

Report

Lab 2

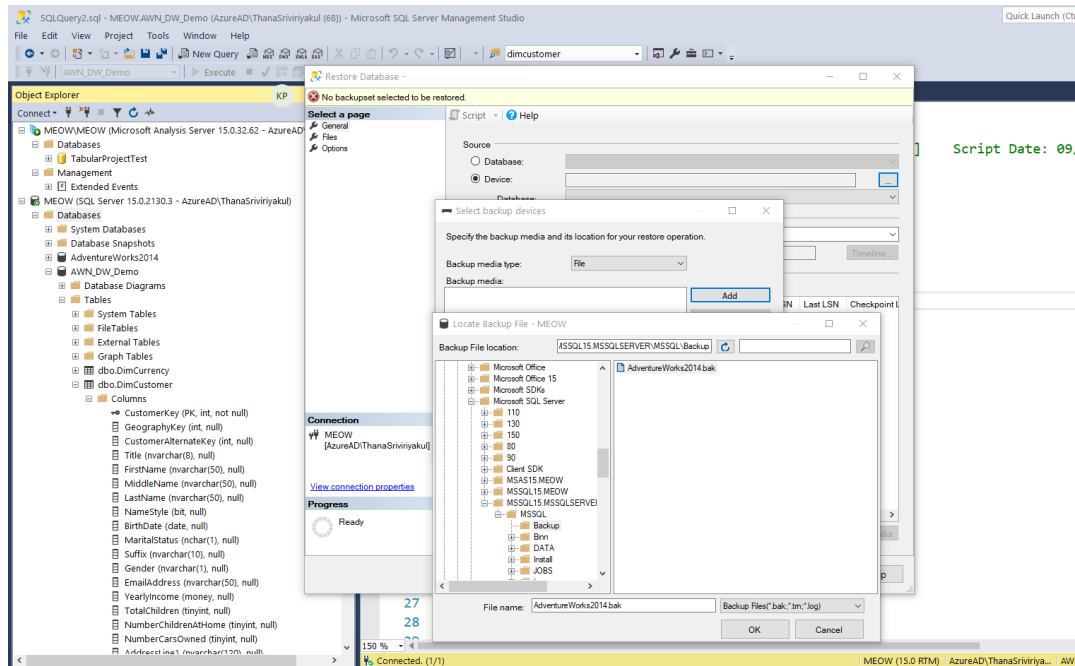
Implementing a Data Warehouse integrated in a full BI flow

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Topic: **Data Warehousing**
Course code: **AIK232**
Credits: **7.5**

