

## Experiment No 3

**Title: Develop an Application to construct a multidimensional data using Oracle.**

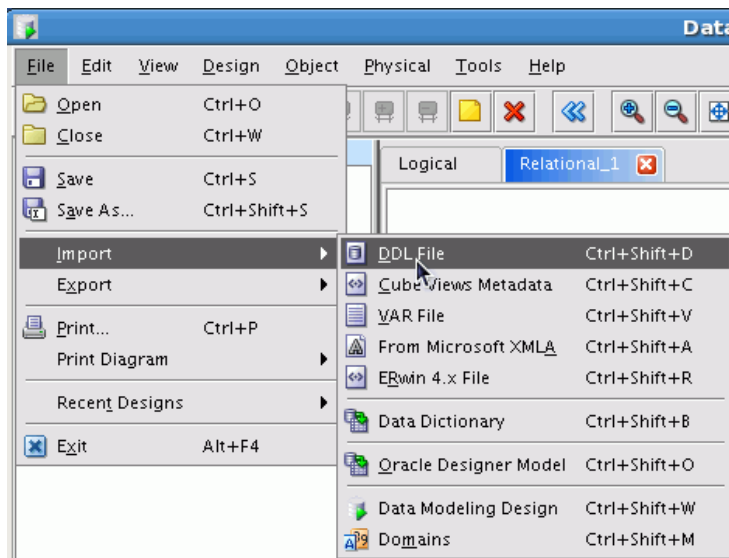
### Theory:

For constructing multidimensional model steps are to import the DDL for the SH schema, examine the relational and physical model, reverse engineer to create a logical model, create a new multidimensional model, engineer from the physical model to create the multidimensional diagram and examine the results.

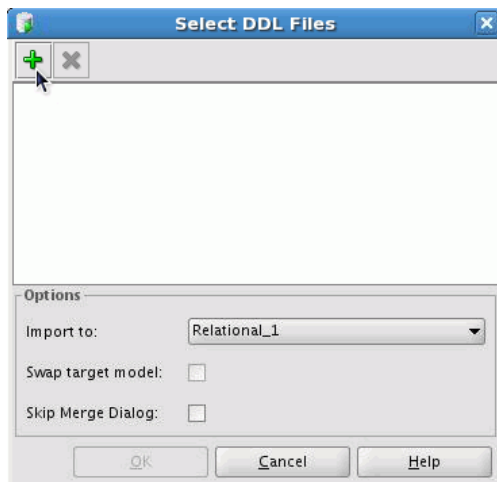
### *Importing the DDL for the SH (Sales History) Sample Schema*

Perform the following steps:

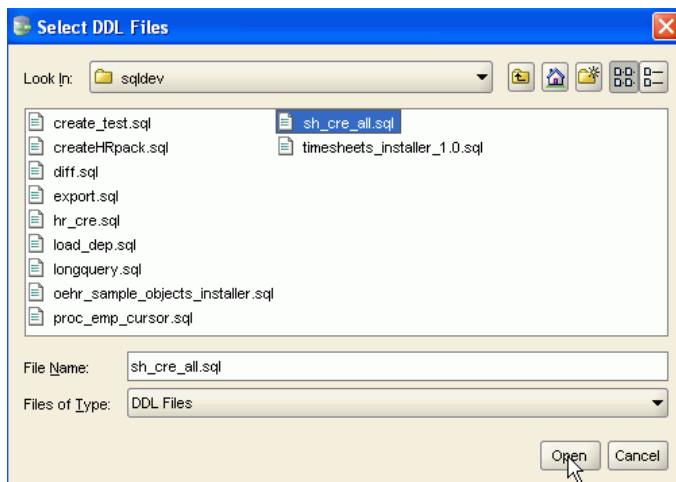
- 1 . Open **Oracle SQL Developer Data Modeler**. If you performed the previous tutorial, and did not exit Oracle SQL Developer Data Modeling, select **File > Close** to close the model you previously worked on.
- 2 . Select **File > Import > DDL File**.



