COURSE OUTLINE

Microsoft
Solutions Partner

Data & AI
Azure

Training Services

Course Code: DP-600T00

Course Name: Microsoft Fabric Analytics Engineer

DURATION	SKILL LEVEL	DELIVERY METHOD	TRAINING CREDITS	TECHNOLOGY
4 days	Advanced	VILT/ILT	N/A	Microsoft Fabric

Course Overview

This 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.

This course is best suited for those who have the PL-300 certification or similar expertise in using Power BI for data transformation, modeling, visualization, and sharing. Also, learners should have prior experience in building and deploying data analytics solutions at the enterprise level.

Target Audience

The primary audience for this course is data professionals with experience in data modeling, extraction, and analytics. The DP-600 course is designed for professionals who want to use Microsoft Fabric to create and deploy enterprise-scale data analytics solutions.

Job role:	Exam Requirements
Data Analyst, Data Engineer	DP-600T00

Prerequisites

Before you start this module, you should be familiar with Microsoft Fabric lakehouses and core concepts.

- Experience with Apache Spark and Python
- Basic understanding of extracting, transforming, and loading data

Topics

Module 1

Ingest Data with Dataflows Gen2 in Microsoft Fabric

Data ingestion is crucial in analytics. Microsoft Fabric's Data Factory offers Dataflows (Gen2) for visually creating multi-step data ingestion and transformation using Power Query Online.

Learning objectives

In this module, you'll learn how to:

- Describe Dataflow (Gen2) capabilities in Microsoft Fabric
- Create Dataflow (Gen2) solutions to ingest and transform data
- Include a Dataflow (Gen2) in a pipeline

Module 2:

Ingest data with Spark and Microsoft Fabric notebooks.

Discover how to use Apache Spark and Python for data ingestion into a Microsoft Fabric lakehouse. Fabric notebooks provide a scalable and systematic solution.

Learning objectives

By the end of this module, you'll be able to:

- Ingest external data to Fabric lakehouses using Spark

- Configure external source authentication and optimization
- Load data into lakehouse as files or as Delta tables

Module 3:

Use Data Factory pipelines in Microsoft Fabric

Microsoft Fabric includes Data Factory capabilities, including the ability to create pipelines that orchestrate data ingestion and transformation tasks.

Learning objectives

- 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 4:

Get started with lakehouses in Microsoft Fabric

Lakehouses merge data lake storage flexibility with data warehouse analytics. Microsoft Fabric offers a lakehouse solution for comprehensive analytics on a single SaaS platform.

Learning objectives

- Describe 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

Module 5:

Organize a Fabric lakehouse using medallion architecture design

Explore the potential of the medallion architecture design in Microsoft Fabric. Organize and transform your data across Bronze, Silver, and Gold layers of a lakehouse for optimized analytics.

Learning objectives

In this module, you'll learn how to:

- 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

Module 6:

Use Apache Spark in Microsoft Fabric

Apache Spark is a core technology for large-scale data analytics. Microsoft Fabric provides support for Spark clusters, enabling you to analyze and process data in a Lakehouse at scale.

Learning objectives

- Configure Spark in a Microsoft Fabric workspace
- Identify suitable scenarios for Spark notebooks and Spark jobs
- 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 7:

Work with Delta Lake tables in Microsoft Fabric

Tables in a Microsoft Fabric lakehouse are based on the Delta Lake storage format commonly used in Apache Spark. By using the enhanced capabilities of delta tables, you can create advanced analytics solutions.

Learning objectives

- 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

Module 8:

Get started with data warehouses in Microsoft Fabric

Data warehouses are analytical stores built on a relational schema to support SQL queries. Microsoft Fabric enables you to create a relational data warehouse in your workspace and integrate it easily with other elements of your end-to-end analytics solution.

Learning objectives

- 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

Module 9

Load data into a Microsoft Fabric data warehouse

Data warehouse in Microsoft Fabric is a comprehensive platform for data and analytics, featuring advanced query

processing and full transactional T-SQL capabilities for easy data management and analysis.

Learning objectives

- 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).

Module 10:

Query a data warehouse in Microsoft Fabric

Data warehouse in Microsoft Fabric is a comprehensive platform for data and analytics, featuring advanced query

processing and full transactional T-SQL capabilities for easy data management and analysis.

Learning objectives

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

Module 11

Monitor a Microsoft Fabric data warehouse.

A data warehouse is a vital component of an enterprise analytics solution. It's important to learn how to monitor a data

warehouse so you can better understand the activity that occurs in it.

Learning objectives

- 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.

Module 12

Understand scalability in Power BI

Scalable data models enable enterprise-scale analytics in Power BI. Implement data modeling best practices, use large

dataset storage format, and practice building a star schema to design analytics solutions that can scale.

Learning objectives

By the end of this module, you'll be able to:

- Describe the importance of building scalable data models
- Implement Power BI data modeling best practices
- Use the Power BI large dataset storage format

Module 13

Create Power BI model relationships

Power BI model relationships form the basis of a tabular model. Define Power BI model relationships, set up relationships, recognize DAX relationship functions, and describe relationship evaluation.

Learning objectives

By the end of this module, you'll be able to:

- Understand how model relationship work.
- Set up relationships.
- Use DAX relationship functions.
- Understand relationship evaluation.

Module 14

Use tools to optimize Power BI performance

Use tools to develop, manage, and optimize Power BI data model and DAX query performance.

Learning objectives

- Optimize queries using performance analyzer.
- Troubleshoot DAX performance using DAX Studio.
- Optimize a data model using Tabular Editor.

Module 15

Enforce Power BI model security

Enforce model security in Power BI using row-level security and object-level security.

Learning objectives

- 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.

Enforce Power BI model security

Enforce model security in Power BI using row-level security and object-level security.

Learning objectives

- 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.

Exams and Certifications

A Certificate of completion is issued at the end of the Course.

Schedule your Microsoft exam here: Microsoft: Pearson VUE

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