Creating Database Objects

1. Restoring AdventureWorks database by using a backup file (.bak) from the webpage.

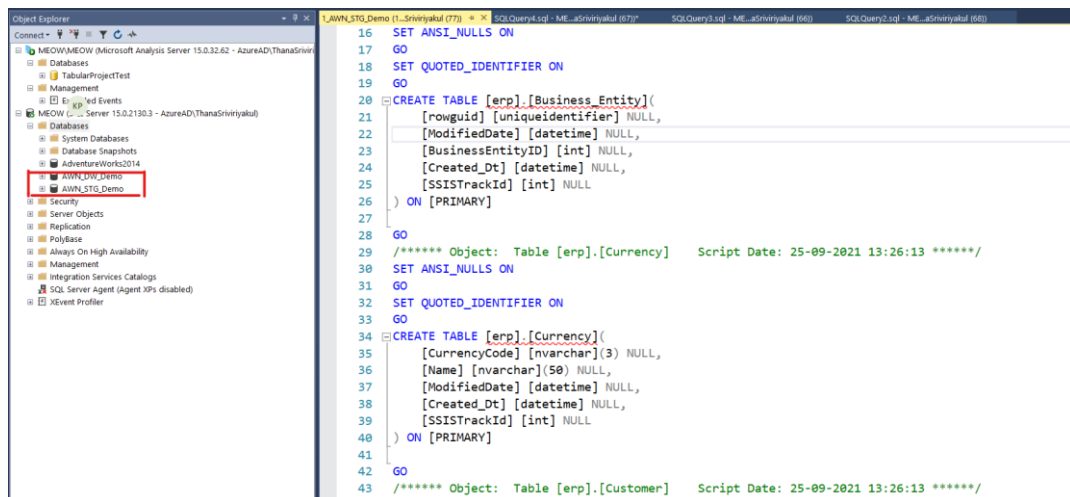


2. Executing the 3 scripts we obtained a staging database and a datawarehouse database.

[1_AWN_STG_Demo.sql](#) ↓

