

SQL School

Quality Training Assured

Complete Practical, Real-time Job Oriented Training

Power BI Training

	PLAN A	PLAN B	PLAN C
Course Includes	1. Power BI	1. SQL & T-SQL 2. Power BI	1. SQL & T-SQL 2. Power BI 3. Azure Data Engineer
Power BI Report Design	✓	✓	✓
Power BI Visualizations, Modelling	✓	✓	✓
Power Query (M Language), ETL	✓	✓	✓
DAX Queries, Data Modelling, RLS	✓	✓	✓
Power BI Service (Cloud), Tenants	✓	✓	✓
Gateways, Big Data Access (Azure)	✓	✓	✓
Excel Pivots, Power BI Report Server	✓	✓	✓
Power BI Admin, Big Data (Azure)	✓	✓	✓
Custom Visualizations and Apps	✓	✓	✓
Power BI Exam Guidance (DA 100)	✓	✓	✓
Database Basics and SQL Basics	X	✓	✓
SQL Server Concepts, T-SQL Queries	X	✓	✓
Queries, Sub Queries, Remote Joins	X	✓	✓
Constraints, Group By, Merge, Rank	X	✓	✓
ER Diagrams and Excel ODC Files	X	✓	✓
Azure Fundamentals and Azure AD	X	X	✓
Azure Data Factory (ADF) & ETL Concepts	X	X	✓
Azure Synapse Analytics, SQL Pools (DWH)	X	X	✓
Synapse Studio with Analytics Workspace	X	X	✓
Azure Storage (BLOB), Data Lake Storage	X	X	✓
Azure Data Lake Analytics & U-SQL	X	X	✓
Azure Cosmos DB & NoSQL. Databricks	X	X	✓
Python Notebooks and Spark Clusters	X	X	✓
Azure Stream Analytics & SAQL for ETL	X	X	✓
Azure Functions and Azure Key Vaults	X	X	✓
Data Engineer Exam Guidance (DP 203)	X	X	✓
Total Duration	4 Weeks	6 Weeks	12 Weeks

Module 1: Basics, SQL Server & T-SQL Concepts (For Power BI Plans B, C)

Chapter 1: SQL SERVER INTRODUCTION

Data, Databases and RDBMS Software; Database Types : OLTP, DWH, OLAP; Microsoft SQL Server Advantages, Use; Versions and Editions of SQL Server; SQL : Purpose, Real-time Usage Options; SQL Versus Microsoft T-SQL [MS SQL]; Microsoft SQL Server - Career Options; Database Engine Component and OLTP; BI Components; ETL, Azure and Power BI Components; Course Plan, Project Plan; 24 x 7 Online Server; Software Installation Pre-Requisites;

Chapter 2: SQL SERVER INSTALLATIONS

System Configuration Checks; Versions and Editions of SQL Server; SQL Server Pre-requisites : S/W, H/W; SQL Server 2016 / 2017 Installation; SQL Server 2019 Installation; Instance Name; Instances : Types; Default Instance, Named Instances; Port Numbers; Service and Service Account; Authentication Modes and Logins; FileStream, Collation Properties;

Chapter 3: SSMS Tool, SQL BASICS - 1

SQL Server Management Studio; Local and Remote Connections; System Databases: Master and Model; MSDB, TempDB, Resource Databases; Creating Databases : Files [MDF, LDF]; Creating Tables in GUI; Data Insertion & Storage; SQL : Real-time Usage; DDL, DML, SELECT, DCL and TCL Statements; Data Storage, Inserts - Basic Level; SELECT; Table Data Retrieval;

Chapter 4: SQL BASICS - 2

Creating Databases & Tables in SSMS; Single Row Inserts, Multi Row Inserts; Rules for Data Insertion Statements; SELECT Statement @ Data Retrieval; SELECT with WHERE Conditions; AND and OR; IN and NOT IN; Between, Not Between; LIKE and NOT LIKE; UPDATE Statement; DELETE & TRUNCATE; Logged and Non-Logged Operations; ADD, ALTER and DROP Statements;

Chapter 5: SQL BASICS - 3, T-SQL Introduction

Schemas : Group Tables in Database; Using Schemas for Table Creation; Using Schemas in Table Relations; Table Migrations across Schemas; Default Schema : "dbo"; Import and Export Wizard; Bulk Operations; Excel File Imports / Exports; SQL Server Native Client; Executing SSIS Packages, Data Loads; Local and Global Temporary Tables; # & ## Prefix;

