

Power BI Advance with embedding

Number of Days: 7

Duration of Course: 56 hours

Pre-requisite: Not Applicable

Course Objective: This course is a beginner to advance level in Power BI. It focuses upon the Power BI Data Analyst requirements, who wants to learn Data Model, DAX, Report and Dashboard creation. It also includes how to embed power BI component in a website.

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Module 1: Begin with Power BI

Lesson 1: Getting Started with Power BI

- Why Data analysis – Types of analysis
- Role of Data Analyst
- Workflow of Data analyst with Power BI

Lesson 2: Getting Data from Multiple Sources

- Understanding Data Sources
- Data Connectivity Mode
- Connectors

Lesson 3: Resolve data import errors

- Web Authentication and Loading Tables
- Resolving Data Load Error
- Resolving Data Path Error
- Resolving Refresh Error

Lab 1: Load data in Power BI

Module 2: Preparing Data in Power BI

Lesson 1: Introduction to Enhancing Data Structure

- Enhancing Data Structure – Join Types Merge Queries
- Profile data in Power BI
- Shape the initial data
- Simplify the data structure
- Evaluate and change column data types

Lesson 2: Introduction to Designing a Data Model

- Introduction to Dimensional Modeling
- Elements of the Dimensional Data Model
 - Fact Table
 - Dimension Table
- Understanding cardinality
- Creating Relationships and their effects
- Define data granularity
- Configuring Tables
- Work with relationships and cardinality
- Resolve modelling challenges
- Creating Hierarchy
- Explore time-based data

Lab 2: Data Transformation and Create Data Model

Module 3: Calculation with DAX

Lesson 1: Getting Started with DAX

- Write DAX formulas
- Calculated Column
- Measures
- Create simple measures
- Create compound measures
- Create quick measures
- Calculate Tables
- Compare calculated columns with measures
- Evaluation Context
- Types of Contexts
- Summarization and Aggregation
- Modify filter context
- Use filter modifier functions
- Examine filter context
- Perform context transition

Lesson 2: Using DAX to enhance Data Model and Advanced Calculation

- Getting data from other tables using RELATED and RELATEDTABLE
- Modifying the context using CALCULATE function
- Use of USERELATIONSHIP function
- Understanding Row Context with Iterator function: SUMX, AVERAGEX , MAXX , RANKX
- Creating and Manipulating Table in DAX with functions
- Working with Time Intelligence functions
- Importance of Variables and Comments
- Introduction to Optimizing Model Performance

Lab 3: Calculation using DAX

Module 4: Creating Interactive and Paginated Reports

Lesson1: Understanding Visuals and creating Reports

- Creating reports with different visuals
- Cluster and Stacked column and bar chart
- Map visualizations
- Matrices and tables
- Create scatter, waterfall, and funnel charts
- Modify colors in charts and visuals
- Page layout and formatting
- Formatting different Visuals

Lesson 2: Enhancing Report

- Filtering and Sorting Reports
- Sync Slicers
- Creating Drill Through Pages
- Applying Conditional Formatting
- Bookmarks and Selection

Lesson 3: Introduction to advanced data visualization concepts

- Create and import a custom report theme
- Enable personalized visuals in a report
- Design and configure Power BI reports for accessibility
- Review report performance using Performance Analyzer
- Identify outliers with Power BI visuals
- Use the Analyze feature
- Use advanced analytics custom visuals
- Advanced Analytics – Grouping
- Advanced Analytics – Binning
- Creating Animated Scatter Charts

- Using Visuals to Forecast Values

Lesson 4: Working with Python in Reports

- Quick introduction to Python
- Integrating Python visual in Reports

Lesson 4: Downloading Report Builder and creating Paginated Report

- Introduction to paginated reports
- Create a paginated report
- Work with charts on the report
- Publish the report
- Exporting paginated report

Lab 4: Design Report in Power BI Desktop

Lab 5: Create Power Bi Paginated Report

Module 5: Creating Dashboard in Power BI



Lesson 1: Introduction to Dashboards

- Creating Dashboards – Editing Published Reports and Pinning to a New Dashboard
- Enhancing Dashboards with Custom Themes
- Enhancing Dashboard with Videos
- Enhancing Dashboard Tile Alerts
- Using Q&A and Quick Insights and Add to Dashboards

Lesson 2: Creating Real-time Dashboard

- Introduction to Real-Time Dashboards
- Introduction to Power Automate
- Creating Forms for Pushing Data
- Creating Streaming Datasets
- Accessing Power Automate
- Creating Flow to Push Form Data into Dataset

Lab 6 : Create Power Bi Dashboard

Module 6: Managing Workspace and Datasets

Lesson 1: Introduction to Workspace

- Managing Workspace
- Providing access to workspace
- Distribute a report or dashboard
- Monitor usage and performance

- Creating and Publishing Apps
- Recommend a development life cycle strategy

Lesson 2: Introduction to Managing Datasets

- Understanding Data refresh
- Creating Parameters
- Editing Parameters
- Working with What if Parameter

Lab 7: Creating Workspace and Managing Dataset

Module 7: Embedding Power BI components

Lesson 1: Programming the Power BI Service API

- Power BI Service API Overview
- Registering Applications with Azure AD
- Programming Authentication and Managing Access Tokens
- Developing Custom Applications to Publish PBIX Project Files

Lesson 2: Developing with Power BI Embedded

- Overview of the Embedding Features in Power BI
- Understanding Premium Capacities versus Embedded Capacities
- Retrieving Embedding Data using the Power BI Service API
- Generating and Managing Embed Tokens

Module 8: Securing Datasets using Row Level Security

- Understanding Row Level Security (RLS)
- Implementing RLS in a Power BI Desktop Project
- Designing for RLS with the User-Owns-Data Model
- Implementing RLS Dynamically using the USERNAME Function
- Designing for RLS with the App-Owns-Data Model
- Generating Embed Tokens Restricted by RLS Roles