

# Microsoft Azure Data Fundamentals (DP-900T00)

## COURSE OVERVIEW

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.

## WHO WILL BENEFIT FROM THIS COURSE?

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 tables of data in a spreadsheet and visualizing data using charts.
- A willingness to learn through hands-on exploration.

## COURSE OBJECTIVES

Students will learn 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 analytics
- 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 the characteristics of transactional data processing solutions
- Describe the 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 the features and capabilities of Azure Data Lake Gen2
- Describe the 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 analytics

- Identify common elements of a data analytics solution
- Describe key features for data ingestion pipelines
- Identify common types of analytical data stores and related Azure services
- Describe platform-as-a-service (PaaS) data analytics solutions in Azure
- Provision Azure Synapse Analytics and use it to ingest, process, and query data
- Describe features of Microsoft Fabric - a software-as-a-service (SaaS) solution for data analytics
- Use Microsoft Fabric to ingest and analyze data

### Module 8: Explore fundamentals of real-time analytics

- Compare batch and stream processing
- Describe common elements of streaming data solutions
- Describe the features and capabilities of Azure Stream Analytics

- Describe features and capabilities of Spark Structured Streaming on Azure
- Describe features and capabilities of real-time analytics in Microsoft Fabric

#### Module 9: Explore fundamentals of data visualization

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

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