BACKERLABS

Business Intelligence Using Power BI

Build a successful career in Power BI
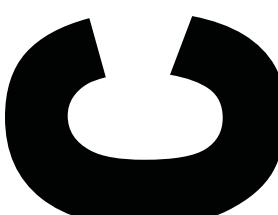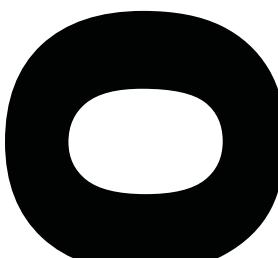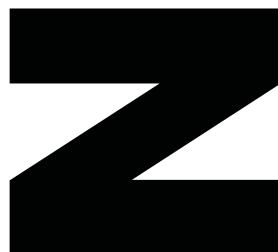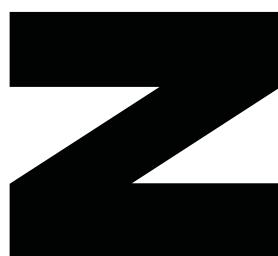
CONTENT

Want to be a Business Intelligence Professional? Check out the details here

Course Description

Power BI is one of the most preferred visualization tools in the candidates list today. Learning data visualization with Power BI creates opportunities to key patterns in the data and help take data driven decision making. This course helps to understand the visual perspectives which is need to build effective data visualization. By developing and interactive KPI dashboards and publishing the reports helps to provide greater insights to the data.

The Power BI course is designed to equip learners with the skills needed to transform raw data into meaningful business insights through powerful data visualization and reporting tools. This course covers the complete data analysis process — from data connection, transformation, and modeling to creating dynamic dashboards and interactive reports.

Participants will gain hands-on experience in building and publishing insightful KPI dashboards, enabling data-driven decision-making across business functions. The course also focuses on understanding visual perspectives, applying DAX functions, and integrating Power BI with Excel and other Microsoft tools.

By the end of the course, learners will be able to design, analyze, and share professional-grade reports that enhance business intelligence and drive organizational growth.

Power BI

Why Power BI Professional?

Power BI is one of the most popular business intelligence (BI) tools today because it helps organizations turn raw data into **interactive visual reports and dashboards**. Here's a clear breakdown of **why Power BI is widely used**:

✅ Easy Data Visualization

- Power BI allows users to **create interactive charts, graphs, and dashboards** without advanced coding.
- You can **drag and drop** data fields to build visuals quickly.
- Offers beautiful, customizable visuals to make insights clear and engaging.

✅ Connects to Many Data Sources

- It can connect to **Excel, SQL databases, Google Analytics, SharePoint, Azure, Salesforce**, and hundreds more.
- You can bring data from multiple places into **one unified view**.

✅ Real-Time Insights

- Dashboards can show **live data updates**, allowing businesses to make **real-time decisions**.
- Ideal for monitoring KPIs and performance metrics continuously.

✅ Cost-Effective

- Offers a **free version** and a reasonably priced **Pro version**, making it affordable even for small and medium businesses.
- Excellent ROI compared to traditional BI solutions.

✅ Collaboration & Sharing

- Integrated with **Microsoft 365 (Excel, Teams, and SharePoint)** for easy report sharing.
- Users can **publish dashboards online or within organizations** for team collaboration.

✅ Security & Data Governance

- Provides **row-level security**, **Azure integration**, and **data encryption**.
- Ensures data is protected and only visible to authorized users.

✅ AI & Advanced Analytics

- Built-in **AI visuals**, **natural language queries**, and integration with **Azure Machine Learning**.
- Helps uncover hidden trends and insights using predictive analytics.

✅ Enterprise-Ready & Scalable

- Scales from small teams to large enterprises.
- Used across industries — finance, healthcare, marketing, operations, HR, and more.

Benefits of Power BI Professional

✅ Full Access to Collaboration & Sharing

- Power BI **Free users can only view their own reports**, but **Pro users can publish, share, and collaborate** on dashboards and reports across the organization.
- Enables **team-based analytics**, where multiple users can view, comment, and edit reports together.

✅ Cloud-Based Sharing & Publishing

- Publish interactive dashboards to the **Power BI Service (cloud)**.
- Share securely through **Power BI Apps, Microsoft Teams, SharePoint, or direct links**.
- Access reports from **anywhere, anytime** — web or mobile.

✅ Real-Time Data Refresh

- Schedule **automatic data refreshes** (up to 8 times per day in Pro).
- Ensures your dashboards always show **up-to-date information** without manual updates.