Chapter 6: CONSTRAINTS & INDEXES BASICS

Constraints and Keys - Data Integrity; NULL, NOT NULL; UNIQUE KEY Constraint; PRIMARY KEY Constraint; FOREIGN KEY Constraint, References; CHECK Constraint; DEFAULT Constraint; Identity Property: Seed & Increment; Database Diagrams, ER Models; Relationships Verification; Indexes : Basics, Creation; Clustered & Non Clustered Indexes; Primary Key, Unique Indexes;

REAL-TIME CASE STUDY - 1 (SALES & RETAIL)

Chapter 7: JOINS and TSQL Queries : Level 1

JOINS - Table Comparisons; INNER JOINS For Matching Data; OUTER JOINS For (non) Match Data; Left Outer Joins; Right Outer Joins - Example Queries; FULL Outer Joins; One-way and Two Way Comparisons;"ON" Conditions; Join Unrelated Tables; NULL, IS NULL in Joins; CROSS JOIN

and CROSS APPLY; Join Options: Merge, Loop and Hash Joins; Performance Advantages;

Chapter 8: GROUP BY, T-SQL Queries : Level 2

GROUP BY Queries and Aggregations; Group By Queries with Having Clause; Group By Queries with Where Clause; Using WHERE and HAVING in T-SQL; Rollup : Usage and T-SQL Queries; Cube : Usage and T-SQL Queries; UNION and UNION ALL Operator; EXISTS Operator, Query Conditions; Sub Queries; Joins with Group By Queries; Nested Sub Queries; UNION and UNION ALL; Nested Sub Queries with Group By, Joins; Comparing WHERE, HAVING Conditions;

Chapter 9: JOINS & T-SQL Queries : Level 3

GetDate, Year, Month, Chapter Functions; Date & Time Styles, Data Formatting; DateAdd and DateDiff Functions; Cast and, Convert Functions in Queries; String Functions: SubString, Replicate; Len, Upper, Lower, Left and Right; LTrim, RTrim, CharIndex Functions; MERGE Statement - Comparing Tables; WHEN MATCHED and NOT MATCHED; Incremental Load with MERGE Statement; IIF() Function for Value Compares; CASE Statement : WHEN, ELSE, END; ROW_NUMBER() and RANK() Queries; Dense Rank and Partition By Queries;

Chapter 10: View, Procedure, Function Basics

Views : Types, Usage in Real-time; System Predefined Views and Audits; Listing Databases, Tables, Schemas; Functions : Types, Usage in Real-time; Scalar, Inline and Multi-Line Functions; System Predefined Functions, Audits; DBId, DBName, ObjectID, ObjectName; Variables & Parameters; User & System Predefined Procedures; Parameters; Sp_help, Sp_helpdb and sp_helptext; sp_pkeys, sp_rename and sp_help; When to use Which Database Objects;

Chapter 11: Triggers & Transactions

Triggers - Purpose, Real-world Usage; FOR/AFTER Triggers; INSTEAD OF Triggers; INSERTED, DELETED Memory Tables; DML Automations using Memory Tables; Read Only Tables using DML Triggers; Enable Triggers and Disable Triggers; Database Level, Server Level Triggers; Transactions & ACID Properties; AutoCommit; EXPLICIT & IMPLICIT; COMMIT and ROLLBACK; Open Transaction; Query Blocking Scenarios @ Real-time; NOLOCK and READPAST Lock Hints;

Chapter 12: ER MODELS, NORMAL FORMS

Normal Forms for Entity Relationships; First, Second, Third Normal Forms Usage; Boyce-Codd Normal Form: BCNF : Usage; 4 NF, EKNF, ETNF. Functional Dependency; Multi-Valued, Transitive Dependencies; Composite Keys and Composite Indexes; 1:1, 1:M, M:1, M:M Relationship Types; Storing SQL Queries into Views; Creating ODC Connections; Excel Pivot Reports and Reports; SQL Queries in BI Tools; FETCH OFFSET, NEXT ROWS; Data Refresh;

REAL-TIME CASE STUDY - 2 (SALES & RETAIL)

Module 2: Power BI (Reports, Cloud, Server) {For Power BI All Plans}

Chapter 1 : POWER BI INTRO, BASIC REPORTS

Power BI Job Roles, Career Options; Comparing MSBI and Power BI; DA 100 Exam Certification; Interactive & Paginated Reports; Analytical & Mobile Reports; Data Sources & Licensing Types;