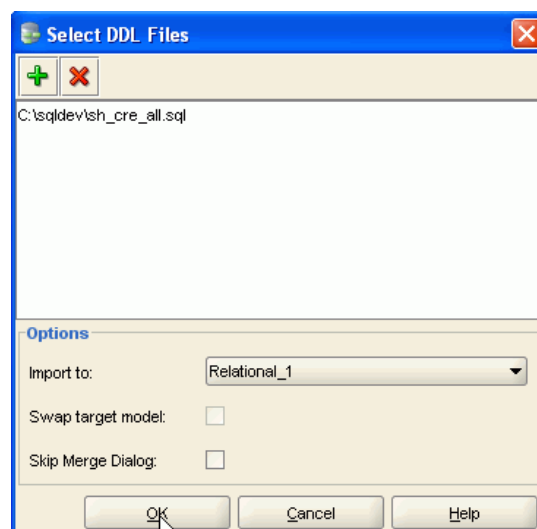
- 3 . You can add multiple DDL files to be imported at the same time. Click the '+' icon to add a DDL file.



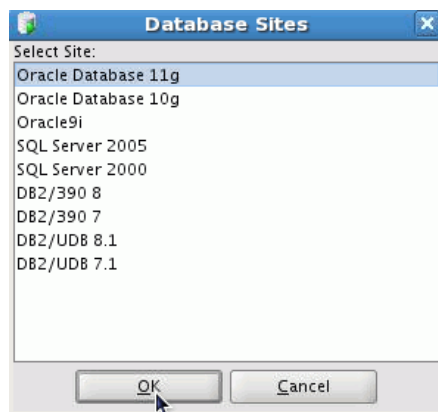
- 4 . Select **sh\_cre\_all.sql** from the directory where you unzipped the files from the [Prerequisites](#) and click **Open**.



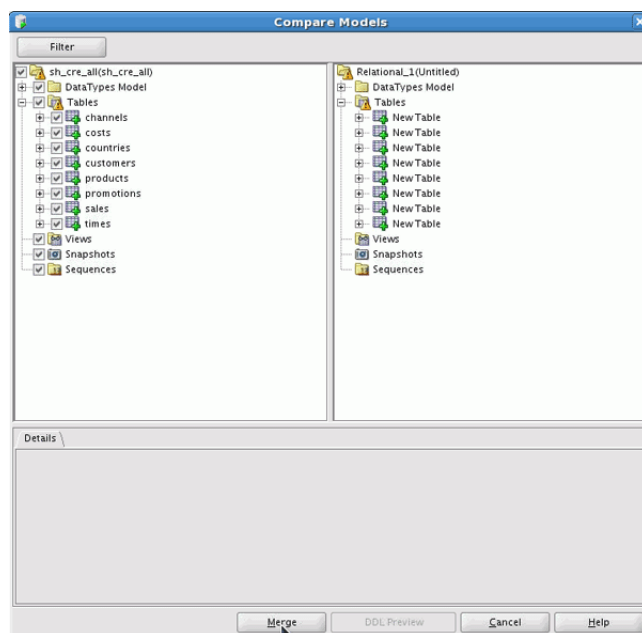
- 5 . Click **OK**.



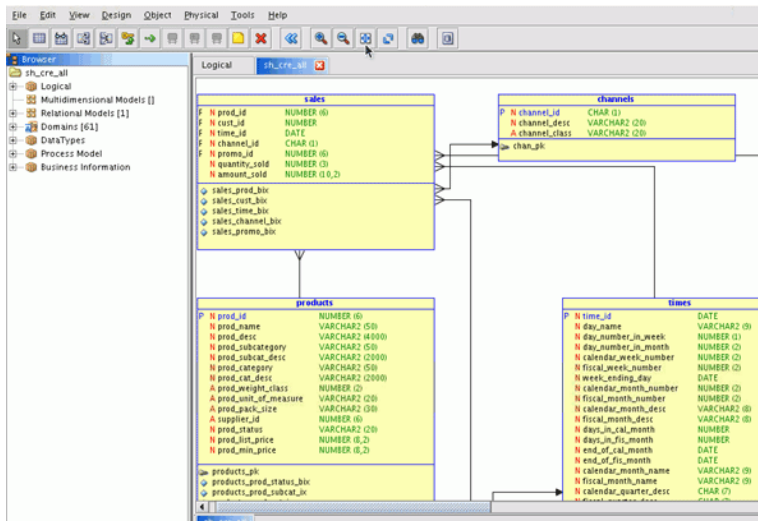
6 . Select **Oracle Database 11g** and click **OK**.



