Lab Exercise 1: Connecting to Power BI Data

Scenario

You have decided to explore the features in Power BI because you believe that they offer the best solution to enable business users to create self-service BI solutions. To convince the business users that this is the best option, you will build a sample report to demonstrate the capabilities of the features in Power BI. You will create reports in Power BI Desktop by using corporate data that is stored in a database in Azure SQL Database. After importing the data, you will shape the data by using the Power BI transformation tools. You will then combine the data by merging columns and appending rows.

The main tasks for this exercise are as follows:

- Prepare the Environment
- Connect to Existing Data in Azure
- Shape Data
- Combine Data

Task 1: Prepare the Environment

1. Ensure that the MSL-TMG1, 20778A-MIA-DC and 20778A-MIA-SQL virtual machines are running, and then log on to 20778A-MIA-SQL as ADVENTUREWORKS\Student with the password Pa$$w0rd.
2. Run Setup.cmd in the D:\Labfiles\Lab06\Starter folder as Administrator.
3. Sign up for an Office 365 login if you do not already have one.

Task 2: Connect to Existing Data in Azure

1. Open the Lab Exercise 1.sql file in the D:\Labfiles\Lab06\Starter\Project folder.
2. Open Power BI Desktop.
3. Connect to the AdventureWorksLT database in Azure SQL Database.
4. Run the query under Task 1 in the Lab Exercise 1.sql file to import the customer data.
5. Connect to the AdventureWorksLT database in Azure SQL Database.
6. Run the query under Task 2 in the Lab Exercise 1.sql file to import the sales data.

7. Save the report as AdventureWorksLTSales.pbix in the D:\Labfiles\Lab06\Starter folder.
8. Leave Power BI Desktop open for the next task.

Task 3: Shape Data

1. Rename Query1 as Customers.
2. Rename Query2 as Sales.
3. Delete the NameStyle column from the Customers table.
4. Delete the SalesPerson column.
5. Hide the CustomerID column in the report view.
6. Change the data category of the AddressLine1 column to Address.
7. Change the data category of the City column to City.
8. Change the data category of the StateProvince column to State or Province.
9. Change the data category of the CountryRegion column to Country/Region.
10. Change the data category of the PostalCode column to Postal Code.
11. Add a new column called FullAddress, and then for the value of each row, concatenate AddressLine1, City, StateProvince, CountryRegion, and PostalCode.
12. In the Sales table, delete the RevisionNumber column.
13. Delete the SalesOrderNumber column.
14. Hide the CustomerID column in the report view.
15. Hide the SalesOrderID column in the report view.
16. Hide the SalesOrderDetailID column in the report view.
17. Add a new column called LineTotal, which multiplies the OrderQty column by the ListPrice column.
18. Change the format of the LineTotal column to the currency $ English (United States).
19. Create a new measure named TargetSales, which increases the LineTotal field in the Sales table by 20 percent.
20. Save the file, and then leave Power BI Desktop open for the next task.

Task 4: Combine Data

1. Open the States.xlsx file in the D:\Labfiles\Lab06\Starter\Project folder.
2. In the States worksheet, select the data, and then copy it.

3. Create a new table named Sales by States by pasting in the data from the workbook.
4. Connect to Wikipedia to import a list of states in America.
5. Remove the last 26 rows of the imported data.
6. Remove columns that will not be used.
7. Change the name of the table to States with Codes.
8. Set the first row to be the header row.
9. Rename the United States of America column to State Name.
10. Rename the US USA 840 column to State Code Long.
11. Rename the US column to State Code Short.
12. Merge the data into the Sales by State table, and then exclude the State Name column.
13. Name the new column State Code.
14. Click Close & Apply.
15. Hide the States with Codes table in the report view.
16. Save the file, and then leave Power BI Desktop open for the next exercise.

Results: After this exercise, you should have imported data from Azure, shaped it by using the Power BI transformation tools, and combined the data by merging columns and appending rows.