Power BI Dev & Prod Environments; Power BI Desktop Installation; Data Sources & Visual Types; Canvas, Visualizations and Fields; In-Memory Xvelocity Database; Table and Tree Map Visuals; Format Button and Data Labels; Legend, Category and Grid; PBIX and PBIT File Formats;

Chapter 2 : VISUAL INTERACTION, VISUAL SYNC

Visual Interaction, Data Points; Disabling Visual Interactions; Edit Interactions: Format Options; SPOTLIGHT & FOCUSMODE; CSV and PDF Export Options; Tooltip Options and Usage; Working with Pages in PBI; Rename, Duplicate, Hide Pages; Slicer Visual : Real-time Usage; Orientation, Selection Properties; Single & Multi Select, CTRL Options; Number and Text Slicer Options; Date Slicer and Value Selections; Slicer List and Slicer Dropdowns; Visual Sync Limitations with Slicer;

Chapter 3 : GROUPS, BINS & HIERARCHIES

Grouping : Real-time Use, Examples; List Grouping and Binning Options; Grouping Static / Fixed Data Values; Grouping Dynamic / Changing Data; Bin Size and Bin Limits (Max, Min); Bin Count and Grouping Options; Grouping Binned Data, Classification; Creating Hierarchies in Power BI; Independent Drill-Down Options; Dependant Drill-Down Options; Conditional Drilldowns, Data Points; Drill Up Buttons and Operations; Expand & Show Next Level Options; Dynamic Data Drills Limitations; Show Data and See Records;

Chapter 4 : FILTERS, BOOKMARKS

Filters : Types and Usage in Real-time; Visual Filter, Page Filter, Report Filter; Basic, Advanced and TOP N Filters; Category and Summary Level Filters; Drill Thru Filters, Drill Thru Reports; Keep All Filters" Options in Drill Thru; Cross Report Filters, Include, Exclude; Drill-thru Filters, Page Navigations; Bookmarks : Real-time Usage; Bookmarks for Visual Filters; Bookmarks for Page Navigations; Selection Pane with Bookmarks; Buttons, Images with Actions; Buttons, Actions and Text URLs; Bookmarks View & Selection Pane;

Chapter 5 : Azure, Big Data Modelling & Arch

OLTP Databases, Big Data Sources; Azure Database Access, Reports; Import & Direct Query with Power BI; Enter Data; Data Modelling : Currency, Relations; Summary, Format, Synonyms; Web & Mobile View in PBI; Power BI Architecture & Eco System; Power BI Interface for Reports; On-Premise and Cloud Components; Excel Integration with Power BI; Interactive Reports: Properties; Queries, Data & Relationships; Power BI Desktop Options; In Memory Settings, Performance;

Chapter 6 : VISUALIZATION PROPERTIES

Stacked Charts and Clustered Charts; Line Charts, Area Charts, Bar Charts; 100% Stacked Bar and Column Charts; Map Visuals: Tree, Filled, Bubble; Cards, Funnel, Table, Matrix; Scatter Chart : Play Axis, Labels; Series Clusters; Waterfall Chart; ArcGIS Maps; Infographics; Color Saturation, Sentiment Colors; Column Series, Column Axis in Lines; Join Types : Round, Bevel, Miter; Shapes, Markers, Axis, Plot Area; Data Colors; Series, Custom Series and Legends; Q & A Visual; Classification Charts & Real-time Use;

Chapter 7 : POWER QUERY LEVEL 1

Power Query Architecture and M Language; Data Types, Literals and Values; Power Query Transformation Types; Table & Column; Text & Number Transformations; Date, Time and Structured Data; List, Record & Table; let, source, in statements @ M Lang; Power Query Functions, Parameters; Invoke Functions; Get Data, Table Creations, Edit; Merge and Append Transformations; Join Kinds, Advanced Editor, Apply; ETL Operations with Power Query;

Chapter 8 : POWER QUERY LEVEL 2

Query Duplicate, Query Reference; Group By and Advanced Options; Aggregations with Power Query; Transpose, Header Row Promotion; Reverse Rows and Row Count; Data Type Changes & Detection; Replace Columns: Text, NonText; Replace Nulls: Fill Up, Fill Down; PIVOT, UNPIVOT; Move Column and Split Column; Extract, Format; Date & Time Transformations; Deriving Year, Quarter, Month, Chapter; Add Column : Query Expressions; Query Step Inserts and Step Edits;