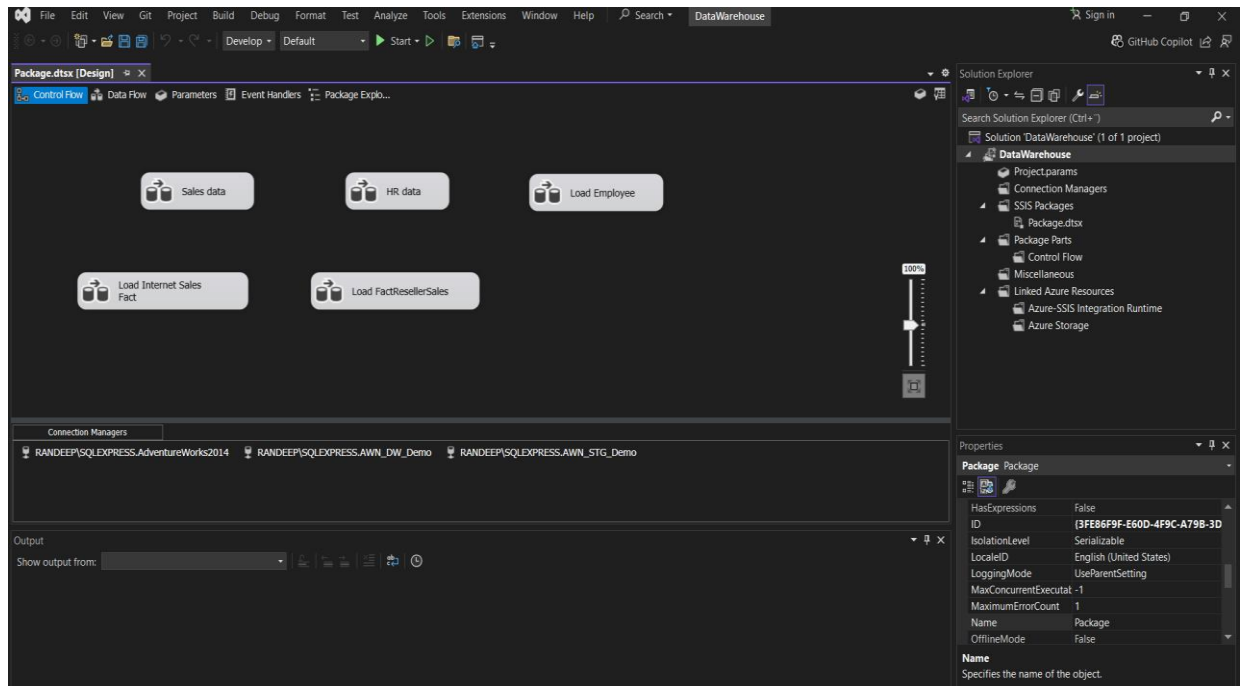
[2_AWN_DW_Demo.sql](#) ↓

[3_AWN_HR_Demo.sql](#) ↓

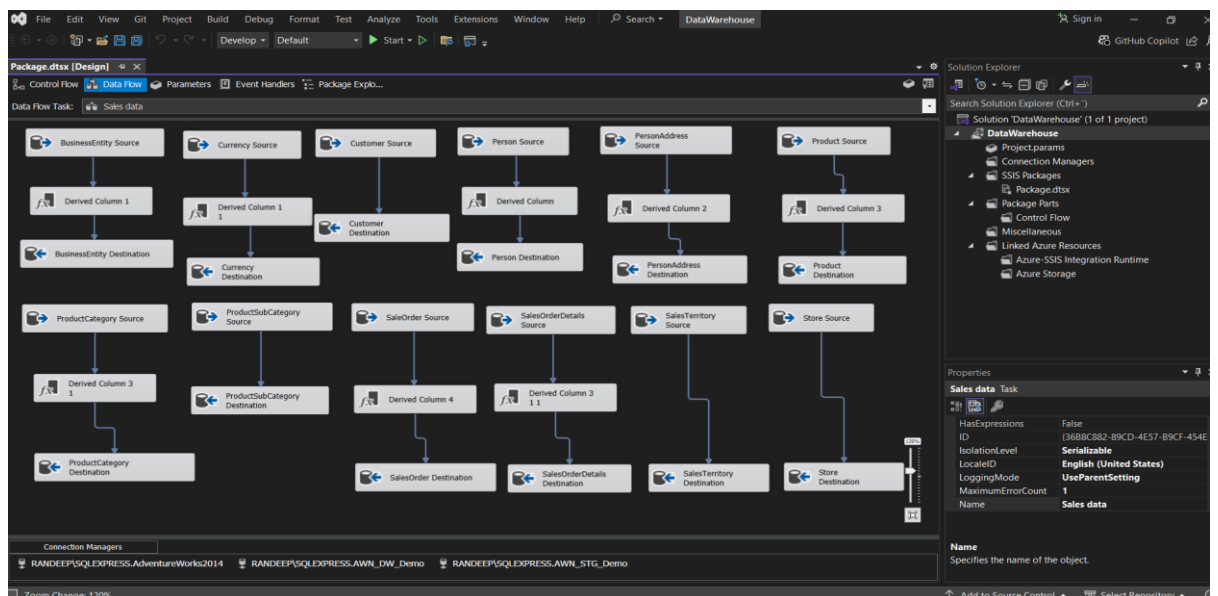


ETL Source to Staging

The figure shows the control flow for sales, HR, Load data to employee table, FactInternetSales and FactResellerSales

