



# FULL STACK POWER BI



Power BI



Azure



- ⇒ Introduction
- ⇒ SQL Data Definition
- ⇒ SQL Data Manipulation
- ⇒ SQL Data Control
- ⇒ SQL Transactional Control
- ⇒ SQL Data Types
- ⇒ SQL Constraints
- ⇒ SQL Joins
- ⇒ SQL Subqueries
- ⇒ SQL Advanced Queries



- ⇒ Power BI Basics
- ⇒ Power BI Desktop
- ⇒ Power BI Query – Transform
- ⇒ Data / Edit Queries
- ⇒ Power BI Service
- ⇒ Power BI Mobile App
- ⇒ Power BI Licensing Models
- ⇒ (Pro & Premium)
- ⇒ Power BI DAX – Data
- ⇒ Analysis Expressions
- ⇒ Power BI Custom
- ⇒ Visualizations



- ⇒ Power App Introductions
- ⇒ Canvas Apps
- ⇒ Common Data Sources
- ⇒ Model-Driven Apps

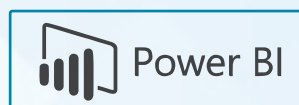


- ⇒ Introduction
- ⇒ Power Automate
- ⇒ Power Automate Flow
- ⇒ End to End Flow



- ⇒ Cloud Computing
- ⇒ Azure
- ⇒ Azure Services
- ⇒ Azure with Power BI

## Tools used in this Course







## Introduction

- ⇒ What is SQL?
- ⇒ Brief history of SQL
- ⇒ Why is SQL Important
- ⇒ Popular Databases
- ⇒ What Is MySQL?
- ⇒ Introduction to MySQL & MySQL workbench
- ⇒ Install MySQL Database Server
- ⇒ Connect to MySQL Server

## SQL Data Definition

- ⇒ Selecting Database
- ⇒ CREATE DATABASE
- ⇒ DROP DATABASE
- ⇒ Data Types
- ⇒ CREATE TABLE
- ⇒ Sequence
- ⇒ ALTER TABLE
- ⇒ ADD COLUMN
- ⇒ DROP COLUMN
- ⇒ RENAME TABLE
- ⇒ DROP TABLE
- ⇒ TRUNCATE TABLE

## SQL Data Manipulation

- |                          |                  |
|--------------------------|------------------|
| ⇒ SELECT                 | ⇒ Subquery       |
| ⇒ ORDER BY               | ⇒ Derived Tables |
| ⇒ WHERE                  | ⇒ EXISTS         |
| ⇒ SELECT DISTINCT        | ⇒ UNION          |
| ⇒ AND                    | ⇒ MINUS          |
| ⇒ OR                     | ⇒ INTERSECT      |
| ⇒ IN                     | ⇒ INSERT         |
| ⇒ BETWEEN                | ⇒ UPDATE         |
| ⇒ LIKE                   | ⇒ DELETE         |
| ⇒ LIMIT                  | ⇒ REPLACE        |
| ⇒ IS NULL                |                  |
| ⇒ Table & Column Aliases |                  |
| ⇒ GROUP BY               |                  |
| ⇒ HAVING                 |                  |

## Data Control Language

- ⇒ GRANT
- ⇒ REVOKE

## Transaction Control Language

- ⇒ COMMIT
- ⇒ ROLLBACK
- ⇒ SAVEPOINT
- ⇒ SET TRANSACTION

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- ⇒ COMMIT
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## SQL Data Types

- ⇒ Bit
- ⇒ Boolean
- ⇒ Char
- ⇒ Date
- ⇒ Datetime
- ⇒ Decimal
- ⇒ Int
- ⇒ Time
- ⇒ Timestamp
- ⇒ Varchar





## SQL Constraints

- ⇒ Primary Key
- ⇒ Foreign Key
- ⇒ Unique Constraint
- ⇒ Check Constraint
- ⇒ Not Null
- ⇒ Default