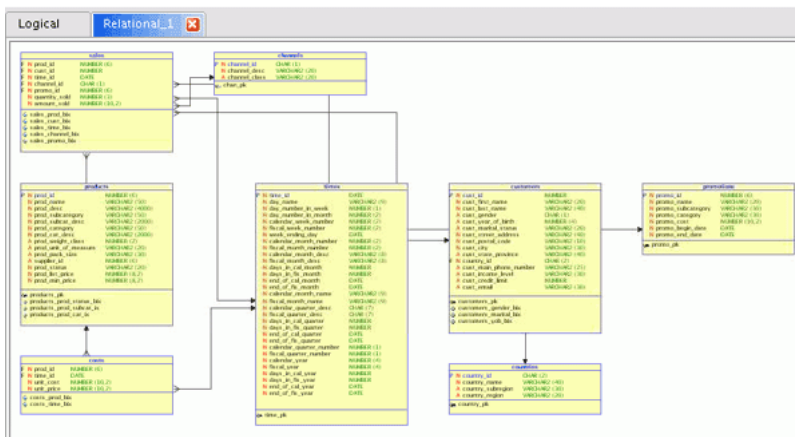
7 . The Compare Model window appears. You can view the changes that will occur when the DDL file is imported. Expand **Tables** under **sh\_cre\_all**. You see that the list of tables that will be created. Click **Merge**.



8 . The relational diagram is displayed. To view the entire diagram, click the Fit Screen icon.



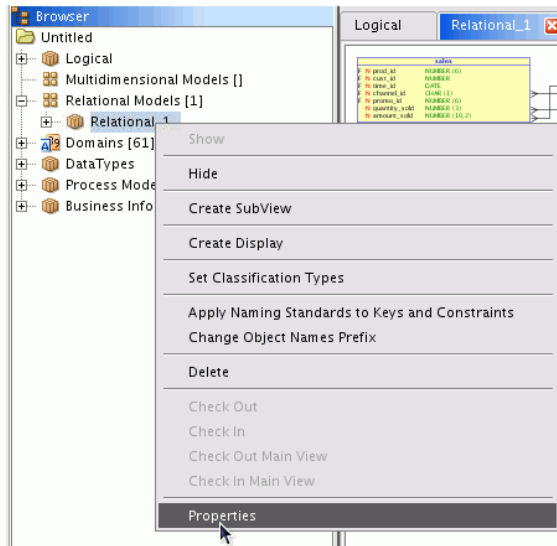
9. You can now see more of the diagram. In the next section, you review the relational and physical model objects in the navigator.



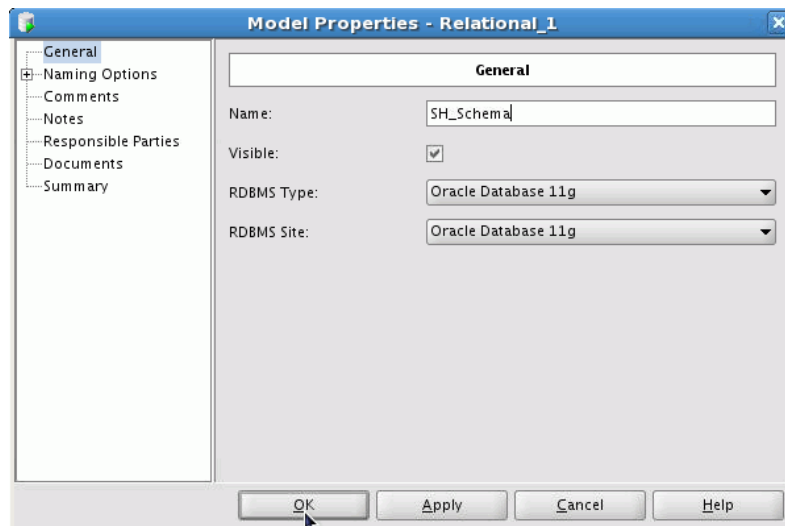
## Reviewing the Relational and Physical Model

Perform the following steps:

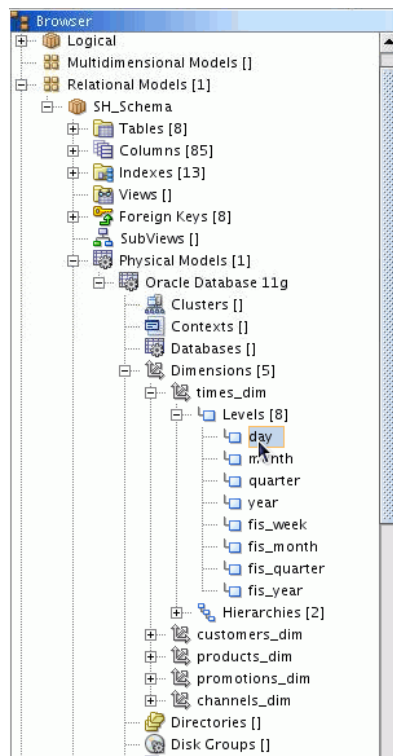
1. In the left navigator, expand **Relational Model**. Right-click **Relational\_1** and select **Properties**.



