

# Microsoft Fabric: Analytics

## Course Description

This four-day program provides a comprehensive journey through Microsoft Fabric, covering data engineering, contextual insights, Spark and Delta Lake, data warehousing, and data science. Participants will gain hands-on experience with Fabric's unified tools for integration, analytics, and AI-driven transformation.

## Duration

4 Days

## Prerequisites

- Basic knowledge of SQL and data concepts
- Familiarity with cloud services and analytics tools
- Prior exposure to Power BI or data engineering workflows recommended

## Learning Objectives

By the end of this course, participants will be able to:

- Implement data engineering workflows in Microsoft Fabric
- Build contextual insights using Fabric IQ and Ontology
- Optimize and analyze data with Spark and Delta Lake
- Design and manage data warehouses in Fabric
- Migrate from Synapse SQL pools to Fabric Warehouse
- Apply data science workflows, including AutoML and model tracking
- Deliver AI-driven experiences using Microsoft Foundry

## **Content Coverage**

### **Day 1**

#### **Module 1 - Get started with Data Engineering experiences using Microsoft Fabric**

- Microsoft Fabric - The unified data platform for AI transformation
- Data Engineering in Microsoft Fabric
- Data integration and transformation with Data Factory in Microsoft Fabric
- Transform and enrich data seamlessly with AI functions
- Enhance data interaction with Fabric Data Agent

#### **Module 2: Turn Data into Contextual Insights with Fabric IQ**

- Introduction to Fabric IQ
- Build the enterprise vocabulary with Ontology
- Chat with your data using Fabric Data Agent
- Connected Data Insights with Graph in Fabric
- Monitor real-time data with Operations Agent (Preview)
- Get optimized analytics with Power BI Semantic Model

#### **Hands on labs**

- Use Case 1 - Create a Lakehouse, ingest sample data and build a report
- Use Case 2 - From Ontology to Automation: Designing Fabric Data Agents in Fabric IQ

### **Day 2**

#### **Module 3 - Data Engineering using Apache Spark, Delta Lakes and Notebooks**

- Apache Spark in Microsoft Fabric
- Delta Lake tables optimization and V-Order

- Use Microsoft Fabric Notebooks
- Microsoft Fabric extension for Visual Studio Code
- API for GraphQL and User Data Functions in Microsoft Fabric
- Manage a Workspace with git
- Spark Administration settings and Resource Profile Configurations

### **Hands on labs**

- Use Case 3 - Analyze data with Apache Spark
- Use Case 4 - A Data Factory solution for moving and transforming data with dataflows and data pipelines

### **Day 3**

#### **Module 4 - Implement Data Warehousing in Microsoft Fabric**

- Data Warehousing in Microsoft Fabric
- Data Ingestion
- Dimensional modeling
- Monitor the Data Warehouse
- Management and Security

#### **Module 5 - Achieve Analytics value from Fabric Warehouse**

- T-SQL Experiences to query the data in your Warehouse
- Warehouse snapshots
- Power BI semantic modeling

#### **Module 6 - Migrate to Data Warehouse in Microsoft Fabric**

- Prepare for migration
- Extract a Data-tier Application (DAC) from an Azure Synapse dedicated SQL pool
- Migrate with the Fabric Migration Assistant

## **Hands on labs**

- Use Case 5 - Build a Sales and Geography Data Warehouse for Contoso in Microsoft Fabric
- Use Case 6 - Real-Time Intelligence and Data Warehousing with AbboCost in Microsoft Fabric

## **Day 4**

### **Module 7 - Data Science in Microsoft Fabric**

- Data Science in Microsoft Fabric
- Prepare Data
- Track models and experiments
- Train machine learning models
- Automated Machine Learning (AutoML)
- Model Scoring
- Deliver AI experiences with Microsoft Foundry
- Introduction to Fabric Model Context Protocol (Preview)

## **Hands on labs**

- Use Case 7 - Train and track a model in Microsoft Fabric
- Use Case 8 - Implement a Data Science scenario in Microsoft Fabric
- Use Case 9 - Identify and extract text with Document Intelligence in Microsoft Fabric