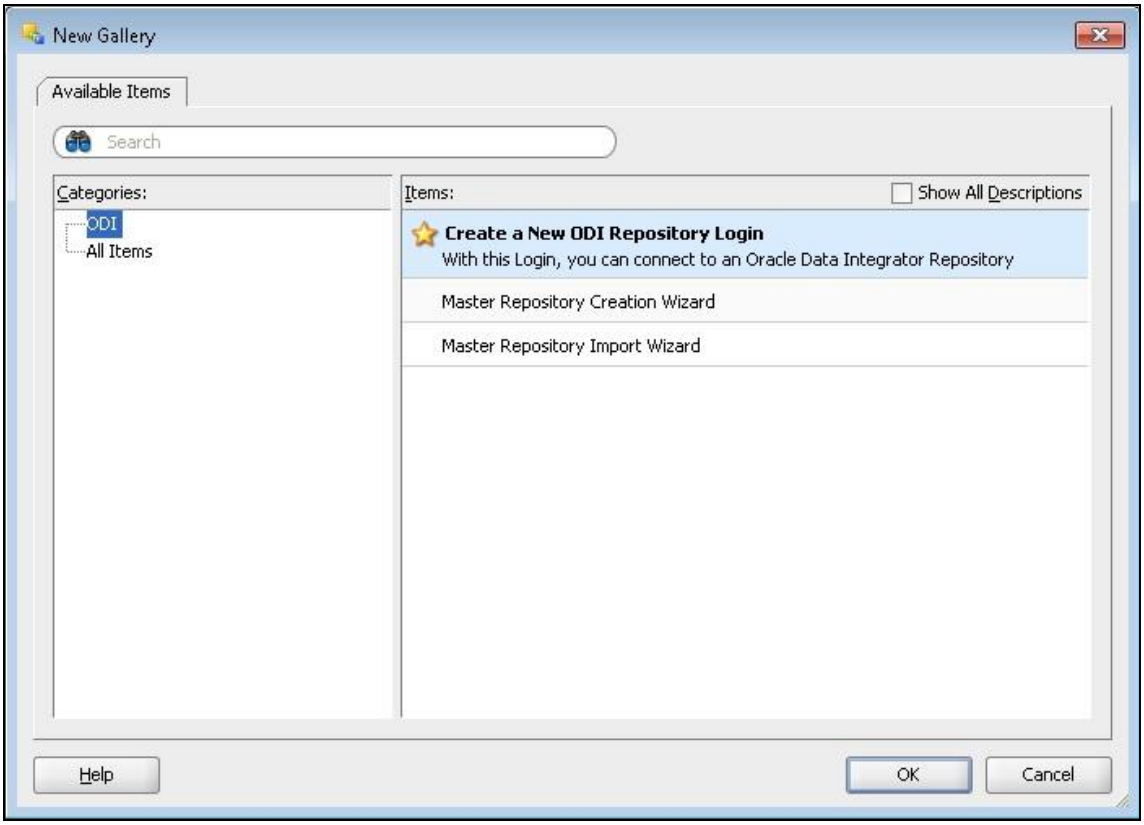

Figure 3: New Gallery Dialog Box

3. Select the **Create a New ODI Repository Login** option from the list and then click **OK**. The **Repository Connection Information** dialog box appears.

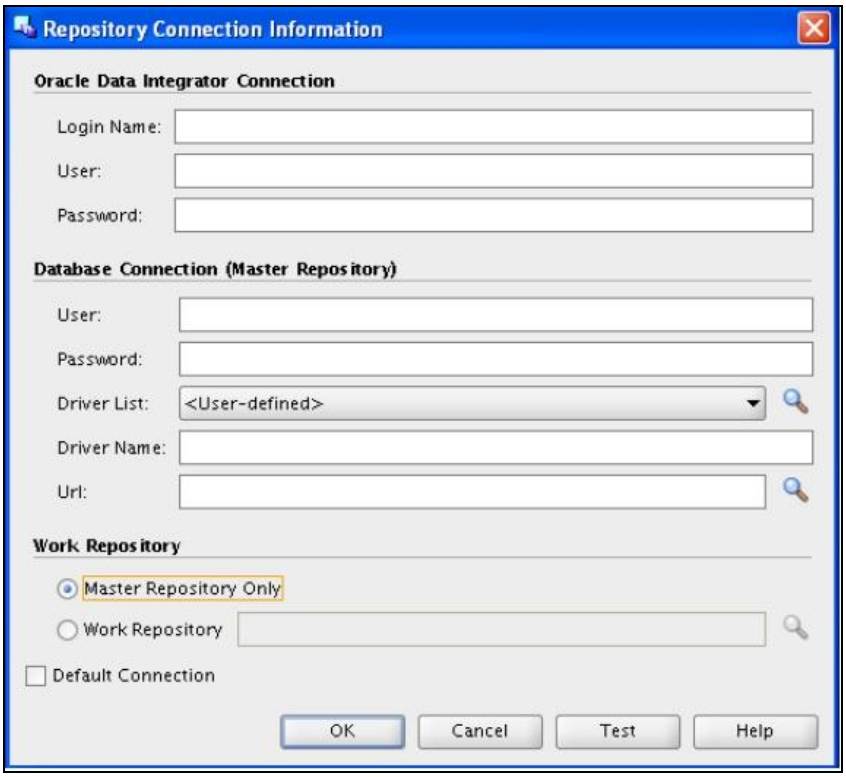

Figure 4: Repository Connection Information Dialog Box

The **Repository Connection Information** dialog box contains the following fields:

Field	Description	Mandatory (Yes or No)
Oracle Data Integrator Connection		
Login Name	Used to specify the login name for the repository.	Yes
User	Used to specify the ODI supervisor user name that you want to use to login to the repository. **Note:** You need to specify the same value as defined for the `odiSupervisorUser` property in the `config.properties` file.	Yes
Password	Used to specify the password for the ODI supervisor user. **Note**: You need to specify the same value as defined for `odiSupervisorPassword` property in the `config.properties` file.	Yes
Database Connection (Master Repository)		

Field	Description	Mandatory (Yes or No)
User	Used to specify the user name that you want to use to connect to the master repository. **Note**: You need to specify the same value as defined for the `masterRepositoryJdbcUser` property in the `config.properties` file.	Yes
Password	Used to specify the password for the user name. **Note**: You need to specify the same value as defined for the `masterRepositoryJdbcPassword` property in the `config.properties` file.	Yes
Driver List	Used to select the driver that you want to use to connect to the master repository.	Yes
Driver Name	Used to specify the driver name. **Note**: You need to specify the same value as defined for the `masterRepositoryJdbcDriver` property in the `config.properties` file.	Yes
Url	Used to specify the JDBC URL that you want to use to connect to the master repository. **Note**: You need to specify the same value as defined for the `masterRepositoryJdbcUrl` property in the `config.properties` file.	Yes
Work Repository		
Master Repository Only	Used to indicate that you want to create login for the master repository **Note:** This field is required while creating login for the master repository.	Yes (Conditional)
Work Repository	Used to indicate that you want to create login for the work repository. **Note**: The corresponding field is enabled only when you select the **Work Repository** option. You need to specify the name of the work repository for which you want to create the login. This field is required while creating login for the work repository.	Yes (Conditional)

Field	Description	Mandatory (Yes or No)
Default Connection	Used to indicate whether you want to set this as the default connection.	No

4. Enter the required details in the **Oracle Data Integrator Connection** section.
5. Select the **Oracle JDBC Driver** option from the **Driver List**. The oracle.jdbc.OracleDriver automatically appears in the **Driver Name** field.
6. Enter the remaining details in the **Database Connection (Master Repository)** section.
7. Select the **Master Repository Only** option in the **Work Repository** section.
8. Click **Test**. A message appears indicating that the connection to the master repository was established successfully.
9. Click **OK.** The login is created for the master repository.

