

<SQL Server Analysis Services Midterm Project>

< SQL Server 2016 Analysis Services Midterm Project>

<2/14/2023>

Prepared by

<Vijay Laxmi Tyagi>

<A01317295>

Contents

Describe all different data sources.....	2
Describe Data Source View	3
Document and explain all Dimensions	3
Document and explain steps to create a Strategy Plan cube.....	4
Decide which Microsoft SQL Server Analysis Services edition is required, explain why	7
Document all SSAS installation and configuration steps.....	8
Restore Contoso Retail database	9
Create following Dimensions with hierarchies:	12
Scenario	12
Currency	13
Date	13
Entity	14
Account.....	15
Product.....	16
Create Strategy Plan cube with following measures.....	16

SQL Server 2016 Analysis Services Project 1 – Contoso Retail

Describe all different data sources

The Data source in SQL Server Analysis Services (DS) is a connection to the database or data warehouse from which we import (load) required data. Every Analysis services project must have at least one data source to work.

SSAS Supports both .Net and OLE DB Providers. The following are some of the primary data sources supported by SSAS: SQL Server, MS Access, Oracle, Teradata, IBM DB2, and other relational databases with the appropriate OLE DB provider.

Describe Data Source View

A data source view is a single, unified view of the metadata from the specified tables and views that the data source defines in the project. Storing the metadata in the data source view enables you to work with the metadata during development without an open connection to any underlying data source.

Document and explain all Dimensions

Dimension type	Description
Regular	A dimension whose type has not been set to a special dimension type.
Time	A dimension whose attributes represent time periods, such as years, semesters, quarters, months, and days.
Organization	A dimension whose attributes represent organizational information, such as employees or subsidiaries.
Geography	A dimension whose attributes represent geographic information, such as cities or postal codes.
BillOfMaterials	A dimension whose attributes represent inventory or manufacturing information, such as parts lists for products.
Accounts	A dimension whose attributes represent a chart of accounts for financial reporting purposes.
Customers	A dimension whose attributes represent customer or contact information.
Products	A dimension whose attributes represent product information.
Scenario	A dimension whose attributes represent planning or strategic analysis information.
Quantitative	A dimension whose attributes represent quantitative information.
Utility	A dimension whose attributes represent miscellaneous information.
Currency	This type of dimension contains currency data and metadata.
Rates	A dimension whose attributes represent currency rate information.
Channel	A dimension whose attributes represent channel information.

Dimension type	Description
Promotion	A dimension whose attributes represent marketing promotion information.

<https://learn.microsoft.com/en-us/analysis-services/multidimensional-models-olap-logical-dimension-objects/database-dimension-properties-types?view=asallproducts-allversions>

Document and explain steps to create a Strategy Plan cube

- a. Explain all measures
 - b. Explain all Calculated Members
1. In Solution Explorer, right-click the Cubes folder and select New Cube... to open the Cube Wizard window.
 2. Click Next on the opening screen.
 3. Select Use existing tables on the Select Creation Method screen, and then click Next.

Cube Wizard

Select Creation Method

Cubes can be created by using existing tables, creating an empty cube, or generating tables in the data source.

How would you like to create the cube?

☒ Use existing tables

☐ Create an empty cube

☐ Generate tables in the data source

Template:

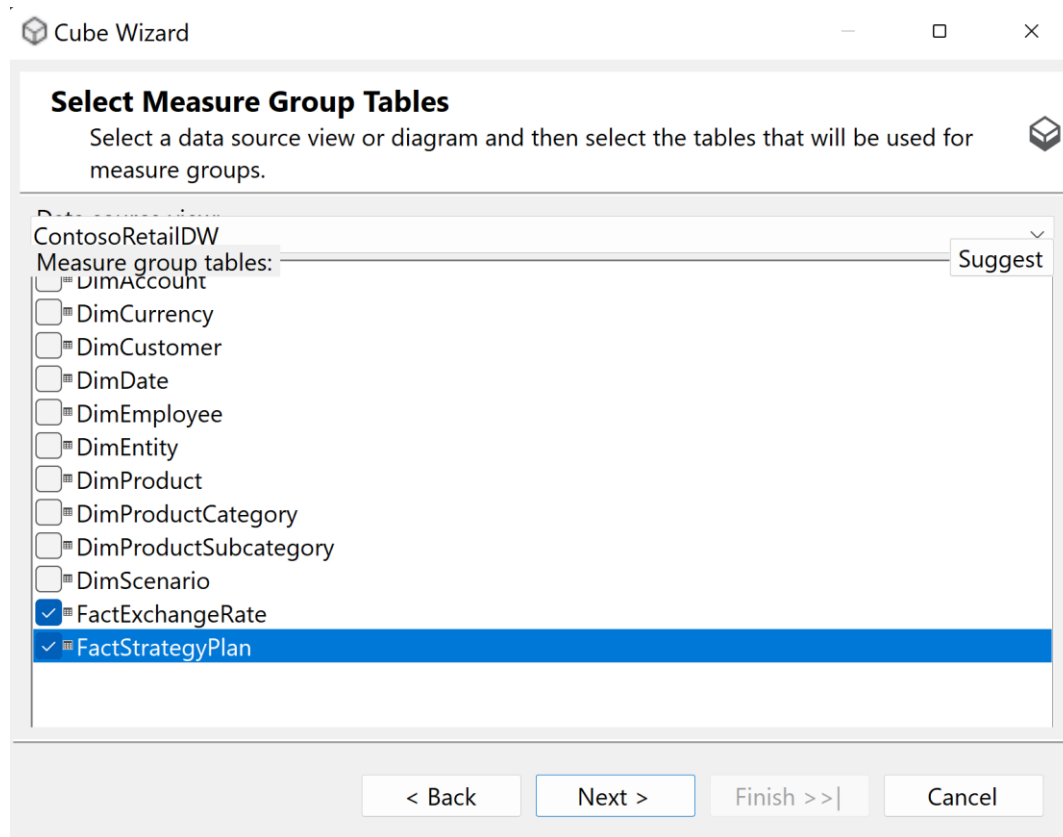
(None)

Description:

