Course Outline

Microsoft Azure Data Fundamentals

Course DP-900T00: 1 day Instructor Led

About this course

In this course, students will gain foundational knowledge of core data concepts and related Microsoft Azure data services. Students will learn about core data concepts such as relational, non-relational, big data, and analytics, and build their foundational knowledge of cloud data services within Microsoft Azure. Students will explore fundamental relational data concepts and relational database services in Azure. They will explore Azure storage for non-relational data and the fundamentals of Azure Cosmos DB. Students will learn about large-scale data warehousing, real-time analytics, and data visualization.

Audience profile

The audience for this course is individuals who want to learn the fundamentals of database concepts in a cloud environment, get basic skilling in cloud data services, and build their foundational knowledge of cloud data services within Microsoft Azure.

At course completion

After completing this course, students will be able to:

- Explore core data concepts
- Explore data roles and services
- Explore fundamental relational data concepts
- Explore relational database services in Azure
- Explore Azure Storage for non-relational data
- Explore fundamentals of Azure Cosmos DB
- Explore fundamentals of large-scale data warehousing
- Explore fundamentals of real-time analytics
- Explore fundamentals of data visualization

Course Outline

Module 1: Explore core data concepts

- Identify common data formats
- Describe options for storing data in files
- Describe options for storing data in databases
- Describe characteristics of transactional data processing solutions
- Describe characteristics of analytical data processing solutions

Module 2: Explore data roles and services

- Identify common data professional roles
- Identify common cloud services used by data professionals

Module 3: Explore fundamental relational data concepts

- Identify characteristics of relational data

- Define normalization
- Identify types of SQL statement
- Identify common relational database objects

Module 4: Explore relational database services in Azure

- Identify options for Azure SQL services
- Identify options for open-source databases in Azure
- Provision a database service on Azure

Module 5: Explore Azure Storage for non-relational data

- Describe features and capabilities of Azure blob storage
- Describe features and capabilities of Azure Data Lake Gen2
- Describe features and capabilities of Azure file storage
- Describe features and capabilities of Azure table storage
- Provision and use an Azure Storage account

Module 6: Explore fundamentals of Azure Cosmos DB

- Describe key features and capabilities of Azure Cosmos DB
- Identify the APIs supported in Azure Cosmos DB
- Provision and use an Azure Cosmos DB instance

Module 7: Explore fundamentals of large-scale data warehousing

- Identify common elements of a modern data warehousing solution
- Describe key features for data ingestion pipelines
- Identify common types of analytical data store and related Azure services
- Provision Azure Synapse Analytics and use it to ingest, process, and query data

Module 8: Explore fundamentals of real-time analytics

- Compare batch and stream processing
- Describe common elements of streaming data solutions
- Describe features and capabilities of Azure Stream Analytics
- Describe features and capabilities of Spark Structured Streaming on Azure
- Describe features and capabilities of Azure Synapse Data Explorer

Module 9: Explore fundamentals of data visualization

- Describe a high-level process for creating reporting solutions with Microsoft Power BI
- Describe core principles of analytical data modeling
- Identify common types of data visualization and their uses
- Create an interactive report with Power BI Desktop