3.2.2 Creating Login for Work Repository

Once a login for the master repository is created, you need to create a login for the work repository. To create a login for the work repository:

1. Launch ODI Studio. The **Oracle Data Integrator 11g** screen appears.
2. Click **File** and then select **New**. The **New Gallery** dialog box appears.
3. Select the **Create a New ODI Repository Login** option from the list and then click **OK**. The **Repository Connection Information** dialog box appears.
4. Enter the required details in the **Oracle Data Integrator Connection** section.
5. Select the **Oracle JDBC Driver** option from the **Driver List**. The oracle.jdbc.OracleDriver automatically appears in the **Driver Name** field.
6. Enter the remaining details in the **Database Connection (Master Repository)** section.
7. Select the **Work Repository** option in the **Work Repository** section. The corresponding field is enabled.
8. Click the **Search** () icon corresponding to the **Work Repository** field. The **Select Repository** dialog box appears.

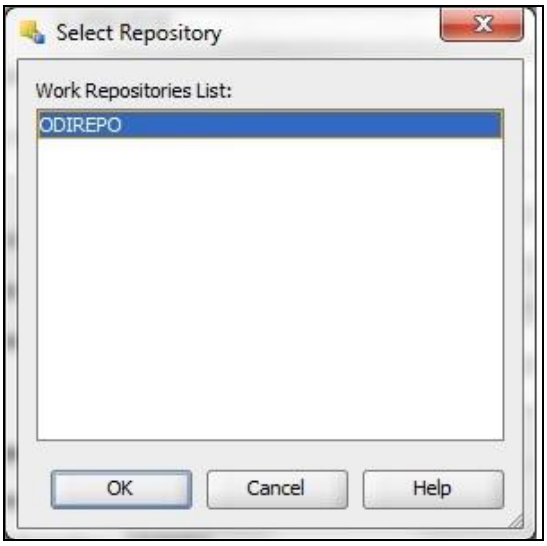

Figure 5: Select Repository Dialog Box

9. Select the work repository that you want to associate with the master repository and then click **OK**. The selected work repository name appears in the **Work Repository** field.
10. Click **Test**. A message appears indicating that the connection to the work repository was established successfully.
11. Click **OK.** The login is created for the work repository.

3.2.3 Viewing Packages and Interfaces in a Work Repository

Once you install the ODI artifacts for TFM, you can view the packages and interfaces imported in the work repository. To view the packages and interfaces in the work repository:

1. Launch the ODI Studio. The **Oracle Data Integrator 11g** screen appears.
2. Click **ODI** and then select **Connect**. The **Oracle Data Integrator Login** dialog box appears.

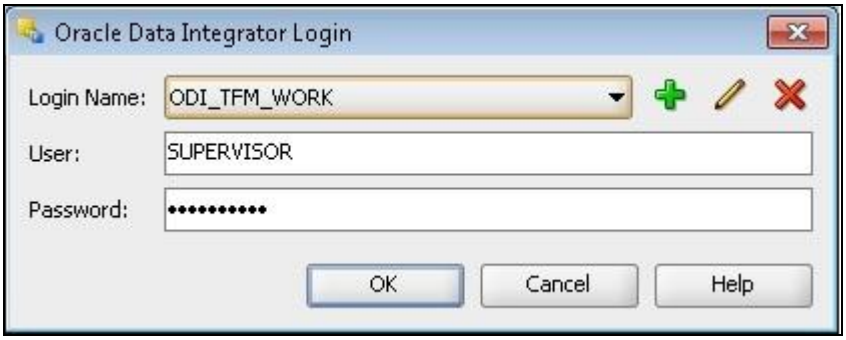

Figure 6: Oracle Data Integrator Login Dialog Box

The **Oracle Data Integrator Login** dialog box contains the following fields:

Field Name	Description	Mandatory (Yes or No)
Login Name	Used to select the login name that you want to use to connect to the work repository.	Yes

Field Name	Description	Mandatory (Yes or No)
User	Indicates the ODI supervisor user name through which the connection will be established.	Not applicable
Password	Indicates the ODI supervisor password through which the connection will be established.	Not applicable

3. Select the login name that you want to use to connect to the work repository.
4. Click **OK.** The connection to the work repository is established.
5. In the **Designer** tab, expand the **Projects** pane to view a list of packages and interfaces imported in the work repository.

Note: By default, the **Designer** tab appears when you login to the work repository.

6. Click the **Expand** icon corresponding to the **First Folder** node.
7. Click the **Expand** icon corresponding to the **Packages** node to view the packages imported in the work repository.
8. Click the **Expand** icon corresponding to the **Interfaces** node to view the interfaces imported in the work repository. The **Oracle Data Integrator 11g** screen appears, as shown in the following figure.

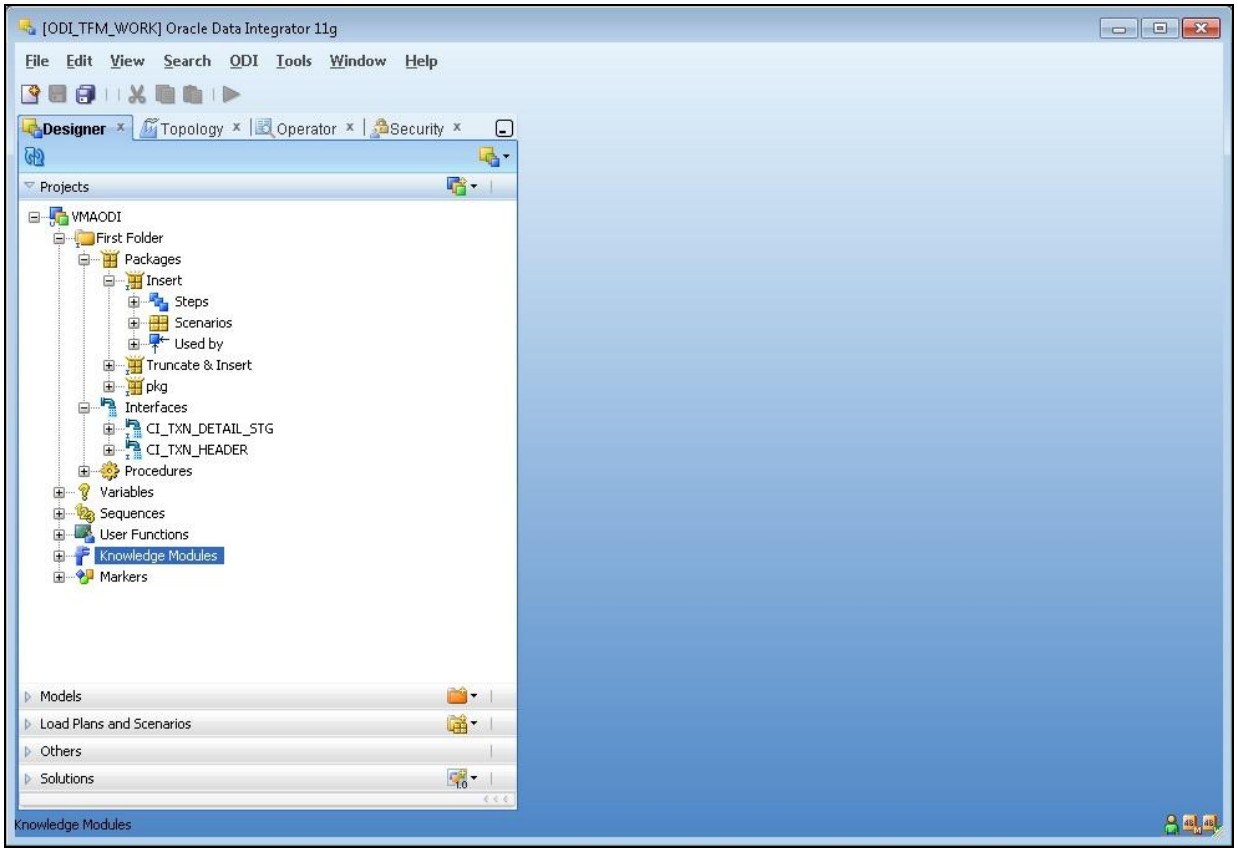

Figure 7: Packages and Interfaces

3.2.4 Viewing Model of a Work Repository

Once you install the ODI artifacts for TFM, you can view the model of the work repository. To view the model of the work repository:

1. In the **Designer** tab, expand the **Models** pane to view the structure of the work repository.
2. Click the **Expand** icon corresponding to the **VMA_ODI** node. It contains two sub-folders - VMA_APP_DB and VMA_FLAT_FILES
3. Click the **Expand** icon corresponding to the **VMA_APP_DB** node to view the tables to which the transaction data is mapped while uploading the CSV file.
4. Click the **Expand** icon corresponding to the **VMA_FLAT_FILES** node to view the flat files that are used while uploading the transaction data. The **Models** pane appears, as shown in the following figure.