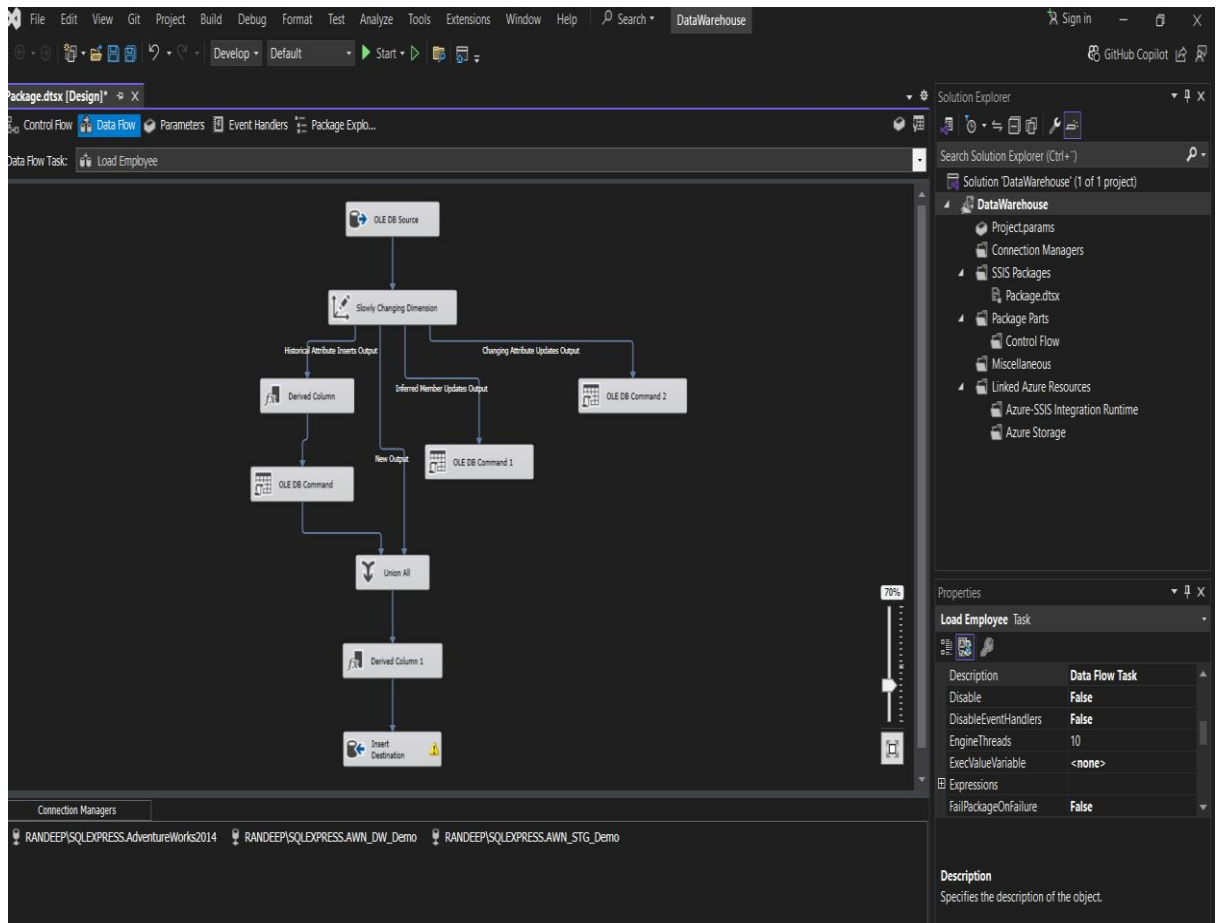


We created dataflows for the sales data mart for copying data from the AdventureWorks database to the staging database in the SSIS package (see the attached file). The input sources are gathered by OLE DB Source boxes and destinations by OLE DB Destination boxes. Derived columns are added when we want to create new columns from the sources. After executing the task, the data from AdventureWorks2014 was copied to the corresponding tables in AWN_STG_Demo.

