SQL SCHOOL
Premium Quality Training

Completely Practical, 100% Real-time Job Oriented Training

Fabric Data Engineering with MSSQL (TSQL), Power BI

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 in-depth 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 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 in **Ecommerce** Domain

Module 3: 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.

This course is very helpful for:
1. Data Engineers
2. Data Analysts
3. Architects
4. ETL & BI Developers
5. BI Developers

Fabric Data Engineer:
- 14 Weeks
- 3 Realtime Case Studies
- 2 Realtime Projects

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Detailed Course Content

Module 1: SQL Server TSQL (MSSQL)

Ch 1: Introduction	Ch 2: Installations	Ch 3: SQL Basics - 1
✓ Database Introduction	✓ SQL Server 2019, 2017	✓ Need for Databases, Tables
✓ Types of Databases	✓ SSMS Tools Installation	✓ Need for SQL Commands
✓ Need for & ETL, DWH	✓ Database Engine (OLTP)	✓ DDL, DML & DQL Statements
✓ BI Implementations	✓ SCM, Configuration Tools	✓ Database Creation @ GUI

✓ SQL Server Advantages ✓ Version, Editions of MSSQL ✓ Data Engineering Job Roles	✓ Instance Types, Uses ✓ Authentication Modes ✓ Collation, File Stream	✓ 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 ✓ Need for Merge in ETL ✓ Incremental Loads with SQL ✓ MERGE and RANK Functions ✓ Window Functions, Partition ✓ Identify, Remove Duplicates	**Ch 14: Grouping & Cube** ✓ Group By & HAVING ✓ Cube, Rollup & Grouping ✓ Joins with Group By ✓ 3 Table, 4 Table Joins ✓ Query Execution Order	**Ch 15: Self Joins, Excel Analysis** ✓ Self Joins & Self References ✓ UNION, UNION ALL ✓ Sub Queries with Joins ✓ IIF, CASE, EXISTS Statements ✓ Excel Analytics, Pivot Reports
Realtime Case Study : Health Care Domain		

Module 2: Fabric Data Engineering

Ch 1: Fabric Introduction ✓ Need for Fabric, Big Data ✓ Fabric Data Engineering Model ✓ Fabric Components (Items)	**Ch 2: Fabric Account, Workspace** ✓ Need for Fabric Workspace ✓ Workspace Creation Process ✓ Pins and New Items	**Ch 3: Fabric Architecture** ✓ Intelligent Data Foundation ✓ Polaris Distributed Engine ✓ Stateless & Stateful

