



SQL and Power BI Curriculum

Power BI – Introduction

- Business Intelligence
- Power BI History and Introduction
- Power BI Desktop and User Interface
- Understanding Power Query, Power Pivot and Power View
- Components of Power BI
- Building Blocks of Power BI
- Power BI Workflow
- Understanding the Power BI architecture and components
- Installing and setting up Power BI Desktop
- Get data from various sources.
- Detailed Understanding about Import Mode, Direct Query Mode, and Live Connection
- Introduction to Power Query Editor
- ETL – Extract, Transform and Load
- Power Query User Interface
- The Queries Pane, Data view, Query Settings Pane, and Formula Bar
- How to apply changes and Load to Power Pivot Model



Data Transformation

- Get data from various sources
- Data source settings
- Deal with Queries
- Manage Columns and Reduce Rows, Sort Data
- Split Column in different ways, Group by Detect and change Data types.
- Create a table using Enter data.
- Table transformations
- Combine Files, Merge Queries and Append Queries.
- Move and Rename Columns
- Pivot and Unpivot Columns
- Fill up and Fill Down
- Replace Values and Errors
- Merge Columns
- Format and Extract Text
- Column From Examples and Custom Column
- Invoke Custom Column and Conditional Column
- Index Column
- Duplicate Column
- Add Column Functions related to Text, Number and Date & time.
- Parameter
- Column Quality
- Column Distribution
- Column Profile
- Query Dependencies and Advanced Editor



Data Modelling

- Overview of Data Modelling
- Relationships
- Cardinality
- Manage relationships.
- Normalization
- Active and Inactive Relationships
- Cross filter
- BI-Directional Relationship
- Role Playing Dimension
- Calendar or Date Table

DAX

- Introduction to DAX
- DAX Operators and Types of Operators
- Calculated Columns and Measures
- Implicit and Explicit Measures
- Aggregated Functions
- Date and Time Functions
- Information Functions
- Logical and Parent Child Functions
- Relationship and Text Functions
- Table Manipulation Functions
- Time Intelligence Functions
- New Calculation
- Quick Measure



Data Visualization

- Report View UI, Visual Interactions
- Filter Types, Slicers
- Grouping, Binning and Sorting
- Hierarchies , Drill Down and Drill Through
- Formatting
- Visualization of Categorical Data
- Visualization of Trend Data
- Visualization of KPI Data
- Visualization of Maps
- Custom Visualizations
- Best Practices

Reporting - Projects

- Zomato Data Analysis Report Creation
- Extraction, Transformation and Loading
- Data Modelling
- Visualization
- Formatting
- Publishing the report to Power Service
- Best Practices



Power BI Service

- Power BI Service Introduction
- Interface and Sharing of Reports
- My Workspace and Dashboard Creation
- Pin Visuals and Pin Live Pages
- Data Gateways and Types of Gateways
- Roles in workspace
- Scheduled Refresh



MS SQL Server

- SQL Server Introduction
- ER model & Relational model
- Databases, Schemas, and Tables
- Datatypes
- SQL Commands
- Keys and Constraints,
- Cascading referential integrity constraints
- Alter commands
- Identity, scope identity, ident current
- Joins
- Set operators Union, Union all, Intersect, Except
- Aggregation functions
- Group By, Having, Order By, Like operator
- Select into statement, insert into
- String functions, Date and time functions
- Subquery
- Exists and Not Exist
- CTE and Views
- Temporary tables
- Stored procedures
- User defined functions
- Cross Apply and Outer apply
- Window functions
- Indexes