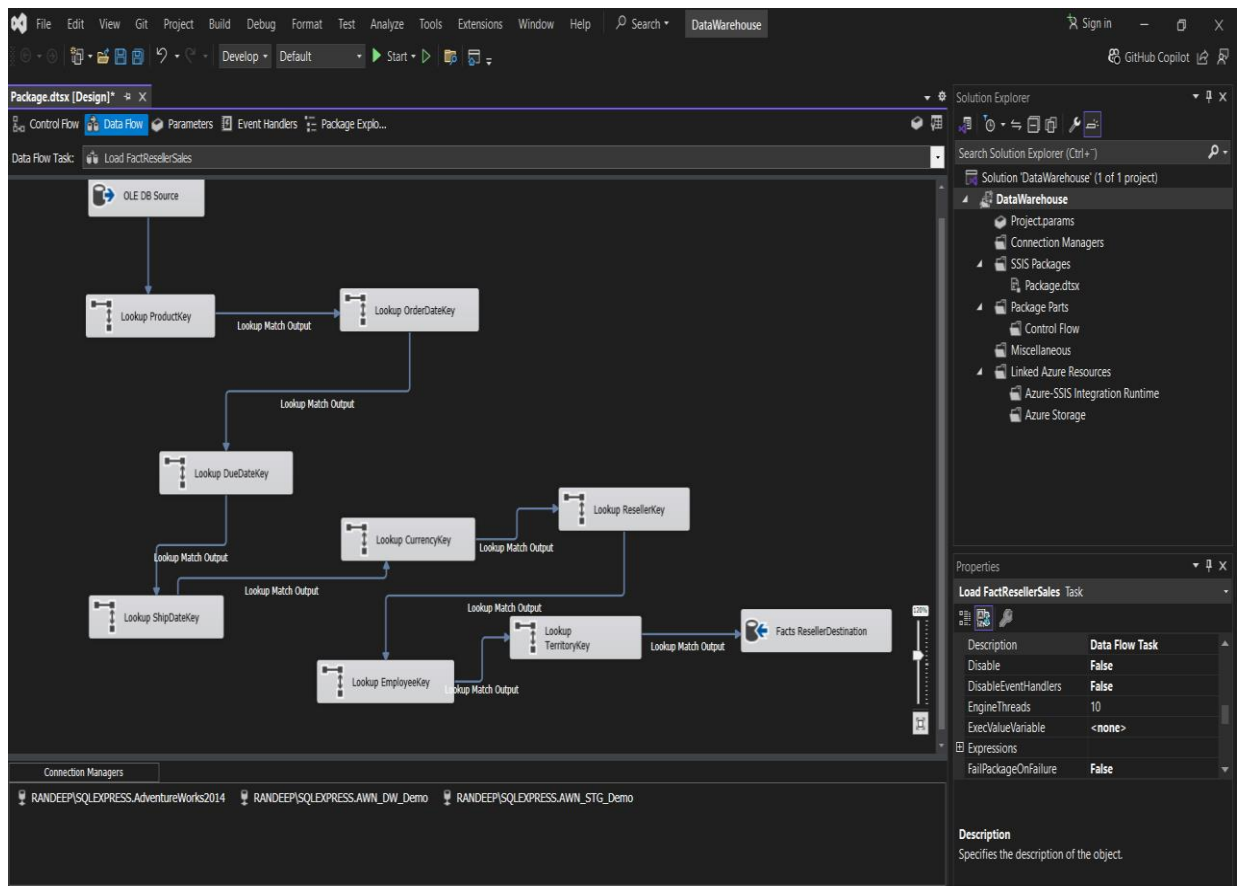
