



# Azure Data Engineer Training

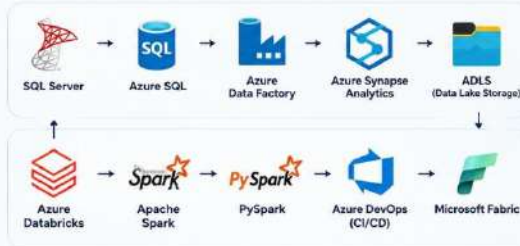
100% Practical Training

## What You'll Learn

- ✓ SQL Server & T-SQL
- ✓ Azure SQL Database
- ✓ Azure Data Factory
- ✓ Azure Synapse Analytics
- ✓ Azure Data Lake Storage
- ✓ Azure Databricks (Apache Spark)
- ✓ PySpark & Delta Lake
- ✓ Azure DevOps (CI/CD)
- ✓ End-to-End Industry Project
- ✓ Microsoft Fabric

## From SQL to Cloud. From Data to Decisions.

Become a Job-Ready Azure Data Engineer with Real-World Skills



20+ YEARS

of Experience in Database, Azure & BI Technologies

Trainer: **Mr. Sai Phanindra**

20+ Years of Expertise in Database, Azure, BI Technologies & Data Engineering

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- 100% Practical Training
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- 200+ Interview Questions
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Thank you for contacting our **SQL School**. I am **Mr. Sai Phanindra**, trainer for this **Azure Data Engineer** Course. With over 20 years of experience in Database Technologies, Azure Data Engineering, Business Intelligence, and Data Warehousing, I provide 100% practical, step-by-step training with real-world projects and industry best practices.

Let's Connect on LinkedIn: [linkedin.com/in/saiphanindra/](https://www.linkedin.com/in/saiphanindra/)

## Azure Data Engineering – 100% Practical Training

This hands-on training program is divided into **6 comprehensive modules**:

### Module 1: SQL Server (MSSQL) & T-SQL

- SQL Queries
- Performance Tuning

### Module 2: Azure Data Engineering

**Part 1:** Azure Data Factory (ADF) & Azure Synapse Analytics

**Part 2:** Azure Data Lake Storage (ADLS), IoT & Azure Key Vaults

**Part 3:** Open Source Databricks and Azure Databricks

### Module 3: Real-Time Project

- Data Integration Concepts
- End-to-End Azure Data Engineering Implementation
- DevOps for Azure Data Engineering
- End-to-End Integration Solutions

### Module 4: Data Engineer Certifications

- DP-900 Exam Guidance
- DP-750 Exam Guidance

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- Databricks Data Engineer Associate Exam Guidance

## Module 5: Microsoft Fabric for Data Engineering

- Microsoft Fabric
- Fabric Data Engineering & Integration

## Total Program Duration:

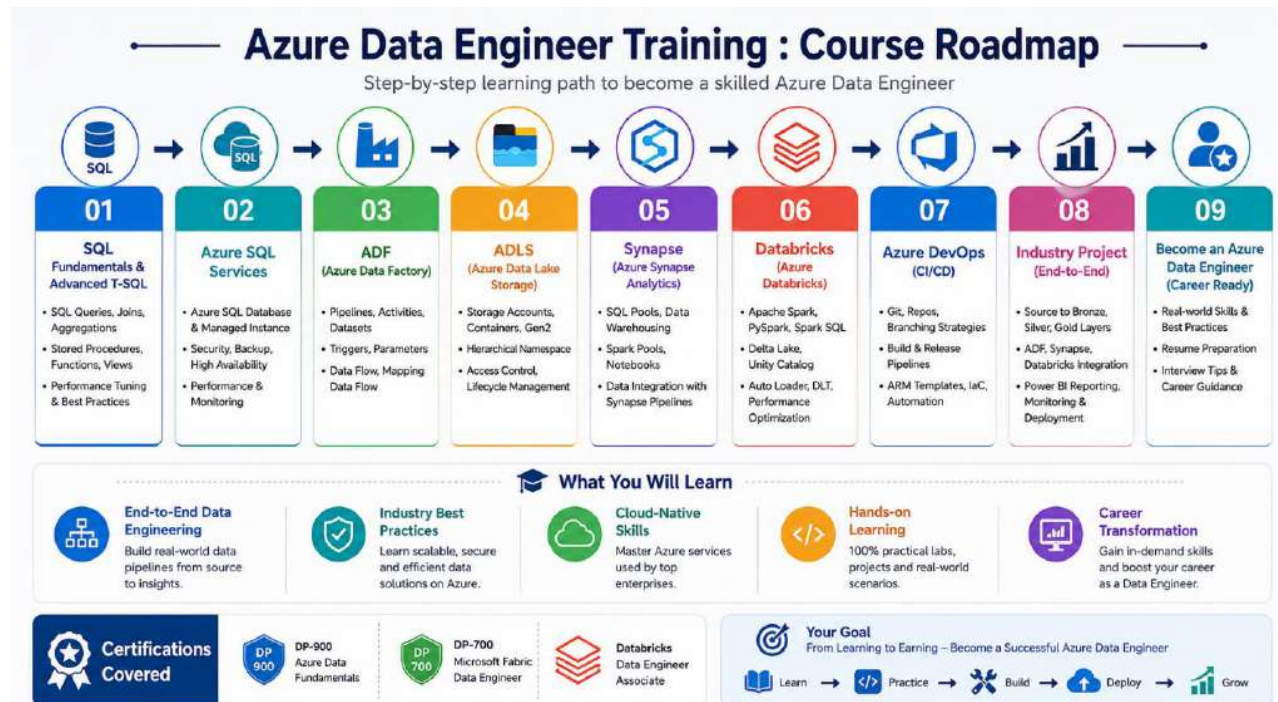
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## Who Should Join?