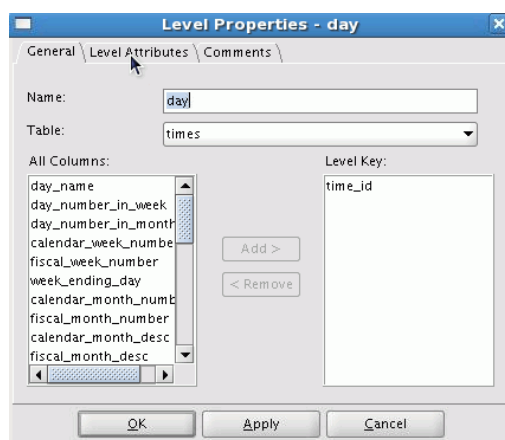
2 . Change the Name to **SH\_Schema** and click **OK**.



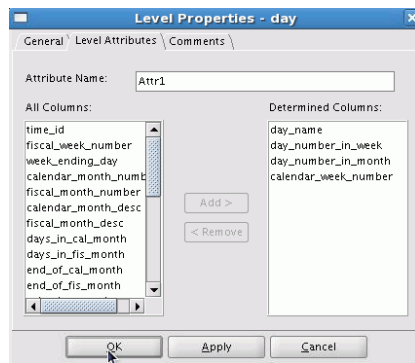
3 . Expand **SH\_Schema > Physical Models > Oracle Database 11g > Dimensions > times\_dim > Levels**. Notice that there are 5 Dimensions in this model. Each dimension contains various levels and hierarchies. Double-click the **day** level for the times dimension.



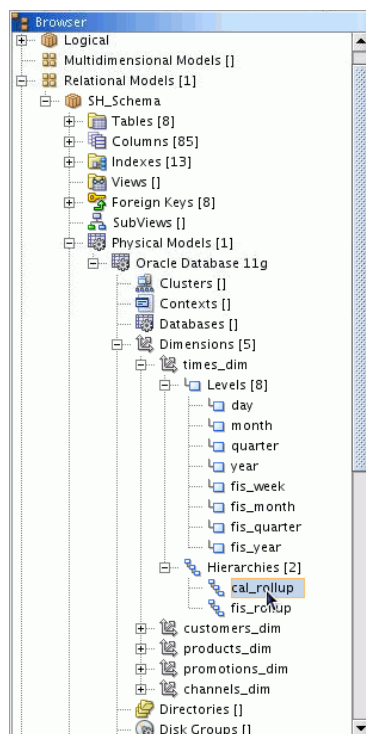
4. Click the **Level Attributes** tab to view the columns defined for this level.



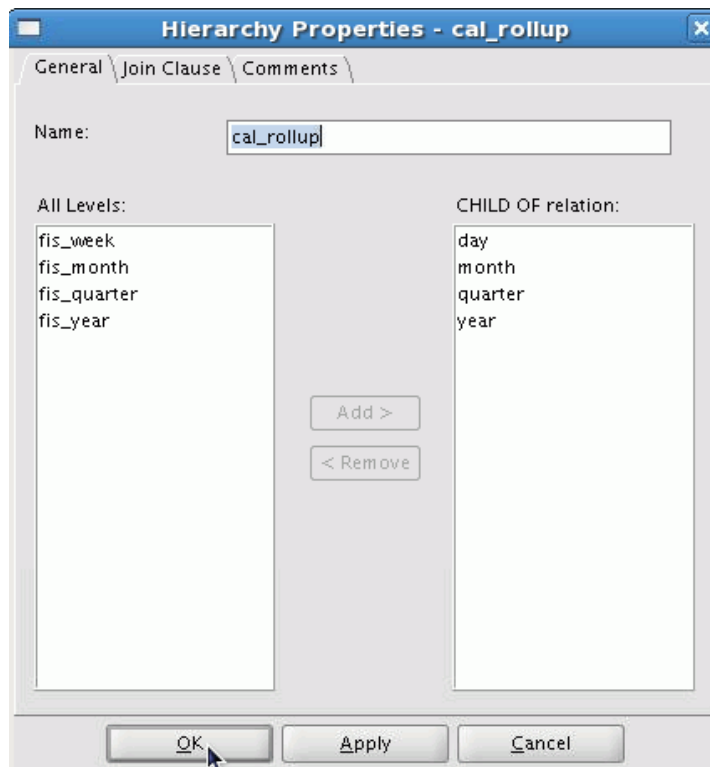
5. The columns are displayed. Click **OK**.