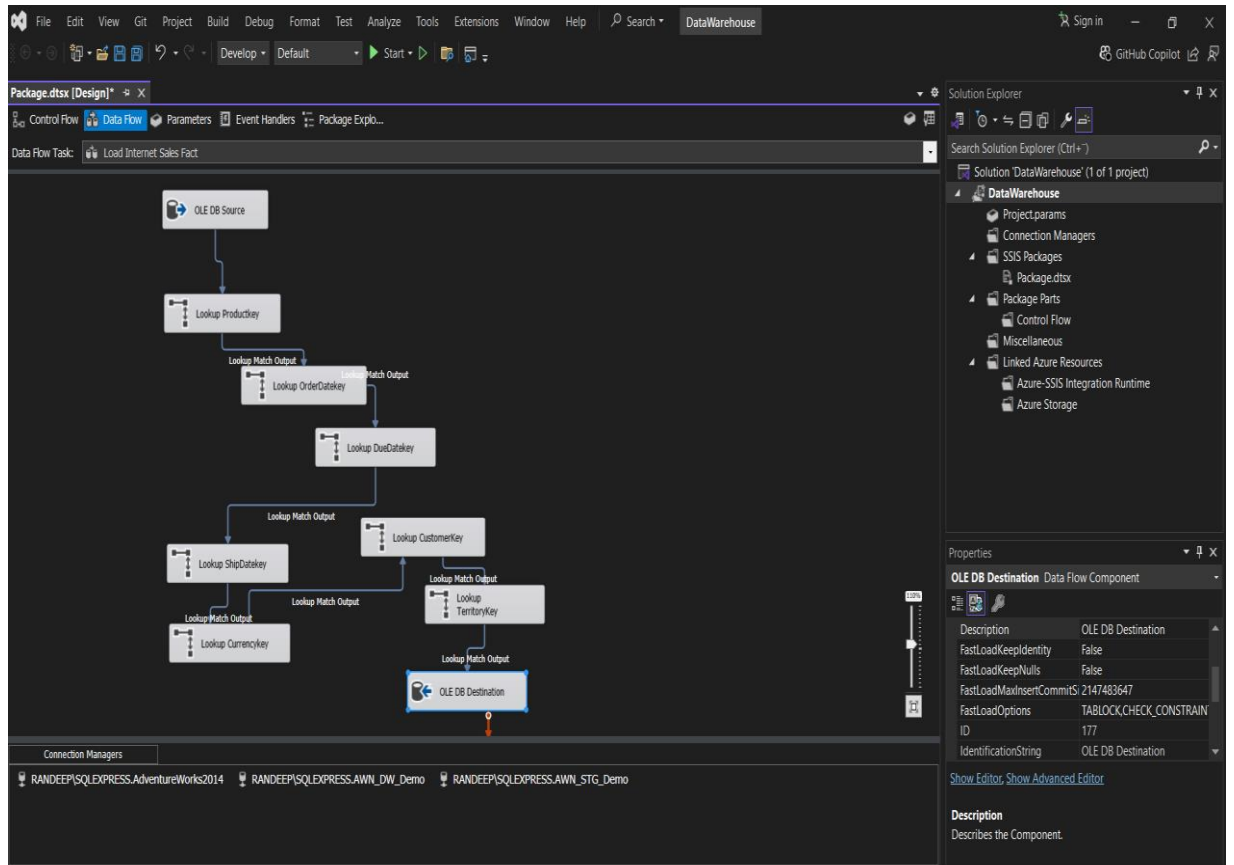