- Freshers
- SQL Developers
- ETL Developers
- BI Developers
- Database Administrators
- Data Analysts
- Software Engineers

## Prerequisites

- No Azure experience required
- SQL knowledge is helpful but not at all mandatory. We start from the basics and build your skills step by step.



## Detailed Course Content

### Module 1: SQL Server (MSSQL), T-SQL

#### Ch 1: SQL Database Job Roles

- ✓ Introduction to Data
- ✓ Database Intro, Types
- ✓ OLTP, DWH, OLAP
- ✓ DBMS Concepts
- ✓ Database Job Roles
- ✓ Data Engineer Job Roles

#### Ch 2: Database Intro & Installations

- ✓ SQL Server Installations
- ✓ Instance Concepts
- ✓ Authentication Types
- ✓ Authentication Modes
- ✓ SSMS Tool Installation
- ✓ 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
- ✓ DML: Insert, Update, Delete
- ✓ DQL: Select, Fetch
- ✓ SQL Operators
- ✓ Special Operators

#### Ch 5: Excel Data Imports

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

#### Ch 6: Schemas & Batches

- ✓ Schemas: Creation, Usage
- ✓ Schemas & Table Grouping
- ✓ Real-world Banking Database
- ✓ 2 Part, 3 Part & 4 Part Naming

- ✓ Batch Concept & “Go” Command

### **Ch 7: Constraints, Keys & RDBMS**

- ✓ Null, Not Null Constraints
- ✓ Unique Key Constraint
- ✓ Primary Key Constraint
- ✓ Foreign Key & References
- ✓ Default Constraint & Usage
- ✓ DB Diagrams & ER Models

### **Ch 8: Normal Forms & ERD**

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

### **Ch 9: Joins Queries – Level 1**

- ✓ Joins: Table Comparisons
- ✓ Inner Join & Outer Joins
- ✓ Cross Join & Cross Apply
- ✓ Table Combination
- ✓ Table & Column Aliases

### **Ch 10: Joins Queries – Level 2**

- ✓ Group By & Aggregations
- ✓ Joins with Group By
- ✓ 3 Table, 4 Table Joins
- ✓ Join Queries with Aliases
- ✓ WHERE & HAVING
- ✓ Query Execution Order

### **Ch 11: Sub Queries**

- ✓ Distinct & Union, Union All
- ✓ Sub Queries Concept
- ✓ Sub Queries & Aggregations
- ✓ Joins with Sub Queries
- ✓ Correlated Queries

### **Ch 12: Views & Data Analytics**

- ✓ Views: Realtime Usage
- ✓ Storing SELECT in Views
- ✓ DML, SELECT with Views
- ✓ RLS: Row Level Security
- ✓ Data Analytics with Excel
- ✓ Important System Views