✓ Microsoft Fabric: Advantages ✓ Cloud Warehouse Uses ✓ Benefits of Fabric Over Azure ✓ Azure Versus Fabric DWH	✓ Item Categorization ✓ ETL, Storage, Analytical ✓ Streaming, Monitoring ✓ Compute & Separation	✓ Cache, Metadata, Xact & Data ✓ Fabric Tasks, Inputs & DAG ✓ State Machine & Statistics ✓ Hot Spot Recovery
Ch 4: Fabric Warehouse ✓ Fabric Warehouse Creation ✓ Fabric Warehouse Features ✓ Fabric Warehouse Properties ✓ Fabric Warehouse Limitations ✓ DWH Internal Operations ✓ Default Schemas & Objects	**Ch 5: Fabric Data Types** ✓ Realtime use of Fabric Houses ✓ Exact, Approximate Numbers ✓ Date and Time Data Types ✓ Fixed & Variable Length ✓ Binary & String Data Types ✓ Fabric Type Limitations	**Ch 6: SSMS Connections** ✓ Warehouse SQL Connection ✓ Database Engine Server ✓ Multi Factor Authentication ✓ Warehouse Artifacts ✓ Executing .SQL Scripts ✓ Testing Fabric Artifacts
Ch 7: Fabric Caching ✓ Fabric Caching Process ✓ In-memory Cache, Disk Cache ✓ Cache Types: LRU /MRU ✓ Cold Cache / Cold Run ✓ Realtime use of Caching ✓ Performance Advantages ✓ Warehouse Optimizations	**Ch 8: Fabric Statistics** ✓ Query Engine Options ✓ Statistics Types ✓ Leverage Statistics ✓ Auto, Manual Statistics ✓ Update Statistics ✓ Statistics Consistency ✓ Statistics Lists & Reports	**Ch 9: Time Travel** ✓ 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 ✓ Options for Data Aggregations ✓ Save As table, Save As View ✓ Single Table Aggregations ✓ Multi Table Aggregations ✓ Dynamic Conditions ✓ Parameterized Aggregations	**Ch 11: Zero Copy Cloning** ✓ User Layer, Storage Layer ✓ Cloning & Parquet Files ✓ Synapse Data Warehouse ✓ Data History Retention ✓ Point In Time , Schema Level ✓ Zero Copy Cloning Limitations	**Ch 12: Fabric Security** ✓ Workspace Security ✓ Warehouse Security ✓ Item Security & Roles ✓ Adding AD Users ✓ Item Security Limitations ✓ MFA & Client Security
Ch 13: Fabric Data Factory ✓ ETL Implementation Options ✓ Need for Fabric Data Factory ✓ ETL Operations in FDF ✓ Data Sources, Transformations ✓ Data Destinations (Sinks) ✓ Creating Pipelines	**Ch 14: Fabric Pipelines** ✓ Activities and Connections ✓ Gateways & OnPrem Access ✓ Data Sets & Activity Sets ✓ Data Activator & Alerts ✓ Run ID & Monitoring ✓ Pipeline Creation, Verification ✓ Activity Check, Schedule	**Ch 15: Fabric Pipelines Design** ✓ 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 16: Fabric Aggr Data Loads ✓ Aggregation Scenarios ✓ Creating Views in TSQL ✓ Using Views in FDF Pipelines ✓ Using Pipeline Editor ✓ Data Loads to Warehouse ✓ Pipeline Verifications	**Ch 17: ETL Staging** ✓ Staging : Advantages ✓ Caching & Storing Concept ✓ Staging Types in Fabric ✓ Workspace & External ✓ External Stages in Pipelines ✓ Compressions & Advantages ✓ Pipeline Trigger, Monitor	**Ch 18: OnPrem Gateways** ✓ Need for On_Premi Gateway ✓ Installing & Configuring ✓ Authentication, Usage ✓ OnPremises Connections ✓ Pipelines for Data Loads ✓ Warehouse Data Storage ✓ Data Refresh with Gateways
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 ✓ 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	**Ch 23: Lakehouse Visual Queries** ✓ 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	**Ch 24: File Explorer** ✓ 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 ✓ Power Query Concept ✓ Need for Power Query ✓ Data Flow Gen 1 ✓ Data Flow Gen 2 ✓ Power Query Items ✓ Differences with Copy Activity ✓ ETL, ELT Process	**Ch 26: Power Query Level 2** ✓ Data Flow Gen2 Operations ✓ PQ Online Editor ✓ Working with Binary Content ✓ Detailed Data Options ✓ Data Cleansing Options ✓ Step Names, Aggregations ✓ Warehouse Data Loads	**Ch 27: Power Query Level 3** ✓ Binding Power Query Steps ✓ Edit / Delete Steps ✓ Optimizing Power Query ✓ ETL & ELT with Power Query ✓ Advanced Editor ✓ M Language Expressions ✓ Duplicate / Reference Queries
Ch 28: Fabric Notebooks ✓ Need for Notebooks ✓ Fabric Notebook Types ✓ Get / Prep / Analyze ✓ Sessions, Markdown Folding ✓ Standard, High Concurrency ✓ Magic Command ✓ Freeze Cells	**Ch 29: Spark SQL Notebooks** ✓ Creating Environment ✓ Creating Spark Clusters ✓ Spark Cluster Compute ✓ SQL Analytics in Notebooks ✓ Visual Query Vs SQL ✓ Cell Execution Options ✓ Magic Command Usage	**Ch30: PySpark Notebooks** ✓ Creating / Using Environment ✓ PySpark Notebook Sessions ✓ Reading Source Data ✓ Data Prep & Aggregations ✓ Data Loads, Analytics ✓ Cell Execution Options ✓ Markdown Cells
Ch 31: StreamHouse, KQL ✓ Need for Stream House ✓ Auto creation of KQL ✓ Manual KQL Databases ✓ Verification & Usage ✓ Differences with Warehouse ✓ Differences with Lakehouse	**Ch 32: KQL Query Sets** ✓ KQL Database Extraction ✓ File Imports - on Premises ✓ Metadata Edit Options ✓ Query Analytics ✓ Exports, Visualizations ✓ Query Sets Versus Notebooks	**Ch 33: Fabric Data Activator** ✓ Need for Alerts, Notifications ✓ Fabric Data Activator Options ✓ Alert Conditions, Thresholds ✓ Email Notifications ✓ Events & Notifications ✓ Edit / Enable / Disable
Ch 34: Model Layouts ✓ Need for Layouts ✓ Creating Model Layouts ✓ Adding Refences, Keys ✓ Power BI Semantic Models	**Ch 35: Azure Synapse Migrations** ✓ Azure Synapse DWH ✓ Azure Synapse Connections ✓ Migrating to Fabric ✓ Compatibility Checks	**Ch 36: DP 700 Exam Guidance**

✓ Creating Report Items ✓ Using Power BI Desktop	✓ Synapse Vs Fabric Warehouse ✓ Fabric DWH Advantages	
End to End Realtime Project: Ecommerce Domain		

Module 3: Power BI with AI, CoPilot

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

- ✓ **Realtime Project**
- ✓ **Certification Guidance**
- ✓ **Mock Interviews**
- ✓ **Resume Guidance**

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