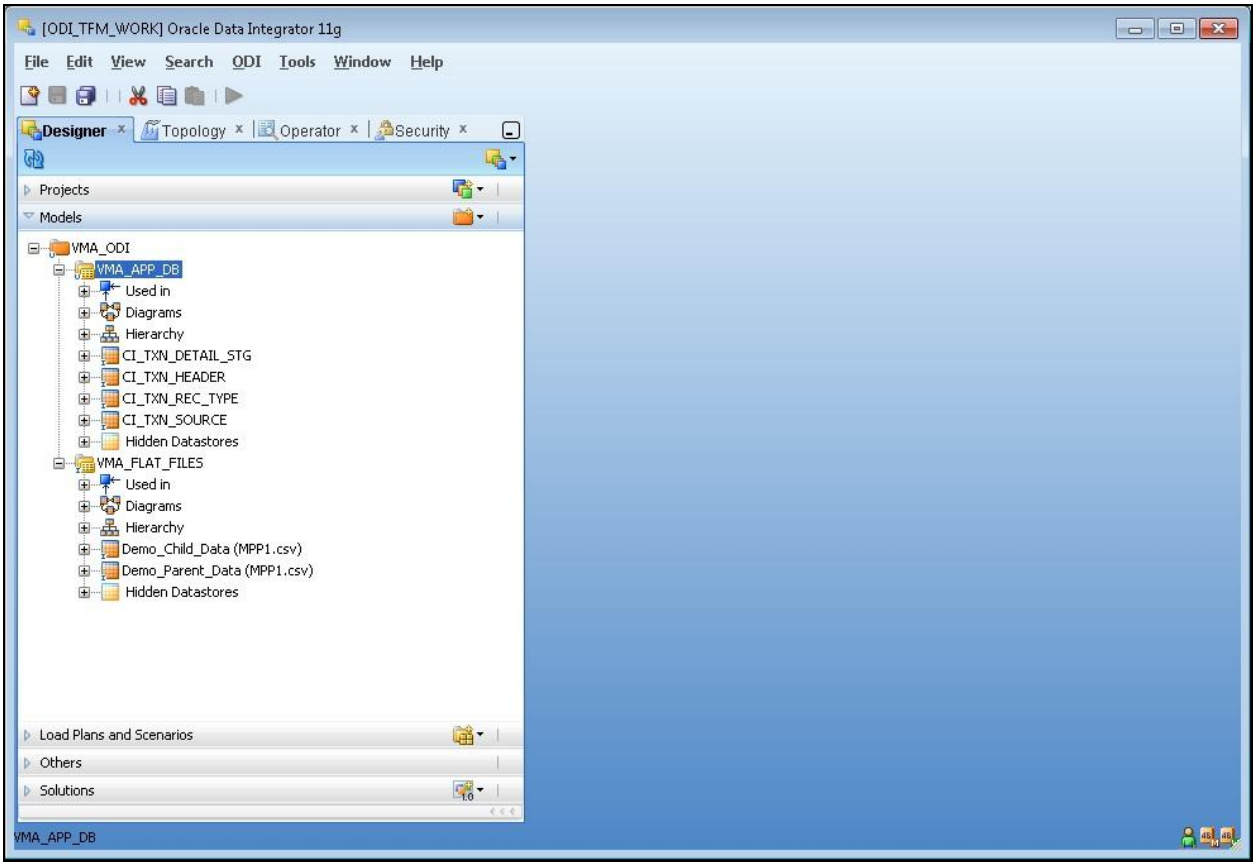

Figure 8: Models Pane

3.2.5 Viewing the Physical Architecture of Source File (VMA_FLATFILES)

To view the physical architecture of the VMA_FLATFILES:

1. In the **Topology** tab, expand the **Physical Architecture** pane.
2. Click the **Expand** icon corresponding to the **Technologies** node. A node tree appears.
3. Click the **Expand** icon corresponding to the **File** node. A node tree appears.

4. Double-click the **VMA_FLATFILES** node. The **VMA_FLATFILES** tab appears in the right pane.

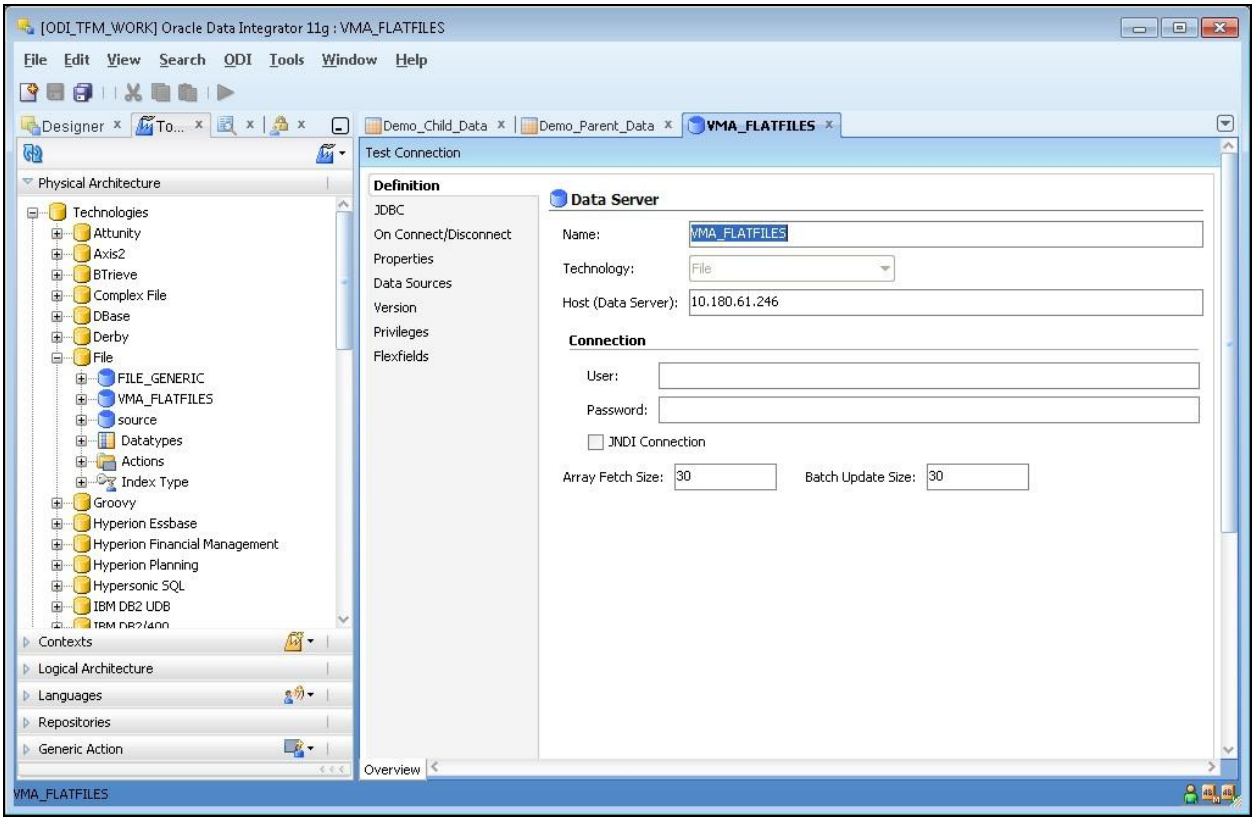

Figure 9: VMA_FLATFILES Tab

5. View the data server connection details of the source file**.**

3.2.6 Viewing the Physical Architecture of Target Database (VMA_APP_DB)

To view the physical architecture of the **VMA_APP_DB**:

1. In the **Topology** tab, expand the **Physical Architecture** pane.
2. Click the **Expand** icon corresponding to the **Technologies** node. A node tree appears.
3. Click the **Expand** icon corresponding to the **Oracle** node. A node tree appears.
4. Double-click the **VMA_APP_DB** node. The **VMA_APP_DB** tab appears in the right pane.

