Microsoft Azure Data Fundamentals: DP-900T00

Course Overview

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.

Prerequisites

Prerequisite certification is not required before taking this course. Successful Azure Data Fundamentals students start with some basic awareness of computing and Internet concepts, and an interest in extracting insights from data.
Specifically:

- Experience using a web browser, such as Microsoft Edge.
- Familiarity with basic data-related concepts, such as working with tablets of data in a spreadsheet and visualizing data using charts
- A willingness to learn through hands-on exploration.

Skills Gained

- Describe core data concepts
- Identify considerations for relational data on Azure
- Describe considerations for working with non-relational data on Azure
- Describe an analytics workload on Azure

Duration: 6hrs (2x 3hrs)

Course Outline

Module 1: Explore core data concepts

Students will learn about core data concepts such as common data formats, workloads, and roles, and build their foundational knowledge of cloud data services within Microsoft Azure.

Lessons

- Core data concepts
- Data roles and Services

After completing this module, students will be able to:

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

Module 2: Explore fundamentals of relational data in Azure

Students will explore fundamental relational data concepts and relational database services in Azure.

Lessons

- Explore relational data offerings in Azure
- Explore Azure services for relational data

Lab: Provision Azure relational database services

After completing this module, students will be able to:

- Identify characteristics of relational data
- Define normalization
- Identify types of SQL statement
- Identify common relational database objects
- Identify options for Azure SQL services
- Identify options for open-source databases in Azure
- Provision a database service on Azure

Module 3: Explore fundamentals of non-relational data in Azure

Students will explore Azure storage for non-relational data and the fundamentals of Azure Cosmos DB.

Lessons

- Fundamentals of Azure Storage
- Fundamentals of Azure Cosmos DB

Lab: Explore Azure Storage
Lab: Explore Azure Cosmos DB

After completing this module, students will be able to:

- 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
- 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 4: Explore fundamentals of data analytics

Students will learn about large-scale data warehousing, real-time analytics, and data visualization.

Lessons

- Large-scale data warehousing
- Streaming and real-time analytics
- Data visualization

Lab: Analyse streaming data
Lab: Visualize data with Power BI
Lab: Explore Azure Synapse Analytics

After completing this module, students will be able to:

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