✅ Integration with Microsoft Ecosystem

- Seamless with **Excel, Teams, Azure, SharePoint, Dynamics 365**, and other Microsoft tools.
- Easy to import data from Excel and maintain the same formulas, models, and charts.

✅ Advanced Data Modeling & AI Features

- Pro includes advanced tools for **data modeling, DAX calculations, and AI visuals**.
- You can use **natural language queries** (ask questions like "show sales by region") and get instant visual answers.

✅ Enterprise-Grade Security

- Includes **Row-Level Security (RLS)** — restricts data access based on user roles.
- Data is **encrypted**, with compliance to global standards (GDPR, ISO, etc.).
- Ideal for organizations handling confidential or sensitive data.

✅ Cost-Effective Business Intelligence

- Power BI Pro costs around **$10–$15 per user/month**, making it **affordable compared to other BI tools**.
- Offers a powerful feature set without the need for expensive infrastructure.

✅ App Workspaces for Team Management

- Create **dedicated workspaces** for projects or departments.
- Manage permissions, organize dashboards, and control who can view or edit content

Power BI Career Pathway
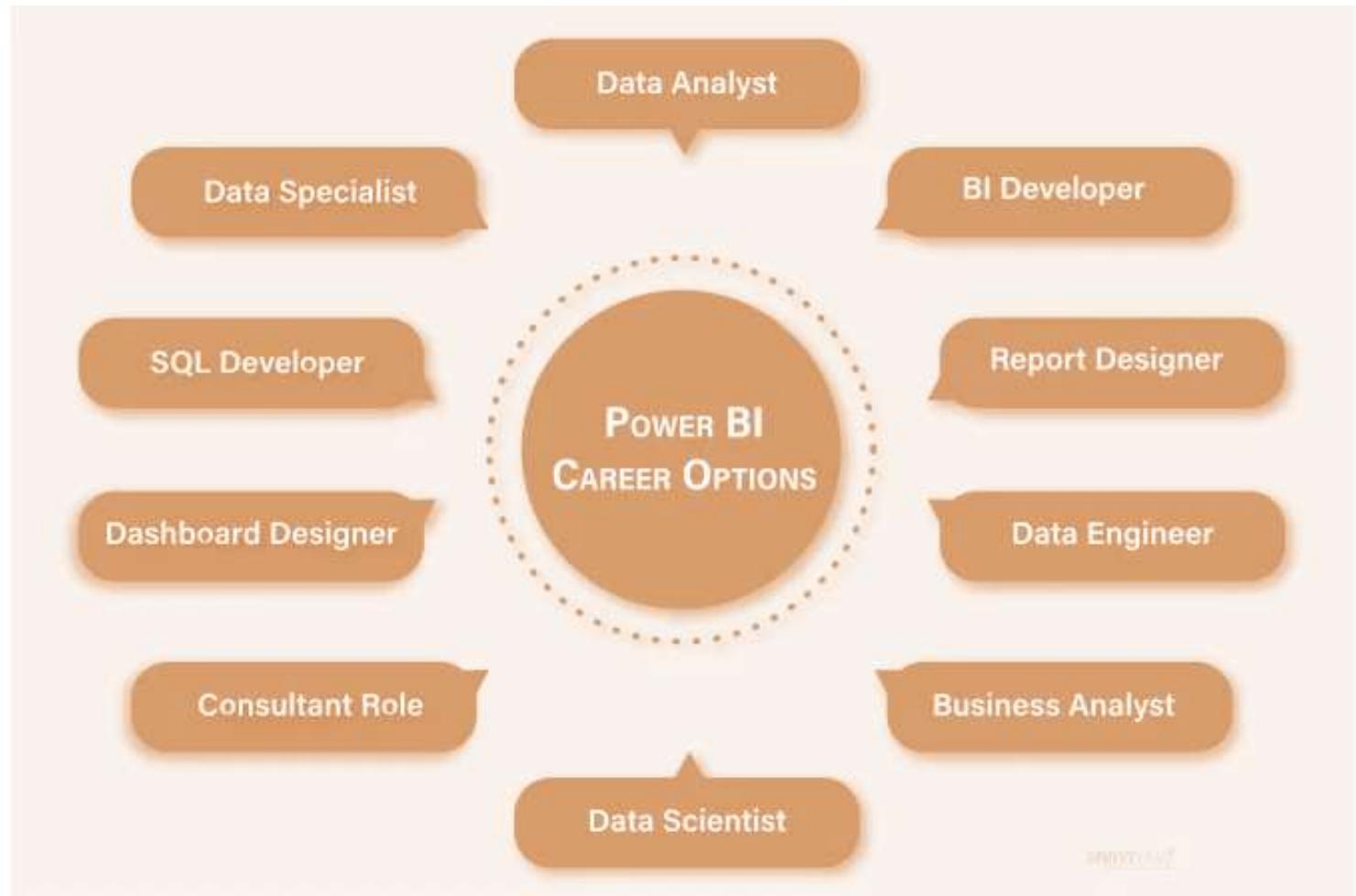
Industries Hiring Power BI Professionals