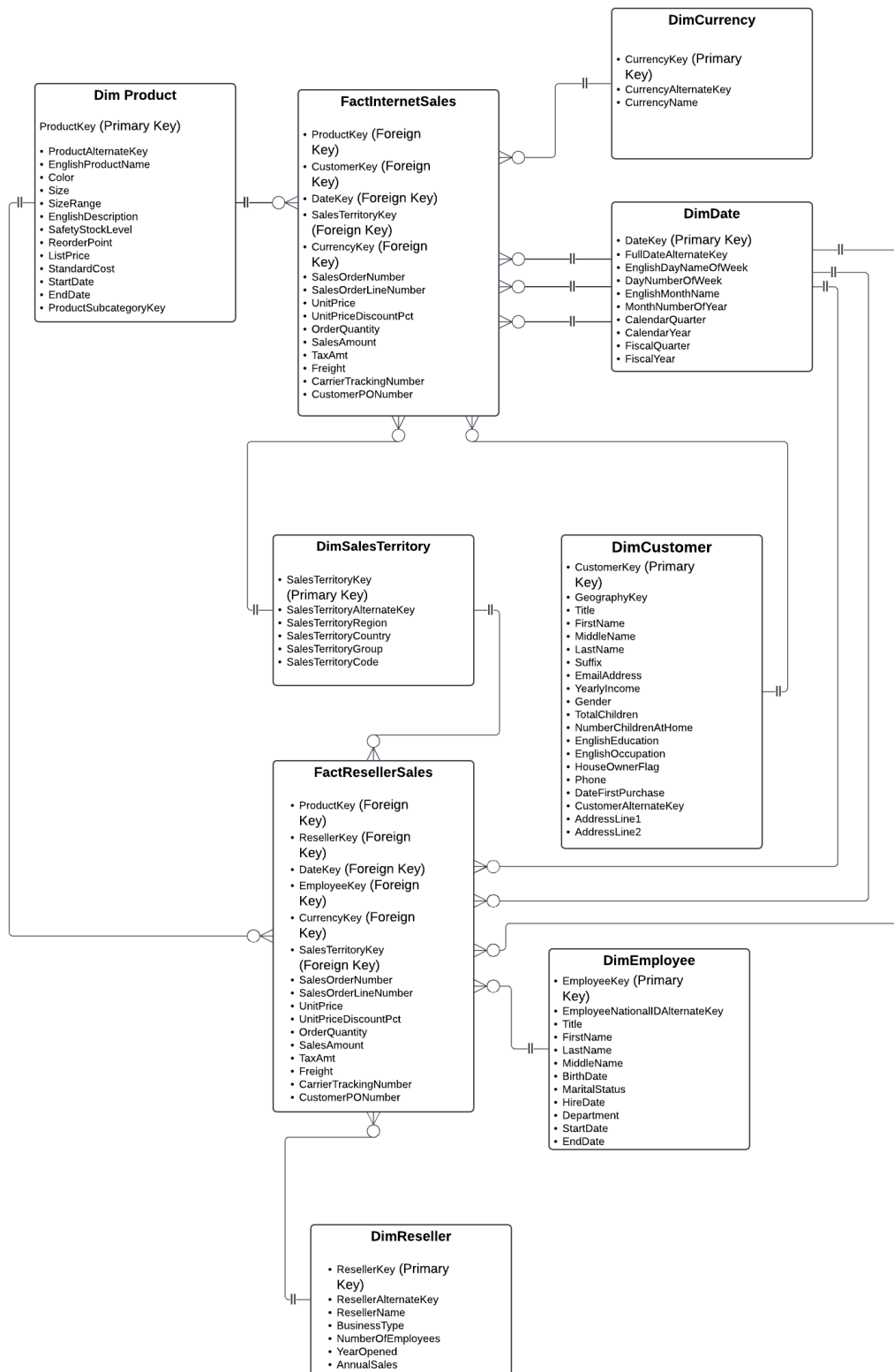
ETL Staging to DW

In this stage, data are loaded from the staging DB to the DW. Start by populating the dimension tables for that, and execute all the procedures in the scripts. After executing the script, all dimension tables will be created except DimEmployee. To generate this table, execute the following task in the figure.