### **Ch 13: Stored Procedures – Level 1**

- ✓ Stored Procedures: Realtime Use
- ✓ Procedures with SELECT
- ✓ System Stored Procedures
- ✓ Metadata Access with SPs
- ✓ Stored Procedures, Tuning

### **Ch 14: Stored Procedures – Level 2**

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

### **Ch 15: Functions – Level 1**

- ✓ Using Defined Functions (UDF)
- ✓ Scalar Functions in Real-world
- ✓ Table Valued Functions
- ✓ Parameterized Queries
- ✓ Returns and Return
- ✓ SP Versus Functions

### **Ch 16: Functions – Level 2**

- ✓ Aggregated Functions
- ✓ Date & Time Functions
- ✓ String Functions
- ✓ Window Functions
- ✓ Rank, Row\_Number
- ✓ DenseRank, Partition By

### **Ch 17: 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 18: Transactions & ACID**

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

### **Ch 19: Indexes Basics, Tuning**

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

### Ch 20: CTEs & Tuning

- ✓ Common Table Expression
- ✓ Creating and Using CTEs
- ✓ CTEs, In-Memory Processing
- ✓ IIF(), CASE Statement
- ✓ Cube( ) and Rollup( )
- ✓ Sub Totals & Grand Totals
- ✓ Grouping( ) & Usage

### Ch 21: Data Types & Variables

- ✓ Integer Data Types
- ✓ Character, MAX Data Types
- ✓ Decimal & Money Data Types
- ✓ Boolean & Binary Data Types
- ✓ Date and Time Data Types
- ✓ SQL\_Variant Type
- ✓ Variables in SQL
- ✓ Cursor Variable & Fetch

### Ch 22: Temp Tables

- ✓ Local Temp Tables
- ✓ Global Temp Tables
- ✓ Testing Temp Tables
- ✓ SELECT..INTO Statement
- ✓ Bulk Copy Operations

### Ch 23: SQL Server Architecture

- ✓ Network Protocols
- ✓ Query Execution Engine
- ✓ Parser, Compiler, Checkpoint
- ✓ SQL Manager, DB Manager
- ✓ Storage Engine, Locks
- ✓ SQL OS Components

### Ch 24: Real-Time SQL Server Case Studies (2)

- ✓ Healthcare Management System
  - Patient Records Management
  - Doctor Appointment Scheduling
  - Billing & Insurance Processing
  - Medical Reports Analysis

- ✓ **E-Commerce Database**
  - Customer & Product Management
  - Order Processing
  - Inventory Tracking
  - Sales Reporting

## **Module 2: Azure Data Engineer**

### **Part 1: Fundamentals, ADF & Synapse**

#### **Ch 1: Azure Fundamentals**

- ✓ Cloud Introduction
- ✓ Azure Concepts
- ✓ Cloud Implementations: IaaS, PaaS, SaaS
- ✓ Azure Account, Subscription
- ✓ Azure Resources & Resource Groups
- ✓ Azure ETL & DWH Resources
- ✓ Azure Storage, IoT Resources

#### **Ch 2: Azure Deployments, Azure SQL**

- ✓ Azure SQL Server, SQL DB
- ✓ Azure SQL Database (OLTP)
- ✓ Azure SQL Pool (DWH)
- ✓ Connections from SSMS Tool
- ✓ Source Data Configurations

#### **Ch 3: Azure Synapse (DWH)**

- ✓ Synapse Pool Architecture
- ✓ Control Node, Compute Node
- ✓ DMS (Data Movement Service)
- ✓ Connection Strings
- ✓ Pause / Resume SQL Pool
- ✓ Scale Up / Scale Down

#### **Ch 4: Azure SQL Pool Operations (DWH)**

- ✓ Creating Tables with TSQL
- ✓ Partitioned Tables
- ✓ Distributions
- ✓ DOP Concept
- ✓ Big Data Loads with TSQL

#### **Ch 5: Azure Data Factory (ADF)**

- ✓ Need for ADF & Pipelines
- ✓ Data Orchestration with IR
- ✓ Integration Runtime Engine

- ✓ Linked Services, Datasets
- ✓ Pipelines: Copy Data Activity
- ✓ Data Flow Activity with IR

#### **Ch 6: Azure SQL DB Loads**

- ✓ ADF: Author, Azure SQL DB Reads
- ✓ Azure SQL Pool Writes
- ✓ Synapse Analytics with IR
- ✓ Pipeline Design, Validation
- ✓ Pipeline Runs, Monitoring

