

1. List three data sources Power BI can connect to.

Power BI can connect to hundreds of sources. Three common examples are:

- **Excel** (.xlsx, .xlsm)
- **SQL Server** Database
- **Text/CSV** files

2. What is the first step to import data into Power BI Desktop?

The first step is to click the "**Get Data**" button on the Home ribbon.

3. How do you refresh imported data in Power BI?

- **In Power BI Desktop:** Click the "**Refresh**" button on the Home ribbon (the circular arrows icon).
- **In the Power BI Service:** Schedule a refresh in the dataset settings or manually refresh by clicking "Refresh Now."

4. What file formats can Power BI import directly? (Name two.)

- **Excel** (.xlsx, .xls)
- **Text/CSV** (.csv, .txt)

5. What does the "Navigator" window show after selecting a data source?

The Navigator window shows a preview of the data and a list of all available tables, sheets, or views from the selected data source. You can select which ones you want to load or transform.

6. Import Sales_Data.csv and load only the "Product" and "Price" columns.

1. Click **Get Data > Text/CSV** and select `Sales_Data.csv`.
2. In the preview window that appears, click "**Transform Data**". This opens the Power Query Editor.
3. In the Power Query Editor, select both the "Product" and "Price" columns (use **Ctrl+Click**).

4. Right-click on one of the selected headers and choose "**Remove Other Columns**".
5. Click "**Close & Apply**" to load the filtered table.

7. How would you change OrderDate to a date format during import?

1. In the **Power Query Editor**, select the "OrderDate" column.
2. Go to the "**Data Type**" dropdown on the **Transform** or **Home** ribbon.
3. Select "**Date**" from the list.

8. What is the difference between "Load" and "Transform Data" in the import dialog?

- **Load:** Imports the entire selected table directly into the Power BI model without any changes.
- **Transform Data:** Opens the **Power Query Editor** first, allowing you to clean, reshape, and transform the data (e.g., filter rows, change types, merge tables) before loading it.

9. Why might you see an error when connecting to a SQL database? (Name one reason.)

A common reason is **incorrect login credentials** (username or password).

10. How do you replace a data source after importing it?

1. In Power BI Desktop, go to the **Home** ribbon.
2. Click the dropdown for "**Transform data**" and select "**Data source settings**".
3. Select the data source you want to change and click "**Change Source...**".
4. Browse to the new file or enter the new server/database path.

11. Write the M-code to import only rows where Quantity > 1.

In the Power Query Editor's Advanced Editor, you would add a step to filter the table. The M code would look like this:

```
m  
let  
    Source = ... // Your previous source step here,
```

```
    FilteredRows = Table.SelectRows(Source, each [Quantity] > 1)
in
    FilteredRows
```

12. How would you change the data source if Sales_Data.csv changed?

Use the "**Data source settings**" as described in question 10. Change the file path to point to the new location of `Sales_Data.csv`.

13. Troubleshoot: Your CSV import fails due to a "mixed data type" error—how do you fix it?

This error occurs when Power Query detects different data types (e.g., text and numbers) in the same column. To fix it:

1. Open the **Power Query Editor**.
2. In the preview, find the column with the error (it will have an ABC/123 icon).
3. Click the **data type icon** at the left of the column header and choose the correct, more general data type (often "**Text**" is a safe choice to see all data without errors).
4. You can then use other transformations (like "Replace Values" or "Fill Down") to clean the data before potentially converting it to a more specific type.

14. Connect to a live SQL database with parameters (e.g., filter by year).

Use "**Parameters**" to create a dynamic filter.

1. In Power BI Desktop, create a parameter (**Home > Manage Parameters > New Parameter**). Name it (e.g., `SelectedYear`), set the data type to Whole Number, and specify a default value (e.g., 2023).
2. Click **Get Data > SQL Server**.
3. Enter your server and database.

- Instead of selecting a table, select the "**Advanced**" option and write a SQL query that uses your parameter:

sql

```
SELECT * FROM Sales WHERE Year = {{SelectedYear}}
```

- Power BI will prompt for the parameter value when you refresh the data.

15. How would you automate data imports using Power BI and Power Automate?

You can use **Power Automate** to trigger a refresh of your Power BI dataset after a specific event. A common flow is:

- Trigger:** When a new file is added to a **OneDrive for Business** or **SharePoint** folder (e.g., your `Sales_Data.csv` is updated).
- Action:** Use the "**Refresh a dataset**" action in Power Automate, selecting your published Power BI dataset.

This ensures your Power BI report is automatically updated with the latest data as soon as the source file is replaced.