PBI001-Analyzing Data with Power BI

DURATION: 3 Days; Instructor-led

DESCRIPTION
This introductory Power BI course is designed to provide a comprehensive understanding of utilizing Power BI, a potent tool in the realm of Data Analytics.

Covering fundamental concepts, this course will equip learners with the essential skills necessary to navigate Power BI effectively. It will delve into various methods and recommended practices aligned with both business and technical prerequisites for modeling, visualizing, and analyzing data using Power BI.

Participants will learn how to seamlessly access and process data from a diverse array of sources, encompassing both relational and non-relational data sets. Moreover, emphasis will be placed on implementing robust security standards and protocols across the entire Power BI spectrum, encompassing datasets and groups.

Additionally, the course will explore strategies for managing and deploying reports and dashboards to facilitate sharing and content distribution among stakeholders. Finally, learners will be guided through the process of constructing paginated reports within the Power BI service and subsequently publishing them to a workspace for integration within the Power BI ecosystem.

AUDIENCE
This course caters to data professionals and business intelligence practitioners seeking to master precise data analysis techniques through Power BI. It also targets individuals engaged in crafting reports to visualize data sourced from various data platform technologies, whether in cloud environments or on-premises setups.

PREREQUISITES
• Basic knowledge and skill in Microsoft Excel
• Basic knowledge and skill in SQL language will be added advantage

TRAINING ENVIRONMENT SETUP
Hardware:
• i5 computers or higher
• 8G RAM
• Minimum free disk space 10G
• Internet Access Enabled

Software:
• Microsoft Windows 10/11
• Internet Web Browser
• Microsoft Excel 2010 or Higher
• Local installed Microsoft SQL Server (included Management Studio), and students have admin right for SQL Server Data Engine

METHODOLOGY
This program will be conducted with interactive lectures, PowerPoint presentation, discussions and practical exercise.

COURSE OUTLINES

DAY 1:
Module 0: *Introduction*
• From Excel to Power BI
• Why Power BI getting popular
• The learning Roadmap

Module 1: *Different ways to load data from Excel*
• Using Worksheet
• Using Names
• Using Table Objects
• The ETL Process
• The Power Query Windows
• The Power BI Desktop Main Interface
• The Report, Data and Model Views

Module 2: *Relationships*
• What is relationship?
• Why you need to know?
• Primary Key
• Foreign Key
• Referential integrity
• Cardinality/Multiplicity
• Active Relationship
• Alias Table Technique

Module 3: *Custom Column*
• Custom/Virtual Column: What it is about?
• Create ETL level Custom Columns
• Create ETL level Conditional Columns
• Create Report level Custom Columns
• Comparing ETL and Report level Custom Columns

DAY 2:
Module 4: *Loading Data from Different Sources*
• The Data Warehousing Concept
• Create Internal Tables
• Load Data from CSV files
• Load Data from XML files
• Load Data from JSON files • Load Data from PDF files
• Load Data from Web Sites
• Load Data from Rest API
• Load Data from Microsoft SQL Server
• Load Data from Azure Cloud

Module 5: *More Transformations*
• Promote/Demote Header
• Pivot
• Unpivot
• Add Index column
• Reposition column
• Convert to List
• Reduce Rows
• Transpose
• Group By
• Append Columns
• Merge Columns

Module 6: *Basic Power BI Reporting Features*
• Fill Down
• Single and Both Direction
• How to using Map Visuals to present geographical related information?
• How to add more external Visuals?
• Filtering Scopes?
• How to Drill Down the Hierarchical data?
• How to Drill Through from one report page to other page?
• What is Matrix?
• How to create and use Measures?

DAY 3:
Module 7: *More advance Power BI Desktop features*
• The uses of Bookmarks
• Advanced filtering with Slicers
• Dealing with Hierarchies Data
• The power of DAX
• Using SQL Statements
• Direct Query
• ETL Level Parameters
• Reporting Level Parameters
• Define and use Roles

Module 8: *Power BI Intelligence Features*
• Analytics
• Q & A Visual
• Key Influencer
• Decomposition Tree
• Smart Narrative

Module 9: *Deploy Report to Power BI Cloud*
• Publish Report
• Create Dashboards
• Using Q&A under Dashboard to create new Visuals
• Sharing Reports and Dashboards
• Cross Report Drill-through
• Data Gateway
• Refresh Data

Module 10: *Mobility*
• Install Power BI Mobile App
• Phone Views

Module 11: *Other Useful Resources*
• Additional exercises from supporting website
• Other useful links
• Setup and use standard lab exercises from GitHub
• What's next