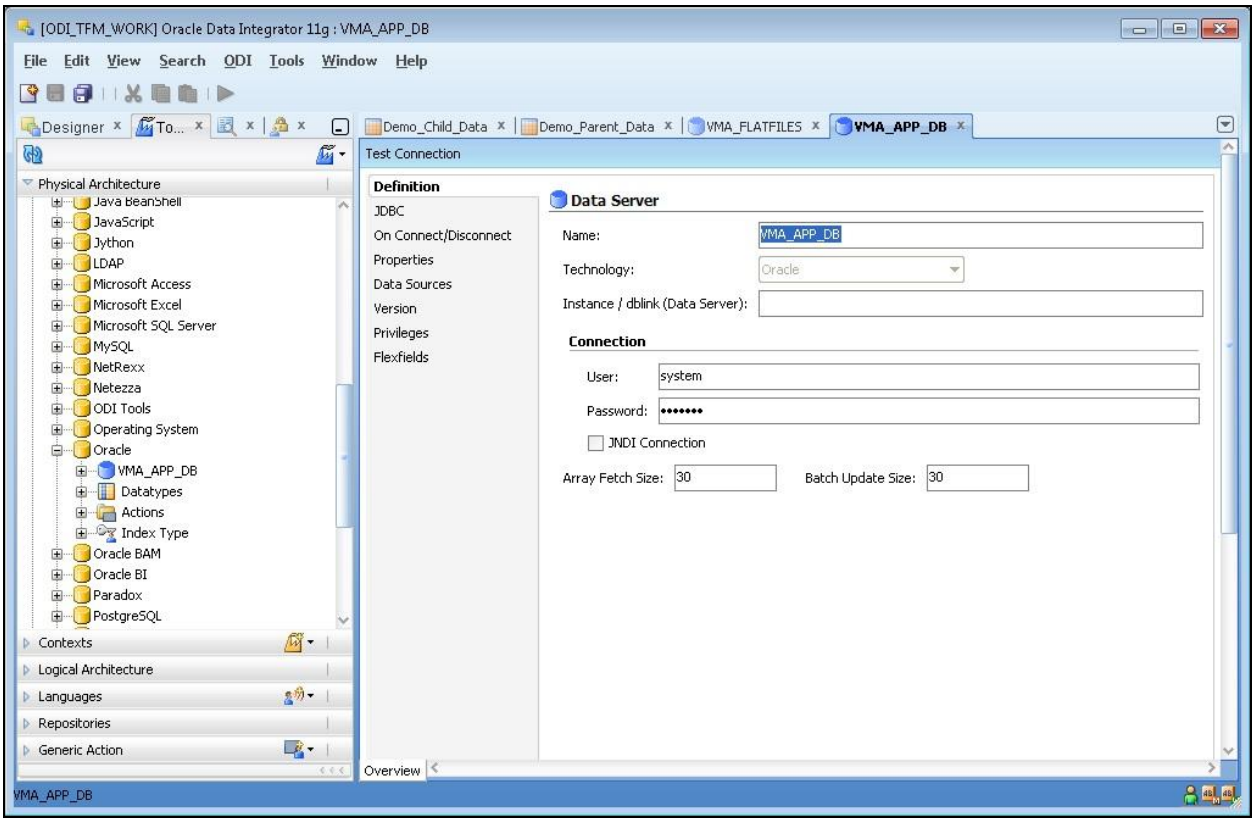

Figure 10: VMA_APP_DB Tab

5. View the data server connection details of the target database.
6. Click the **JDBC** link in the left pane of the **VMA_APP_DB** tab. The **JDBC** page appears.

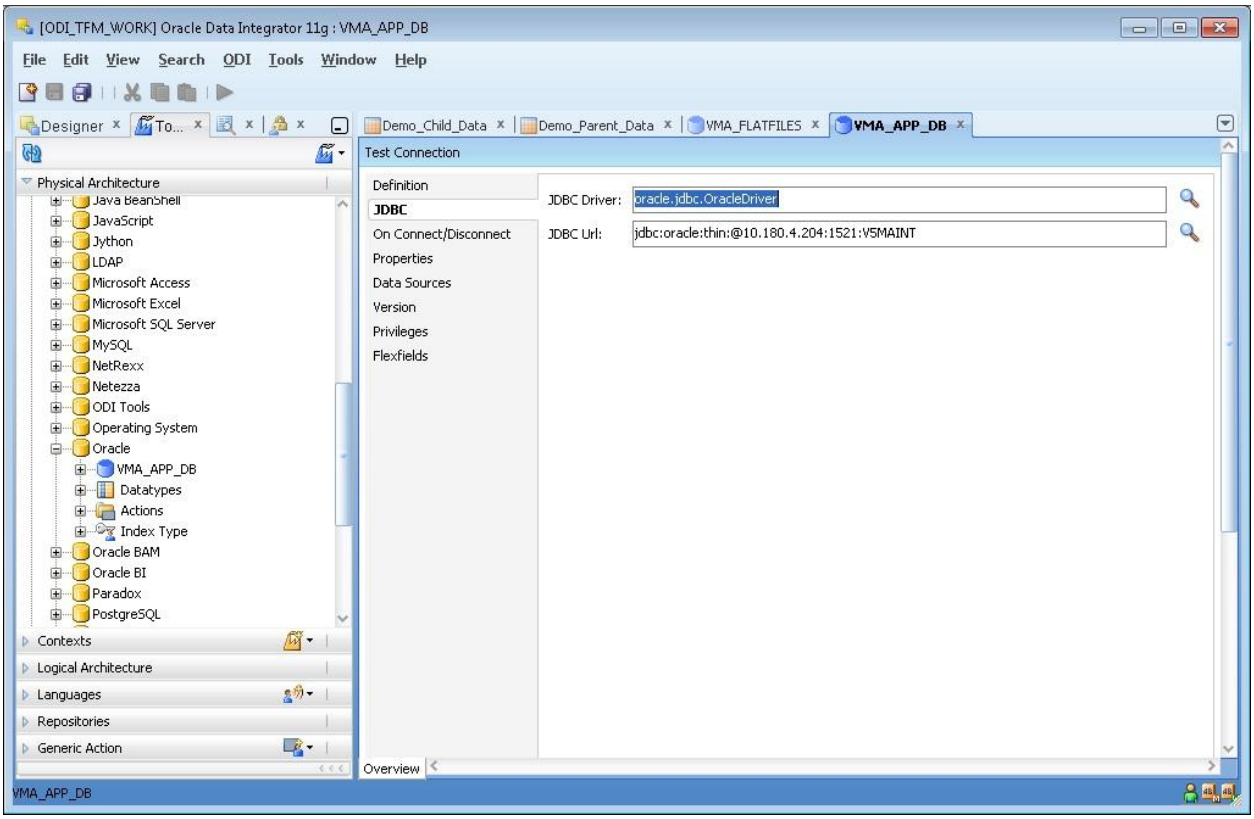

Figure 11: JDBC Page

7. Enter `oracle.jdbc.OracleDriver` in the **JDBC Driver** field.
8. Enter the JDBC URL to connect to the target database. The JDBC URL must be in the jdbc:oracle:thin:@<host>:<port>:<SID> format.
9. Save the changes made to the physical architecture of the target database.

