**Data Unlocked: Power BI Mastery from Source to Story**

**Audience**

Data Analysts enable businesses to maximize the value of their data assets by using Microsoft Power BI. They are responsible for designing and building scalable data models, cleaning and transforming data, provide meaningful business value through easy-to-comprehend data visualizations, collaborate with colleagues through workspaces, distribute content by sharing dashboards, reports, and apps.

**Skill Prerequisites**

Experience in SQL on any database, data warehouse concepts are essential.

**Software Prerequisites**

Before attending the program, participants must have the below software installed

1. Word, Excel
2. Power BI Desktop (latest version) - <https://www.microsoft.com/en-us/download/details.aspx?id=58494>

**Skills / Topics / Tasks outline**

1. Introduction to Power BI / 1 hours

* Business Intelligence
  + Why Power BI?
  + What is Power BI?
  + Basic Concepts
  + Using Power BI
* Building Blocks of Power BI Architecture
  + Power BI Desktop
  + Power BI Service
  + Power BI Mobile
  + Per User License, Per Capacity Subscriptions

1. Prepare the Data / 4 hours

* Get data from different data sources
  + Identify and connect to data sources
  + Change data source settings
  + Select storage mode
  + Identify query performance issues
  + Use parameters
* Profile the data
  + Identify data anomalies
  + Examine data structures
  + Interrogate column properties
  + Interrogate data statistics
* Clean, transform and load the data
  + Resolve inconsistencies and data quality issues
  + Apply user-friendly value replacements
  + Identify and create appropriate keys to join
  + Evaluate and transform column data types
  + Apply transformations to table structures
  + Reference, duplicate and combine queries
  + Apply user friendly naming conventions to columns and queries
  + Leverage advanced editor to modify power query m code
  + Configure data loading
  + Resolve data import errors

1. Model the Data | 4 hours

* Design a data model
  + Define the tables
  + Configure table and column properties
  + Define role-playing dimensions
  + Define a relationship's cardinality and cross-filter direction
  + Design the data model to meet performance requirements
  + Resolve many-to-many relationships
  + Define the appropriate level of data granularity
  + Group data points using grouping and binning features
* Develop a data model
  + Apply cross-filter direction and security filtering
  + Create calculated tables – ADDCOLUMNS, CALENDAR, CALENDARAUTO, FORMAT, DATE functions
  + Create hierarchies
  + Create calculated columns
* Create measures using DAX
  + Replace numeric columns with explicit measures
  + Create semi-additive measures
  + Use DAX functions – CALCULATE, MIN, MAX, SUM, SUMX, ALL, ALLSELECTED, REMOVEFILTERS, FILTER, USERELATIONSHIP, RELATED, RELATEDTABLE
  + Implement Time Intelligence using DAX – TOTALYTD/QTD/MTD, FIRSTDATE, SAMEPERIODLASTYEAR, PARALLELPERIOD, DATEADD

1. Visualize the Data | 4 hours

* Create reports
  + Add visualization items to reports
  + Choose an appropriate visualization type
  + Format and configure visualizations
  + Import a custom visual
  + Configure conditional formatting
  + Apply slicing and filtering
  + Configure the report page
  + Design and configure for accessibility
  + Examine report element performance
* Enrich reports for usability
  + Configure bookmarks
  + Create custom tooltips
  + Edit and configure interactions between visuals
  + Configure navigation for a report
  + Apply sorting
  + Allow users to personalize visuals
  + Configure sync slicers
  + Use the selection pane
  + Use drill through and cross filter
  + Drilldown into data using interactive visuals
  + Export report data
  + Explain fluctuations in visuals

1. Deploy and Maintain Deliverables | 3 hours

* Create and manage workspaces
  + Create and configure a workspace
  + Assign workspace roles
  + Configure and update a workspace app
  + Publish, import, or update assets in a workspace
  + Share assets
* Create dashboards
  + Set mobile view
  + Manage tiles on a dashboard
  + Configure data alerts
  + Use the Q&A feature
  + Add a dashboard theme
  + Pin a live report page to a dashboard
  + Subscribe to reports and dashboards
  + Add comments to reports and dashboards