

Mastering Microsoft Fabric

Duration	8 Days (64 Hours)
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Course Overview

This course covers the full Microsoft Fabric journey: end-to-end analytics fundamentals, Lakehouses, Apache Spark and Delta Lake, data ingestion and orchestration, the medallion architecture, data warehousing (build, load, query, model, secure, and monitor), Power BI semantic modeling and performance, and Real-Time Intelligence with Eventstreams and Eventhouses. Topics that appeared in both source courses — such as Lakehouses, Apache Spark, Delta Lake, Dataflows Gen2, the medallion architecture, and core data warehouse operations — have been consolidated into a single module each, while unique topics from both courses (Power BI modeling/security, data warehouse modeling, Real-Time Intelligence, and Fabric administration) are retained and placed in a logical sequence.

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Detailed Syllabus

1. Foundations & Administration

Module 1: Introduction to End-to-End Analytics using Microsoft Fabric

- Describe end-to-end analytics in Microsoft Fabric

Module 2: Administer Microsoft Fabric

- Describe Fabric admin tasks
- Navigate the admin center
- Manage user access
- Govern data in Fabric

2. Lakehouses, Spark & Delta Lake

Module 3: Get Started with Lakehouses in Microsoft Fabric

- Describe core features and capabilities of Lakehouse in Microsoft Fabric
- Create a Lakehouse
- Ingest data into files and tables in a Lakehouse
- Query Lakehouse tables with SQL

Module 4: Use Apache Spark in Microsoft Fabric

- Configure Spark in a Microsoft Fabric workspace
- Identify suitable scenarios for Spark notebooks and Spark jobs
- Use Spark to connect to data sources and ingest data
- Use Spark DataFrames to analyze and transform data
- Use Spark SQL to query data in tables and views
- Visualize data in a Spark notebook

Module 5: Ingest Data with Spark and Microsoft Fabric Notebooks

- Use Spark notebooks in Microsoft Fabric to ingest and load data from multiple sources
- Apply notebook-based data engineering techniques to build scalable ingestion pipelines

Module 6: Work with Delta Lake Tables in Microsoft Fabric

- Understand Delta Lake and delta tables in Microsoft Fabric
- Create and manage delta tables using Spark
- Optimize delta tables
- Use Spark to query and transform data in delta tables
- Use delta tables with Spark structured streaming

Module 7: Secure Your Lakehouse

- Learn approaches to secure data and control access within a Fabric Lakehouse

Module 8: Organize a Fabric Lakehouse Using Medallion Architecture Design

- Describe the principles of using the medallion architecture in data management
- Apply the medallion architecture framework within the Microsoft Fabric environment
- Analyze data stored in the Lakehouse using DirectLake in Power BI
- Describe best practices for ensuring the security and governance of data stored in the medallion architecture

3. Data Movement & Orchestration

Module 9: Orchestrate Processes and Data Movement with Microsoft Fabric (Data Factory Pipelines)

- Describe pipeline capabilities in Microsoft Fabric

- Use the Copy Data activity in a pipeline
- Create pipelines based on predefined templates
- Run and monitor pipelines

Module 10: Ingest Data with Dataflows Gen2 in Microsoft Fabric

- Describe Dataflow capabilities in Microsoft Fabric
- Create Dataflow solutions to ingest and transform data
- Include a Dataflow in a pipeline

4. Data Warehousing

Module 11: Get Started with Data Warehouses in Microsoft Fabric

- Describe data warehouses in Fabric
- Understand a data warehouse vs. a data Lakehouse
- Work with data warehouses in Fabric
- Create and manage fact tables and dimensions within a data warehouse

Module 12: Load Data into a Microsoft Fabric Data Warehouse

- Learn different strategies to load data into a data warehouse in Microsoft Fabric
- Learn how to build a data pipeline to load a warehouse in Microsoft Fabric
- Learn how to load data in a warehouse using T-SQL
- Learn how to load and transform data with Dataflow (Gen2)

Module 13: Query a Data Warehouse in Microsoft Fabric

- Use SQL query editor to query a data warehouse
- Explore how the visual query editor works
- Learn how to connect to and query a data warehouse using SQL Server Management Studio

Module 14: Model a Data Warehouse in Microsoft Fabric

- Learn techniques for designing an effective data model within a Fabric data warehouse

Module 15: Secure a Microsoft Fabric Data Warehouse

- Learn the concepts of securing a data warehouse in Microsoft Fabric
- Learn how to implement dynamic data masking to obscure sensitive information
- Learn how to configure row-level security to provide granular control
- Learn how to implement column-level security to protect sensitive data
- Learn how to configure granular permissions using T-SQL

Module 16: Monitor and Optimize a Microsoft Fabric Data Warehouse

- Monitor capacity unit usage with the Microsoft Fabric Capacity Metrics app
- Monitor current activity in the data warehouse with dynamic management views
- Monitor querying trends with query insights views
- Apply optimization techniques to improve data warehouse performance

5. Power BI Modeling & Optimization

Module 17: Understand Scalability in Power BI

- Learn approaches for scaling Power BI models and datasets effectively

Module 18: Create Power BI Model Relationships

- Learn how to design and configure relationships between tables in a Power BI model

Module 19: Use Tools to Optimize Power BI Performance

- Explore tools and techniques to analyze and improve Power BI report and model performance

Module 20: Enforce Power BI Model Security

- Learn how to implement security roles and access controls within a Power BI model

6. Real-Time Intelligence

Module 21: Get Started with Real-Time Intelligence in Microsoft Fabric

- Capture, analyze, visualize, and act on real-time streams of event data using Microsoft Fabric's Real-Time Intelligence capabilities

Module 22: Use Real-Time Eventstreams in Microsoft Fabric

- Establish sources and destinations in Microsoft Fabric Eventstreams
- Capture, transform, and route data using Microsoft Fabric Eventstreams

Module 23: Work with Real-Time Data in a Microsoft Fabric Eventhouse

- Create an Eventhouse in Microsoft Fabric
- Query real-time data by using Kusto Query Language (KQL)
- Create materialized views and stored functions in a KQL database