

VERSION IT

Microsoft fabric Data Engineer



Microsoft
Fabric



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About Us Version IT

Version IT is not a mere software training institute, a team of IT professionals developed it as the best knowledge centre for hundreds of career-building conscious young people. Our training academy is the best training institute in Hyderabad offering various software courses with aptly placement orientation. We proudly announce that we achieved 100% placements in every batch we have taken up in the past two decades. Version IT Academy's strength is our academic excellence with which we have been placed in the top position among the software training institute in Hyderabad.

Corporate Training



Classroom Training



Online Training



Microsoft Fabric Curriculum

1: Introduction to Microsoft Fabric & Data Engineering

● 1: Data Engineering Fundamentals

- Overview of Data Engineering Concepts
- Data Ingestion, Processing, Storage & Analytics
- Modern Data Architecture

● 2: Introduction to Microsoft Fabric

- Overview of the Microsoft Fabric Platform
- Fabric Workloads & Experiences
- Understanding OneLake Architecture

● 3: Data Engineering Tools Comparison

- Microsoft Fabric vs Azure Data Factory
- Microsoft Fabric vs Databricks
- Use Cases of Fabric in Modern Data Platforms

2: Azure Storage & Data Sources

● 1: Azure Storage Fundamentals

- Creating Azure Free Trial Account
- Azure Storage Accounts Overview
- Storage Tiers & Performance

- **2: Blob Storage & Data Lake**

- Working with Azure Blob Storage
- Understanding ADLS Gen2
- Types of Blob Storage (Block, Append, Page)

- **3: Data Ingestion**

- Structured vs Semi-Structured vs Unstructured Data
- Uploading and Managing Data in Cloud Storage
- Data Access and Security

3: Microsoft Fabric Environment Setup

- **1: Fabric Workspace Management**

- Creating Fabric Workspace
- Workspace Roles & Permissions
- Fabric Capacity & Licensing
- OneLake File Explorer
- Integrating ADLS Gen2 with Fabric
- Managing Data in Lakehouse

- **2: OneLake Data Management**

- OneLake File Explorer
- Integrating ADLS Gen2 with Fabric
- Managing Data in Lakehouse

- **3: Fabric Studio Environment**

- Exploring Fabric Studio Interface
- Creating and Managing Fabric Items
- Organizing Data Projects in Workspaces

4: Python Programming for Data Engineering

● 1: Python Fundamentals

- Variables and Data Types
- Operators and Expressions
- Input and Output Handling

● 2: Control Flow & Functions

- Conditional Statements
- Loops (for, while)
- Python Functions and Lambda Expressions

● 3: Data Structures in Python

- Lists, Tuples, Dictionaries
- Iteration and Data Handling
- Python for Data Processing

5: Apache Spark & PySpark in Microsoft Fabric

● 1: Apache Spark Fundamentals

- Introduction to Apache Spark
- Spark Architecture
- Distributed Data Processing

● 2: PySpark in Fabric

- Working with PySpark Notebooks
- DataFrames and Transformations
- Writing PySpark Scripts for Data Processing

- **3: SparkSQL for Analytics**

- Writing SparkSQL Queries
- Data Aggregation and Filtering
- Data Transformation with SparkSQL

6: Delta Lake & Lakehouse Architecture

- **1: Delta Lake Fundamentals**

- Introduction to Delta Lake
- Benefits of Delta Lake in Data Engineering

- **2: Delta Tables**

- Managed vs External Tables
- Creating and Managing Delta Tables
- Performing DML Operations

- **3: Optimization & Streaming**

- Optimize and Vacuum Commands
- Spark Structured Streaming
- Real-Time Data Processing

7: Data Integration with Pipelines & Dataflow

- **1: Dataflow Gen2**

- Introduction to Dataflow Gen2
- Data Transformation Workflows
- Data Preparation for Analytics

- **2: Data Pipelines**

- Building Data Pipelines
- Data Orchestration in Fabric
- Scheduling and Monitoring Pipelines

- **3: Data Integration**

- Integrating Multiple Data Sources
- Automated Data Processing Workflows
- ETL & ELT Pipelines

8: Medallion Architecture for Data Engineering

- **1: Medallion Architecture Overview**

- Bronze Layer (Raw Data)
- Silver Layer (Cleaned Data)
- Gold Layer (Business Ready Data)

- **2: Data Modeling**

- Designing Fact Tables
- Designing Dimension Tables
- Implementing Star Schema

- **3: Business Analytics Preparation**

- Data Transformation for BI
- Data Quality and Validation
- Preparing Data for Reporting

9: Real-Time Intelligence in Microsoft Fabric

● 1: Real-Time Analytics Fundamentals

- Introduction to Real-Time Data Processing
- Streaming Data Concepts

● 2: Eventstream & Eventhouse

- Working with Eventstream
- Creating Eventhouse Tables
- Managing Streaming Data

● 3: KQL & Real-Time Dashboards

- Writing KQL Queries
- Building Real-Time Dashboards
- Creating Alerts & Automation

10: Data Transformation with PySpark

● 1: Distributed Data Processing

- Introduction to RDD (Resilient Distributed Dataset)
- Spark Transformations and Actions

● 2: PySpark Transformations

- Narrow vs Wide Transformations
- DataFrame Transformations
- Data Aggregation Techniques

- **3: ETL Processing**

- Extract, Transform, Load (ETL)
- Data Processing Pipelines
- Data Validation Techniques

11: AI-Powered Data Engineering

- **1: AI in Cloud Data Engineering**

- Overview of Artificial Intelligence in Data Platforms
- AI Applications in Data Engineering

- **2: AI Copilot in Fabric**

- Using AI Copilot to Generate PySpark Scripts
- AI-Assisted SQL Query Generation

- **3: Automation with AI**

- AI-driven Data Pipeline Automation
- AI for Cloud Resource Management

12: SQL & Database Integration

- **1: SQL Fundamentals**

- Introduction to SQL Databases
- Basic SQL Queries

- **2: Advanced SQL Queries**

- Joins, Subqueries, and CTEs
- Aggregations and Data Filtering

- **3: Azure SQL Integration**

- Deploying Azure SQL Database
- Database Security and Access Management

13: Data Visualization & Reporting

1: Business Intelligence Fundamentals

- Introduction to Business Intelligence
- Data Visualization Concepts

● 2: Dashboard Creation

- Creating Dashboards using Microsoft Power BI
- Data Modeling for BI

● 3: Reporting & Insights

- KPI Reporting
- Sharing Reports with Stakeholders

Capstone Projects

● Project 1: End-to-End Data Engineering Project

- Data ingestion using Fabric pipelines
- Data transformation using PySpark
- Medallion architecture implementation
- Dashboard creation using Power BI

● Project 2: Real-Time Analytics Project

- Real-time data ingestion with Eventstream
- Streaming data processing
- Real-time dashboard and alerts



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