



Data Engineering on Microsoft Azure (DP-203)

Course Duration: 5 Days

Exam Reference: Microsoft Certified: Data Engineering on Microsoft Azure - Exam DP-203

Course Overview

This course equips participants with the knowledge and skills to design and build secure, scalable, and efficient data processing solutions on Microsoft Azure. Students will learn how to integrate, transform, and consolidate data from various structured and unstructured sources into a format suitable for analytics. The course also covers implementing data storage, managing data pipelines, and optimizing data solutions for performance and cost.

Prerequisites

This course requires completion of one of the following:

- Basic understanding of cloud concepts and Azure services
- Experience with data processing languages such as SQL or Python
- Familiarity with core data concepts (relational and non-relational data)



Course Objectives

- Design and implement data storage solutions on Azure
- Build and manage data pipelines for batch and streaming data
- Integrate and transform data using Azure Data Factory and Synapse Analytics
- Implement security and compliance features for data solutions
- Monitor, troubleshoot, and optimize data processing systems
- Work effectively with Azure Databricks, Data Lake, and related services
- Identify design decisions to ensure security and recoverability (disaster recovery).

Contact Us



800.674.3550



2151 W. Hillsboro Blvd., Ste 210
Deerfield Beach, FL 33442

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Course Outline

Module 1: Introduction to Data Engineering on Azure

- Overview of Azure data services and architecture
- Roles and responsibilities of a Data Engineer
- Core principles of data engineering in the cloud

Module 2: Designing and Implementing Data Storage

- Choosing the right data storage option
- Implementing Azure Data Lake Storage Gen2
- Managing and securing data in Azure storage solutions

Module 3: Data Ingestion and Integration

- Designing data ingestion strategies
- Building pipelines with Azure Data Factory
- Working with event-based and streaming data ingestion

Module 4: Data Transformation and Processing

- Using Azure Synapse Analytics for ETL/ELT
- Data transformation using Azure Databricks
- Working with structured and unstructured data

Module 5: Designing and Developing Data Solutions

- Implementing batch and real-time data processing
- Managing data pipelines and orchestration
- Handling data partitioning and performance tuning

Module 6: Securing and Monitoring Data Solutions

- Applying data security and governance
- Implementing data masking and encryption
- Monitoring and troubleshooting data pipelines

Module 7: Performance Optimization and Cost Management

- Optimizing queries and storage performance
- Managing cost through data lifecycle policies
- Automating performance tuning and scaling



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Module 8: Preparing for the DP-203 Exam

- Review of key concepts and best practices
- Sample questions and hands-on exercises
- Exam tips and study strategies