3.2.7 Viewing the Logical Architecture of Source File (VMA_FLATFILES)

To view the logical architecture of the **VMA_FLATFILES**:

1. In the **Topology** tab, expand the **Logical Architecture** pane.
2. Click the **Expand** icon corresponding to the **Technologies** node. A node tree appears.
3. Click the **Expand** icon corresponding to the **File** node. A node tree appears.
4. Double-click the **VMA_FLATFILES** node. The **VMA_FLATFILES** tab appears in the right pane.

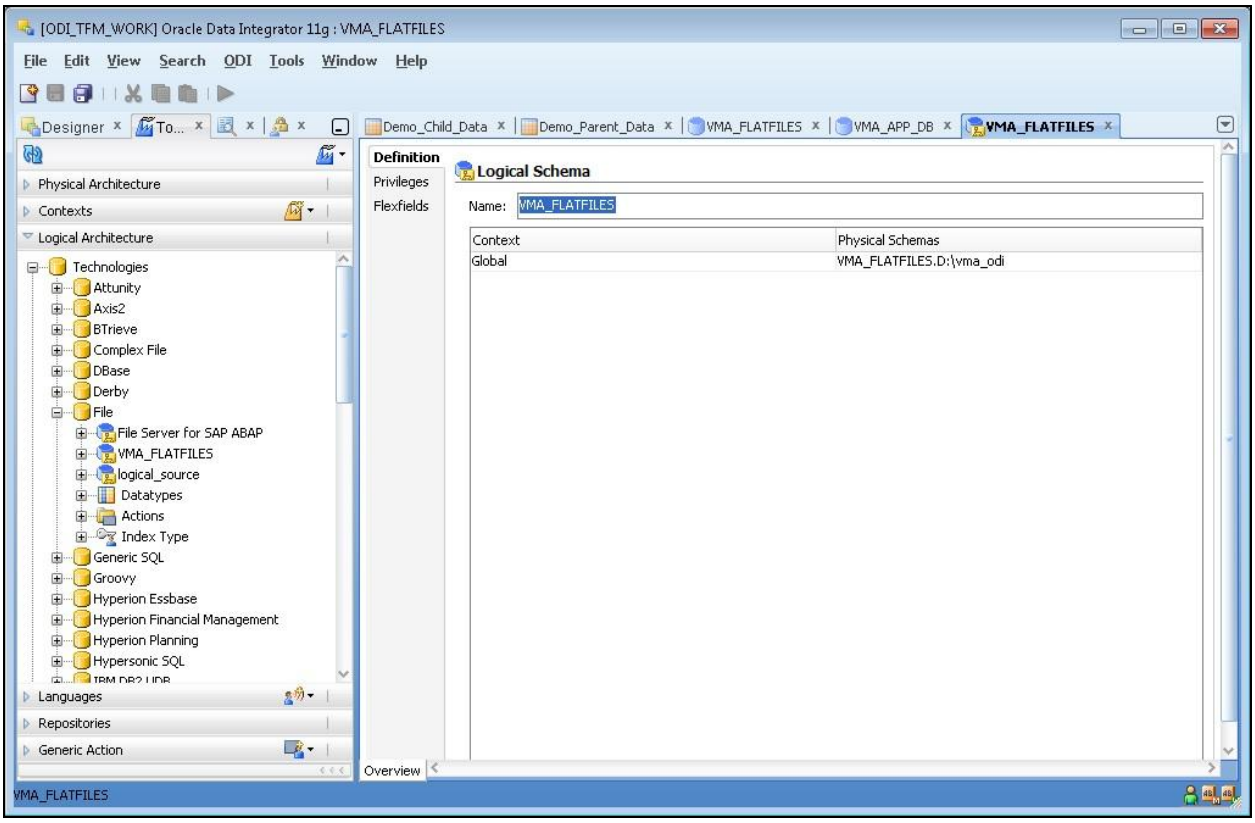

Figure 12: VMA_FLATFILES Tab

5. View the logical schema details of the source file.

3.2.8 Viewing the Logical Architecture of Target Database (VMA_APP_DB)

To view the logical architecture of the **VMA_APP_DB**:

1. In the **Topology** tab, expand the **Logical Architecture** pane.
2. Click the **Expand** icon corresponding to the **Technologies** node. A node tree appears.
3. Click the **Expand** icon corresponding to the **Oracle** node. A node tree appears.
4. Double-click the **VMA_APP_DB** node. The **VMA_APP_DB** tab appears in the right pane.

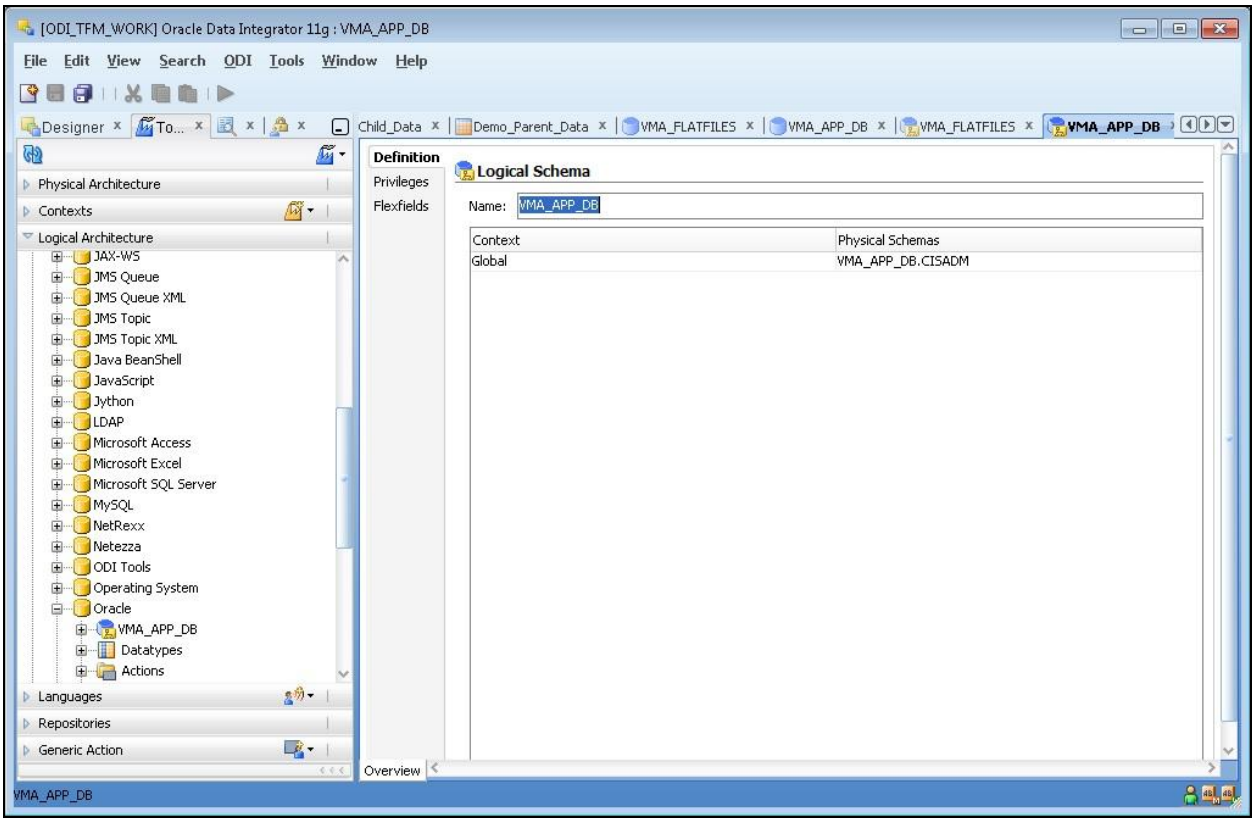

Figure 13: VMA_APP_DB Tab

5. View the logical schema details of the target database.

4. Uploading and Importing the Transaction Data

This section explains how to upload a transaction data file through ODI interface. It also explains how to import the transaction data to map the flat file to various tables in the target database.