6 . Expand **Hierarchies**. Double-click **cal\_rollup**.



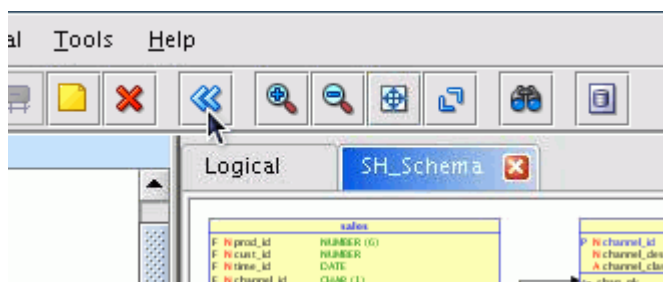
7 . Review the list of levels included in this hierarchy. Click **OK**. In the next section, you engineer the relational model to a logical model so that you can then create the multidimensional model.



### *Generating a Multidimensional Model*

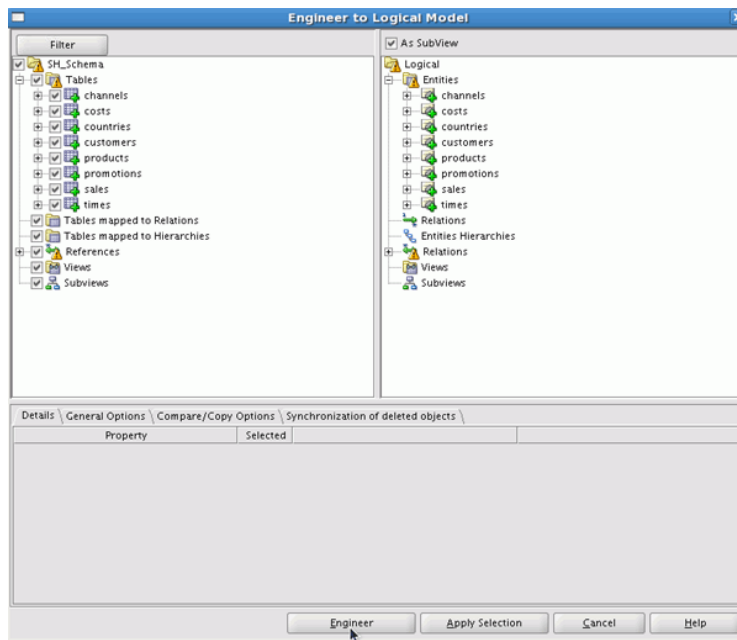
In this section, you engineer the relational model to a logical model and then generate the multidimensional model. Perform the following steps:

- 1 . Click the Engineer to Logical Model icon.