Chapter 9 : POWER QUERY LEVEL 3

Creating Parameters in Power Query; Parameter Data Types, Default Lists; Static/Dynamic Lists For Parameters; Removing Columns and Duplicates; Convert Tables to List Queries; Linking Parameters to Queries; Parameters and PBI Canvas; Multi-Valued Parameter Lists; Creating Lists in Power Query; Converting Lists to Table Data; Advanced Edits and Parameters; Data Type Conversions, Expressions; Columns From Examples, Indexes; Conditional Columns, Expressions;

Chapter 10 : DAX Functions - Level 1

DAX : Importance in Real-time; Real-world usage of Excel, DAX; DAX Architecture, Entity Sets; DAX Data Types, Syntax Rules; DAX Measures and Calculations; ROW Context and Filter Context; DAX Operators, Special Characters; DAX Functions, Types in Real-time; Vertipaq Engine, DAX Cheat Sheet; Creating, Using Measures with DAX; Creating, Columns with DAX; Quick Measures; SUM, AVERAGEX, KEEPFILTERS; Dynamic Expressions, IF in DAX;

Chapter 11 : DAX Functions - Level 2

Data Modeling Options in DAX; Detecting Relations for DAX; Using Calculated Columns in DAX; Using Aggregated Measures in DAX; Working with Facts & Measures; Modeling : Missing Relations; Modeling : Relation Management; CALCULATE Function Conditions; CALCULATE & ALL Member Scope; RELATED & COUNTROWS in DAX; Slicing; Dynamic Expressions, RETURN; Date, Time, Text Functions; Logical, Mathematical Functions; Running Total, EARLIER Function;

Chapter 12 : DAX FUNCTIONS - Level 3

1:1, 1:M and M:1 Relations; Connection with CSV, MS Access; AVERAGEX and AVERAGE in DAX; KEEPFILTERS and CALCULATE; COUNTROWS, RELATED, DIVIDE; PARALLELPERIOD, DATEDADD; CALCULATE & PREVIOUSMONTH; USERRELATIONSHIP, DAX Variables; TOTALYTD , TOTALQTD; DIVIDE, CALCULATE, Conditions; IF..ELSE..THEN Statement; SELECTEDVALUE, FORMAT; SUM, DATEDIFF Examples; TOCHAPTER, DATE, CHAPTER with DAX; Time Intelligence Functions;

Chapter 13 : POWER BI CLOUD - 1

Power BI Service Architecture; Power BI Cloud Components, Use; App Workspaces, Report Publish; Reports & Related Datasets Cloud; Creating New Reports in Cloud; Report Publish and Report Uploads; Report Edits and New Reports; Dataset Usage Options in Cloud; Dashboards

Creation and Usage; Pining Visuals and Report Pages; Visual Pin Actions in Dashboards; LIVE Page Interaction in Dashboard; Adding Media: Images, Custom Links; API Data Sources, Streaming Data; Streaming Dataset Tiles (REST API);

Chapter 14 : POWER BI CLOUD - 2

Dashboards Actions, Report Actions; DataSet Actions: Create Report; Share, Metrics and Exports; Mobile View & Dashboard Themes; Q & A [Cortana], Pin Visuals; Export, Subscribe, Subscribe; Favourite, Insights, Embed Code; Featured Dashboards and Refresh; Gateways Configuration, PBI Service; Gateway Types; Gateway Clusters, Data Refresh : Manual, Automatic; PBIEngw Service; DataFlows, Power Query Expressions; Adding Entities, JSON Files;

Chapter 15 : POWER BI CLOUD - 3

Import and Upload Options in Excel; Excel Workbooks and Dashboards; Datasets in Excel and Dashboards; Using Excel Analyzer in Power BI; Using Excel Publisher in PBI Cloud; Excel Workbooks, PINS in Power BI; Excel ODC Connections, Power Pivot; Row Level Security (RLS) with DAX; RLS: Row Level Security in Power BI; Data Modeling and Power Pivot; DAX Roles Creation and Testing; Adding Power BI Users to Roles; Creating Power BI Apps in Cloud; Sections & Alerts in Power BI Apps; Power BI Apps : Updates, Security;

Chapter 16: REPORT SERVER, REPORT BUILDER

Need for Report Server in PROD; Install, Configure Report Server; Report Server DB, Temp Database; Webservice URL, Webportal URL; Creating Hybrid Cloud with Power BI; Using Power BI DesktopRS; Uploading Interactive Reports; Report Builder; Report Builder For Power BI Cloud; Designing Paginated Reports (RDL); Deploy to Power BI Report Server; Data Source Connections, Report; Power BI Report Server to Cloud; Tenant IDs; Mobile Report Publisher;