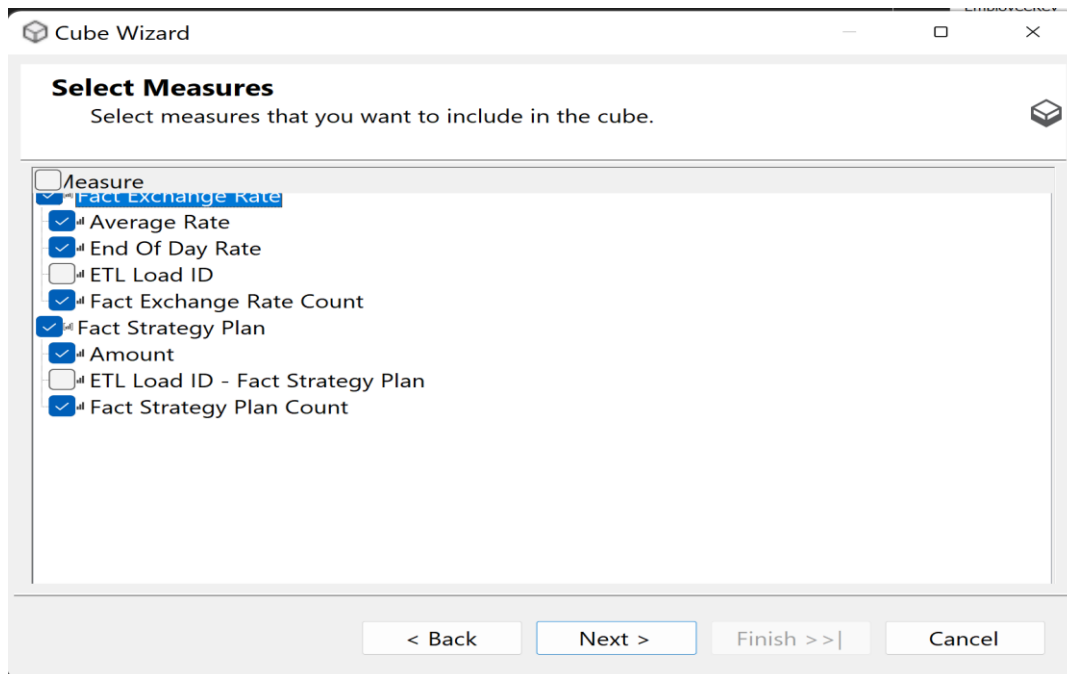
Create a cube based on one or more tables in a data source.

< Back Next > Finish >>| Cancel

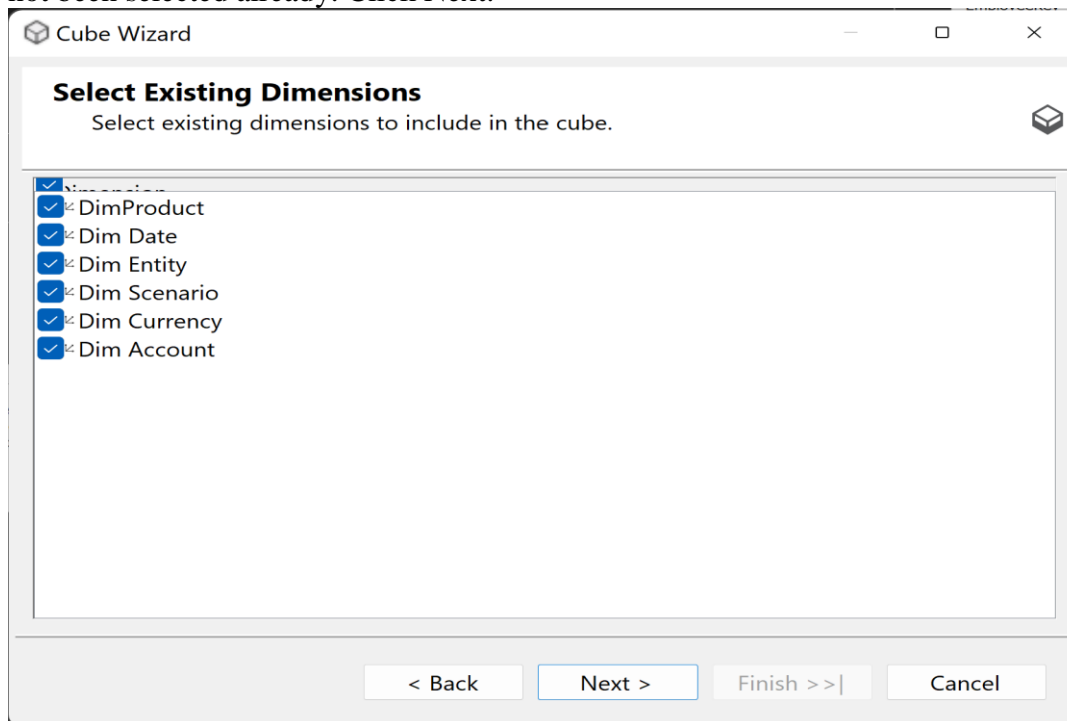
4. On the Select Measure Group Tables screen, select the FactExchangeRate and FactStrategyPlan, and then click Next.



5. On the Select Measures screen, click the FactExchangeRate and FactStrategyPlan checkboxes to unselect all the measures.
6. Under FactExchangeRate, select the following measures to include: AverageRate, End Of day Rate, FactExchangeRateCount.
7. Under FactStrategyPlan, select the following measures to include: Amount, FactStrategyPlanCount.
8. Once the measures have been selected, click Next.

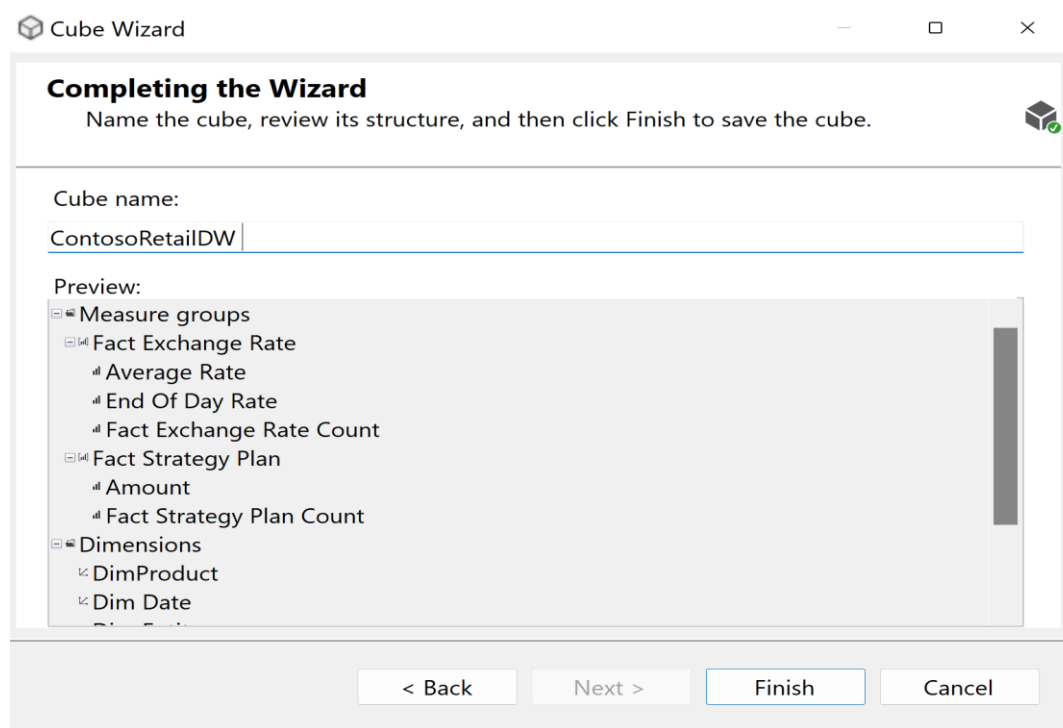


9. On the Select Existing Dimensions screen, select all the dimensions if they have not been selected already. Click Next.



10. On the Select New Dimensions screen, deselect any options here. We do not need to add any suggested dimensions. Click Next.