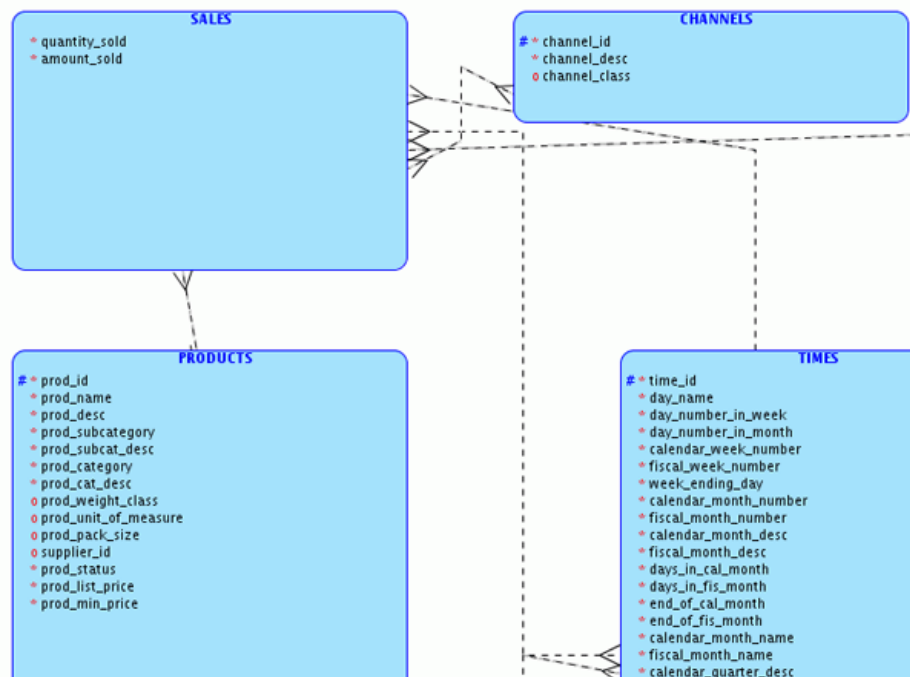


- 2 . Expand **Tables** to see the objects that will be added to the Logical Model. Click **Engineer**.

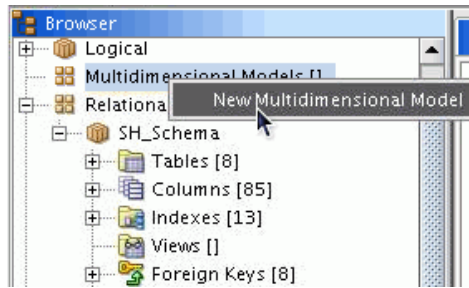




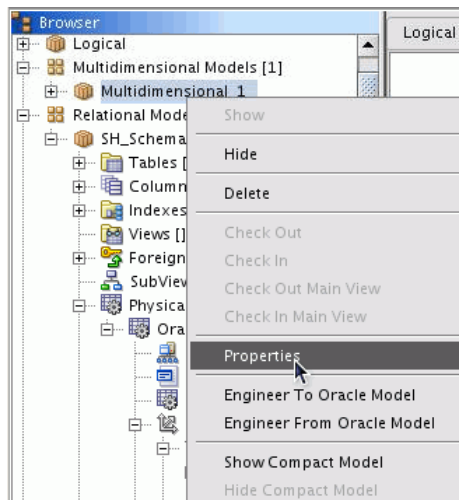
3. The Logical Model is displayed.



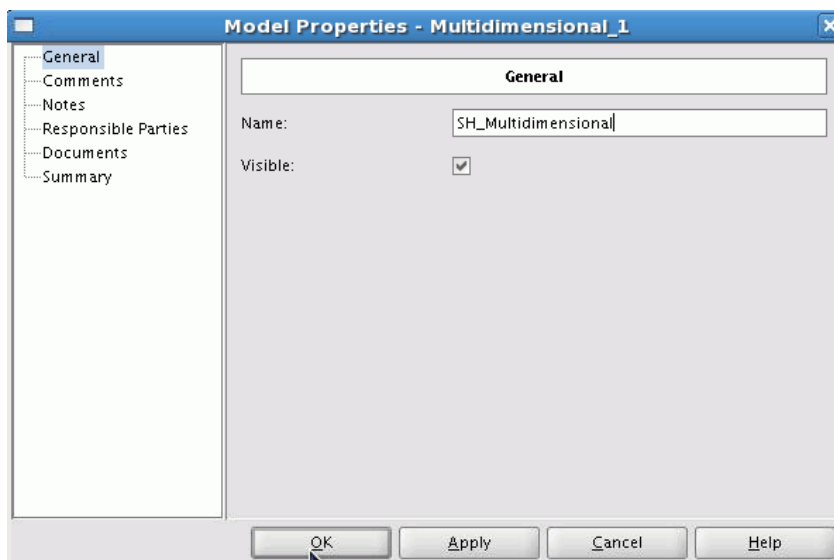
4. Now you can create a multidimensional model. In the left navigator, right-click **Multidimensional Models** and select **New Multidimensional Model**.



