Training: Microsoft
DP-203T00 Data Engineering on Microsoft Azure

Gold Microsoft Partner

TRANING TERMS

2025-09-23 | 4 days | Kraków / Virtual Classroom
2025-10-28 | 4 days | Warszawa / Virtual Classroom

TRAINING GOALS:

In this course, the student will learn about the data engineering patterns and practices as it pertains to working with batch and real-time analytical solutions using Azure data platform technologies. Students will begin by understanding the core compute and storage technologies that are used to build an analytical solution. They will then explore how to design an analytical serving layers and focus on data engineering considerations for working with source files. The students will learn how to interactively explore data stored in files in a data lake. They will learn the various ingestion techniques that can be used to load data using the Apache Spark capability found in Azure Synapse Analytics or Azure Databricks, or how to ingest using Azure Data Factory or Azure Synapse pipelines. The students will also learn the various ways they can transform the data using the same technologies that is used to ingest data. The student will spend time on the course learning how to monitor and analyze the performance of analytical system so that they can optimize the performance of data loads, or queries that are issued against the systems. They will understand the importance of implementing security to ensure that the data is protected at rest or in transit. The student will then show how the data in an analytical system can be used to create dashboards, or build predictive models in Azure Synapse Analytics.

Audience profile:

- The primary audience for this course is data professionals, data architects, and business intelligence professionals who want to learn about data engineering and building analytical solutions using data platform technologies that exist on Microsoft Azure. The secondary audience for this course data analysts and data scientists who work with analytical solutions built on Microsoft Azure.

CONSPECT:

- Explore compute and storage options for data engineering workloads
  - Introduction to Azure Synapse Analytics
  - Describe Azure Databricks
  - Introduction to Azure Data Lake storage
  - Describe Delta Lake architecture

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- Work with data streams by using Azure Stream Analytics

- Design and implement the serving layer
  - Design a multidimensional schema to optimize analytical workloads
  - Code-free transformation at scale with Azure Data Factory
- Data engineering considerations for source files
  - Design a Modern Data Warehouse using Azure Synapse Analytics
  - Secure a data warehouse in Azure Synapse Analytics
- Run interactive queries using Azure Synapse Analytics serverless SQL pools
  - Explore Azure Synapse serverless SQL pools capabilities
  - Query data in the lake using Azure Synapse serverless SQL pools
  - Create metadata objects in Azure Synapse serverless SQL pools
  - Secure data and manage users in Azure Synapse serverless SQL pools
- Explore, transform, and load data into the Data Warehouse using Apache Spark
  - Understand big data engineering with Apache Spark in Azure Synapse Analytics
  - Ingest data with Apache Spark notebooks in Azure Synapse Analytics
  - Transform data with DataFrames in Apache Spark Pools in Azure Synapse Analytics
  - Integrate SQL and Apache Spark pools in Azure Synapse Analytics
- Data exploration and transformation in Azure Databricks
  - Describe Azure Databricks
  - Read and write data in Azure Databricks
  - Work with DataFrames in Azure Databricks
  - Work with DataFrames advanced methods in Azure Databricks
- Ingest and load data into the data warehouse
  - Use data loading best practices in Azure Synapse Analytics
  - Petabyte-scale ingestion with Azure Data Factory
- Transform data with Azure Data Factory or Azure Synapse Pipelines
  - Data integration with Azure Data Factory or Azure Synapse Pipelines
  - Code-free transformation at scale with Azure Data Factory or Azure Synapse Pipelines
- Orchestrate data movement and transformation in Azure Synapse Pipelines
  - Orchestrate data movement and transformation in Azure Data Factory
- Optimize query performance with dedicated SQL pools in Azure Synapse
  - Optimize data warehouse query performance in Azure Synapse Analytics
  - Understand data warehouse developer features of Azure Synapse Analytics
- Analyze and Optimize Data Warehouse Storage
  - Analyze and optimize data warehouse storage in Azure Synapse Analytics
- Support Hybrid Transactional Analytical Processing (HTAP) with Azure Synapse Link

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- Design hybrid transactional and analytical processing using Azure Synapse Analytics
- Configure Azure Synapse Link with Azure Cosmos DB
- Query Azure Cosmos DB with Apache Spark pools
- Query Azure Cosmos DB with serverless SQL pools

- End-to-end security with Azure Synapse Analytics
  - Secure a data warehouse in Azure Synapse Analytics
  - Configure and manage secrets in Azure Key Vault
  - Implement compliance controls for sensitive data
- Real-time Stream Processing with Stream Analytics
  - Enable reliable messaging for Big Data applications using Azure Event Hubs
  - Work with data streams by using Azure Stream Analytics
  - Ingest data streams with Azure Stream Analytics
- Create a Stream Processing Solution with Event Hubs and Azure Databricks
  - Process streaming data with Azure Databricks structured streaming
- Build reports using Power BI integration with Azure Synpase Analytics
  - Create reports with Power BI using its integration with Azure Synapse Analytics
- Perform Integrated Machine Learning Processes in Azure Synapse Analytics
  - Use the integrated machine learning process in Azure Synapse Analytics

REQUIREMENTS:

Successful students start this course with knowledge of cloud computing and core data concepts and professional experience with data solutions.

Specifically completing:

- AZ-900 - Azure Fundamentals
- DP-900 - Microsoft Azure Data Fundamentals

Difficulty level

CERTIFICATE:

Certificate of completing an authorized Microsoft training.

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TRAINER:

Microsoft Certified Trainer.

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