11. click Finish.



Decide which Microsoft SQL Server Analysis Services edition is required, explain why

Analysis Services includes the tools for creating and managing online analytical processing (OLAP) and data mining applications.

Enterprise Edition - This edition can be considered as the ultimate edition having all the features available in the SQL Server eco-system. The features available exclusively in this edition are related to Advanced security, In-Memory processing and high availability. This version is typically employed for core data sources like transactional databases and data warehouses.

Business Intelligence Edition - This edition can be considered a scaled down version of the Enterprise Edition. This edition is suitable for servers that are playing the role of different BI functions like ETL / Reporting / Data Marts / Self-service BI etc. depending upon the technology / service deployed on the server.

Standard Edition - This edition contains the least number of features of all three editions. This edition is suitable for lower environments of medium complexity.

The Web **edition** is only available for service providers hosting public websites that use SQL Server.

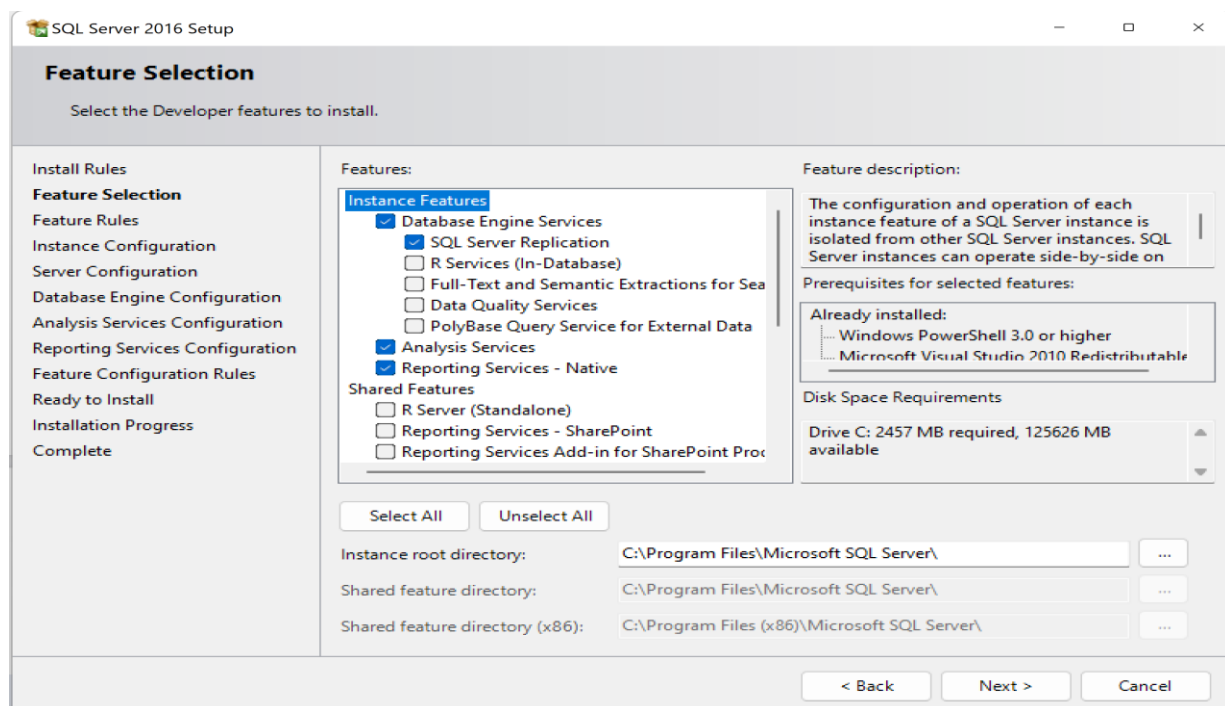
Developer edition is a fully featured edition, but meant for development use and not allowed for use on production systems.

Express edition is a free entry-level version of SQL Server geared toward small applications with local data requirements.

Ideally when dealing with SSAS, it's advisable to start with the Business Intelligence edition, but it's not always the case and there are exceptions depending upon factors like servers, cost, topology, etc.

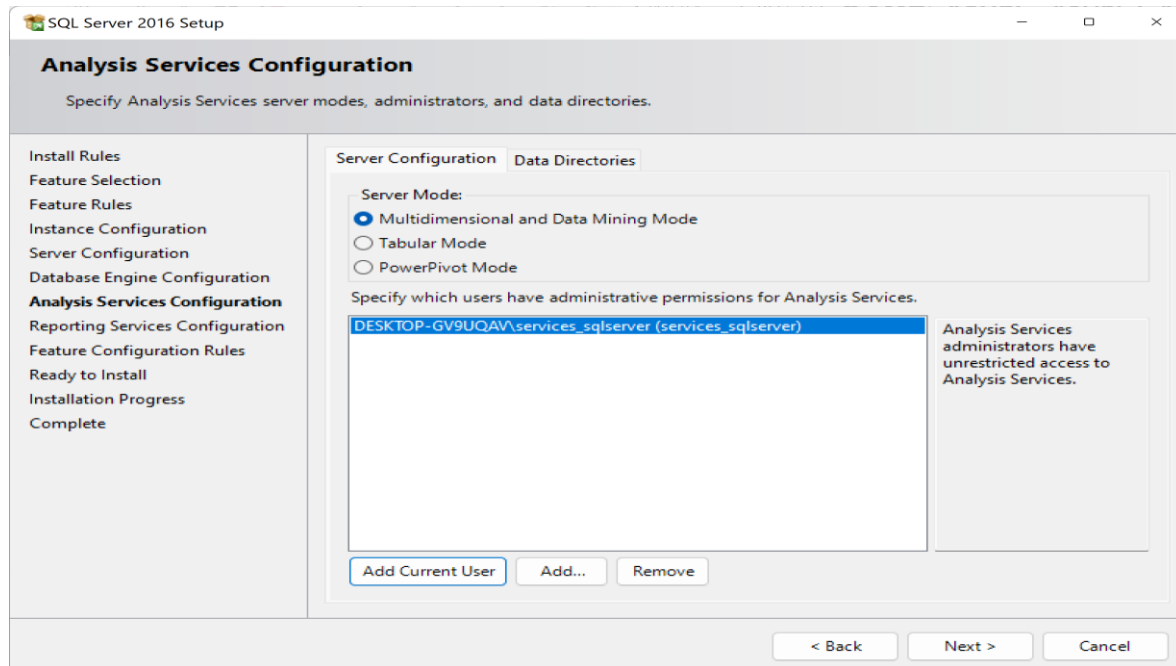
Document all SSAS installation and configuration steps