#### **Ch 7: Pipeline Settings**

- ✓ ADF Pipeline Settings
- ✓ Staging: Advantages
- ✓ Reliable Logging
- ✓ Best Effort Logging
- ✓ DIU & DOCP with IR
- ✓ Compressions, Health Check

#### **Ch 8: File Incremental Loads**

- ✓ File Incremental Loads
- ✓ Storage Account, Data Lake
- ✓ Binary Copy, Schema Drift
- ✓ Staging Concept in ADF
- ✓ Initial, Incremental Loads
- ✓ Schema & Data Changes

#### **Ch 9: Table Incremental Loads**

- ✓ Implement SCD with ADF
- ✓ Self Hosted IR: Realtime Use
- ✓ On-premise Data: Incr Loads
- ✓ Copy Method: Upsert, Keys
- ✓ Staging & ADF Optimizations
- ✓ Pipeline Runs, Activity IDs

#### **Ch 10: ADF: Data Flow - 1**

- ✓ Data Flow Concepts
- ✓ Data Flow Prototypes
- ✓ Data Flow Workflow
- ✓ Data Flow Transformations
- ✓ Spark Clusters
- ✓ Optimized Clusters, Preview
- ✓ ADF Debug Options

### **Ch 11: ADF Data Flow - 2**

- ✓ Creating Data Flow Items
- ✓ Using Multiple Sinks
- ✓ Conditional Split Transformation
- ✓ SELECT Transformation
- ✓ Sort, Union Transformations
- ✓ Pipelines with Data Flow

### **Ch 12: ADF Data Flow - 3**

- ✓ Working with Multiple Tables
- ✓ Join Transform, Broadcast
- ✓ Row Filters, Column Filters
- ✓ Surrogate Keys, Derived Cols
- ✓ ETL Loads Dates, Sink Options
- ✓ Aggregated Data Loads

### **Ch 13: ADF Data Flow - 4**

- ✓ Pivot Transformation
- ✓ Group By & Pivot Keys
- ✓ Column Pattern, Deduplicate
- ✓ Lookup, Cached Lookup
- ✓ Tuning Transformations
- ✓ Tuning Data Flow, Spark

### **Ch 14: ADF Data Flow - 5**

- ✓ Lookup Transformation
- ✓ Cache Lookup
- ✓ Inline Datasets
- ✓ Data Validations
- ✓ Lookup Versus Joins

### **Ch 15: ADF Metrics, Alerts**

- ✓ Azure Insights
- ✓ Azure Metrics for ADF
- ✓ Azure Metrics for Synapse
- ✓ CPU, Memory Metrics
- ✓ Alerts and Notifications
- ✓ Action Groups, Tuning Options

### **Ch 16: ADF with Azure Functions**

- ✓ Azure Functions
- ✓ Function Activity in ADF
- ✓ Linked Services
- ✓ Pipeline Debug

- ✓ ADF Activity Controls

### **Ch 17: ADF Optimizations**

- ✓ Synapse SQL Pool Partitions
- ✓ ADF Partitions
- ✓ Broadcast Options
- ✓ Staging, Logging
- ✓ DIU, DOCP
- ✓ Spar Cluster Optimizations

### **Ch 18: ADF Parameters, Security**

- ✓ Linked Service Parameters
- ✓ Creating Logins
- ✓ Users and ETL Permissions
- ✓ Parameterize Logins
- ✓ Parameterize Users
- ✓ Dynamic Linked Services

### **Ch 19: SCD & ETL with Control Tables - 1**

- ✓ ADF Templates in Realtime
- ✓ Implementing ADF SCD
- ✓ Table Incremental Loads
- ✓ Creating Control Tables
- ✓ Creating Watermark Columns
- ✓ Creating ETL Stored Procedures

### **Ch 20: SCD & ETL with Control Tables - 2**

- ✓ ADF Lookup Activity
- ✓ Delta Data Expressions
- ✓ SP Activity & Parameters
- ✓ Control Tables, Watermarks
- ✓ Pipeline Parameters, SPs
- ✓ Dynamic Data Sets, SCD

### **Ch 21: Synapse Analytics**

- ✓ Azure Synapse Analytics
- ✓ Synapse Deployments
- ✓ Synapse Configurations
- ✓ ADLS Containers
- ✓ Workspace Server Setup
- ✓ Synapse Studio (GUI)

