

Power BI Basics

Question 1: What is Power BI and why is it used in businesses?

Power BI is a business analytics service by Microsoft that provides interactive visualizations and business intelligence capabilities.

- **Business Use:** It is used to connect to unrelated sources of data (like Excel, SQL, or cloud services) and turn them into coherent, visually immersive, and interactive insights. It helps businesses make **data-driven decisions** by identifying trends and patterns in real-time.

Question 2: Name and explain the three main components of Power BI.

The three primary components that work together to create and share insights are:

1. **Power BI Desktop:** A free Windows application used to connect to, transform, and model your data. This is where reports are created.
2. **Power BI Service (SaaS):** An online cloud service used to publish reports, create dashboards, and share insights with others.
3. **Power BI Mobile Apps:** Applications for iOS, Android, and Windows devices used to view reports and dashboards on the go.

Question 3: Explain the Power BI workflow.

A standard workflow follows these steps:

- **Step 1:** Bring data into **Power BI Desktop** and clean it in Power Query.
- **Step 2:** Create a data model and design the report with various visuals.
- **Step 3: Publish** the report from Desktop to the Power BI Service.
- **Step 4:** Share the report or dashboard with others so they can view it on the web or mobile devices.

Question 4: List any four data cleaning tasks that can be performed in Power Query.

Power Query is the "engine room" for data preparation. Four common tasks include:

1. **Removing Duplicates:** Ensuring each row of data is unique.
2. **Changing Data Types:** Converting text columns to "Date" or "Decimal Number."
3. **Splitting Columns:** Breaking one column into two (like splitting "First Last" name).
4. **Filtering Rows:** Removing unnecessary data (e.g., removing rows with "Null" values).

Question 5: Write step-by-step instructions to load the Real_Estate Dataset.

To load your dataset into Power BI:

1. Open Power BI Desktop.
2. On the Home tab, click Get Data.
3. Select the file type (likely Excel Workbook or Text/CSV for a real estate dataset).
4. Browse and select your Real_Estate Dataset file and click Open.
5. In the Navigator window, check the box next to the table/sheet name.
6. Click Transform Data to clean it in Power Query before loading it into the model.
- 7.

The screenshot shows the Power Query Editor interface. The main area displays a table named "Order details" with 81 rows and 6 columns. The columns are: Order ID, Order Date, Ship Date, Time to ship (days), Customer Name, and Country. Each column has a status bar indicating data types: Order ID is Text, Order Date is Date, Ship Date is Date, Time to ship (days) is Number, Customer Name is Text, and Country is Text. The ribbon menu at the top includes tabs like File, Home, Transform, Add Column, View, Tools, and Help. The "Transform" tab is selected. The right side of the screen shows the "Query Settings" pane with sections for Properties (Name: Order details) and Applied Steps (Source, Navigation, Promoted Headers, Changed Type).

- 8.

Question 6: Define Data View, Report View, and Model View.

These three views on the left-side rail serve different purposes:

- **Report View:** The canvas where you build your charts, maps, and interactive visuals.
- **Data View:** A tabular view that lets you inspect, explore, and understand the data in your tables after it has been loaded.
- **Model View:** A diagram view that shows the relationships between your different tables (the "Star Schema").

Question 7: Discuss the different data sources that Power BI supports.

Power BI supports hundreds of sources, categorized as:

- **Files:** Excel, CSV, XML, JSON, and PDF.
- **Databases:** SQL Server, Oracle, IBM, MySQL, and PostgreSQL.
- **Online Services:** SharePoint, Salesforce, Google Analytics, and Dynamics 365.
- **Other:** Web pages (scraping data from a URL), R scripts, and Python scripts.

Question 8: Split Owner Name to create two new columns as First Name and Last Name.

In Power Query:

1. Select the **Owner Name** column.
2. Right-click the column header or go to the **Transform** tab .
3. Select **Split Column > By Delimiter**.
4. Choose **Space** as the delimiter.
5. Click **OK**. You will now have two columns. Double-click the headers to rename them to **First Name** and **Last Name**.
- 6.

The screenshot shows the Power Query Editor interface with the following details:

- File**, **Home**, **Transform** (selected), **Add Column**, **View**, **Tools**, **Help** menu bar.
- Transform ribbon tabs:** Transpose, Data Type: Text, Replace Values, Unpivot Columns, Group By, Use First Row as Headers, Reverse Rows, Detect Data Type, Fill, Move, Pivot Column, Convert to List, Split Column, Format, Parse, Statistics, Standard, Scientific, Trigonometry, Rounding, Information, Date, Time, Duration, Run R script, Run Python script, Date & Time Column, Scripts.
- Queries [1]** pane: Order details.
- Table view:** Order details table with columns: Date, Ship Date, Time to ship (days), FirstName, LastName, Country.
- Column headers:** FirstName and LastName are selected and highlighted.
- Properties pane:** Name is set to Order details.
- Applied Steps pane:** Shows the history of steps applied to the query, including 'Renamed Columns'.
- Bottom status bar:** 17 COLUMNS, 81 ROWS, Column profiling based on top 1000 rows, PREVIEW DOWNLOADED ON SATURDAY, JANUARY 10, 2026, 8:07 AM, ENG, 1/18/2026.