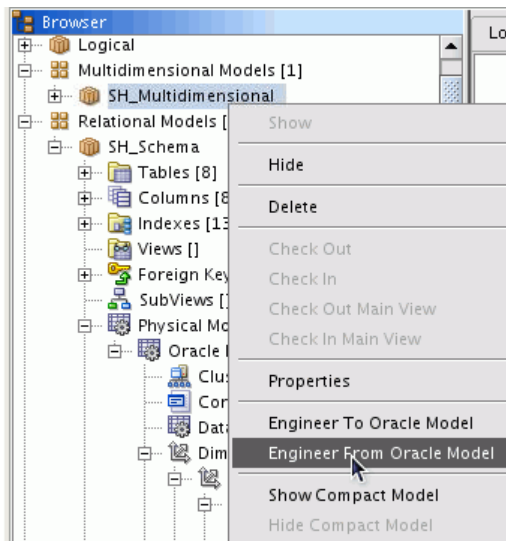
5. Once your multidimensional model is created, you can change the name.  
Expand **Multidimensional Models** and right-click **Multidimensional\_1**, then select **Properties**.



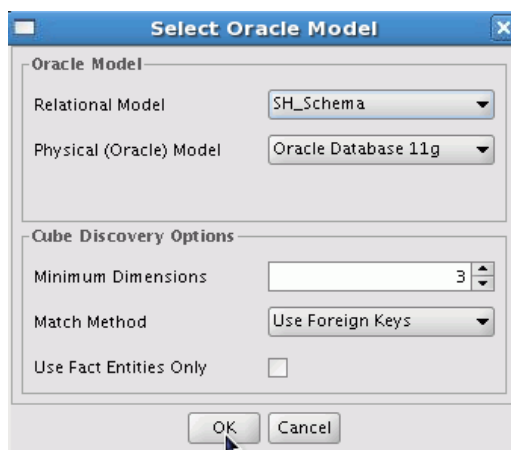
6. Change the Name from Multidimensional\_1 to **SH\_Multidimensional** and click **OK**.



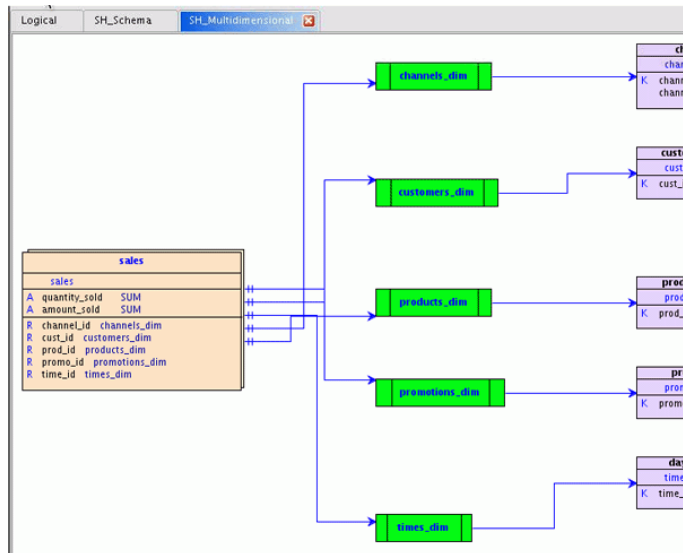
7. Now you can create the multidimensional model. Right-click **SH\_Multidimensional** and select **Engineer From Oracle Model**.



8. Click **OK**.



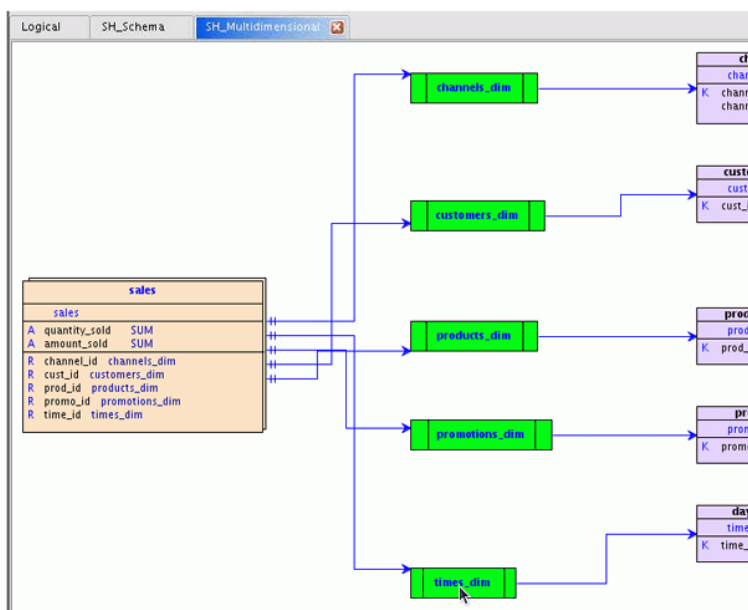
9. The multidimensional model was created successfully. In the next section, you review the `times_dim` object in the multidimensional model.



