

# Power BI Assignment 4

## 1 What is Power BI?

Power BI is a **Business Intelligence (BI)** and **Data Visualization** tool developed by **Microsoft**.

It allows users to **connect to multiple data sources**, **transform raw data into meaningful insights**, and **create interactive reports and dashboards** for better decision-making.

### Key Features:

- Data connectivity with 100+ sources (Excel, SQL, Azure, Web, etc.)
- Data cleaning and transformation using **Power Query Editor**
- Advanced data modeling using **DAX (Data Analysis Expressions)**
- Interactive dashboards and real-time visualizations
- Secure sharing through **Power BI Service** or **Power BI Report Server**

### 👉 In short:

“Power BI turns raw data into visually interactive insights for data-driven decision-making.”

## 2 Who Uses Power BI?

Power BI is used by a wide range of professionals and organizations across industries.

User Type	Role in Power BI
Business Analysts	Create dashboards and analyze trends to support strategic decisions.
Data Analysts / Data Scientists	Build data models and perform advanced analytics.
Managers / Executives	View dashboards to monitor KPIs and business performance.
Developers	Embed Power BI visuals into applications using Power BI Embedded.
IT / Database Teams	Manage data gateways, security, and performance optimization.
Organizations (Enterprises, SMEs)	Use Power BI for financial reporting, sales tracking, HR analytics, and operations management.

## 3 What is the Main Purpose of Power BI?

The **main purpose** of Power BI is to **empower users to make data-driven decisions** through **interactive visualization and analytics**.

### 🎯 Core Purposes:

1. **Data Integration:** Combine data from multiple sources (on-premise and cloud).
2. **Data Transformation:** Clean and structure data for analysis.
3. **Data Visualization:** Present data through intuitive charts, KPIs, and dashboards.
4. **Data Sharing:** Distribute insights securely within an organization.

5. **Real-Time Monitoring:** Track business performance with live dashboards.

 **Goal:** To bridge the gap between raw data and actionable insights.

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## How Power BI Files Get Shared or Published

There are several ways to **share or publish** Power BI reports depending on the environment:

### A. Using Power BI Service (Cloud)

1. Create a report in **Power BI Desktop (.pbix)**
2. Click on “**Publish**” → **Select Workspace** in Power BI Service
3. Report is uploaded and accessible online through  
 <https://app.powerbi.com>

**Ways to share within the service:**

- Share dashboards and reports with specific users or groups
  - Create and distribute **Power BI Apps**
  - Embed reports into **Microsoft Teams, SharePoint, or Web Portals**
  - Schedule **data refreshes via Power BI Gateway**
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### B. Using Power BI Report Server (On-Premises)

- Used when organizations don’t want to store data in the cloud.
  - Reports are published to **Power BI Report Server**, hosted locally within the company network.
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### C. Export Options

- Export reports as **PDF, PPT, or Excel**.
  - Share **.pbix files** directly via email or shared drives (less secure).
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## What is PBIX?

**PBIX** is the **file extension used by Power BI Desktop**.

It stores all the contents of a Power BI report — including data, model, queries, and visuals.

### PBIX File Contains:

- **Data model:** Tables, relationships, DAX measures
- **Queries:** Data transformation steps (M code)
- **Visuals:** Charts, dashboards, and layouts
- **Metadata:** File settings, refresh history, and report structure

### Example:

If you create a report in Power BI Desktop and save it, the file will appear as:

 Sales\_Analysis.pbix