DP-203T00 Data Engineering on Microsoft Azure

Category: AI, Data & Analytics | **Vendor:** Microsoft Technical

Duration: 32.00 hours (4 days) **26.0 CPD Hours** **Rating:** ⭐ 4.6 (5,878 reviews)

Course Information

Delivery Format:	Instructor Led - Online
Certification:	Microsoft Certified: Azure Data Engineer Associate
Related Exam:	DP-203

Course Overview

In this course, the student will learn how to implement and manage data engineering workloads on Microsoft Azure, using Azure services such as Azure Synapse Analytics, Azure Data Lake Storage Gen2, Azure Stream Analytics, Azure Databricks, and others. The course focuses on common data engineering tasks such as orchestrating data transfer and transformation pipelines, working with data files in a data lake, creating and loading relational data warehouses, capturing and aggregating streams of real-time data, and tracking data assets and lineage.

About This Course

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Who Should Attend

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 includes data analysts and data scientists who work with analytical solutions built on Microsoft Azure.

Prerequisites & Entry Requirements

General Prerequisites:

- Understanding of cloud computing and core data concepts
- Experience working with data solutions
- Recommended: AZ-900T00 Microsoft Azure Fundamentals and/or DP-900T00 Microsoft Azure Data Fundamentals

Detailed Course Outline

1 - Introduction to data engineering on Azure

- What is data engineering
- Important data engineering concepts
- Data engineering in Microsoft Azure

2 - Introduction to Azure Data Lake Storage Gen2

- Understand Azure Data Lake Storage Gen2
- Enable Azure Data Lake Storage Gen2 in Azure Storage
- Compare Azure Data Lake Store to Azure Blob storage
- Understand the stages for processing big data
- Use Azure Data Lake Storage Gen2 in data analytics workloads

3 - Introduction to Azure Synapse Analytics

- What is Azure Synapse Analytics
- How Azure Synapse Analytics works
- When to use Azure Synapse Analytics

4 - Use Azure Synapse serverless SQL pool to query files in a data lake

- Understand Azure Synapse serverless SQL pool capabilities and use cases
- Query files using a serverless SQL pool
- Create external database objects

5 - Use Azure Synapse serverless SQL pools to transform data in a data lake

- Transform data files with the CREATE EXTERNAL TABLE AS SELECT statement
- Encapsulate data transformations in a stored procedure
- Include a data transformation stored procedure in a pipeline

6 - Create a lake database in Azure Synapse Analytics

- Understand lake database concepts
- Explore database templates
- Create a lake database
- Use a lake database

7 - Secure data and manage users in Azure Synapse serverless SQL pools

- Choose an authentication method in Azure Synapse serverless SQL pools
- Manage users in Azure Synapse serverless SQL pools
- Manage user permissions in Azure Synapse serverless SQL pools

8 - Analyze data with Apache Spark in Azure Synapse Analytics

- Get to know Apache Spark
- Use Spark in Azure Synapse Analytics
- Analyze data with Spark
- Visualize data with Spark

9 - Transform data with Spark in Azure Synapse Analytics

- Modify and save dataframes
- Partition data files
- Transform data with SQL

10 - Use Delta Lake in Azure Synapse Analytics

- Understand Delta Lake
- Create Delta Lake tables
- Create catalog tables
- Use Delta Lake with streaming data
- Use Delta Lake in a SQL pool

11 - Build a data pipeline in Azure Synapse Analytics

- Understand pipelines in Azure Synapse Analytics
- Create a pipeline in Azure Synapse Studio
- Define data flows
- Run a pipeline

12 - Use Spark Notebooks in an Azure Synapse Pipeline

- Understand Synapse Notebooks and Pipelines
- Use a Synapse notebook activity in a pipeline
- Use parameters in a notebook

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- What is Azure Synapse Analytics
- How Azure Synapse Analytics works
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15 - Analyze data with Apache Spark in Azure Synapse Analytics

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16 - Use Delta Lake in Azure Synapse Analytics

- Understand Delta Lake
- Create Delta Lake tables
- Create catalog tables
- Use Delta Lake with streaming data
- Use Delta Lake in a SQL pool

17 - Analyze data in a relational data warehouse

- Design a data warehouse schema
- Create data warehouse tables
- Load data warehouse tables
- Query a data warehouse

18 - Build a data pipeline in Azure Synapse Analytics

- Understand pipelines in Azure Synapse Analytics
- Create a pipeline in Azure Synapse Studio
- Define data flows
- Run a pipeline

19 - Analyze data in a relational data warehouse

- Design a data warehouse schema
- Create data warehouse tables
- Load data warehouse tables
- Query a data warehouse

20 - Load data into a relational data warehouse

- Load staging tables
- Load dimension tables
- Load time dimension tables
- Load slowly changing dimensions
- Load fact tables
- Perform post load optimization

21 - Manage and monitor data warehouse activities in Azure Synapse Analytics

- Scale compute resources in Azure Synapse Analytics
- Pause compute in Azure Synapse Analytics
- Manage workloads in Azure Synapse Analytics
- Use Azure Advisor to review recommendations
- Use dynamic management views to identify and troubleshoot query performance