1. On the **Feature Selection** page, select **Analysis Services** from the feature tree.



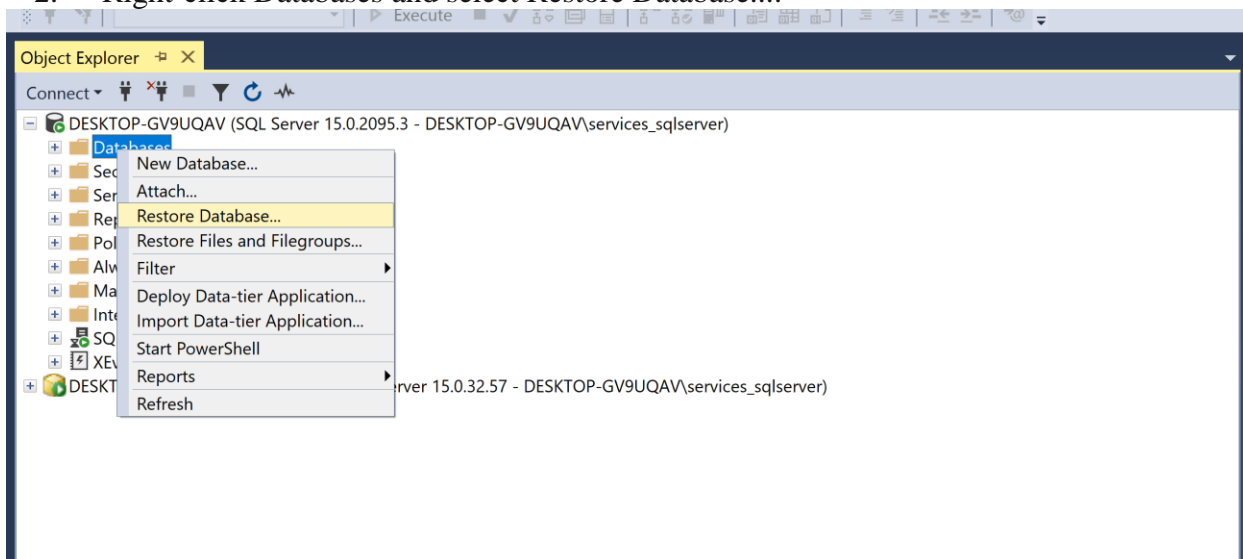
<SQL Server Analysis Services Midterm Project>

2. On the **Analysis Services Configuration** page > **Server Configuration** tab, select a mode. Then add users that will have Administrator permissions for the instance.



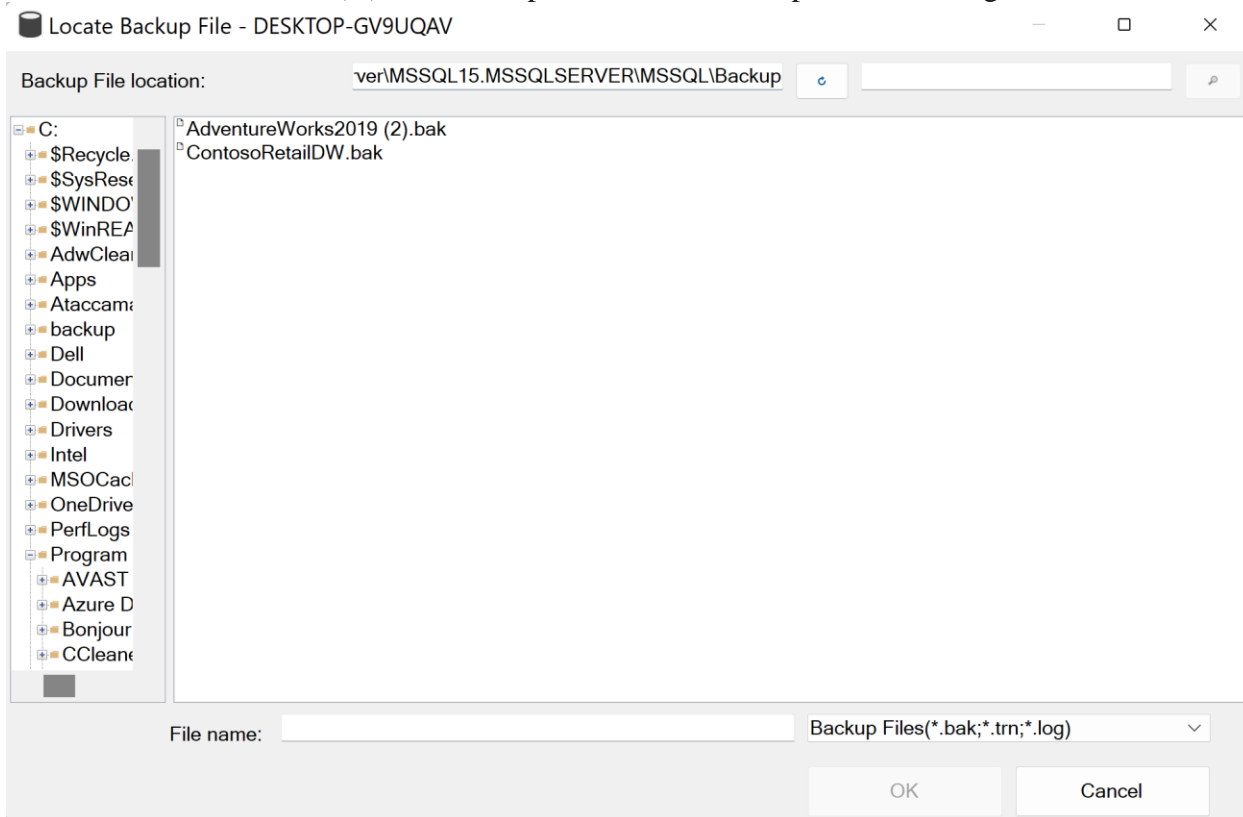
Restore Contoso Retail database

1. In Object Explorer, connect to an instance of the SQL Server Database Engine and then expand that instance.
2. Right-click Databases and select Restore Database....

