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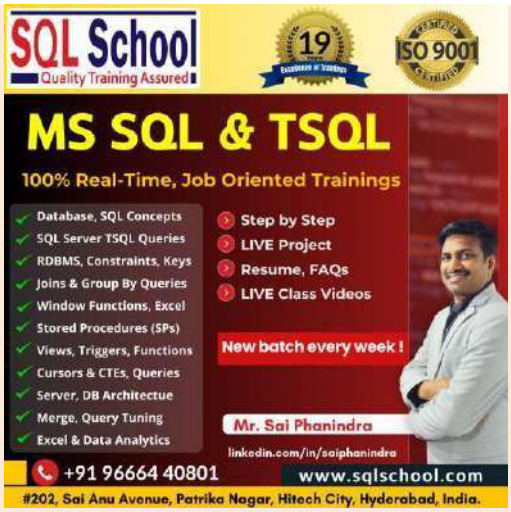
Power BI with MSSQL (TSQL), Fabric Data Engineering

Thank you for contacting our **SQL School**. I am **Mr. Sai Phanindra**, trainer for this **Fabric Data Engineering** Course. With 19+ Years of technical expertise exclusively on Database and Azure, BI Technologies, I assure you 100% Practical, Step by Step Classes for this indepth Azure Data Engineer course. My Profile @ linkedin.com/in/saiphanindra/

Module 1: MSSQL & TSQL

In this module, we start with detailed step by Step Database Fundamentals, SQL Concepts, TSQL Queries with simple but very useful job-oriented scenarios. We learn RDBMS, Normal Forms, Stored Procedures, Functions, Triggers, Transactions, Merge, Group By, Window (Rank), CTEs, Query Tuning, more .. with three **Realtime Case Studies** in Health Care Domain.

These concepts will be surely sufficient to proceed for our next module: Fabric Data Engineering.

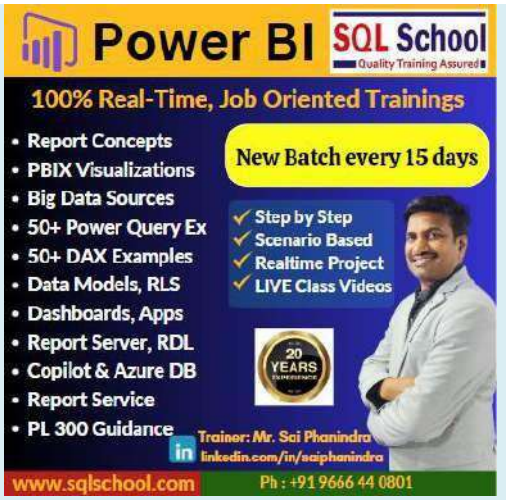


Module 2: Fabric Data Analytics @ Power BI. AI

Basic to Advanced **Power BI** training with step by step examples including:

1. **6 Design Tools**
2. **Three Technologies (Power Query, DAX , CoPilot)**
3. **Two Hosting Platforms (Cloud, Report Server)**
4. **One Realtime Project**

This module includes one **Realtime Project** For your resume in **ECommerce** Domain.



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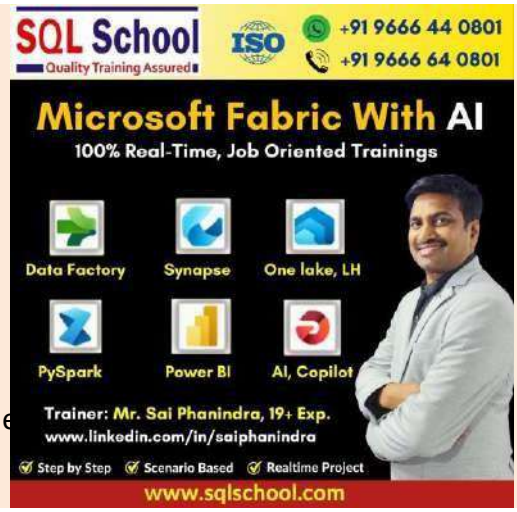
Module 3: Fabric Data Engineer

In this course, we practically learn & implement ETL, ELT, DWH, FDF, LakeHouse, OneLake, StreamHouse, KQL, Data Flow Gen 1, Data Flow Gen 2, Data Lake, Python ETL, PySpark, Scala, Big Data Analytics and more with Medallion Architecture. This course includes various structured and unstructured data sources to implement Upserts, SCD, CDC and more Big Data Techniques .. !

