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Learning Style: Virtual Classroom

Technology: Microsoft

Difficulty: Advanced

Course Duration: 4 Days

Microsoft Fabric Analytics Engineer (DP-600)



About This Course:

Microsoft Fabric Analytics Engineer course covers methods and practices for implementing and managing enterprise-scale data analytics solutions using Microsoft Fabric. Students will build on existing analytics experience and will learn how to use Microsoft Fabric components, including lakehouses, data warehouses, notebooks, dataflows, data pipelines, and semantic models, to create and deploy analytics assets.

Course Objectives:

- Implement Dataflow solutions for data ingestion and transformation in Fabric, including Spark integration
- Access external data sources, configure authentication, and optimize data intake for Fabric lakehouses
- Learn techniques to load data into Fabric lakehouses as files or Delta tables
- Understand and utilize Fabric's pipeline capabilities, including the Copy Data activity and pre-built templates, to orchestrate data flows
- Design and create Fabric lakehouses, ingest data efficiently in various formats, and query data using SQ

Audience:

- Data Analyst
- Data Engineer

Prerequisites:

- PL- 300

Course Outline:

- Describe Dataflow (Gen2) capabilities in Microsoft Fabric
- Create Dataflow (Gen2) solutions to ingest and transform data
- Include a Dataflow (Gen2) in a pipeline
- Lab: Create and use a Dataflow (Gen2) in Microsoft Fabric
- Ingest external data to Fabric lakehouses using Spark
- Configure external source authentication and optimization
- Load data into Lakehouse as files or as Delta tables
- Lab: Ingest data with Spark and Microsoft Fabric notebooks
- Describe pipeline capabilities in Microsoft Fabric
- Use the Copy Data activity in a pipeline
- Create pipelines based on predefined templates
- Run and monitor pipelines
- Lab: Ingest data with a pipeline
- Describe the core features and capabilities of lakehouses in Microsoft Fabric
- Create a lakehouse
- Ingest data into files and tables in a lakehouse
- Query lakehouse tables with SQL
- Lab: Create and ingest data with a Microsoft Fabric Lakehouse
- 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
- Lab: Organize your Fabric lakehouse using a medallion architecture

- Configure Spark in a Microsoft Fabric workspace
- Identify suitable scenarios for Spark notebooks and Spark jobs
- Use Spark data frames to analyze and transform data
- Use Spark SQL to query data in tables and views
- Visualize data in a Spark notebook
- Lab: Analyze data with Apache Spark
- Understand Delta Lake and delta tables in Microsoft Fabric
- Create and manage delta tables using Spark
- Use Spark to query and transform data in delta tables
- Use delta tables with Spark structured streaming
- Lab: Use delta tables in Apache Spark
- Describe data warehouses in Fabric
- Understand a data warehouse vs. a data Lakehouse
- Work with data warehouses in Fabric
- Create and manage datasets within a data warehouse
- Lab: Analyze data in a 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 (Gen 2)
- Lab: Load data into a warehouse in Microsoft Fabric
- 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
- Lab: Monitor a data warehouse in Microsoft Fabric
- Describe the importance of building scalable data models
- Implement Power BI data modeling best practices
- Use the Power BI large dataset storage format
- Lab: Create a star schema model
- Understand how model relationship work
- Set up relationships
- Use DAX relationship functions
- Understand relationship evaluation
- Lab: Work with model relationships
- Optimize queries using performance analyzer
- Troubleshoot DAX performance using DAX Studio
- Optimize a data model using Tabular Editor
- Lab: Use tools to optimize Power BI performance
- Restrict access to Power BI model data with RLS
- Restrict access to Power BI model objects with OLS
- Apply good development practices to enforce Power BI model security
- Lab: Enforce model security