



[Includes DP 700 Exam Guidance](#)

Fabric Data Engineering with AI

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/](https://www.linkedin.com/in/saiphanindra/)

Fabric Data Engineer:

- **Module 1: MSSQL & TSQL Queries**
3 Weeks; 1 Mini Project
- **Module 2: Fabric Data Engineer**
6 Weeks; 1 Realtime Project
DP 700 Exam Guidance

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Microsoft Fabric

Data Factory DWH Lake House
PySpark Stream House AI, Copilot

Trainer: **Mr. Sai Phanindra**
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✓ Step by Step 19+ Years
✓ Scenario Based of
✓ Realtime Project TRUST

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🔒 Detailed Course Content 🔒

Module 1: SQL Server TSQL (MS SQL) Queries

Ch 1: Data Engineer Job Roles

- ✓ Introduction to Data
- ✓ Data Engineer Job Roles
- ✓ Data Engineer Challenges
- ✓ Data and Databases Intro

Ch 2: Database Intro & Installations

- ✓ Database Types (OLTP, DWH, ..)
- ✓ DBMS: Basics
- ✓ SQL Server 2025 Installations
- ✓ SSMS Tool Installation
- ✓ Server Connections, Authentications

Ch 3: SQL Basics V1 (Commands)

- ✓ Creating Databases (GUI)
- ✓ Creating Tables, Columns (GUI)
- ✓ SQL Basics (DDL, DML, etc..)
- ✓ Creating Databases, Tables
- ✓ Data Inserts (GUI, SQL)
- ✓ Basic SELECT Queries

Ch 4: SQL Basics V2 (Commands, Operators)

- ✓ DDL: Create, Alter, Drop, Add, modify, etc..
- ✓ DML: Insert, Update, Delete, select into, etc..
- ✓ DQL: Fetch, Insert... Select, etc..
- ✓ SQL Operations: LIKE, BETWEEN, IN, etc..
- ✓ Special Operators

Ch 5: Data Types

- ✓ Integer Data Types
- ✓ Character, MAX Data Types
- ✓ Decimal & Money Data Types
- ✓ Boolean & Binary Data Types
- ✓ Date and Time Data Types
- ✓ SQL_Variant Type, Variables

Ch 6: Excel Data Imports

- ✓ Data Imports with Excel
- ✓ SQL Native Client
- ✓ Order By: Asc, Desc
- ✓ Order By with WHERE
- ✓ TOP & OFFSET
- ✓ UNION, UNION ALL

Ch 7: Schemas & Batches

- ✓ Schemas: Creation, Usage
- ✓ Schemas & Table Grouping
- ✓ Real-world Banking Database
- ✓ 2 Part, 3 Part & 4 Part Naming
- ✓ Batch Concept & "Go" Command

Ch 8: Constraints, Keys & RDBMS – Level 1

- ✓ Null, Not Null Constraints

- ✓ Unique Key Constraint
- ✓ Primary Key Constraint
- ✓ Foreign Key & References
- ✓ Default Constraint & Usage
- ✓ DB Diagrams & ER Models

Ch 9: Normal Forms & RDBMS – Level 2

- ✓ Normal Forms: 1 NF, 2 NF
- ✓ 3 NF, BCNF and 4 NF
- ✓ Adding Keys to Tables
- ✓ Cascading Keys
- ✓ Self Referencing Keys
- ✓ Database Diagrams

Ch 10: Joins & Queries

- ✓ Joins: Table Comparisons
- ✓ Inner Joins & Matching Data
- ✓ Outer Joins: LEFT, RIGHT
- ✓ Full Outer Joins & Aliases
- ✓ Cross Join & Table Combination
- ✓ Joining more than 2 tables

Ch 11: Views & RLS

- ✓ Views: Realtime Usage
- ✓ Storing SELECT in Views
- ✓ DML, SELECT with Views
- ✓ RLS: Row Level Security
- ✓ WITH CHECK OPTION
- ✓ Important System Views

Ch 12: Stored Procedures

- ✓ Stored Procedures: Realtime Use
- ✓ Parameters Concept with SPs
- ✓ Procedures with SELECT
- ✓ System Stored Procedures
- ✓ Metadata Access with SPs
- ✓ SP Recompilations