### **Ch 22: Synapse: Dedicated SQL Pools**

- ✓ Dedicated SQL Pools

- ✓ BLOB Data Imports
- ✓ Data Source Creations
- ✓ TSQL Queries
- ✓ Big Data Analytics

### **Ch 23: Synapse: Serverless Pools**

- ✓ Serverless Pools
- ✓ Serverless Architecture
- ✓ Serverless Vs Dedicated Pools
- ✓ BLOB Data Imports
- ✓ OPENROWSET Operations
- ✓ Big Data Analytics

### **Ch 24: Synapse: Apache Spark Pools**

- ✓ Apache Spark Pools
- ✓ Spark Cluster Concepts
- ✓ Nodes and Executors
- ✓ PySpark Notebooks
- ✓ Notebook Operations
- ✓ BLOB Data Imports
- ✓ Big Data Analytics
- ✓ Pipeline Integrations

### **Ch 25: CDC in ADF**

- ✓ CDC: Change Data Capture
- ✓ Using CDC in ADF
- ✓ CDC Source Configurations
- ✓ Incremental Loads with CDC
- ✓ New Rows, Net Changes
- ✓ CDC Advantages & Performance

## **Part 2: Azure Storage (ADLS) & IoT**

### **Ch 1: Azure Storage & ADLS**

- ✓ Azure Storage Account
- ✓ Azure Data Lake Storage
- ✓ Azure BLOB Containers
- ✓ Blob File Uploads
- ✓ Azure Tables

### **Ch 2: Azure SQL DB Migrations**

- ✓ On-Premise SQL DB, bacpac
- ✓ Azure SQL Deployment
- ✓ Azure Storage from SSMS
- ✓ Azure SQL DB Migration

- ✓ Migration Verifications

### Ch 3: Managed Identity & IAM

- ✓ Azure Active Directory (Microsoft Entra ID)
- ✓ Service Principals
- ✓ Managed Identity
- ✓ RBAC, Storage Access Permissions
- ✓ Synapse Access Control
- ✓ Databricks Access Control

### Ch 4: Azure Key Vaults

- ✓ Azure Key Vaults
- ✓ Access Policies
- ✓ Secret Management
- ✓ Managed Identity
- ✓ ADLS Encryptions
- ✓ Key Vault Integration with ADF
- ✓ Key Vault Integration with Databricks

### Ch 5: Azure IoT & Stream Analytics

- ✓ Azure IoT Hubs
- ✓ Azure IoT Devices
- ✓ LIVE Data Tracking
- ✓ Azure Stream Analytics Jobs

### Ch 6: Azure Event Hub

- ✓ Azure Event Hubs
- ✓ Azure Event Hub Samples
- ✓ Near Realtime Data Capture
- ✓ ADLS Containers with Event Hubs

### Ch 7: Logic Apps with ADLS

- ✓ Logic Apps Integrations
- ✓ Events & Scripts
- ✓ Triggers & Executions
- ✓ Automations & ADLS

## Part 3: Databricks

### Ch 1: Databricks Introduction

- ✓ Cloud ETL, DWH
- ✓ Cloud Computing
- ✓ Databricks Concepts
- ✓ Big Data in Cloud

### Ch 2: Databricks Architecture

- ✓ Unity Catalog, Volume
- ✓ Spark Clusters
- ✓ Apache Spark and Databricks
- ✓ Apache Spark Ecosystem
- ✓ Compute Operations
- ✓ Hadoop, MapReduce, Apache Spark

### **Ch 3: Unity Catalog**

- ✓ Unity Catalog Concepts
- ✓ Workspace Objects
- ✓ Databricks Notebooks
- ✓ Databricks Workspace UI
- ✓ Organizing Workspace Objects
- ✓ Creating Volumes
- ✓ Spark Table Creations
- ✓ Spark UI: Limitations

### **Ch 4: Spark SQL: Basics**

- ✓ Spark SQL Notebooks
- ✓ Creating Catalog
- ✓ Creating Schemas
- ✓ Creating Tables
- ✓ Spark Data Types
- ✓ PySpark API: SQL Queries
- ✓ Dropping Objects
- ✓ Notebooks: Exports, Clone