4.1 Uploading a Transaction Data File

Through the ODI interface, you can upload the transaction data only in the CSV format. To upload a transaction data file in the CSV format:

1. In the **Designer** tab, expand the **Models** pane.
2. Click the **Expand** icon corresponding to the **VMA_FLAT_FILES** folder. A node tree appears.
3. Double-click the **Demo_Child_Data** node. The **Demo_Child_Data** tab appears in the right pane.

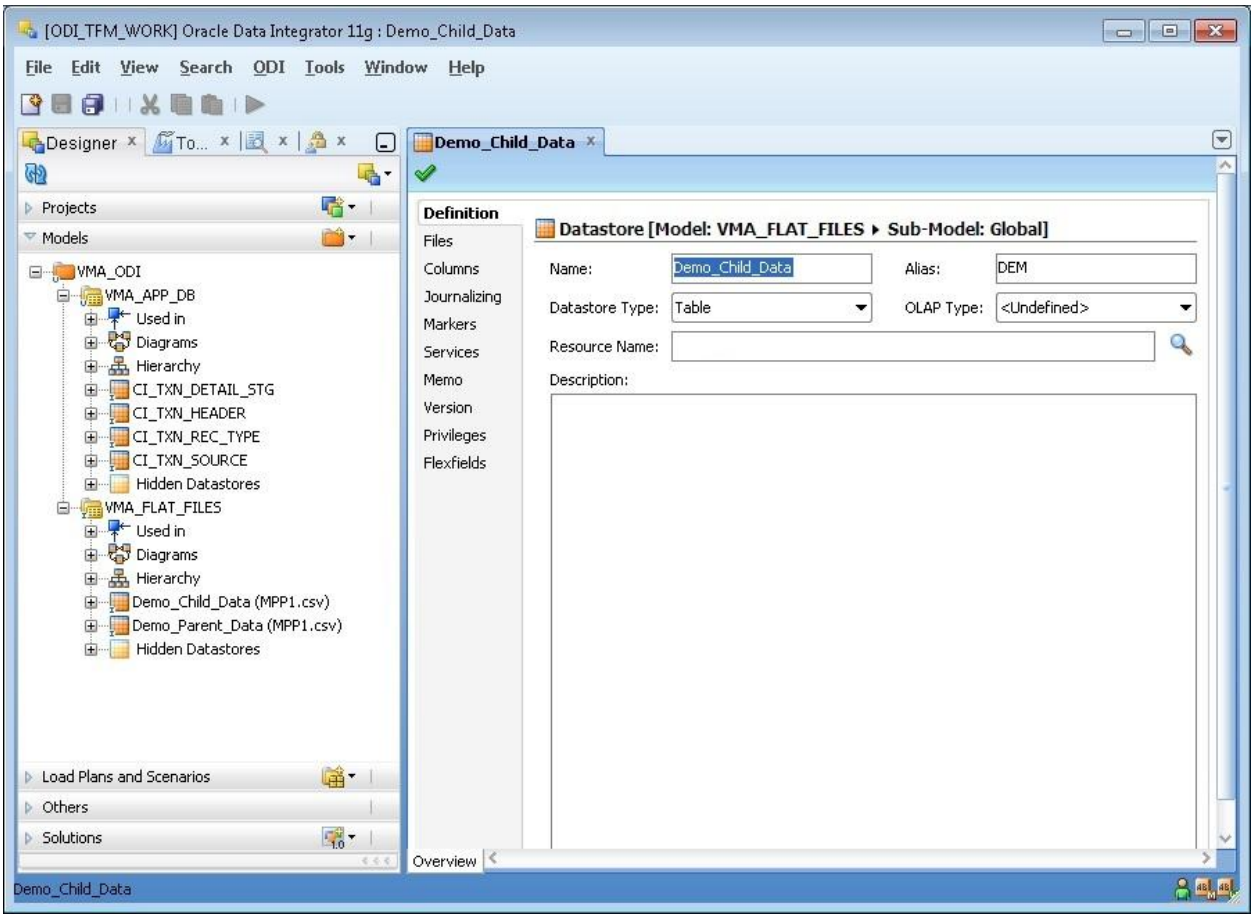

Figure 14: Demo_Child_Data Tab

4. Click the **Search** ( ) icon corresponding to the **Resource Name** field. The **Open** dialog box appears.

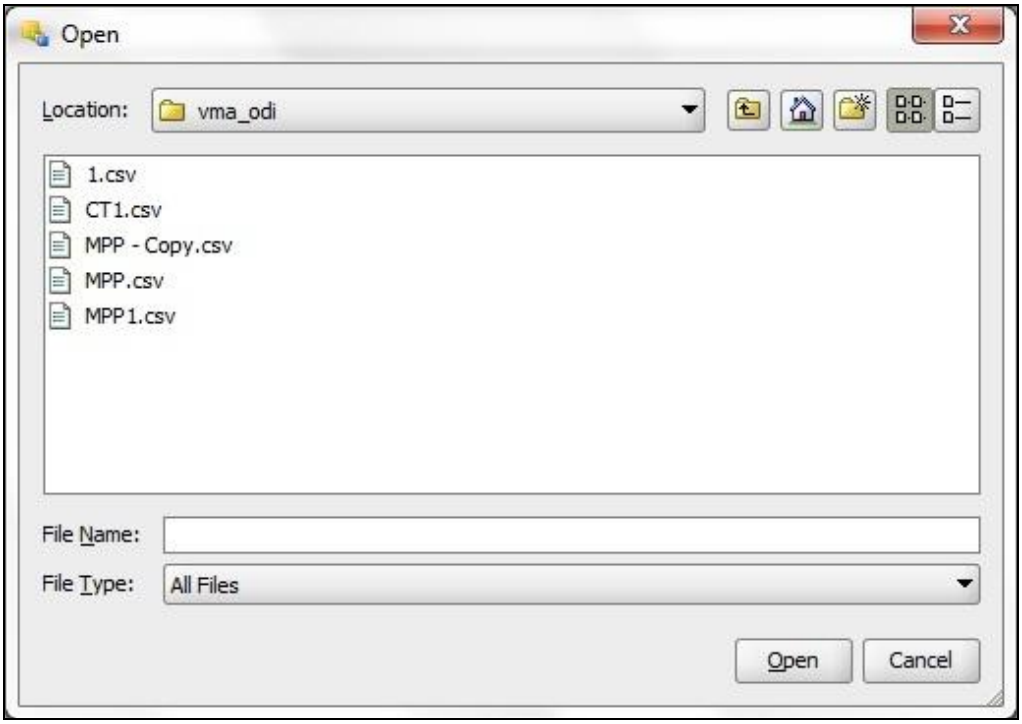

Figure 15: Open Dialog Box

5. Browse to the location where the CSV file that you want to upload is located.
6. Select the CSV file and then click **Open**. The file name appears in the **Resource Name** field.
7. Save the changes made to the **Demo_Child_Data** node.
8. Similarly, double-click the **Demo_Parent_Data** node. The **Demo_Parent_Data** tab appears in the right pane.