## SQL Joins

- ⇒ Joins
- ⇒ Inner Join
- ⇒ Left Join
- ⇒ Right Join
- ⇒ Self-join
- ⇒ Cross Join

## SQL Subqueries

- ⇒ Single-row subqueries
- ⇒ Multiple-row subqueries
- ⇒ Correlated subqueries

## SQL Advanced Queries

- ⇒ Rank
- ⇒ Dense Rank
- ⇒ Row number





## **Power BI**

### Power BI Basics

- ⇒ Introduction to Reporting
- ⇒ History of Power BI
- ⇒ Power bi desktop installation
- ⇒ Advantages of power bi than SSRS
- ⇒ Tool Introduction
- ⇒ Creating a sample Report

### Power BI Desktop

- ⇒ What is Power BI Desktop?
- ⇒ Connecting / fetching the data to power bi from SQL SERVER / EXCEL /
- ⇒ Tabular SSAS/text file.
- ⇒ Modifying the data source settings.
- ⇒ Understanding of Relationships view/Data view/report view
- ⇒ Creating/modifying and deleting the relationships.
- ⇒ Manage Relationships.
- ⇒ Creating / deleting and renaming the reports
- ⇒ Data Refresh options
- ⇒ Table level & column level options
- ⇒ Delete
- ⇒ Rename
- ⇒ Hide
- ⇒ View Hidden
- ⇒ Unhide/collapse/expand all
- ⇒ All filter
- ⇒ New Hierarchy
- ⇒ New Measure/calculation
- ⇒ Datatypes, Changing the Datatype of a Column
- ⇒ Filters in Power Query
- ⇒ Auto Filter / Basic Filtering
- ⇒ Filter a Column using Text Filters
- ⇒ Filter a Column using Number Filters
- ⇒ Filter a Column using Date Filters
- ⇒ Filter Multiple Columns
- ⇒ Other reporting options
- ⇒ Cut
- ⇒ Copy
- ⇒ Paste
- ⇒ Format Painter
- ⇒ Adding images/Text boxes/shapes
- ⇒ Enter Data
- ⇒ Page View

### Power BI Query – Transform Data / Edit Queries

#### Table level options

- ⇒ Copy
- ⇒ Paste
- ⇒ Delete
- ⇒ Rename
- ⇒ Duplicate
- ⇒ Reference
- ⇒ Move up/down/group
- ⇒ Create function

#### Column Level options

- ⇒ Copy/rename
- ⇒ Rename other columns
- ⇒ Duplicate columns
- ⇒ Remove duplicate / errors
- ⇒ Change type
- ⇒ Transform
- ⇒ Replace
- ⇒ Replace error
- ⇒ Split column
- ⇒ Group by
- ⇒ Fill up
- ⇒ Fill down
- ⇒ Unpivot columns and other columns
- ⇒ Rename
- ⇒ Move
- ⇒ Drilldown
- ⇒ Add as a new query
- ⇒ Other options
- ⇒ Merge queries
- ⇒ Append queries
- ⇒ Use first row as a header
- ⇒ Sorting
- ⇒ Create / work with parameters

## **Power BI**

### Append Queries

- ⇒ Append Queries
- ⇒ Append Queries as New
- ⇒ Append 2 or more files individually with different queries
- ⇒ Query Options
- ⇒ Copy Query, Paste Query
- ⇒ Delete Query, Rename Query
- ⇒ Enable Load, Include in report Refresh
- ⇒ Duplicate Query, Reference Query
- ⇒ Move to Group, Move Up, Move Down