Chapter 17 : POWER BI INTEGRATIONS

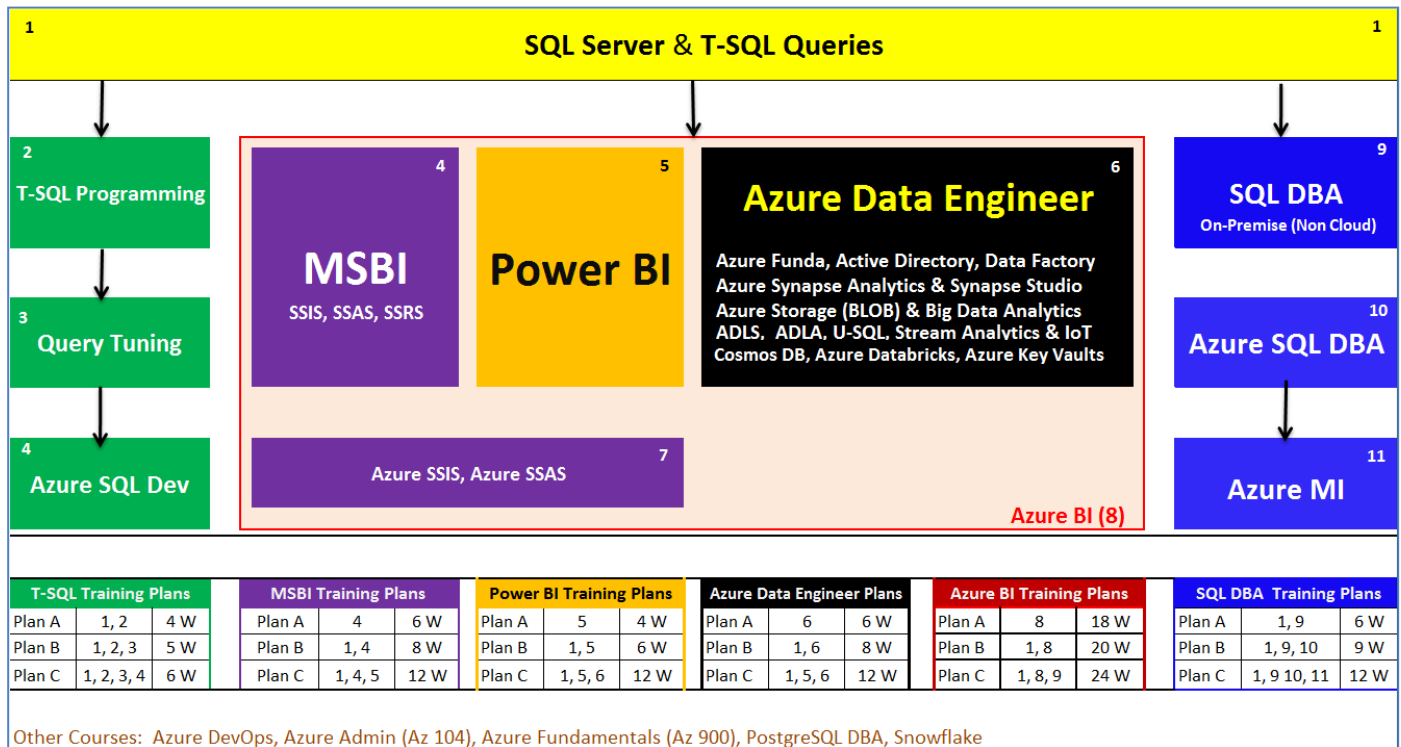
Power BI with SQL Server Source; Power BI with SQL Data Warehouse; Power BI with OLAP Server; Power BI with Azure SQL DB Source; OLAP Cube Reports - Design; OLAP Cube Sources: Connect LIVE; Precautions, Limitations with Cubes; Power BI Report Builder Tool; Installation & Configuration; Paginated Reports Design, Use; Report Publish (RDL) to Cloud; Custom Visualizations in Power BI; Custom Visualizations in Cloud; Histogram, Gantt Chart, Info graphics; Classification Matrix, Icons & Maps;

Chapter 18: Real-time Project [Sales & Customers]

Resume, Project Oriented FAQs and Solutions

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