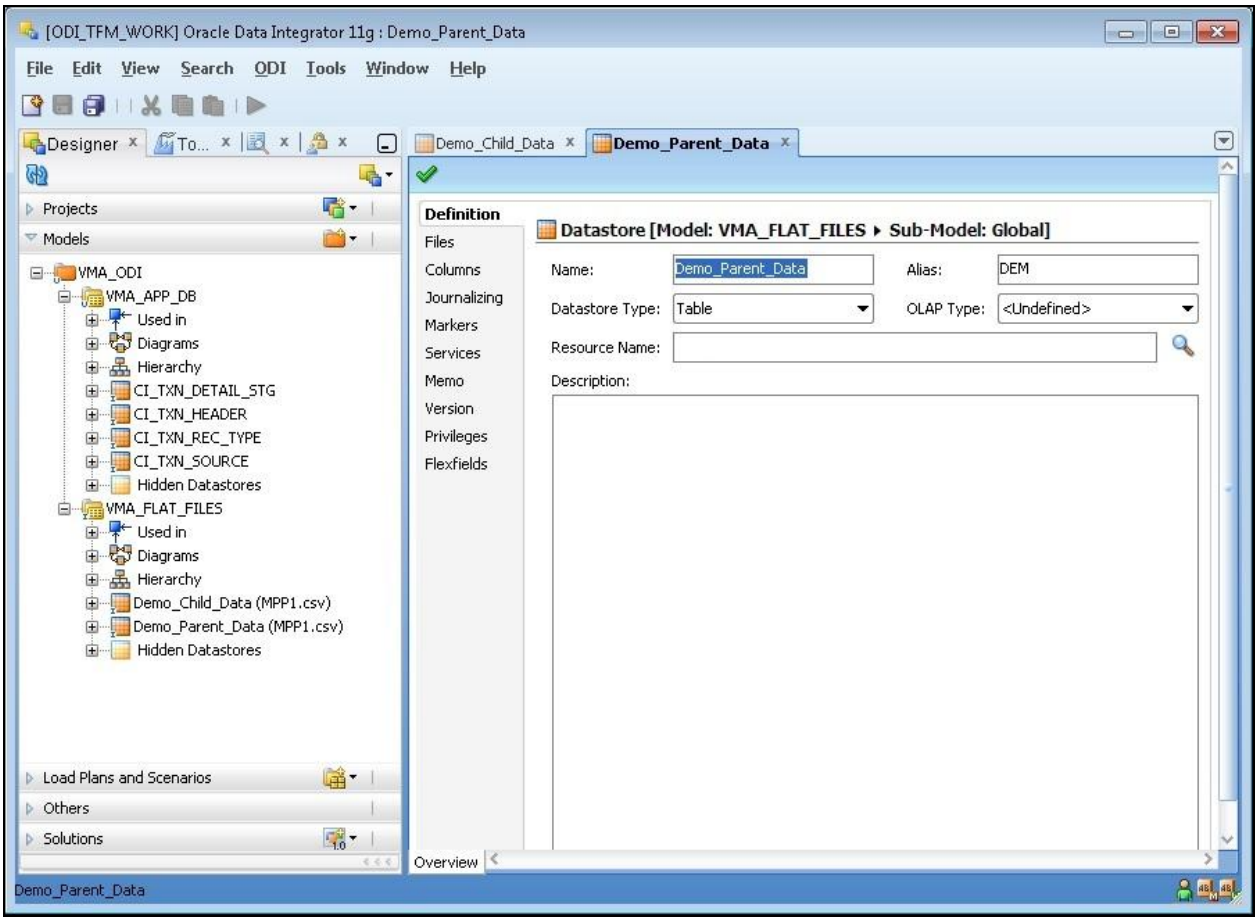

Figure 16: Demo_Parent_Data Tab

9. Click the **Search** ( ) icon corresponding to the **Resource Name** field. The **Open** dialog box appears.
10. Browse to the location where the CSV file that you want to upload is located.
11. Select the CSV file and then click **Open**. The file name appears in the **Resource Name** field.
12. Save the changes made to the **Demo_Parent_Data** node. The transaction data file is uploaded in ODI. Now, you need to import the transaction data to map the flat file to various tables in the target database.

4.2 Importing the Transaction Data in the Target Database

Once you upload a transaction data file in ODI, you need to import the transaction data to map the flat file to various tables in the target database.

To import the transaction data in the target database:

1. In the **Designer** tab, expand the **Projects** pane.
2. Click the **Expand** icon corresponding to the **First Folder** node. A node tree appears.
3. Click the **Expand** icon corresponding to the **Packages** node. A node tree appears.
4. Right-click on the **Insert** package. A shortcut menu appears.

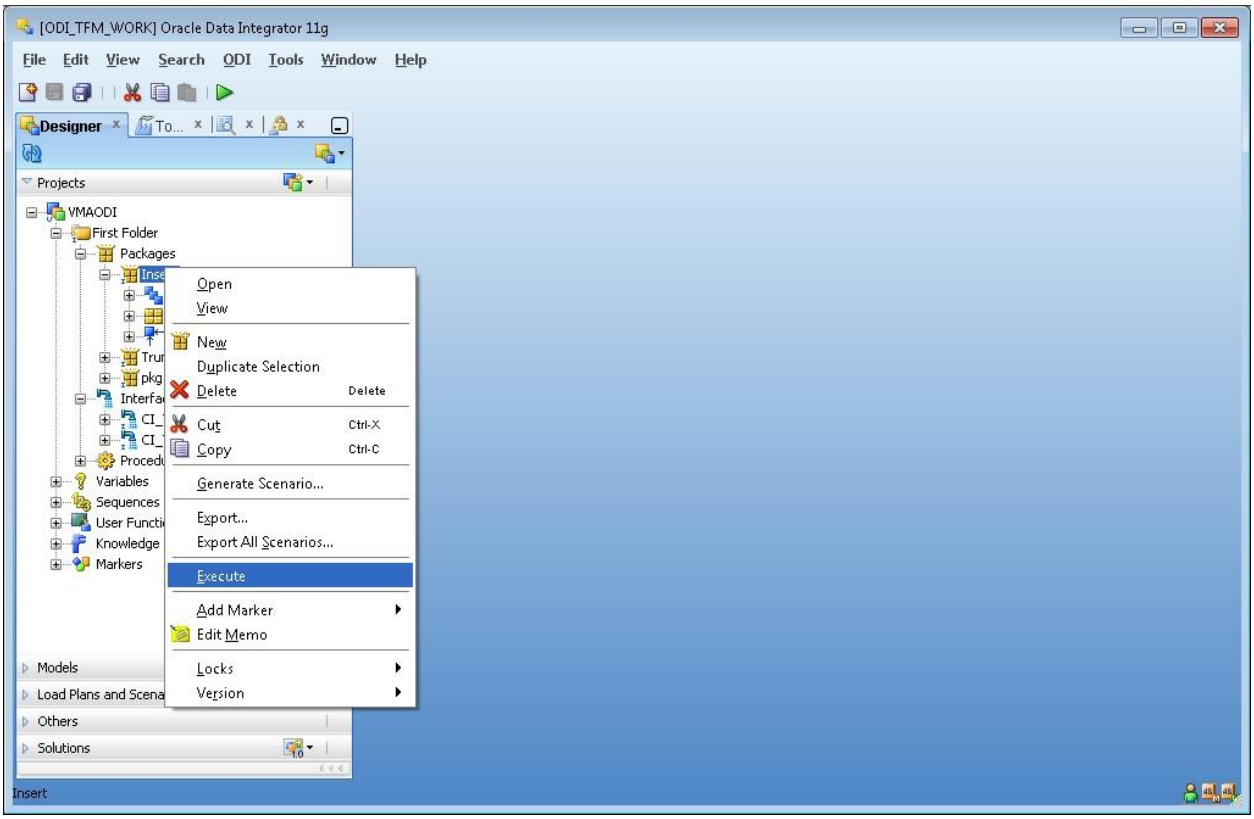

Figure 17: Shortcut Menu

5. Select the **Execute** option from the shortcut menu. The **Execution** dialog box appears.

Figure 18: Execution Dialog Box

6. Click **OK**. A message appears indicating that the session has started, as shown in the following figure.

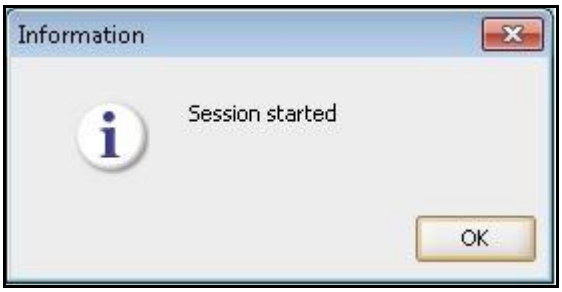

Figure 19: Information Dialog Box

7. Click **OK**. The transaction data is imported in the target database.
8. Click the **Operator** tab in the left pane of the **Oracle Data Integrator 11g** screen.
9. In the **Operator** tab, expand the **Session List** pane.
10. Click the **Expand** icon corresponding to the **All Executions** node. A list of sessions along with their status appears in the node tree, as shown in the following figure.