### Merge Queries

- ⇒ Merge Queries, Merge Queries as New
- ⇒ Default Types of Joins / Join Kinds / Merge Type
- ⇒ Left Outer (all from first, matching from second)
- ⇒ Right Outer (all from second, matching from first)
- ⇒ Full Outer (all rows from both)
- ⇒ Inner (only matching rows)
- ⇒ Left Anti (rows only in first)
- ⇒ Right Anti (rows only in second)
- ⇒ Cartesian Join or Cross Join
- ⇒ Transpose                      ⇒ Parse
- ⇒ Reverse columns            ⇒ Date
- ⇒ Count                          ⇒ Time
- ⇒ Detect data types          ⇒ Expand
- ⇒ Extract                        ⇒ Aggregate

### Power BI Service

#### Power BI Service Introduction

- ⇒ Power BI Service Introduction, Power BI Cloud Architecture
- ⇒ Creating Power BI Service Account, SIGN IN to Power BI Service Account
- ⇒ Publishing Reports to the Power BI service, Import / Getting the Report to PBI Service
- ⇒ My Workspace / App Workspaces Tabs
- ⇒ DATASETS, WORKBOOKS, REPORTS, DASHBOARDS
- ⇒ Working with Datasets, Creating Reports in Cloud using Published Datasets
- ⇒ Power BI Datasets Live Connection using Desktop
- ⇒ Working with Workbooks, working with Reports, Sharing Reports

### Dashboards Development

- ⇒ Publishing Reports to the Power BI service, Import / Getting the Report to PBI Service
- ⇒ My Workspace / App Workspaces Tabs
- ⇒ DATASETS, WORKBOOKS, REPORTS, DASHBOARDS
- ⇒ Working with Datasets, Creating Reports in Cloud using Published Datasets
- ⇒ Power BI Datasets Live Connection using Desktop
- ⇒ Working with Workbooks, working with Reports, Sharing Reports
- ⇒ Creating Dashboards
- ⇒ Pin Visuals and Pin LIVE Report Pages to Dashboard
- ⇒ Advantages of Dashboards
- ⇒ Interacting with Dashboards
- ⇒ Adding Tiles to Dashboards
- ⇒ Web Content, Image, Text Box, Video
- ⇒ Formatting Dashboard
- ⇒ Sharing Dashboard

### Data Gateways

- ⇒ Introduction to Data Gateways
- ⇒ How Data Gateways work
- ⇒ Connect to an on premise Data Source by using a Data Gateway
- ⇒ Download Data Gateway
- ⇒ Installing a Data Gateway
- ⇒ Types of Gateways
- ⇒ On-premises Data Gateway, On-premises Data Gateway (personal mode)
- ⇒ Manage Data Gateway
- ⇒ Add and Remove Administrators
- ⇒ Add Data Source, Add or Remove Users to a Data Source
- ⇒ Refresh On Premise Data
- ⇒ Configuring Automatic Refresh using Schedules



## **Power BI**

### Collaboration in Power BI using App Workspace

- ⇒ Introduction to App Workspaces
- ⇒ Create an App Workspace
- ⇒ Add Members to App Workspace to Collaborate
- ⇒ App Workspace Access
- ⇒ Admin, Member, Contributor

### Sharing Power BI Content using Apps and Content Packs

- ⇒ Introduction to App
- ⇒ Publish an App
- ⇒ Update a Published App
- ⇒ Manage Content in App
- ⇒ Include in App, Exclude in App
- ⇒ Sharing App
- ⇒ Entire Organization, Specific individuals or group

### Row Level Security in Power BI

- ⇒ Introduction to Row Level Security
- ⇒ Row Level Security (RLS) with DAX
- ⇒ Manage Roles, Creating Roles, Testing Roles
- ⇒ Adding Members to Roles in Power BI Service

### Power BI Mobile App

- ⇒ How to install Power BI Mobile App
- ⇒ How to sign in to mobile app
- ⇒ How to customize reports / visuals only for mobile apps specific.