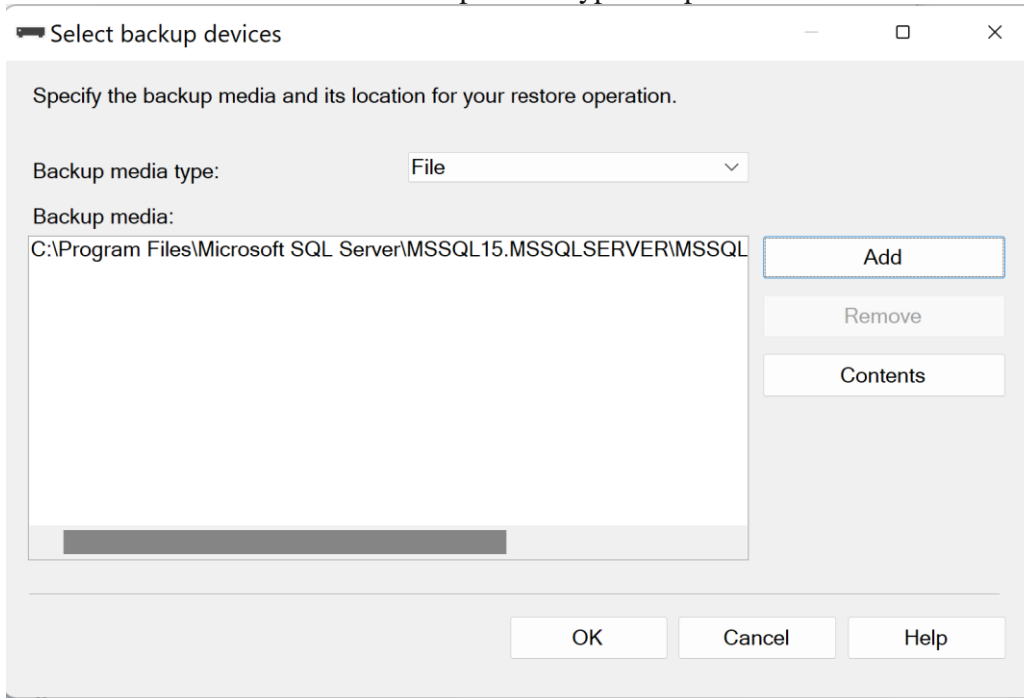


3. On the General page, select Device under the Source section.

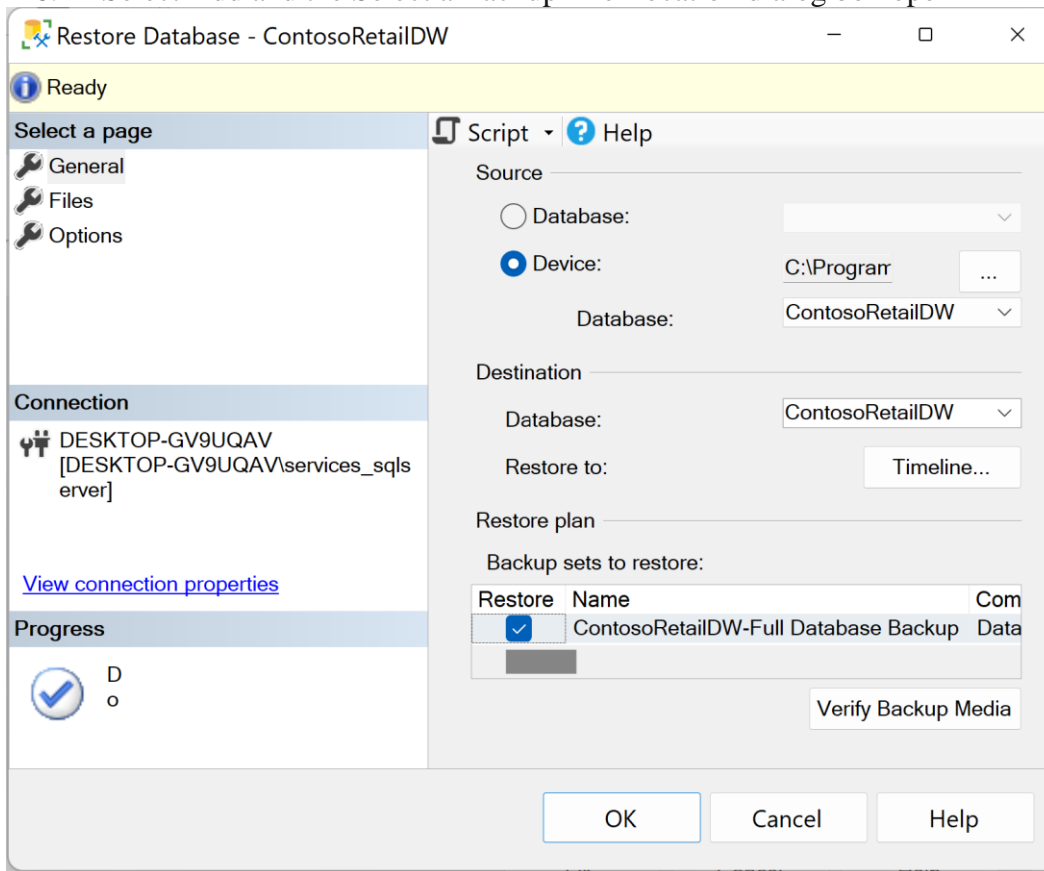
4. Select the browse (...) button to open the Select backup devices dialog box.



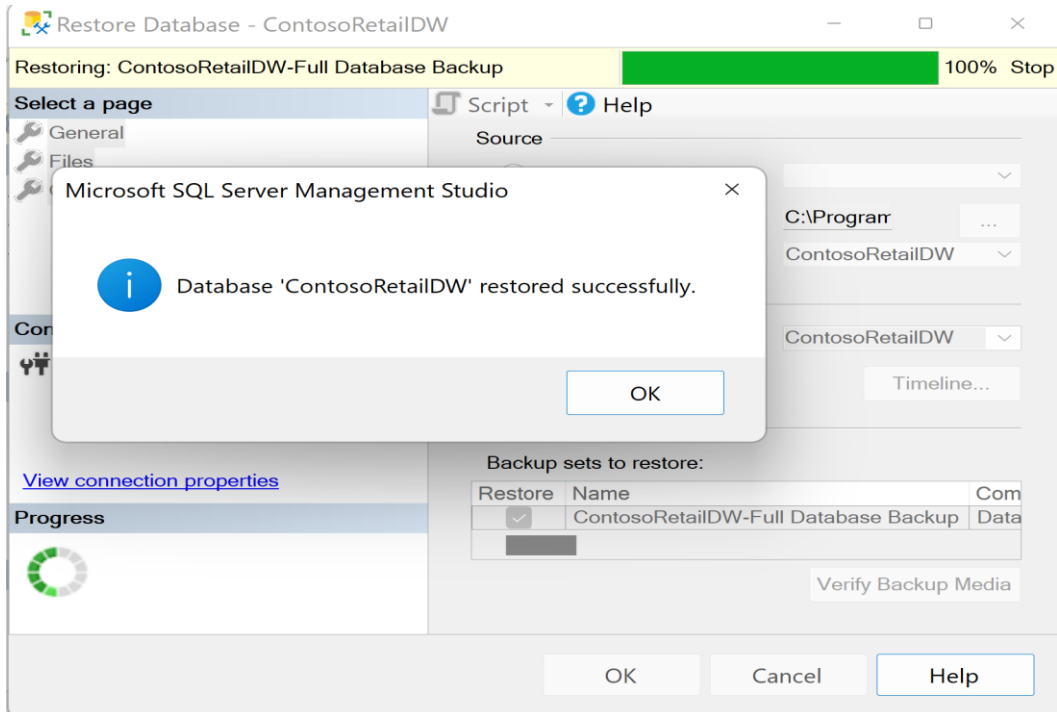
5. Select URL from the Backup media type: drop-down list.



