



DP-600T00: Microsoft Fabric Analytics Engineer

Course ID #: 7000-888-ZZ-Z

Hours: 28

Course Content

Course Description:

This course covers methods and practices for implementing and managing enterprise-scale data analytics solutions using Microsoft Fabric. Students will learn how to use Fabric dataflows, pipelines, and notebooks to develop analytics assets such as semantic models, data warehouses, and lakehouses. This course is designed for experienced data professionals skilled at data preparation, modeling, analysis, and visualization, such as the PL-300: Power BI Data Analyst certification.

Course Objectives:

Upon successful completion of this course, students will be able to:

- Create Dataflow solutions to ingest and transform data
- Configure external source authentication and optimization
- Create pipelines based on predefined templates
- Create a lakehouse
- Apply the medallion architecture framework within the Microsoft Fabric environment
- Configure Spark in a Microsoft Fabric workspace
- Create and manage delta tables using Spark
- Create and manage fact tables and dimensions within a data warehouse
- Use SQL query editor to query a data warehouse
- Implement Power BI data modeling best practices

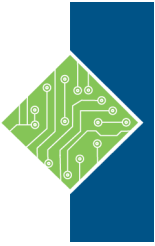
Prerequisites:

The following Prerequisites are recommended:

- Familiarity with Microsoft Fabric lakehouses and core concepts
- Experience with Apache Spark and Python
- Basic understanding of extracting, transforming, and loading data
- Experience developing Power BI data models by using Power BI Desktop

Target Audience:

The primary audience for this course is data professionals with experience in data modeling and analytics. DP-600 is designed for professionals who want to use Microsoft Fabric to create and deploy enterprise-scale data analytics solutions. Learners should have prior experience with one of the following programming languages: Structured Query Language (SQL), Kusto Query Language (KQL), or Data Analysis Expressions (DAX).



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Topics:

Get started with Microsoft Fabric: Introduction to end-to-end analytics using Microsoft Fabric

- Introduction
- Explore end-to-end analytics with Microsoft Fabric
- Explore data teams and Microsoft Fabric
- Enable and use Microsoft Fabric
- Module assessment
- Summary

Get started with lakehouses in Microsoft Fabric

- Introduction
- Explore the Microsoft Fabric lakehouse
- Work with Microsoft Fabric lakehouses
- Explore and transform data in a lakehouse
- Exercise - Create a Microsoft Fabric lakehouse
- Module assessment
- Summary

Use Apache Spark in Microsoft Fabric

- Introduction
- Prepare to use Apache Spark
- Run Spark code
- Work with data in a Spark dataframe
- Work with data using Spark SQL
- Visualize data in a Spark notebook
- Exercise - Analyze data with Apache Spark
- Module assessment
- Summary

Work with Delta Lake tables in Microsoft Fabric

- Introduction
- Understand Delta Lake
- Create delta tables
- Optimize delta tables
- Work with delta tables in Spark
- Use delta tables with streaming data
- Exercise - Use delta tables in Apache Spark
- Module assessment
- Summary

Orchestrate processes and data movement with Microsoft Fabric

- Introduction
- Understand pipelines
- Use the Copy Data activity
- Use pipeline templates
- Run and monitor pipelines
- Exercise - Ingest data with a pipeline
- Module assessment
- Summary

Ingest Data with Dataflows Gen2 in Microsoft Fabric

- Introduction
- Understand Dataflows Gen2 in Microsoft Fabric
- Explore Dataflows Gen2 in Microsoft Fabric
- Integrate Dataflows Gen2 and Pipelines in Microsoft Fabric
- Exercise - Create and use a Dataflow Gen2 in Microsoft Fabric
- Module assessment
- Summary



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Get started with data warehouses in Microsoft Fabric

- Introduction
- Understand data warehouse fundamentals
- Understand data warehouses in Fabric
- Query and transform data
- Prepare data for analysis and reporting
- Secure and monitor your data warehouse
- Exercise - Analyze data in a data warehouse
- Module assessment
- Summary

Get started with Real-Time Intelligence in Microsoft Fabric

- Introduction
- What is real-time data analytics?
- Real-Time Intelligence in Microsoft Fabric
- Ingest and transform real-time data
- Store and query real-time data
- Visualize real-time data
- Automate actions
- Exercise - Explore Real-Time Intelligence in Fabric
- Module assessment
- Summary