This module includes one **Realtime Project** For your resume



This course is very helpful for:

1. Data Engineers
2. Data Analysts
3. Architects
4. ETL & BI Developers
5. BI Developers

Power BI Plan C:

- 13 Weeks
- 4 Realtime Case Studies
- 2 Realtime Projects

🚀 **Trainer:** linkedin.com/in/saiphanindra/

🚀 **Trainer Contact:** +91 9030040801

Detailed Course Content

Module 1: SQL Server TSQL (MSSQL)

Ch 1: Introduction ✓ Database Introduction ✓ Types of Databases ✓ Need for & ETL, DWH ✓ BI Implementations ✓ SQL Server Advantages ✓ Version, Editions of MSSQL ✓ Data Engineering Job Roles	**Ch 2: Installations** ✓ SQL Server 2019, 2017 ✓ SSMS Tools Installation ✓ Database Engine (OLTP) ✓ SCM, Configuration Tools ✓ Instance Types, Uses ✓ Authentication Modes ✓ Collation, File Stream	**Ch 3: SQL Basics - 1** ✓ Need for Databases, Tables ✓ Need for SQL Commands ✓ DDL, DML & DQL Statements ✓ Database Creation @ GUI ✓ Data Operations @ GUI ✓ Session ID, SQL Context ✓ DB, Tables, Data @ SQL
Ch 4: SQL Basics - 2 ✓ DDL Variants in MSSQL ✓ DML Variants in MSSQL ✓ INSERT & INSERT INTO ✓ SELECT & SELECT INTO ✓ Basic Operators in SQL ✓ Special Operators in MSSQL ✓ ALTER, ADD, TRUNCATE, DROP	**Ch 5: Data Imports, Schemas** ✓ Data Imports with Excel ✓ ORDER BY & UNION ✓ UNION ALL For Sorting Data ✓ Creating, Using Schemas ✓ Real-world Banking Database ✓ Table Migrations @ Schemas ✓ 2 Part, 3 Part & 4 Part Naming	**Ch 6: Constraints, Index Basics** ✓ Need for Constraints, Keys ✓ NULL, NOT NULL, UNIQUE ✓ Primary Key & Foreign Key ✓ RDBMS and ER Models ✓ Identity Property, Default ✓ Clustered Index, Primary Key ✓ Non Clustered Index, Unique
Ch 7: Joins & Views Basics ✓ JOINS: Purpose. Inner Joins ✓ Left / Right / Full Outer Joins ✓ Cross Joins, Query Tuning ✓ Creating & Using Views ✓ DML, SELECT with Views ✓ RLS : WITH CHECK OPTION ✓ System Views & Metadata	**Ch 8: Functions(UDF), Data Types** ✓ Using Functions in MSSQL ✓ Scalar Value Functions ✓ Inline & Multiline Functions ✓ Date & Time Functions ✓ String, Aggregate Functions ✓ Data Types : Integer, Char, Bit ✓ SQL Variant, Timestamp, Date	**Ch 9: Stored Procedures,Models** ✓ Stored Procedures & Usage ✓ Creating, Testing Procedures ✓ Encryption, Deferred Names ✓ SPs for Validations, Analysis ✓ System SPs, Recompilation ✓ Normal Forms & Types ✓ Data Models, Self-References
Ch 10: Triggers, Temp Tables ✓ Need for Triggers ✓ DDL & DML Triggers ✓ Using Memory Tables ✓ Data Replication, Automation ✓ Local & Global Temp Tables ✓ Testing & Using Temp Tables ✓ SELECT .. INTO & Bulk Loads	**Ch 11: DB Architecture, Locks** ✓ Planning VLDBs : Files, Sizing ✓ Filegroups, Extents & Types ✓ Log Files : VLF, Mini LSN ✓ Table Location, Performance ✓ Schemas, Transfer, Synonyms ✓ Transactions Types, Lock Hint ✓ Query Blocking Scenarios	**Ch 12: Cursors & CTEs, Links** ✓ Cursors : Realtime Use ✓ Fetch & Access Cursor Rows ✓ CTEs for SELECT, DML ✓ CTEs: Scenarios & Tuning ✓ Linked Servers, Remote Joins ✓ Linked Servers: MSDTC, RPC ✓ Tuning Remote Queries