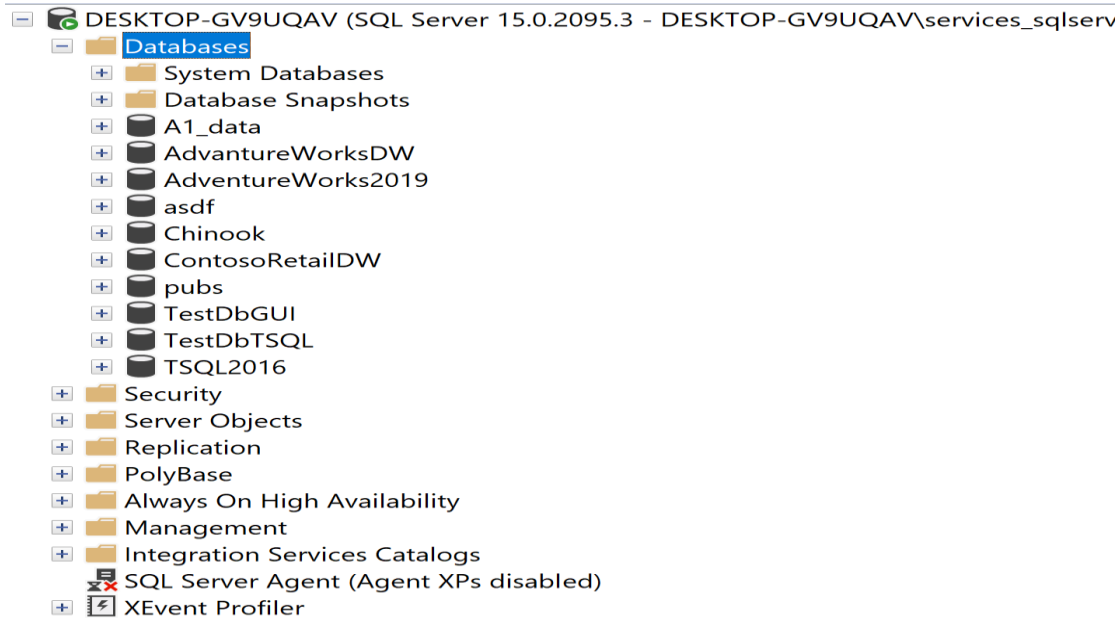
6. Select Add and the Select a Backup File Location dialog box open



7. Click ok to restore Database



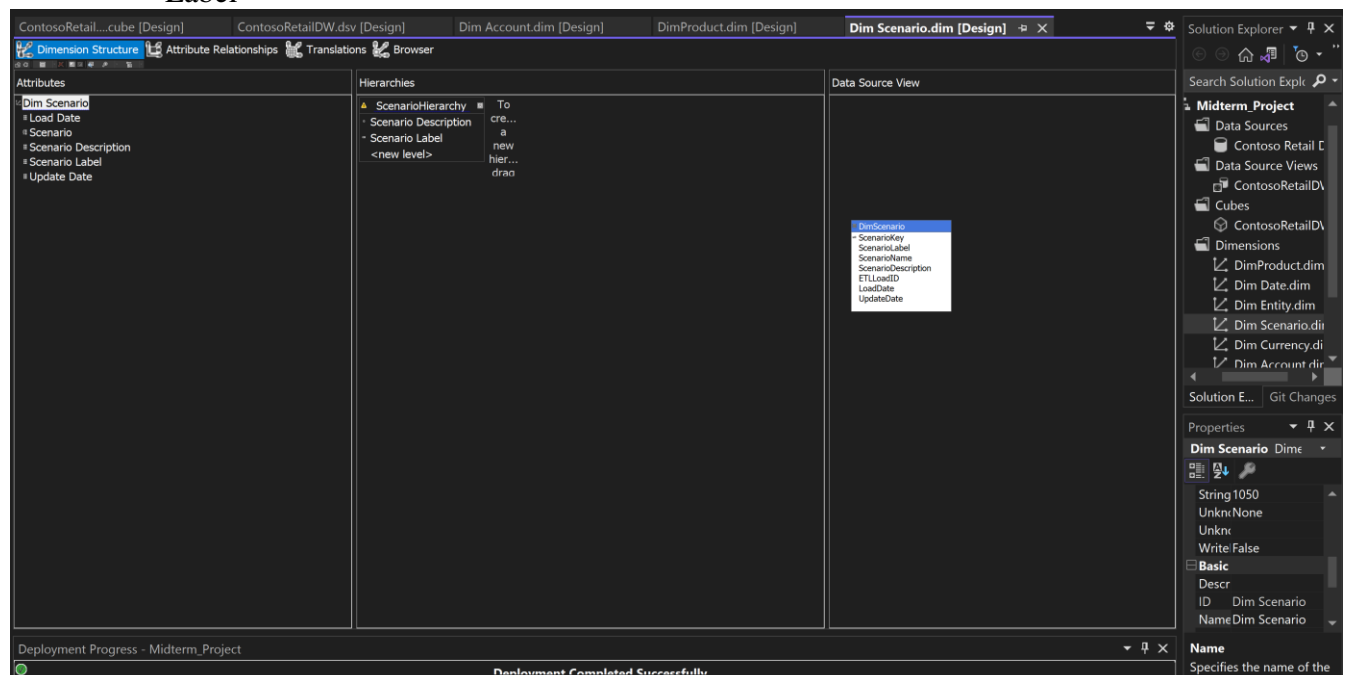
8. After Restoring databases if you expand database in object explorer you will see your restored Database.



Create following Dimensions with hierarchies:

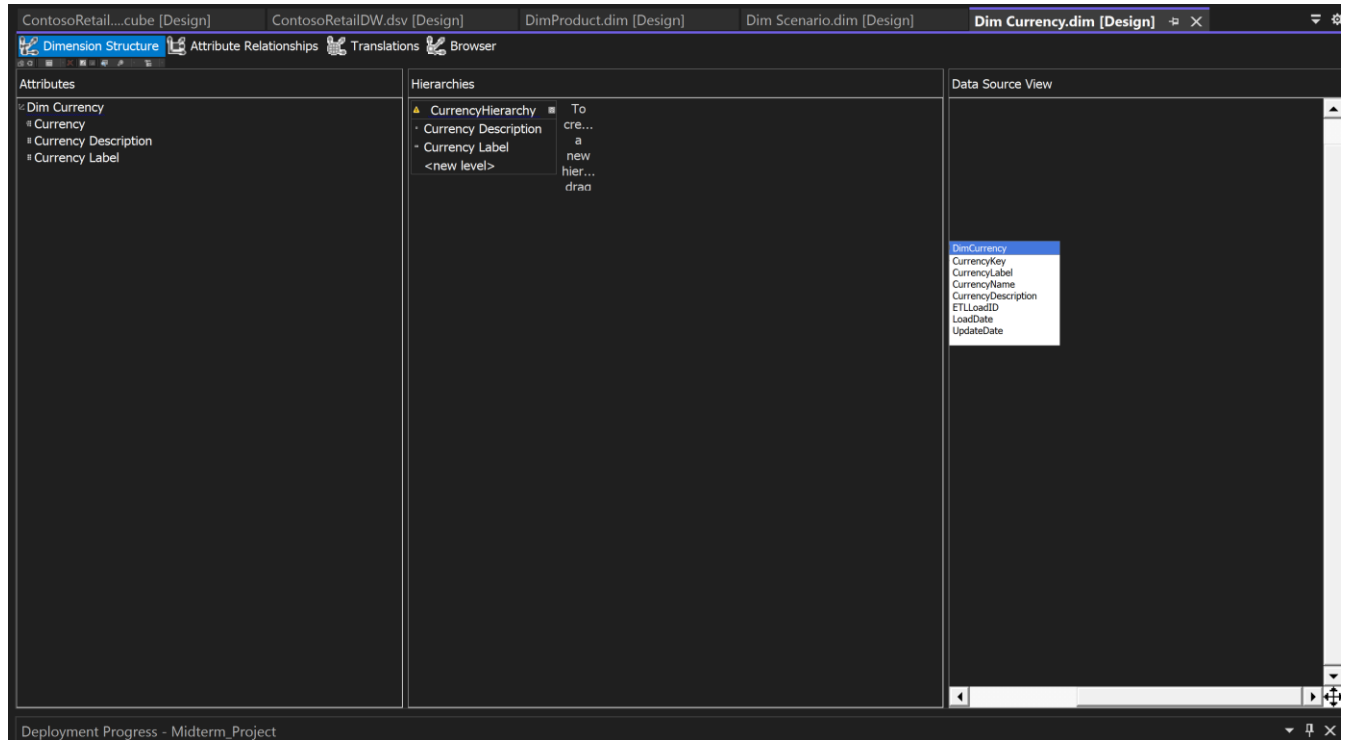
Scenario

- Description
- Label



Currency

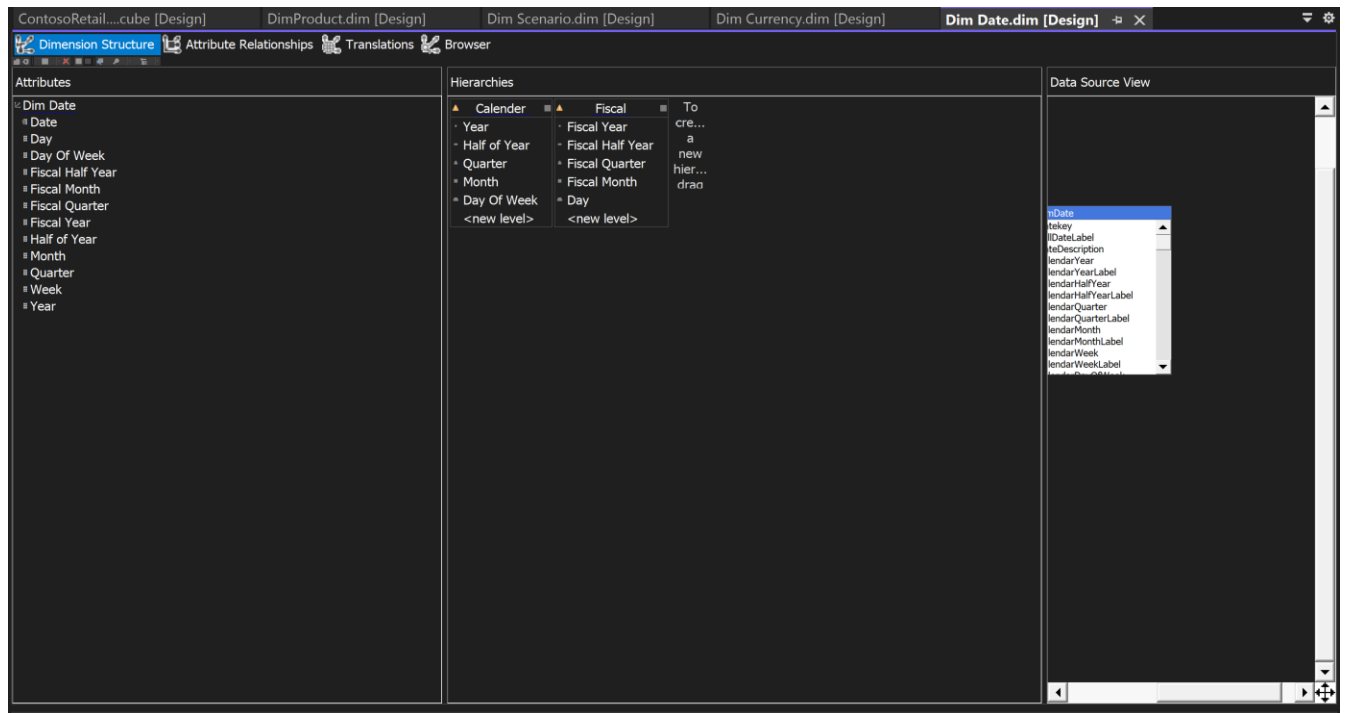
- Description
- Label



Date

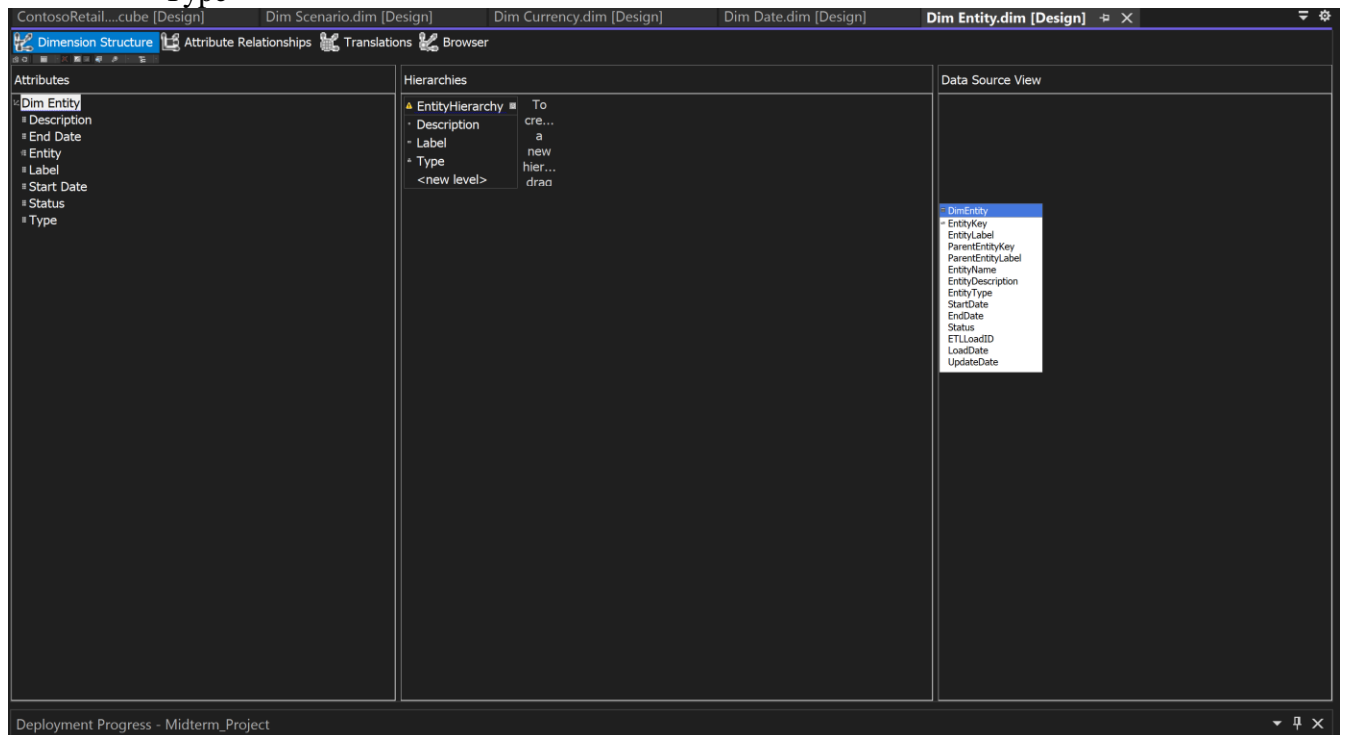
- Calendar
 - Year
 - Half of Year
 - Quarter
 - Month
 - Week
 - Day of Week
- Fiscal
 - Year
 - Half of Year
 - Quarter
 - Month
 - Day (with “Is Work Day” flag)