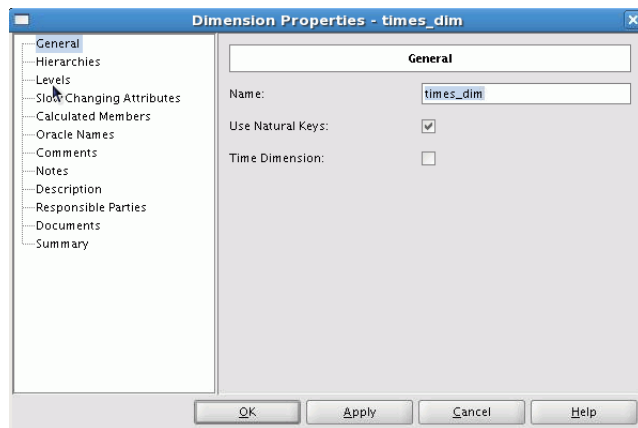
## Reviewing the Multidimensional Model

Perform the following steps:

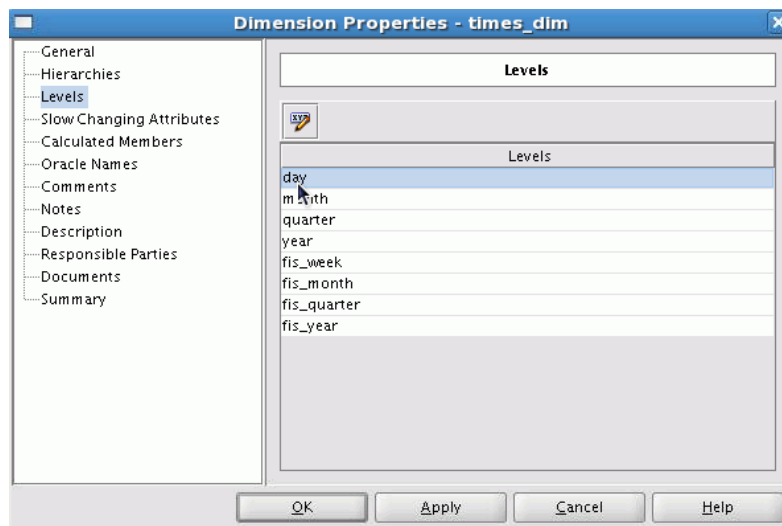
1. Double-click the **times\_dim** object in the diagram.



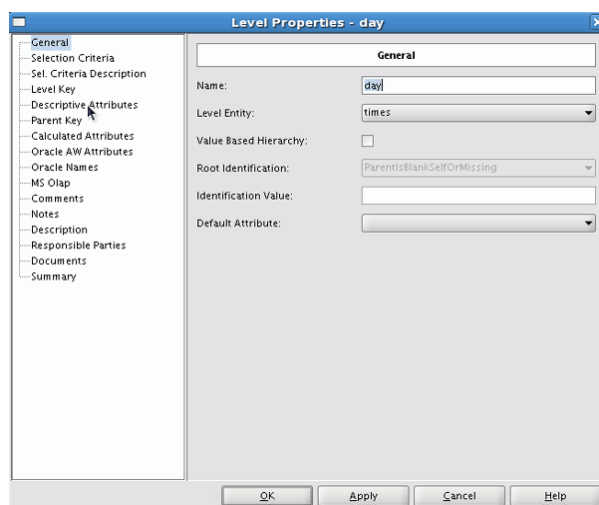
2. In the left navigator, click **Levels**.



3. The levels are displayed. You can drill down into the levels. Double-click the **day** level.



4. In the left navigator, click **Descriptive Attributes**.



5 . Review the attributes shown. Click **OK** twice to return to the diagram.

**Level Properties - day**

**Descriptive Attributes**

Attributes

Name	Attribute	Indexed	Slow Changing
day_name	times.day_name	<input type="checkbox"/>	NONE
day_number_in_month	times.day_number_in_month	<input type="checkbox"/>	NONE
day_number_in_year	times.day_number_in_year	<input type="checkbox"/>	NONE
calendar_week_number	times.calendar_week_number	<input type="checkbox"/>	NONE

History Attributes

Attributes

OK Apply Cancel Help

### Conclusion:

Thus, we studied how to develop an application to construct a multidimensional data using Oracle.