

Lesson 1

Topic: Introduction to Power BI

Prerequisites: Download Sales_Data.csv file

1. What is Power BI, and what are its three main components?
2. Name two business use cases for Power BI dashboards.
3. How do you download and install Power BI Desktop?
4. What is the difference between Power BI Desktop and Power BI Service?
5. What file extension does a Power BI project use?
6. Explain the role of Power Query in Power BI.
7. Why would a business prefer Power BI over Excel for reporting?
8. Describe one limitation of the free version of Power BI.
9. What is a "published report" in Power BI Service?
10. How does Power BI Mobile enhance accessibility?
11. Compare Power BI with Tableau—pros and cons.
12. Explain how Power BI integrates with Azure services.
13. What are "gateways" in Power BI, and when are they needed?
14. How would you convince a company to adopt Power BI? (ROI argument)
15. What security features does Power BI offer for sensitive data?

1. What is Power BI, and what are its three main components?

Power BI is a business intelligence platform developed by Microsoft that helps users visualize and analyze data, turning it into actionable insights.

The **three main components** of Power BI are:

Power BI Desktop – A Windows application used for preparing data, performing analysis, and creating visualizations.

Power BI Service – A cloud-based service used to publish and share reports.

Power BI Mobile – Applications available for iOS, Android, and Windows devices that allow users to view reports from anywhere.

2. Name two business use cases for Power BI dashboards.

1. Sales Analysis:

Used to track sales volume, revenue, and product performance. It helps companies quickly see which products are selling well and where there might be issues.

2. Financial Monitoring:

Allows real-time viewing of income and expenses to check how well the budget is being followed. This makes managing the company's financial health easier.

3.How do you download and install Power BI Desktop?

I downloaded Power BI Desktop from the official Power BI website because I don't have access to the Microsoft Store. After downloading the installer file, I ran it and followed the steps to complete the installation. Now, I can use Power BI Desktop to create reports and analyze data.

4. What is the difference between Power BI Desktop and Power BI Service?

Power BI Desktop is a Windows application used to create, edit, and design reports and data models on your computer.

Power BI Service is a cloud-based platform where you can publish, share, and collaborate on reports and dashboards online.

Desktop is for building reports, and Service is for sharing and accessing them online.

5 What file extension does a Power BI project use?

Power BI projects mainly use the .pbix file extension for reports created in Power BI Desktop. Additionally, there are .pbit files, which are Power BI templates, and .pbip files, used for Power BI paginated reports.

6.Explain the role of Power Query in Power BI.

Power Query is a tool within Power BI that helps you **connect to, transform, and prepare data** before using it in reports.

7.Why would a business prefer Power BI over Excel for reporting?

Businesses prefer Power BI over Excel because:

- 1.Power BI handles **large volumes of data** more efficiently.
- 2.It provides **interactive, real-time dashboards and visualizations**.
- 3.Power BI easily connects to multiple data sources and **automatically updates** reports.
- 4.It offers better **collaboration and sharing** options via the cloud.

8. One key limitation of the free version is that you **cannot share reports or dashboards with others**.

9. A **published report** in Power BI Service is a report that has been created in Power BI Desktop and then uploaded to the Power BI cloud (Service). Once published, it can be accessed online, shared with others, and included in dashboards for collaboration and real-time viewing.

10. How does Power BI Mobile enhance accessibility?

Power BI has several advantages, including:

A touch-friendly interface optimized for touchscreen devices

Offline viewing (users can access preloaded reports even without an internet connection)

The ability to create layouts specifically designed for mobile devices

11. Compare Power BI with Tableau—pros and cons.

Power BI advantages:

- User-friendly for Excel users

- Integrates well with Microsoft products

- Relatively affordable

Drawbacks:

- Better suited for medium-sized datasets

- Limited customization options

Tableau advantages:

- Powerful and flexible visualizations

- Handles large datasets effectively

- Extensive customization capabilities

Drawbacks:

- Expensive

- Has a more complex interface

12. Explain how Power BI integrates with Azure services.

Power BI integrates seamlessly with various Azure services to enhance data analytics and business intelligence capabilities:

- Azure Synapse Analytics** – for large-scale data analysis and advanced reporting

- Azure Data Lake Storage** – to store and analyze large volumes of structured and unstructured data

- Azure Machine Learning** – to incorporate predictive models directly into Power BI reports

- Azure SQL Database** – for real-time data connectivity

- Azure Active Directory (AAD)** – for secure user authentication and access control

- Azure Analysis Services** – to create reusable semantic data models

- Azure Logic Apps** – to automate data workflows and integrate with other cloud services

13. What are "gateways" in Power BI, and when are they needed?

A gateway is a bridge that connects Power BI with on-premises data sources. There are two types of gateways: Personal Gateway and Standard Gateway (Enterprise Gateway).

Personal Gateway is only for a single user. Standard Gateway is used for multiple users.

When are they needed:

- 1.If reports in the Power BI cloud work with on-premises data
- 2.When automatic data refresh or real-time data access is required
- 3.When working with data behind a network security (firewall)

14. How Would You Convince a Company to Adopt Power BI? (ROI-Based Argument)

Power BI is a highly valuable tool for businesses. When convincing a company to adopt it, it's important to speak in a clear, practical way, using relatable examples:

Power BI is **affordable, fast, and highly efficient**. Employees don't need to rely on the IT department every time they need a report — they can access and analyze data on their own. This saves time, reduces errors, and helps with faster decision-making.

For example, if an employee spends 5 hours a week preparing reports, Power BI can cut that down to just 1 hour. That's 4 hours saved per person, every week — and that adds up fast across a team or company.

You also get **real-time data updates**. Instead of downloading, filtering, and emailing Excel files, users can open a dashboard and instantly see up-to-date information.

In terms of cost, it's very reasonable: Power BI Desktop is free, and Power BI Pro is around \$10 per user per month — a small price for such powerful features.

In short, Power BI helps the company **save time, reduce costs, and make smarter decisions faster**, giving a very strong return on investment (ROI).

15. What Security Features Does Power BI Offer for Sensitive Data?

Power BI has strong, enterprise-grade security features that make it safe to use even with sensitive data. Key features include:

Row-Level Security (RLS) — This ensures each user only sees the data they're allowed to see, based on roles or filters applied in the dataset.

Encryption — All data is encrypted both at rest and in transit, which protects it from unauthorized access or interception.

Sensitivity Labels — You can tag reports and datasets with labels like "Confidential" or "Internal Use Only." These labels stay with the data, even when exported.

Access Control via Azure Active Directory – Power BI integrates with Microsoft's security platform, enabling single sign-on (SSO), multi-factor authentication (MFA), and role-based access management.

Auditing and Monitoring – Admins can track user activity (like who viewed, shared, or exported reports) through detailed audit logs.

Administrative Controls – Admins can define tenant-wide policies, such as who can share reports externally, who can export data, and other governance rules.