Ch 13: User Defined Functions

- ✓ Using Functions in MSSQL
- ✓ Scalar Functions in Real-world
- ✓ Inline & Multiline Functions
- ✓ Parameterized Queries
- ✓ Date & Time Functions
- ✓ String Functions & Queries
- ✓ Aggregated Functions & Usage

Ch 14: Triggers & Automations

- ✓ Need for Triggers in Real-world
- ✓ DDL & DML Triggers
- ✓ For / After Triggers
- ✓ Instead Of Triggers
- ✓ Memory Tables with Triggers
- ✓ Disabling DMLs & Triggers

Ch 15: Transactions & ACID

- ✓ Transaction Concepts in OLTP
- ✓ Auto Commit Transaction
- ✓ Explicit Transactions
- ✓ COMMIT, ROLLBACK
- ✓ Checkpoint & Logging
- ✓ Lock Hints & Query Blocking
- ✓ READPAST, LOCKHINT

Ch 16: CTEs & Tuning

- ✓ Common Table Expression
- ✓ Creating and Using CTEs
- ✓ CTEs, In-Memory Processing
- ✓ Using CTEs for DML Operations
- ✓ Using CTEs for Tuning
- ✓ CTEs: Duplicate Row Deletion

Ch 17: Indexes Basics, Tuning

- ✓ Indexes & Tuning
- ✓ Clustered Index, Primary Key
- ✓ Non Clustered Index & Unique
- ✓ Creating Indexes Manually
- ✓ Composite Keys, Query Optimizer
- ✓ Composite Indexes & Usage

Ch 18: Group By Queries

- ✓ Group By, Distinct Keywords
- ✓ GROUP BY, HAVING
- ✓ Cube() and Rollup()
- ✓ Sub Totals & Grand Totals
- ✓ Grouping() & Usage
- ✓ Group By with UNION
- ✓ Group By with UNION ALL

Ch 19: Joins with Group By

- ✓ Joins with Group By
- ✓ 3 Table, 4 Table Joins
- ✓ Join Queries with Aliases
- ✓ Join Queries & WHERE, Group By

- ✓ Joins with Sub Queries
- ✓ Query Execution Order

Ch 20: Sub Queries

- ✓ Sub Queries Concept
- ✓ Sub Queries & Aggregations
- ✓ Joins with Sub Queries
- ✓ Sub Queries with Aliases
- ✓ Sub Queries, Joins, Where
- ✓ Correlated Queries

Ch 21: Cursors & Fetch

- ✓ Cursors: Realtime Usage
- ✓ Local & Global Cursors
- ✓ Scroll & Forward Only Cursors
- ✓ Static & Dynamic Cursors
- ✓ Fetch, Absolute Cursors

Ch 22: Window Functions, CASE

- ✓ IIF Function and Usage
- ✓ CASE Statement Usage
- ✓ Window Functions (Rank)
- ✓ Row_Number()
- ✓ Rank(), DenseRank()
- ✓ Partition By & Order By

Ch 23: Merge(Upsert) & CASE, IIF

- ✓ Merge Statement
- ✓ Upsert Operations with Merge
- ✓ Matched and Not Matched
- ✓ IIF & CASE Statements
- ✓ Merge Statement inside SPs
- ✓ Merge with OLTP & DWH

Ch 24: Key Take-Aways from Module 1

- ✓ Case Study 1: Medicare Scenario
- ✓ Case Study 2: Ecommerce Scenario

Module 2: Fabric Data Engineering: Warehouse

Ch 1: Fabric Introduction

- ✓ 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

Ch 2: Fabric Account, Workspace

- ✓ Need for Fabric Workspace
- ✓ Workspace Creation Process
- ✓ Pins and New Items
- ✓ Item Categorization
- ✓ ETL, Storage, Analytical
- ✓ Streaming, Monitoring
- ✓ Compute & Separation

Ch 3: Fabric Architecture

- ✓ 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

- ✓ 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

Module 3: Fabric Data Engineering: Data Factory Pipelines

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

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)

