

# Power BI

## **Module 1: Introduction to Business Intelligence and Power BI**

- Business Intelligence Concepts
- Stages and Use Cases of BI
- Overview of BI Tools
- Introduction to Power BI, Components, Pricing
- Architecture and Installation of Power BI Desktop

## **Module 2: Getting Started with Power BI Desktop**

- Overview of Power BI Interface
- Understanding Building Blocks
- Creating a Simple Report
- Overview of Power BI Workflow

## **Module 3: Connecting to Data Sources, Databases and Online Sources**

- Connecting Excel, CSV, and PDF Files
- Importing Data from Folders
- Using SaaS Connectors
- Introduction to Power Query Editor
- Connecting to SQL Server (Import, Direct) , SQL Query, and Azure SQL.
- Extracting Data from Web, OData, SharePoint
- Build Reports Using Existing Semantic Models

## **Module 4: Data Transformation Techniques**

- Shaping and Formatting Data
- Understanding Data Types
- Basic Transformations (Rename, Split, Merge, Move)
- Applied Steps Overview
- Merge Queries and Append Queries
- Using Parameters in Queries
- Grouping and Aggregating Data
- Creating Custom and Conditional Columns

## **Module 5: Data Modeling**

- Building Relationships between Tables
- Understanding Cardinality and Cross-Filter Direction
- Handling Inactive Relationships

- Data Modeling Best Practices

## Module 6: Data Visualizations

- Data Visualization (Column, Bar, Line, Area, Doughnut..)
- Charts and Tables (Add Conditional Formatting, Sparklines)
- Creating KPI's, Waterfall chart, Funnel Chart, Maps Chart
- Forecast, Linear, Exponential Equations, Trend Analysis using charts
- Using Filter Pane and Slicer
- Custom Visuals and Visual Marketplace
- Drill-Through Analysis
- Dual Axis and Combo Charts
- Managing Hierarchies

## Module 7: Creating Interactive Reports

- Drill Down and Drill Through Concepts
- Page Navigation and Bookmarks
- Conditional Formatting in Visuals
- Managing Visual Interactions

## Module 8: Introduction to DAX Expressions

- Purpose of DAX
- Creating Calculated Tables, Measures, Columns, Visual Calculation
- Creating Calculated Columns and Measures
- Understanding Row and Filter Context
- Aggregations (Sum, SumX, Count, CountX, CountAX..)
- Time Intelligence (NextYear, NextMonth, SamePeriodLastYear, YTD..)
- Filter Functions (All, AllExcept, Calculate, AllSelected..)
- Relationship Functions (Related, RelatedTable, UseRelationship..)
- Table Functions (Distinct, GroupBY, Union, Intersect, Filter, Except..)
- Logical Functions (IF, Switch, And, Or, Nested..)
- Creating Cumulative Metrics
- Implementing Ranking Functions

## Module 9: Introduction to Power BI Service

- Publishing Reports to Power BI Service
- Creating Dashboards, Sharing and Managing Reports
- Building Real-Time Dashboards and Monitoring Data Refresh Schedules
- Building and Managing Workspaces
- Dashboard vs Report Differences
- Sharing Reports and Setting Up Subscriptions
- Managing Usage Metrics and Alerts

- Implementing Row-Level Security (RLS)
- Working with Dataflows
- Incremental Data Refresh and Deployment Pipelines

#### **Module 10: Installing and Managing Data Gateways**

- Overview of Data Gateway
- Installation and Configuration
- Scheduling Data Refreshes
- Gateway Troubleshooting

#### **In Class Project**

- Connecting and Transforming Complex Data
- Building Relationships and Using DAX
- Creating Advanced Visualizations
- Managing Workspaces and Sharing

#### **Hands-on Practice**

- Implementing Security Policies and RLS
- Connecting Real-Time Data
- Embedding Reports Using API
- Working with Premium Features like Dataflows and Pipelines