Ch 13: Merge, Upsert & Rank	Ch 14: Grouping & Cube	Ch 15: Self Joins, Excel Analysis
✓ Need for Merge in ETL	✓ Group By & HAVING	✓ Self Joins & Self References
✓ Incremental Loads with SQL	✓ Cube, Rollup & Grouping	✓ UNION, UNION ALL
✓ MERGE and RANK Functions	✓ Joins with Group By	✓ Sub Queries with Joins
✓ Window Functions, Partition	✓ 3 Table, 4 Table Joins	✓ IIF, CASE, EXISTS Statements
✓ Identify, Remove Duplicates	✓ Query Execution Order	✓ Excel Analytics, Pivot Reports
Realtime Case Study : Health Care Domain		

Module 2: Power BI with AI

Ch 1: Power BI Introduction	Ch 2: Power BI Basic Reports	Ch 3: Grouping, Hierarchies
✓ Reporting Basics & Types	✓ Power BI Desktop Installation	✓ Creating Groups in Power BI
✓ Interactive,Analytical Reports	✓ Basic Report Design (PBIX)	✓ Groups : Creation & Usage
✓ Paginated Reports (RDL)	✓ Data View, Data Models	✓ Group Edits Options
✓ Power BI Eco System	✓ Data Points, Aggregations	✓ Bins & Bin Size, Bin Count
✓ Power BI Tools,Service,Server	✓ Focus Mode, Spotlight, Exports	✓ Hierarchies: Creation, Use
✓ Need for Power Query (M)	✓ ToolTip, PBIX and PBIT	✓ Drill Down, Drill Up
✓ Need for DAX & Cloud	✓ Visual Interactions & Edits	✓ Conditional Drill Down
Ch 4: Visual Sync, Filters	**Ch 5: Bookmarks, Big Data Access**	**Ch 6: Power BI Visualizations**
✓ Slicer & Single Select	✓ Bookmarks Creation & Usage	✓ Chart and Bar Visuals
✓ Multi Select Options	✓ Visual Interactions, Bookmarks	✓ Line and Area Charts
✓ Integer, Character Slicers	✓ Images : Actions, Bookmarks	✓ Maps, TreeMaps, HeatMaps
✓ Visual Sync with Slicers	✓ Big Data Access with Power	✓ Funnel, Card, Multrow Card
✓ Filters: Visual, Page, Report	✓ Storage Modes: Direct Query	✓ PieCharts & Settings
✓ Drill Thru Filters & Usage	✓ Import & Performance Impact	✓ Waterfall, Sentiment Colors
✓ Basic, Top & Advanced	✓ Formatting & Data Refresh	✓ Scatter Chart, Play Axis
✓ Clear Filter Options, Resets	✓ Summary & Date Time Formats	✓ Infographics, Classifications

Ch 7: Power Query Level 1 ✓ Power Query (Mashup) ✓ ETL Transformations in PBI ✓ Power Query Expressions Table Combine Options ✓ Merge, Union All Options ✓ Table Transformations	**Ch 8: Power Query Level 2** ✓ Any Column Transformations ✓ String / Text Transformations ✓ Numeric Analytics & Mashup ✓ Date Time Transformations ✓ Add Column Transformations ✓ Expressions and New Columns	**Ch 9: Power Query Level 3** ✓ Parameters in Power Query ✓ Static Parameters, Defaults ✓ Dynamic Dropdowns, Lists ✓ Linking with Table Queries ✓ Column From Examples ✓ Step Edits, Type Conversions
Ch 10: Power BI Cloud - 1 ✓ Power BI Cloud Concepts ✓ Workspace Creation, Usage ✓ Report Publish & Edits ✓ Semantic Models in Realtime ✓ Dashboard Creation, Usage ✓ Clone, Share, Subscribe ✓ Q&A, Lineage, Settings	**Ch 11: Power BI Cloud - 2** ✓ Data Gateways, Data Refresh ✓ Data Source Configurations ✓ Data Refresh & Scheduling ✓ Gateway Optimizations ✓ Semantic Model Optimizations ✓ Report Optimizations ✓ Dashboard Optimizations	**Ch 12: Power BI Cloud - 3** ✓ Power BI Apps, Shares ✓ App Sections & Options ✓ App Updates, Security Excel Analytics ✓ Data Explorer Options ✓ Sharing, Subscriptions ✓ Alerts, Metrics, Insights
Ch 13: Report Server & DAX ✓ Power BI Report Server ✓ Report Database, TempDB ✓ Web Service & Server URL Paginated Reports (RDL) ✓ Report Builder Tool Usage ✓ DAX : Purpose, Realtime Use	**Ch 14: DAX Level 2** ✓ DAX Measures Creation, Use ✓ DAX Functions: IIF, ISBLANK ✓ SUM, CALCULATE Functions ✓ DAX Cheat Sheet : Examples ✓ Quick Measures in Power BI ✓ Running Totals, Filters	**Ch 15: DAX Level 3** ✓ Star Rating Calculations ✓ Data Models & DAX ✓ Star & Snowflake Schemas ✓ Dimensions, Fact Tables ✓ DAX Expressions & Joins ✓ DAX Variables, Usage
Ch 16: DAX Level 4 ✓ Dynamic Report with DAX ✓ SELECTED MEMEBER ✓ Time Intelligence with DAX ✓ PARALLELPERIOD, DATE ✓ DAX with Big Data ✓ Big Data Analytics	**Ch 17: AI Fundamentals & Data** ✓ AI Fundamentals ✓ AI Implementation Concepts ✓ AI Nomenclature in Cloud ✓ AI with Azure ✓ AI with Power BI ✓ AI with Databases	**Ch 18: Microsoft CoPilot (AI)** ✓ Implementing AI in Cloud ✓ Co-Pilot Concepts in BigData ✓ AI with Power BI Desktop ✓ AI with Power BI Cloud ✓ AI with Power BI DAX ✓ Big Data Analytics with AI