22 - Secure a data warehouse in Azure Synapse Analytics

- Understand network security options for Azure Synapse Analytics
- Configure Conditional Access
- Configure authentication
- Manage authorization through column and row level security
- Manage sensitive data with Dynamic Data Masking
- Implement encryption in Azure Synapse Analytics

23 - Plan hybrid transactional and analytical processing using Azure Synapse Analytics

- Understand hybrid transactional and analytical processing patterns
- Describe Azure Synapse Link

24 - Implement Azure Synapse Link with Azure Cosmos DB

- Enable Cosmos DB account to use Azure Synapse Link
- Create an analytical store enabled container
- Create a linked service for Cosmos DB
- Query Cosmos DB data with Spark
- Query Cosmos DB with Synapse SQL

25 - Implement Azure Synapse Link for SQL

- What is Azure Synapse Link for SQL?
- Configure Azure Synapse Link for Azure SQL Database
- Configure Azure Synapse Link for SQL Server 2022

26 - Get started with Azure Stream Analytics

- Understand data streams
- Understand event processing
- Understand window functions

27 - Ingest streaming data using Azure Stream Analytics and Azure Synapse Analytics

- Stream ingestion scenarios
- Configure inputs and outputs
- Define a query to select, filter, and aggregate data
- Run a job to ingest data

28 - Visualize real-time data with Azure Stream Analytics and Power BI

- Use a Power BI output in Azure Stream Analytics
- Create a query for real-time visualization
- Create real-time data visualizations in Power BI

29 - Explore Azure Databricks

- Get started with Azure Databricks
- Identify Azure Databricks workloads
- Understand key concepts
- Data governance using Unity Catalog and Microsoft Purview

30 - Perform data analysis with Azure Databricks

- Ingest data with Azure Databricks
- Data exploration tools in Azure Databricks
- Data analysis using DataFrame APIs

31 - Use Apache Spark in Azure Databricks

- Get to know Spark
- Create a Spark cluster
- Use Spark in notebooks
- Use Spark to work with data files
- Visualize data

32 - Manage data with Delta Lake

- Get started with Delta Lake
- Manage ACID transactions
- Implement schema enforcement
- Data versioning and time travel in Delta Lake
- Data integrity with Delta Lake

33 - Build data pipelines with Delta Live Tables

- Explore Delta Live Tables
- Data ingestion and integration
- Real-time processing

34 - Deploy workloads with Azure Databricks Workflows

- What are Azure Databricks Workflows?
- Understand key components of Azure Databricks Workflows
- Explore the benefits of Azure Databricks Workflows
- Deploy workloads using Azure Databricks Workflows

□□ Certification Path

Microsoft Certified: Azure Data Engineer Associate

Exam: DP-203

Frequently Asked Questions

Q: What delivery options are available for DP-203T00 Data Engineering on Microsoft Azure?

We offer multiple delivery formats:

- Live Instructor-Led Classroom Online (Virtual/Live Online)
- Traditional Instructor-Led Classroom Training (ILT)
- On-site delivery at your offices anywhere in United Kingdom
- Private dedicated courses customized for your team

Q: What certification does this course prepare me for?

The DP-203T00 Data Engineering on Microsoft Azure course helps prepare you for the Microsoft Certified: Azure Data Engineer Associate certification path.

Q: Which exam does this course prepare me for?

This course prepares you for the DP-203 official exam. You can take this exam at any exam center across United Kingdom including London, Manchester, Birmingham, Edinburgh, or live online wherever you are located.

Q: How many CPD hours does this course provide?

The 4-day DP-203T00 Data Engineering on Microsoft Azure course provides up to 26.0 CPD hours of structured learning. CPD certificates can be provided upon request.

Q: What is the duration of the DP-203T00 Data Engineering on Microsoft Azure training?

The training takes place over 4 day(s), with each day lasting approximately 32.00 hours including breaks for lunch and refreshments.

Q: Do you provide corporate training for DP-203T00 Data Engineering on Microsoft Azure?

Yes, we provide corporate training, dedicated training, and closed classes for DP-203T00 Data Engineering on Microsoft Azure. Training can take place anywhere in United Kingdom including London, Manchester, Birmingham, Edinburgh, or live online allowing teams from across United Kingdom or internationally to attend.

Q: Why choose Nexus Human for DP-203T00 Data Engineering on Microsoft Azure?

Nexus Human is recognized as one of the leading training providers. Our trainers have won multiple awards including:

- Small Firms Best Trainer Award
- National Training Partner of the Year (Ireland) - Multiple Years
- Global Top 30 Instructor Awards (2012, 2019, 2021)
- Tech Excellence Award Nominations
- Learning Performance Institute (LPI) External Training Provider Sponsor 2024

Q: Are there any discount codes available?

Yes! Use discount code **PENPAL5** when booking your DP-203T00 Data Engineering on Microsoft Azure training. Please note that only one discount code can be used per booking and cannot be combined with other special offers.

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