

## Power BI

### Introduction to Power BI and Data Visualization Basics

**Duration – 7 Days / 56 Hours**

#### Program Description

This level introduces participants to the core concepts of Power BI, focusing on data visualization and reporting basics. Participants will learn how to navigate the Power BI desktop, connect to various data sources, and create simple dashboards and reports.

They will understand Power BI's user interface, workspace, and key components for creating visually appealing dashboards.

#### Learning Goals

- ❖ Understand the basics of Power BI, its purpose, and its applications.
- ❖ Learn to navigate the Power BI interface and workspace.
- ❖ Connect to data sources (Excel, SQL, CSV) and load data into Power BI.
- ❖ Create simple reports and dashboards with interactive visualizations.
- ❖ Understand data transformation and data cleaning concepts.

#### Course Topics

- ❖ Introduction to Power BI: Features, Architecture, and Components
- ❖ Navigating Power BI Desktop: Interface, Menus, and Views
- ❖ Connecting to Data Sources: Excel, SQL Server, Web, and Cloud Data
- ❖ Data Cleaning and Transformation using Power Query
- ❖ Data Modeling Basics: Relationships, Cardinality, and Joins
- ❖ Introduction to Visualizations: Charts, Graphs, and Tables
- ❖ Building Interactive Reports and Dashboards
- ❖ Introduction to Filters, Slicers, and Drilldowns
- ❖ Hands-on Lab: Build Your First Power BI Dashboard

## Power BI

### Intermediate Power BI for Business Intelligence

**Duration – 10 Days / 80 Hours**

#### Program Description

This Level focuses on intermediate concepts in Power BI, where participants will learn advanced data modeling, DAX (Data Analysis Expressions), and Power BI service integration. Participants will gain hands-on experience creating more advanced visualizations, working with calculated columns and measures, and using row-level security (RLS) for access control. The level aims to enhance analytical capabilities and data storytelling skills.

#### Learning Goals

- ❖ Build advanced data models with multiple relationships and calculated columns.
- ❖ Master DAX functions and create calculated columns and measures.
- ❖ Understand and apply row-level security (RLS) for data access control.
- ❖ Enhance dashboards with drill-through, bookmarks, and page navigation.
- ❖ Publish reports to the Power BI Service and work with Power BI workspaces

#### Course Topics

- ❖ Advanced Data Modeling: Star and Snowflake Schemas
- ❖ Advanced Transformations with Power Query
- ❖ Introduction to DAX (Data Analysis Expressions)
- ❖ Creating Calculated Columns, Measures, and Custom Tables
- ❖ Row-Level Security (RLS) Implementation
- ❖ Advanced Visualizations (Heat Maps, KPI, Waterfall, Bullet Charts)
- ❖ Using Bookmarks, Buttons, and Navigation in Reports
- ❖ Introduction to the Power BI Service: Publishing and Sharing Reports
- ❖ Collaborating in Power BI Workspaces
- ❖ Hands-on Lab: Build a Sales Performance Dashboard with Power BI Service Integration

## Power BI

### Advanced Power BI for Enterprise Data Analytics and Automation

**Duration – 10 Days / 80 Hours**

#### Program Description

This level covers advanced Power BI concepts for enterprise analytics, focusing on large-scale data handling, automation, and performance optimization. Participants will learn to use dataflows, gateways, and API integration for real-time data. Advanced topics like working with Power BI REST API, paginated reports, and Power BI Embedded will also be covered. By the end of this level, participants will be equipped to build enterprise-grade dashboards and automate workflows.

#### Learning Goals

- ❖ Automate data refreshes and establish real-time data pipelines.
- ❖ Use Power BI Dataflows and Gateways for large-scale data management.
- ❖ Work with Power BI REST API for report automation and embedding.
- ❖ Create paginated reports for pixel-perfect printing.
- ❖ Build enterprise-grade dashboards and optimize performance

#### Course Topics

- ❖ Introduction to Power BI Dataflows and Data Gateway
- ❖ Building Real-Time Data Dashboards
- ❖ Advanced DAX Functions (Time Intelligence, Iterators, and Statistical Functions)
- ❖ Optimizing Performance of Reports and Dashboards
- ❖ Power BI REST API Integration and Automation
- ❖ Introduction to Paginated Reports (Pixel-Perfect Reports)
- ❖ Power BI Embedded: Embedding Dashboards in Web Applications
- ❖ Automating Report Delivery (Email, Export to PDF/Excel)
- ❖ End-to-End Project: Building an Enterprise Dashboard for Executive Reporting
- ❖ Hands-on Lab: Real-Time Dashboard with Power BI Embedded and API Automation