This course also includes:	Trainer: Mr. Sai Phanindra Tholeti
✓ Realtime Project ✓ Certification Guidance ✓ Mock Interviews ✓ Resume Guidance	**Profile**: http://linkedin.com/in/saiphanindra Trainer Contact: +91 9030040801

Module 3: Fabric Data Engineering

Ch 1: Fabric Introduction	Ch 2: Fabric Account, Workspace	Ch 3: Fabric Architecture
✓ Need for Fabric, Big Data ✓ Fabric Data Engineering Model ✓ Fabric Components (Items) ✓ Microsoft Fabric: Advantages ✓ Cloud Warehouse Uses ✓ Benefits of Fabric Over Azure ✓ Azure Versus Fabric DWH	✓ Need for Fabric Workspace ✓ Workspace Creation Process ✓ Pins and New Items Item Categorization ✓ ETL, Storage, Analytical ✓ Streaming, Monitoring ✓ Compute & Separation	✓ Intelligent Data Foundation ✓ Polaris Distributed Engine ✓ Stateless & Stateful Cache, Metadata, Xact & Data ✓ Fabric Tasks, Inputs & DAG ✓ State Machine & Statistics Hot Spot Recovery

Ch 4: Fabric Warehouse	Ch 5: Fabric Data Types	Ch 6: SSMS Connections
✓ Fabric Warehouse Creation ✓ Fabric Warehouse Features ✓ Fabric Warehouse Properties ✓ Fabric Warehouse Limitations ✓ DWH Internal Operations ✓ Default Schemas & Objects	✓ Realtime use of Fabric Houses ✓ Exact, Approximate Numbers ✓ Date and Time Data Types ✓ Fixed & Variable Length ✓ Binary & String Data Types ✓ Fabric Type Limitations	✓ Warehouse SQL Connection ✓ Database Engine Server ✓ Multi Factor Authentication ✓ Warehouse Artifacts ✓ Executing .SQL Scripts ✓ Testing Fabric Artifacts
Ch 7: Fabric Caching	**Ch 8: Fabric Statistics**	**Ch 9: Time Travel**
✓ Fabric Caching Process ✓ In-memory Cache, Disk Cache ✓ Cache Types: LRU /MRU ✓ Cold Cache / Cold Run ✓ Realtime use of Caching ✓ Performance Advantages ✓ Warehouse Optimizations	✓ Query Engine Options ✓ Statistics Types ✓ Leverage Statistics ✓ Auto, Manual Statistics ✓ Update Statistics ✓ Statistics Consistency ✓ Statistics Lists & Reports	✓ Continuous Data Protection ✓ Data Storage, Retention ✓ FOR TIMESTAMP AS OF ✓ Time Travel Scenarios ✓ Time Travel Implementation ✓ Time Travel on Queries ✓ Time Travel Limitations