- Information Technology & Consulting
- Banking, Financial Services, and Insurance (BFSI)
- Healthcare and Pharmaceuticals
- E-commerce and Retail
- Manufacturing and Logistics
- Education and Government

Program Curriculum

▶ Module 1 Introduction & Data Foundation

Session 1: Introduction to Business Intelligence & Power BI
- Overview of BI & Data Analytics
- Power BI ecosystem (Desktop, Service, Mobile, Gateway)
- Installing & Setting up Power BI Desktop
- Power BI workflow & architecture

Session 2: Connecting to Data Sources
- Excel, CSV, Text, JSON, XML imports
- Connecting to Databases (SQL Server, MySQL, Oracle)
- Cloud sources: SharePoint, OneDrive, Azure, Google Analytics
- Direct Query vs Import Mode

Session 3: Power Query Basics
- Power Query Editor overview
- Data profiling (column quality, distribution, profiling tools)
- Transformations: split, merge, replace, pivot/unpivot, group by
- Handling nulls, duplicates & errors

▶ Module 2 Data Modeling & DAX

Session 4: Data Modeling Fundamentals
- Understanding Fact & Dimension tables
- Relationships (one-to-many, many-to-many)
- Star & Snowflake schema design
- Active vs Inactive relationships

Session 5: Introduction to DAX (Data Analysis Expressions)
- Calculated Columns vs Measures
- Syntax, operators, functions overview
- Row context vs Filter context basics

Session 6: DAX – Aggregations & Filters
- SUM, AVERAGE, COUNT, DISTINCTCOUNT
- CALCULATE, FILTER, ALL, RELATED
- Time Intelligence introduction

Session 7: Advanced DAX – Time Intelligence
- Date table creation (Calendar, Auto-Date/Time)
- YTD, QTD, MTD functions
- SamePeriodLastYear, ParallelPeriod

Session 8: Advanced DAX – Complex Functions
- SWITCH, IF, Variables in DAX
- RANKX, TOPN, Dynamic filtering
- Advanced CALCULATE scenarios

Session 9: Optimization & Best Practices
- Performance tuning in DAX
- Avoiding common pitfalls (iterators, nested filters)
- Model size optimization

▶ **Module 3** Visualization & Reporting

Session 10: Visualization Fundamentals
- Standard visuals (Table, Matrix, Card, KPI, Chart types)
- Formatting, themes, conditional formatting
- Drill-down & drill-through

Session 11: Advanced Visuals & Customization
- Waterfall, Funnel, Gauge, Decomposition Tree
- Maps: Filled Map, ArcGIS, Azure Maps
- Custom visuals from AppSource

Session 12: Interactive Reports
- Slicers, Bookmarks, Buttons
- Tooltips (standard & custom)
- Page navigation

Session 13: Advanced Analytics with Power BI
- Forecasting, Clustering
- Q&A Visual (Natural Language Queries)
- Anomaly Detection

Session 14: Row-Level Security (RLS) & Data Governance
- Static vs Dynamic RLS
- Roles & Permissions in Power BI Service
- Workspace, Apps, and Sharing concepts

Session 15: Design Best Practices
- Storytelling with Data
- Dashboard UX principles
- Report performance optimization

▶ **Module 4** Power BI Service & Integration

Session 16: Publishing & Sharing
- Power BI Service overview
- Publishing reports & dashboards
- Creating & managing workspaces

Session 17: Collaboration & Power BI Apps
- Sharing dashboards, apps & content packs
- Alerts & Subscriptions
- Power BI Mobile features

Session 18: Power Automate & Power Apps Integration
- Embedding Power BI in Power Apps
- Triggering workflows with Power Automate
- Practical integration use cases

Session 19: Gateway & Scheduled Refresh
- Data Gateway setup (personal & enterprise)
- Configuring scheduled refresh
- Troubleshooting refresh issues

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