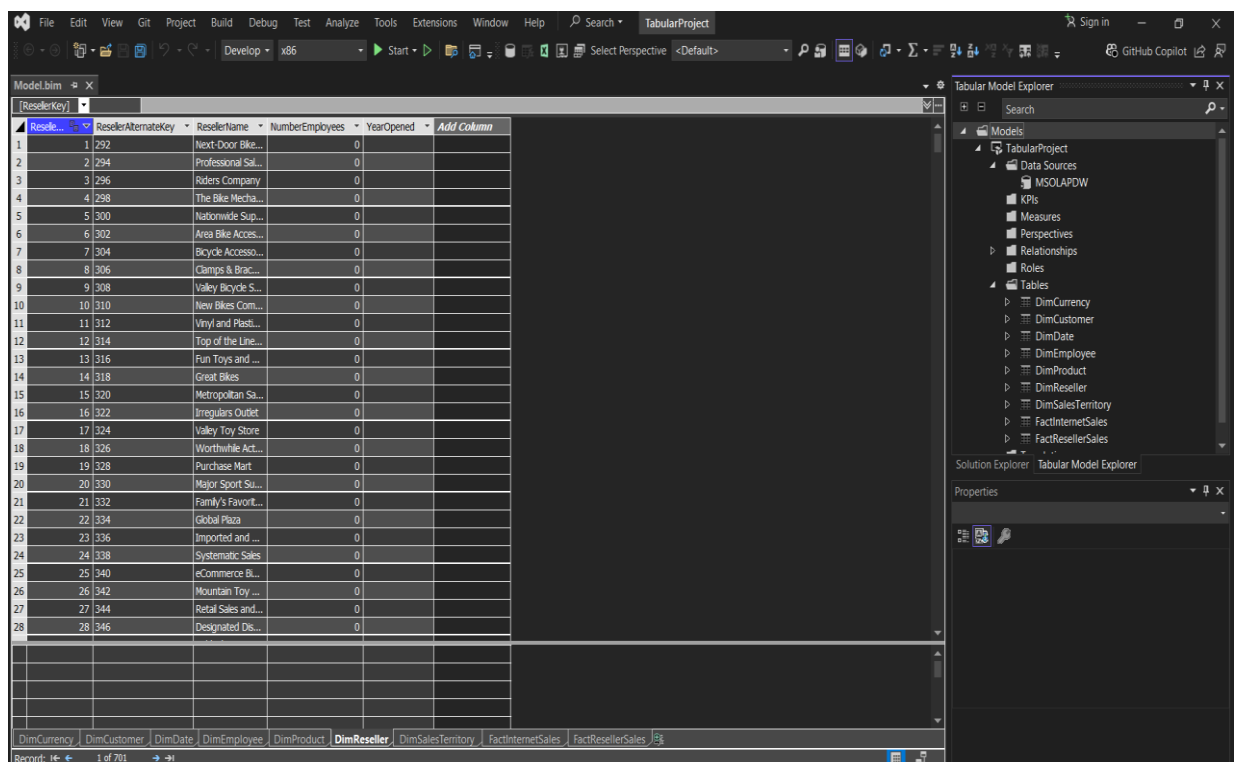
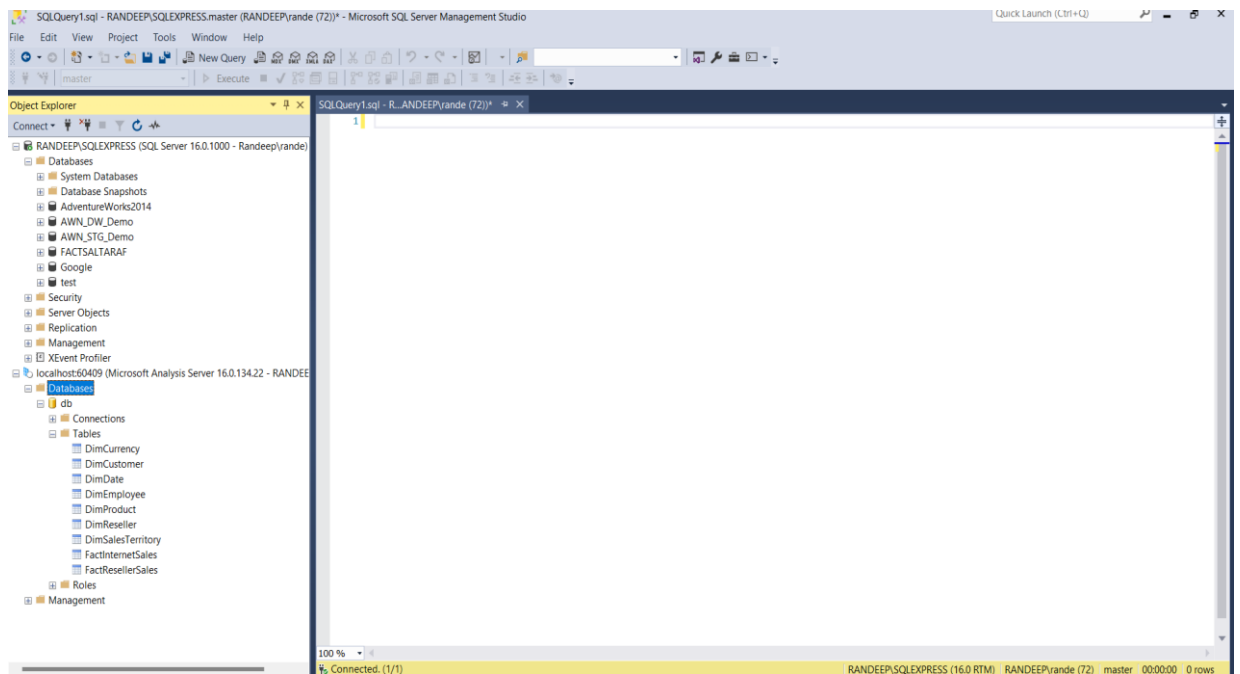
Finally we need to create two fact tables: FactInternetSales and FactResellerSales. Create an OLE DB Source that will read the view called Stg_vw_Erp_Fact_InternetSales. - Create 'Lookup' transformations to join the fact table to the dimension tables through a foreign key. Finally, you create an OLE DB Destination to load the data in the FactInternetSales as well as the FactResellerSales table. The figure shows the data flow task for the table data creation.





Creating SSAS tabular

Create a new Analysis Service Tabular Project in Visual Studio. During the configuration, select the Workspace Analysis Server to deploy your project. The figure below shows the analysis server in the SSMS and the tabular project in Visual Studio.



Creating Power BI Reports

For creating the Power BI report, open Power BI and select the data source. Select the database as SQL Server Analysis Database and click connect. Then give the server name the same name as the tabular project workspace server name, and then the corresponding

dimension table and fact tables are loaded into the application. They create the report according to the requirement.

First, you need to understand the data in the corresponding tables, then choose the chart model from the visualization section and add necessary filters and headings.