Ch 10: Aggregated Data Store	Ch 11: Zero Copy Cloning	Ch 12: Fabric Security
✓ Options for Data Aggregations ✓ Save As table, Save As View ✓ Single Table Aggregations ✓ Multi Table Aggregations ✓ Dynamic Conditions ✓ Parameterized Aggregations	✓ User Layer, Storage Layer ✓ Cloning & Parquet Files ✓ Synapse Data Warehouse ✓ Data History Retention ✓ Point In Time , Schema Level ✓ Zero Copy Cloning Limitations	✓ Workspace Security ✓ Warehouse Security ✓ Item Security & Roles ✓ Adding AD Users ✓ Item Security Limitations ✓ MFA & Client Security
Ch 13: Fabric Data Factory	**Ch 14: Fabric Pipelines**	**Ch 15: Fabric Pipelines Design**
✓ ETL Implementation Options ✓ Need for Fabric Data Factory ✓ ETL Operations in FDF ✓ Data Sources, Transformations ✓ Data Destinations (Sinks) ✓ Creating Pipelines	✓ Activities and Connections ✓ Gateways & OnPrem Access ✓ Data Sets & Activity Sets ✓ Data Activator & Alerts ✓ Run ID & Monitoring ✓ Pipeline Creation, Verification ✓ Activity Check, Schedule	✓ Creation Options for Pipelines ✓ Azure SQL DB Data Loads ✓ Creating Data Sets ✓ RRR Transformations ✓ Copy Command Usage ✓ Internal Staging (Workspace) ✓ Data Loads to FDWH
Ch 19: Fabric Lakehouse	**Ch 20: Lakehouse File Loads**	**Ch 21: Lakehouse Aggr Loads**
✓ Need for Fabric Lakehouse ✓ Files and Tables Storage ✓ Data Sources: Parquet Files ✓ Transformation Options ✓ Direct Lake Concepts ✓ Lakehouse Consumption ✓ Lakehouse Real time Use	✓ Creating Lakehouse ✓ Copy Data Wizard ✓ Azure SQL Database Source ✓ File Data Loads in Lakehouse ✓ Concurrency & Batch Count ✓ Pipeline Execution Tests ✓ Pipeline Monitor Check	✓ Aggregated Data Store ✓ Plan & Design Aggregations ✓ Testing Aggregations ✓ Pipelines for Data Compute ✓ Data Copy Options ✓ Pipeline Optimizations ✓ Data Loads and Verification
Ch 22: MultiTable Loads in LH	**Ch 23: Lakehouse Visual Queries**	**Ch 24: File Explorer**
✓ Table Loads Connections ✓ Data Load in Lakehouse ✓ Using Copy Data Wizard ✓ Data Store in Lakehouse ✓ View Run History, Executions ✓ SQL End Points & Access ✓ Lakehouse Schemas	✓ Visual Query Interface ✓ Visual Editor & Tables / Views ✓ Merge, Remove, Sort Tfns ✓ Data Preview, Save As Table ✓ Save As View : Advantages ✓ Using Schemas, Identifiers ✓ TDS Packets & Transfer Units	✓ Installing One Lake Explorer ✓ Autocreation of Folders ✓ Workspace Directories ✓ Warehouse Directories, Logs ✓ Lakehouse Folders, Files ✓ Lakehouse Uploads ✓ Explorer Tool Limitations

Ch 25: Power Query Level 1	Ch 26: Power Query Level 2	Ch 27: Power Query Level 3
✓ Power Query Concept	✓ Data Flow Gen2 Operations	✓ Binding Power Query Steps
✓ Need for Power Query	✓ PQ Online Editor	✓ Edit / Delete Steps
✓ Data Flow Gen 1	✓ Working with Binary Content	✓ Optimizing Power Query
✓ Data Flow Gen 2	✓ Detailed Data Options	✓ ETL & ELT with Power Query
✓ Power Query Items	✓ Data Cleansing Options	✓ Advanced Editor
✓ Differences with Copy Activity	✓ Step Names, Aggregations	✓ M Language Expressions
✓ ETL, ELT Process	✓ Warehouse Data Loads	✓ Duplicate / Reference Queries
Ch 28: Fabric Notebooks	**Ch 29: Spark SQL Notebooks**	**Ch30: PySpark Notebooks**
✓ Need for Notebooks	✓ Creating Environment	✓ Creating / Using Environment
✓ Fabric Notebook Types	✓ Creating Spark Clusters	✓ PySpark Notebook Sessions
✓ Get / Prep / Analyze	✓ Spark Cluster Compute	✓ Reading Source Data
✓ Sessions, Markdown Folding	✓ SQL Analytics in Notebooks	✓ Data Prep & Aggregations
✓ Standard, High Concurrency	✓ Visual Query Vs SQL	✓ Data Loads, Analytics
✓ Magic Command	✓ Cell Execution Options	✓ Cell Execution Options
✓ Freeze Cells	✓ Magic Command Usage	✓ Markdown Cells
Ch 31: StreamHouse, KQL	**Ch 32: KQL Query Sets**	**Ch 33: Fabric Data Activator**
✓ Need for Stream House	✓ KQL Database Extraction	✓ Need for Alerts, Notifications
✓ Auto creation of KQL	✓ File Imports - on Premises	✓ Fabric Data Activator Options
✓ Manual KQL Databases	✓ Metadata Edit Options	✓ Alert Conditions, Thresholds
✓ Verification & Usage	✓ Query Analytics	✓ Email Notifications
✓ Differences with Warehouse	✓ Exports, Visualizations	✓ Events & Notifications
✓ Differences with Lakehouse	✓ Query Sets Versus Notebooks	✓ Edit / Enable / Disable
Ch 34: Model Layouts	**Ch 35: Azure Synapse Migrations**	**Ch 36: DP 700 Exam Guidance**
✓ Need for Layouts	✓ Azure Synapse DWH	
✓ Creating Model Layouts	✓ Azure Synapse Connections	
✓ Adding Refences, Keys	✓ Migrating to Fabric	
✓ Power BI Semantic Models	✓ Compatibility Checks	
✓ Creating Report Items	✓ Synapse Vs Fabric Warehouse	
✓ Using Power BI Desktop	✓ Fabric DWH Advantages	