Get started with data science in Microsoft Fabric

- Introduction
- Understand the data science process
- Explore and process data with Microsoft Fabric
- Train and score models with Microsoft Fabric
- Exercise - Explore data science in Microsoft Fabric
- Module assessment
- Summary

Administer a Microsoft Fabric environment

- Introduction
- Understand the Fabric Architecture
- Understand the Fabric administrator role
- Manage Fabric security
- Govern data in Fabric
- Module assessment
- Summary

Implement a data warehouse with Microsoft Fabric:

Introduction to end-to-end analytics using Microsoft Fabric

- Introduction
- Explore end-to-end analytics with Microsoft Fabric
- Explore data teams and Microsoft Fabric
- Enable and use Microsoft Fabric
- Module assessment
- Summary

Get started with data warehouses in Microsoft Fabric

- Introduction
- Understand data warehouse fundamentals
- Understand data warehouses in Fabric
- Query and transform data
- Prepare data for analysis and reporting
- Secure and monitor your data warehouse
- Exercise - Analyze data in a data warehouse
- Module assessment
- Summary



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Load data into a Microsoft Fabric data warehouse

- Introduction
- Explore data load strategies
- Use data pipelines to load a warehouse
- Load data using T-SQL
- Load and transform data with Dataflow Gen2
- Exercise: Load data into a warehouse in Microsoft Fabric
- Module assessment
- Summary

Query a data warehouse in Microsoft Fabric

- Introduction
- Query data
- Use the SQL query editor
- Explore the visual query editor
- Use client tools to query a warehouse
- Exercise: Query a data warehouse in Microsoft Fabric
- Module assessment
- Summary

Monitor a Microsoft Fabric data warehouse

- Introduction
- Monitor capacity metrics
- Monitor current activity
- Monitor queries
- Exercise - Monitor a data warehouse in Microsoft Fabric
- Module assessment
- Summary

Secure a Microsoft Fabric data warehouse

- Introduction
- Explore dynamic data masking
- Implement row-level security
- Implement column-level security
- Configure SQL granular permissions using T-SQL
- Exercise: Secure a warehouse in Microsoft Fabric
- Module assessment
- Summary

Work with semantic models in Microsoft Fabric:

Create DAX calculations in semantic models

- Introduction
- Create calculated tables
- Create calculated columns
- Understand implicit measures
- Create explicit measures
- Use iterator functions
- Exercise - Create DAX calculations
- Check your knowledge
- Summary

Design scalable semantic models

- Introduction
- Choose the best storage mode
- Configure semantic models for large data
- Work with relationships
- Write DAX for readability with complex calculations
- Create dynamic calculation elements
- Exercise - Design a scalable semantic model
- Module assessment
- Summary

Optimize a model for performance in Power BI

- Introduction to performance optimization
- Describe semantic model optimization techniques
- Review performance of measures, relationships, and visuals
- Use variables to improve performance and troubleshooting
- Reduce cardinality
- Optimize DirectQuery models with table level storage
- Create and manage aggregations
- Check your knowledge
- Summary



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Create and manage Power BI assets

- Introduction
- Create reusable Power BI assets
- Manage development lifecycle for Power BI assets
- Use lineage view and endorse data assets
- Manage a Power BI semantic model using XMLA endpoint
- Exercise: Create reusable Power BI assets
- Module assessment
- Summary

Enforce Power BI model security

- Introduction
- Restrict access to Power BI model data
- Restrict access to Power BI model objects
- Apply good modeling practices
- Exercise: Enforce model security
- Module assessment
- Summary

Administer and govern Microsoft Fabric:

Administer a Microsoft Fabric environment

- Introduction
- Understand the Fabric Architecture
- Understand the Fabric administrator role
- Manage Fabric security
- Govern data in Fabric
- Module assessment
- Summary

Secure data access in Microsoft Fabric

- Introduction
- Understand the Fabric security model
- Configure workspace and item permissions
- Apply granular permissions
- Exercise: Secure data access in Microsoft Fabric
- Module assessment
- Summary

Secure a Microsoft Fabric data warehouse

- Introduction
- Explore dynamic data masking
- Implement row-level security
- Implement column-level security
- Configure SQL granular permissions using T-SQL
- Exercise: Secure a warehouse in Microsoft Fabric
- Module assessment
- Summary

Govern data in Microsoft Fabric with Purview

- Introduction
- Govern data in Microsoft Fabric
- Why use Microsoft Purview with Microsoft Fabric?
- Govern data in the Microsoft Purview hub
- Module assessment
- Summary

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