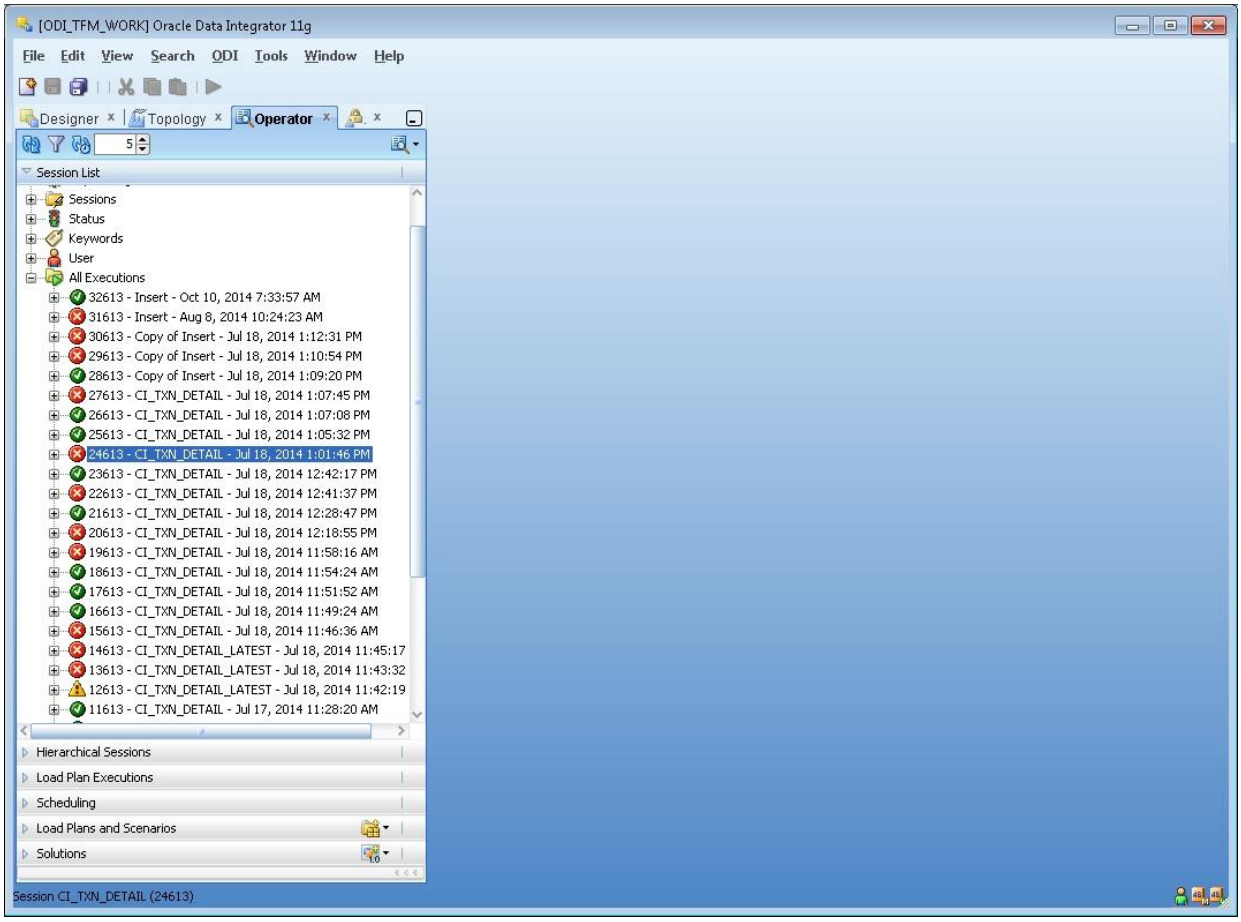

Figure 20: Session List Pane

Note: The icon corresponding to each session indicates the current status of the session. The ( ) icon indicates that the session was successfully executed whereas the ( ) icon indicates that the error occurred while executing the session. In addition, the ( ) icon indicates that the session was completed successfully, but with a number of errors.

11. Double-click the session whose details you want to view. The **Session** tab appears.

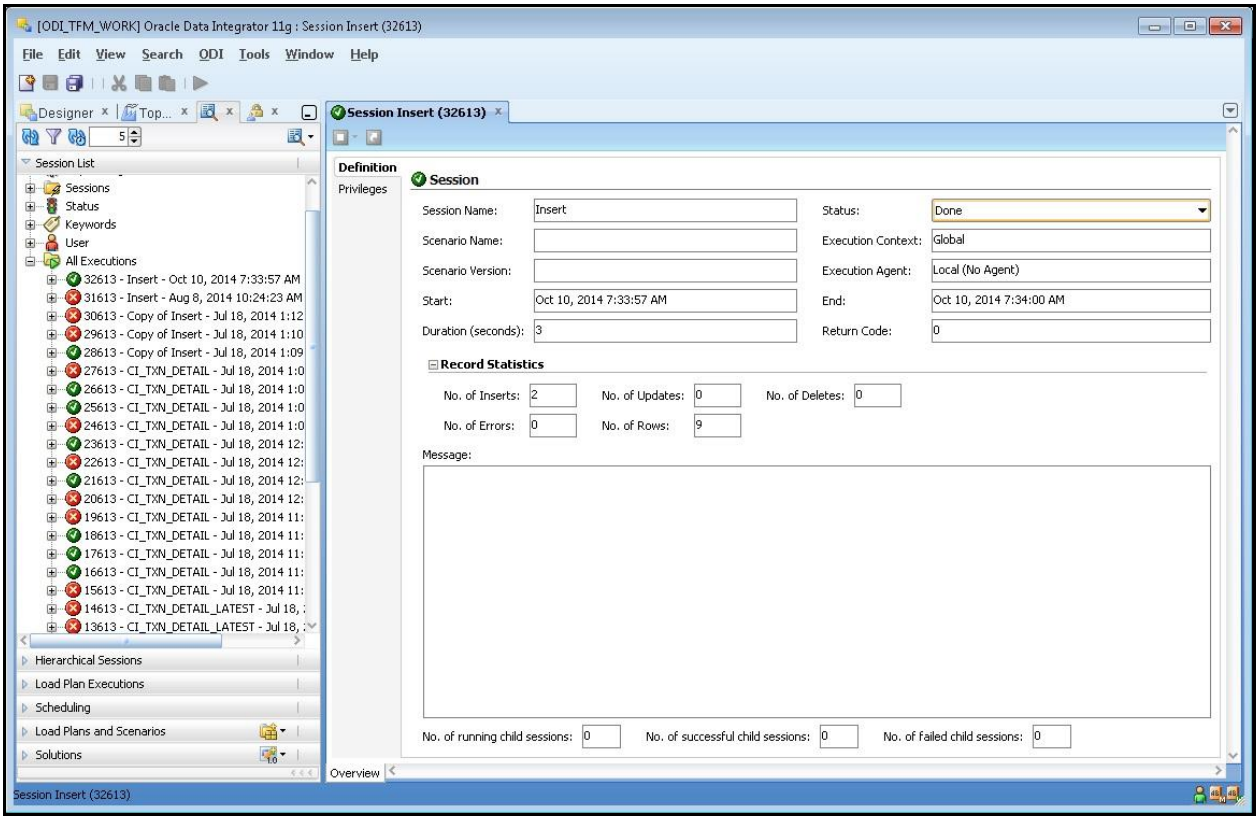

Figure 21: Session Details