<SQL Server Analysis Services Midterm Project>



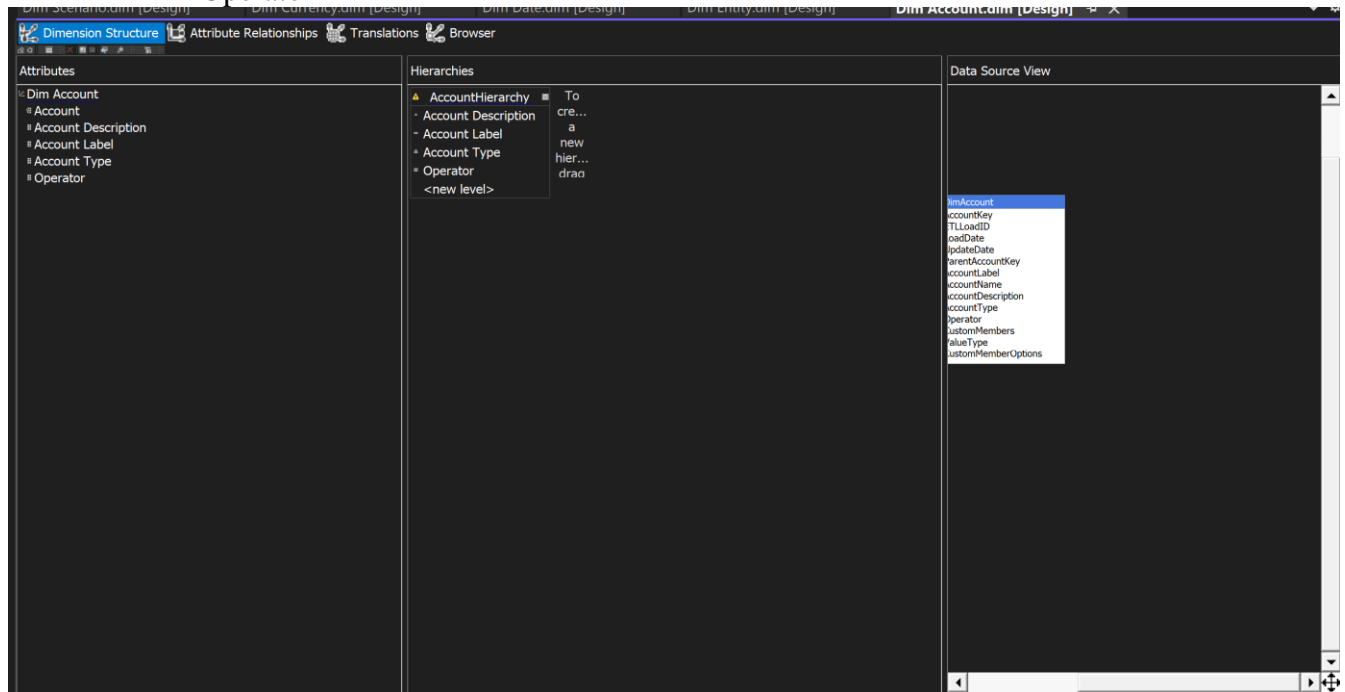
Entity

- Description
- Label
- Type



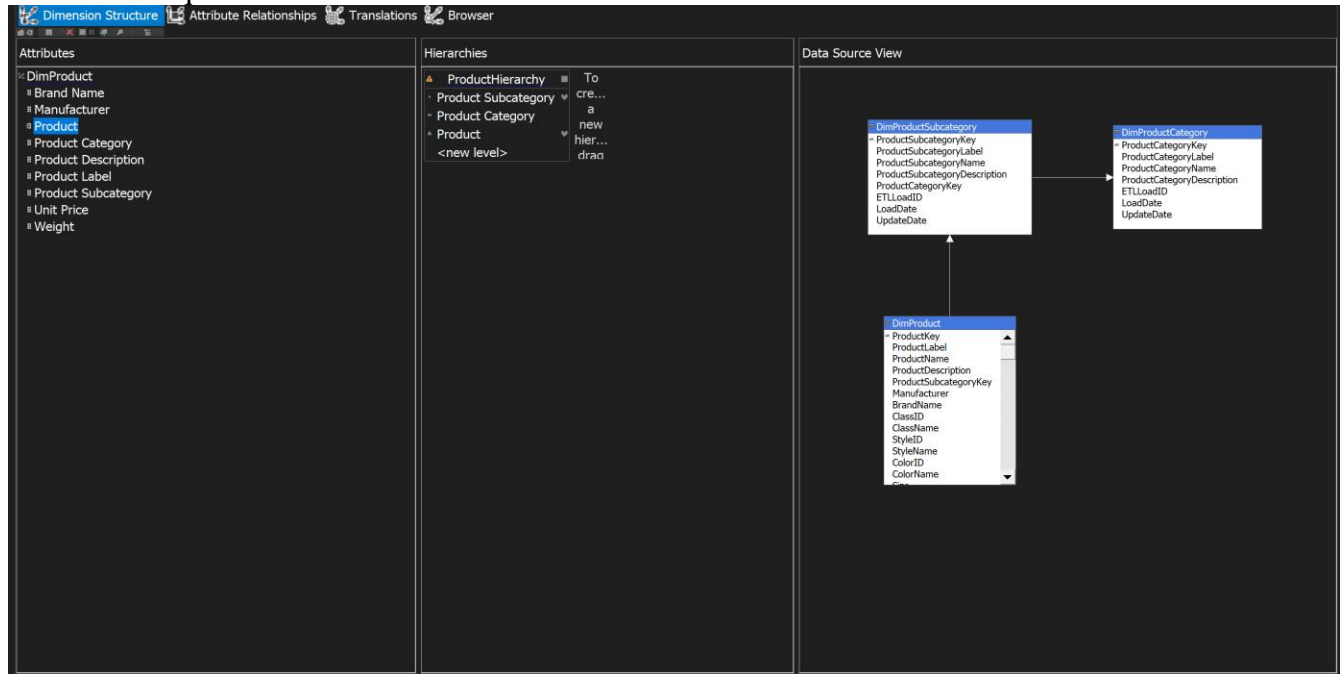
Account

- Description
- Label
- Level
- Type
- Operator



Product

Include all required Product attributes



Create Strategy Plan cube with following measures

- b. Strategy Plan Amount
- c. Exchange Rate
 - i. At End of Day
 - ii. Month Average

<SQL Server Analysis Services Midterm Project>