### **Ch 5: Spark SQL: Table Types**

- ✓ Delta Tables
- ✓ Managed Tables
- ✓ External Tables
- ✓ Data Partitioning
- ✓ Union, Views in Spark
- ✓ External Volumes

### **Ch 6: Spark SQL: Functions**

- ✓ Math, Sort Functions
- ✓ String, DateTime Functions
- ✓ Conditional Statements
- ✓ SQL Expressions with expr()
- ✓ Volume for our Data Assets
- ✓ File Formats, Schema Inference
- ✓ Spark SQL Aggregations

### **Ch 7: Spark SQL: Time Travel**

- ✓ Time Travel Concepts
- ✓ Spark DB: Logical Architecture
- ✓ Spark DB: Physical Store
- ✓ Data File & Log File Store
- ✓ Time Travel
- ✓ DESCRIBE, EXTENDED
- ✓ HISTORY, Version Numbers

### **Ch 8: Python: Introduction, Print**

- ✓ Python Introduction
- ✓ Python Versions
- ✓ Python Implementations
- ✓ Python in Spark (PySpark)
- ✓ Python Print()
- ✓ Single, Multiline Statements

### **Ch 9: Python: Variables**

- ✓ Python Variables
- ✓ Variable Declarations
- ✓ Variable Values
- ✓ Value Types
- ✓ Multi Variable Values
- ✓ Common Variable Values
- ✓ Realtime use of Variables

### **Ch 10: Python: Operators**

- ✓ Need for Operators
- ✓ Arithmetic Operators
- ✓ Assignment Operators
- ✓ Comparison Operators
- ✓ Operator Precedence
- ✓ Operands in Python

### **Ch 11: Python: Control Statements**

- ✓ Python Control Structures
- ✓ If ... Else Statement
- ✓ Short Hand If
- ✓ ELIF & ELSE IF Statements
- ✓ OR, AND Concepts
- ✓ Python Loops

### **Ch 12: Python: Data Types**

- ✓ Python Data Types

- ✓ Integer / Int Data Types
- ✓ Float, String Data Types
- ✓ List Data Type
- ✓ Dictionary Data Type
- ✓ Tuple Data Type
- ✓ List Items, Indexes
- ✓ Tables Versus Dictionaries

### **Ch 13: Python: Modules & Dataframes**

- ✓ Python Modules
- ✓ Pandas
- ✓ NumPy
- ✓ Dataframe Concepts
- ✓ Handling Nulls
- ✓ Data Cleansing Concepts
- ✓ Pandas Series, arrays
- ✓ Indexes, Indexed Lists

### **Ch 14: PySpark Concepts**

- ✓ Constructing Dataframes
- ✓ Single List Dataframes
- ✓ Multi List Dataframes
- ✓ Pandas Dataframes
- ✓ Contact & Union
- ✓ Merge
- ✓ Join Options with Dataframes

### **Ch 15: Medallion Architecture - 1**

- ✓ Medallion Architecture
- ✓ Aggregated Data Loads
- ✓ Broze, Silver and Gold
- ✓ Temp Views
- ✓ Spark Tables (Parquet)
- ✓ Work with File Sources

### **Ch 16: Medallion Architecture - 2**

- ✓ Medallion Architecture
- ✓ Azure SQL DB Connections
- ✓ Joining Source Tables
- ✓ Dataframes, Temp Views
- ✓ Aggregated Data Loads
- ✓ Gold Data Consumption

### **Ch 17: Delta Lake**

- ✓ Databricks DeltaLake
- ✓ Schema Evolution
- ✓ Azure SQL DB Connections
- ✓ Dataframes, Temp Views
- ✓ Delta Table API
- ✓ Deleting Records
- ✓ Updating Records
- ✓ Merging Records
- ✓ Old History Retention
- ✓ Delta Transaction Log

### **Ch 18: PySpark: Widgets**

- ✓ PySpark Parameters
- ✓ Text Widgets
- ✓ User Parameters
- ✓ Manual Executions
- ✓ Automations
- ✓ UI & JSON For Widgets

### **Ch 19: Lake Flow Jobs**

- ✓ Workflows & CRON
- ✓ Job Compute, Running Tasks
- ✓ Python Script Tasks
- ✓ Parameters into Notebook Tasks
- ✓ Parameters into Python Script Tasks
- ✓ Concurrent Executions, Dependencies
- ✓ Branching Control with the If-Else Task