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

Module 4: Fabric Data Engineering: LakeHouse

Ch 19: Fabric Lakehouse

- ✓ Need for Fabric Lakehouse
- ✓ Files and Tables Storage
- ✓ Data Sources: Parquet Files
- ✓ Transformation Options
- ✓ Direct Lake Concepts
- ✓ Lakehouse Consumption
- ✓ Lakehouse Real time Use

Ch 20: Lakehouse File Loads

- ✓ Creating Lakehouse
- ✓ Copy Data Wizard
- ✓ Azure SQL Database Source
- ✓ File Data Loads in Lakehouse
- ✓ Concurrency & Batch Count

- ✓ Pipeline Execution Tests
- ✓ Pipeline Monitor Check

Ch 21: Aggregated Data Loads

- ✓ 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

Module 4: Fabric Data Engineering: Data Flow

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

Module 5: Fabric Data Engineering: PySpark & KQL

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

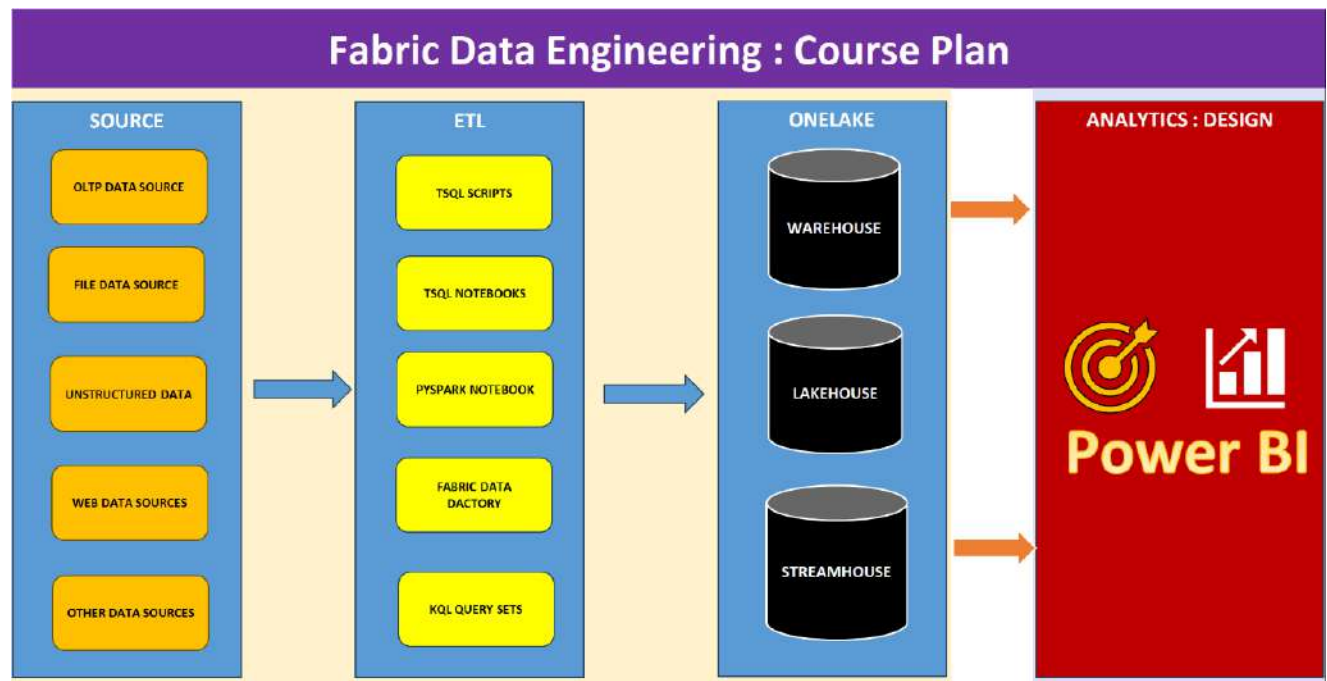
- ✓ Need for Layouts
- ✓ Creating Model Layouts
- ✓ Adding References, Keys
- ✓ Power BI Semantic Models
- ✓ Creating Report Items
- ✓ Using Power BI Desktop

Module 6: Fabric Data Engineering: Additional Take-aways

👉 🌐 Azure Synapse Migrations

👉 🌐 DP 700 Exam Guidance

👉 🌐 End to End Realtime Project: Ecommerce / Insurance Domain



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