Power Query

Power Query is a data transformation and query language developed by Microsoft. It is a feature available in various Microsoft products, including Excel, Power BI, and Power Automate. Power Query allows users to connect to different data sources, perform data transformations, and load the data into their desired destination.

Power Query provides a user-friendly interface for performing data extraction, transformation, and loading (ETL) tasks. It enables users to connect to a wide range of data sources such as databases, files (e.g., Excel, CSV, JSON), web services, or online data sources (e.g., SharePoint, Salesforce, Azure). Users can specify the required data and import it into their workbook or analysis tool.

Once the data is imported, Power Query offers a set of tools and functions to perform data transformations. Users can apply various operations like filtering rows, removing duplicates, splitting or merging columns, combining data from different sources, and performing calculations or aggregations. Power Query provides a visual interface for these transformations, allowing users to interactively define their data preparation steps.

Power Query also supports query folding, which optimizes data retrieval by pushing transformation steps to the data source whenever possible. This reduces data transfer and improves performance, especially when working with large datasets or remote data sources.

Power Query uses a formula language called "M" (also known as Power Query Formula Language) to define custom transformations and advanced data manipulations. The M language allows users to write custom functions, conditional logic, and complex data transformations.

Once the data is transformed, users can load it into their desired destination, such as an Excel worksheet, a Power BI data model, or a database. The loaded data can then be used for analysis, reporting, or further data processing.

Power Query provides a powerful and flexible toolset for data preparation and manipulation. It simplifies the process of retrieving and transforming data from various sources, making it easier for users to work with data and prepare it for further analysis or reporting purposes.

When using Power Query in tools like Excel or Power BI, you can establish connections to Azure data sources by selecting the appropriate connector. Some of the Azure data sources that Power Query can connect to include:

1. Azure SQL Database: Power Query provides a connector specifically for connecting to Azure SQL Database. You can provide the necessary connection details, such as server name, database name, and authentication credentials, to establish a connection and retrieve data.

2. Azure Blob Storage: Power Query offers a connector for Azure Blob Storage, which allows you to access and retrieve data stored in Azure Blob containers. You can specify the storage account details, including the account name and access keys, to connect to Blob Storage and access the desired data.

3. Azure Data Lake Storage: Power Query supports connecting to Azure Data Lake Storage, whether it's Gen1 or Gen2. You can provide the necessary details, such as the account name and authentication method (e.g., account key, service principal), to establish a connection and access data stored in Data Lake Storage.

4. Azure Table Storage: Power Query provides a connector for Azure Table Storage, enabling you to retrieve data from Azure Tables. You can specify the storage account details and table name to connect to Azure Table Storage and retrieve the required data.

5. Azure Cosmos DB: Power Query supports connecting to Azure Cosmos DB, which is a globally distributed, multi-model database service. You can provide the necessary connection details, such as the Cosmos DB account URL and authentication keys, to establish a connection and query data from Cosmos DB collections.

These are just a few examples of Azure data sources that Power Query can connect to. Additionally, Power Query supports other Azure services and data sources like Azure Data Factory, Azure Analysis Services, Azure Data Explorer, and more. By utilizing the appropriate connectors, you can easily establish connections to your cloud-based Azure data sources, retrieve data, and perform data transformations using Power Query.