### **Ch 20: Pyspark: Auto Loader - 1**

- ✓ AutoLoader Concept
- ✓ Cloudfiles Architecture
- ✓ Checkpoint Configurations
- ✓ Creating Directories
- ✓ Reading Databricks Cloud Sources
- ✓ Initial Loads

### **Ch 21: PySpark: Auto Loader - 2**

- ✓ Reading Streams with Auto Loader
- ✓ Reading a Data Stream
- ✓ Manually Cancel your Data Streams
- ✓ Writing to a Data Stream
- ✓ Schema Evaluation Modes
- ✓ Adding New Columns
- ✓ Workspace Modules

## **Ch 22: Lake Flow Declarative Pipelines**

- ✓ SDP: Spark Declarative Pipelines
- ✓ Delta LIVE Tables
- ✓ Streaming Data Loads
- ✓ Bronze, Silver, Gold Data
- ✓ Materialized Views
- ✓ Pipeline Clusters
- ✓ Databricks CLI
- ✓ Data Quality Checks

## **Ch 23: Databricks Optimizations**

- ✓ Lazy Evaluation
- ✓ Explain Plan
- ✓ Caching
- ✓ Data Shuffling
- ✓ Broadcast Joins
- ✓ Partitions
- ✓ Data Skipping
- ✓ Z Ordering
- ✓ Liquid Clustering
- ✓ VACUUM
- ✓ OPTIMIZE

## **Ch 24: Security Concepts**

- ✓ Overview of ACLs
- ✓ Adding a New User to Workspace
- ✓ Workspace Access Control
- ✓ Cluster Access Control
- ✓ Groups & LakeBridge
- ✓ Access Keys (Tokens)

## **Ch 25: Azure Databricks - 1**

- ✓ Azure Cloud Concepts
- ✓ Azure Subscription
- ✓ Azure Databricks
- ✓ Azure Regions, Pricing Tiers
- ✓ Azure Databricks Account
- ✓ Azure Databricks Workspace

## **Ch 26: Azure Databricks - 2**

- ✓ Classic Deployment
- ✓ Driver Nodes, Worker Nodes
- ✓ DBR Versions, RDD & DAG

- ✓ Scaling & Tuning
- ✓ Open Source Databricks Vs Azure Databricks

### **Ch 27: Databricks Data Engineer Associate Exam**

- ✓ Databricks Data Engineer Associate Exam
- ✓ AVRO Formats
- ✓ Exam Pattern & Guidance
- ✓ Exam Q & A, Scenarios

## **Module 3: Integrations, DevOps for Azure Data Engineering**

### **Ch 1: Azure Databricks with Data Factory**

- ✓ Connecting ADF with Databricks
- ✓ ADF: Notebook Activity
- ✓ Comparing ADF with Databricks
- ✓ When to use ADF?
- ✓ When to use Databricks?
- ✓ How to use Databricks and ADF together?

### **Ch 2: GitHub Concepts**

- ✓ Creating Github Account
- ✓ GIT Project Concept
- ✓ GIT Project Creation
- ✓ GIT: Main, Branches
- ✓ Connecting with ADF
- ✓ Connecting with Databricks

### **Ch 3: Azure DevOps For Data Engineers**

- ✓ Azure DevOps Repos
- ✓ Azure Boards
- ✓ Azure Pipelines
- ✓ Release Pipelines
- ✓ CI/CD for ADF
- ✓ CI/CD for Databricks
- ✓ Environment Promotion (Dev, QA, UAT, Prod)

## **Module 4: End-to-End Industry Project for Resume (ECommerce Platform)**

### **Project Objective:**

Build an end-to-end Azure Data Engineering solution to process, transform, and analyze e-commerce business data from multiple sources.