### Power BI Licensing Models (Pro)

- ⇒ Introduction to power bi licensing model
- ⇒ What is Power BI Pro
- ⇒ What Is Power BI Premium
- ⇒ Difference between those two Pro and Premium

### DAX – Data Analysis Expressions

- ⇒ Enhancing the Data Model – DAX
- ⇒ What is DAX, Calculated Column, Measures
- ⇒ DAX Table and Column Name Syntax
- ⇒ Creating Calculated Columns, Creating Measures
- ⇒ Calculated Columns Vs Measures
- ⇒ DAX Syntax & Operators
- ⇒ DAX Operators
- ⇒ Types of Operators
- ⇒ Arithmetic Operators, Comparison Operators, Text Concatenation
- ⇒ Operator, Logical Operators
- ⇒ Filter & value functions
- ⇒ Logical functions
- ⇒ Mathematical functions
- ⇒ Statistical functions
- ⇒ Text functions
- ⇒ Time functions

### DAX Date & Time Functions

- ⇒ Year, Month, Day
- ⇒ Weekday, Weeknum
- ⇒ Format (text Function) Month Name, Weekday Name
- ⇒ Date, Today, Now
- ⇒ Hour, Minute, Second, Time
- ⇒ Datediff, Calendar
- ⇒ Creating Date Dimension Table

### DAX Text Functions

- ⇒ Len, Concatenate (&)
- ⇒ Left, Right, Mid
- ⇒ Upper, Lower
- ⇒ Trim, Substitute, Blank

### DAX Logical Functions

- ⇒ IF
- ⇒ TRUE, FALSE
- ⇒ NOT, OR, IN, AND
- ⇒ IFERROR
- ⇒ SWITCH

## Power BI

### DAX Math and Statistical Functions

- ⇒ Int
- ⇒ Round, Roundup, Rounddown
- ⇒ Divide
- ⇒ Even, Odd
- ⇒ Power, Sign
- ⇒ Sqrt, Fact
- ⇒ Sum, Sumx
- ⇒ Min, Minx
- ⇒ Max, Maxx
- ⇒ Count, Countx
- ⇒ Average, Averagex
- ⇒ Countrows, Countblank

### DAX Filter Functions

- ⇒ Calculate
- ⇒ Calculatetable
- ⇒ All
- ⇒ Related
- ⇒ Allselected
- ⇒ Allcrossfiltered
- ⇒ Distinct
- ⇒ Earlier
- ⇒ Filter
- ⇒ Hasonefilter
- ⇒ Hasonevalue
- ⇒ Isfiltered
- ⇒ Iscrossfiltered
- ⇒ Selectedvalue
- ⇒ Userrelationship

### DAX Time Intelligence Functions

- ⇒ Time Intelligence Introduction
- ⇒ Totalmtd, Totalqtd, Totalytd
- ⇒ Previousday, Previousmonth
- ⇒ Previousquarter, Previousyear
- ⇒ Nextday, Nextmonth
- ⇒ Nextquarter, Nextyear
- ⇒ Sameperiodlastyear
- ⇒ Parallalperiod

### Power BI Custom Visualizations

- ⇒ PBI certified Visuals
- ⇒ Word Cloud
- ⇒ Infographic Designer
- ⇒ Drill down pie chart
- ⇒ Histogram



### Induction to Cloud Computing

- ⇒ What is Cloud Computing?
- ⇒ Different cloud platforms
- ⇒ Cloud Services

### Azure

- ⇒ Azure Introductions
- ⇒ Azure Fundamentals
- ⇒ IaaS, PaaS & SaaS

### Azure Services

- ⇒ Azure Blob Storage
- ⇒ Azure Data Lake Storage (ADLS)
- ⇒ Azure SQL Database
- ⇒ Azure Data Factory
- ⇒ Dataflow      ⇒ Power Query Editor
- ⇒ Pipeline      ⇒ Datasets

### Azure with Power BI

- ⇒ Azure Power BI Connectivity
- ⇒ End to End Connectivity from Azure Services to PowerBI



## STUDENT TRANSFORMATION STAGES



## OUR STUDENTS ARE PLACED IN