End to End Realtime Project: Ecommerce Domain

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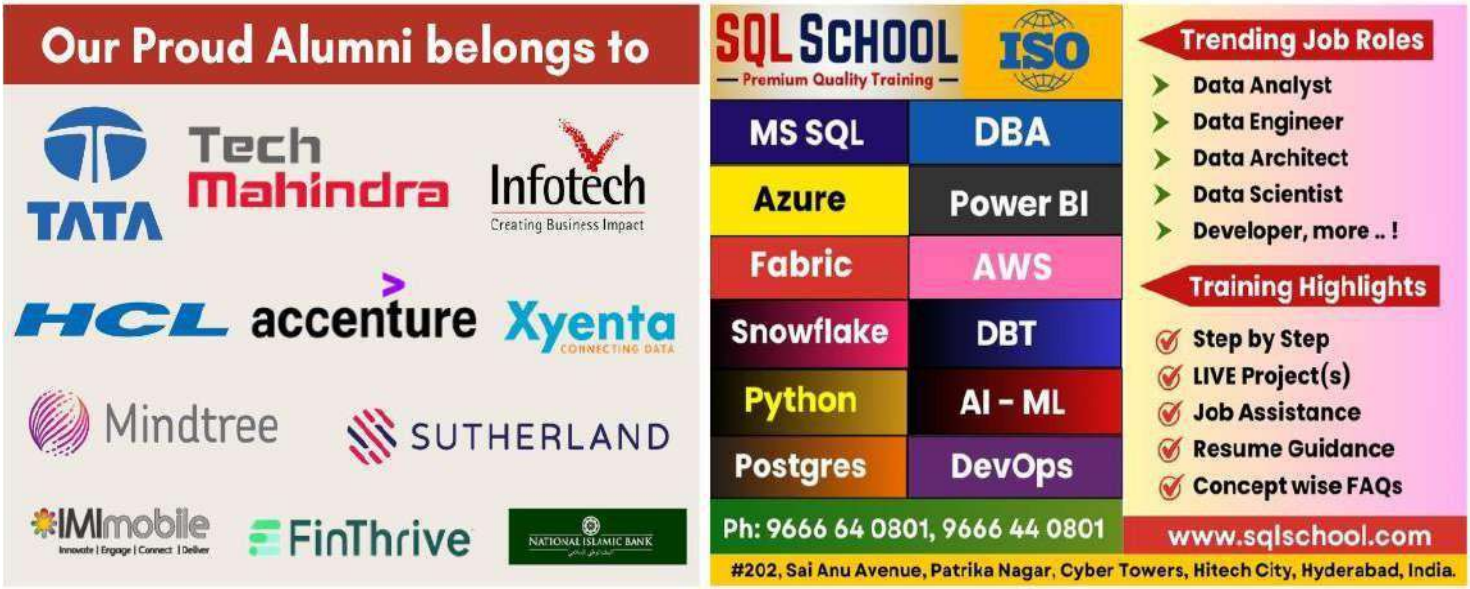

---------- ***All the best!*** ----------

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