### **Technologies Used:**

- Azure Data Factory (ADF)
- Azure Data Lake Storage (ADLS Gen2)

- Azure Databricks (Apache Spark)
- Azure SQL Database
- Azure Blob Storage
- Azure Monitor
- Azure Purview
- Azure Monitor Logs

### **Skills Gained:**

- Data Ingestion & ETL Development
- Azure Data Factory Pipelines
- Databricks & PySpark Transformations
- Data Lake Architecture
- Medallion Architecture (Bronze/Silver/Gold)
- Real-Time Industry Experience

### **Components For Project (From Resume Perspective):**

- Source Systems
- Bronze
- Silver
- Gold
- ADF Pipelines
- Synapse Analytics
- PySpark
- Power BI Reporting
- Monitoring
- Alerting
- CI/CD
- Deployment
- End to End Integrations

## **Module 5: Azure Certifications**

### **Azure Data Fundamentals (DP 900)**

- Exam Pattern
- Exam Q & A, Scenarios

### **Azure Databricks (DP 750)**

- Exam Pattern
- Exam Q & A, Scenarios

### **Databricks Data Engineer Associate Exam**

- Exam Pattern
- Exam Q & A, Scenarios

## **Module 6: Microsoft Fabric for Data Engineering**

## 👉 🏠 Microsoft Fabric Concepts

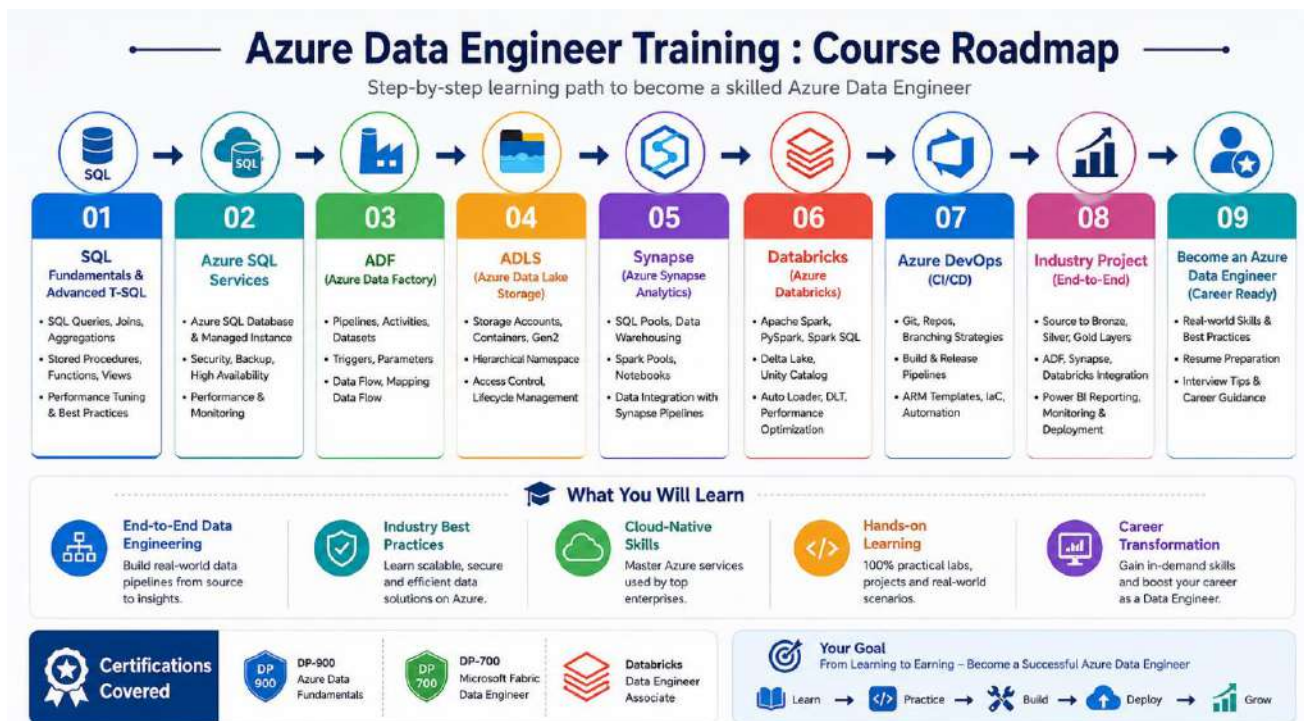
- Fabric Architecture
- Fabric ETL Components
- Fabric One Lake Components
- Fabric Analytics Components

## 👉 🏠 Microsoft Fabric Implementation

- Fabric Workspace
- Fabric Warehouse Creation
- Fabric Lakehouse Creation

## 👉 🏠 Microsoft Fabric Migrations

- Azure SQL Pool to Fabric Migrations
- Azure Data Factory with Fabric Pipelines
- Azure Versus Fabric Implementations



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