

DP-900T00: Microsoft Azure Data Fundamentals

Course Code: DP-900T00

Duration: 1 day

Instructor-led Training (ILT) | Virtual Instructor-led Training (VILT)

OVERVIEW

In this **DP-900T00: Microsoft Azure Data Fundamentals** course, students will 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. Students will identify and describe core data concepts such as relational, non-relational, big data, and analytics, and explore how this technology is implemented with Microsoft Azure. They will explore the roles, tasks, and responsibilities in the world of data.

The students will explore relational data offerings, provisioning and deploying relational databases, and querying relational data through cloud data solutions with Microsoft Azure. They will explore non-relational data offerings, provisioning and deploying non-relational databases, and non-relational data stores with Microsoft Azure. Students will explore the processing options available for building data analytics solutions in Azure. They will explore Azure Synapse Analytics, Azure Databricks, and Azure HDInsight. Students will learn what Power BI is, including its building blocks and how they work together.

SKILLS COVERED

After completing this module, students will be able to:

- Describe core data concepts in Azure

- Explain concepts of relational data in Azure
- Explain concepts of non-relational data in Azure
- Identify components of a modern data warehouse in Azure

WHO SHOULD ATTEND?

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.

This course serves as a prerequisite for the associate-level tracks below:

- DP-100T01: Designing and Implementing a Data Science Solution on Azure
- DP-203T00: Data Engineering on Microsoft Azure

- DP-300T00: [Administering Relational Databases on Microsoft Azure](#)

MODULES

Module 1: Explore core data concepts

Data powers the digital transformation that is sweeping across organizations and society in general. But what is “data”, and how is it represented and used?

Learning objectives

In this module you will learn how 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

Prerequisites

None

Module 2: Explore data roles and services

Data professionals perform distinct roles in building and managing software solutions, and work with multiple technologies and services to do so.

Learning objectives

In this module you will learn how to:

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

Prerequisites

None

Module 3: Explore fundamental relational data concepts

Relational database systems are a common way to store and manage transactional and analytical data in organizations of any size around the world.

Learning objectives

In this module you will learn how to:

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

Prerequisites

None

Module 4: Explore relational database services in Azure

Microsoft Azure provides multiple services for relational databases. You can choose the relational database management system that’s best for your needs, and host relational data in the cloud.

Learning objectives

In this module, you’ll learn how to:

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

Prerequisites

Before starting this module, you should have a fundamental understanding of relational data

concepts and some familiarity with Microsoft Azure and the Azure portal.

Module 5: Explore Azure Storage for non-relational data

Azure Storage is a core service in Microsoft Azure that is commonly used to store non-relational data.

Learning objectives

In this module, you'll learn how 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

Prerequisites

Before starting this module, you should have some familiarity with Microsoft Azure concepts and the Azure portal.

Module 6: Explore fundamentals of Azure Cosmos DB

Azure Cosmos DB provides a highly scalable store for non-relational data.

Learning objectives

In this module, you'll learn how to:

- 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

Prerequisites

Before starting this module you should have some familiarity with Microsoft Azure concepts and the Azure portal.

Module 7: Explore fundamentals of large-scale data warehousing

Organizations use modern data warehousing to build large scale data analytics solutions that generate insights and drive success. Microsoft Azure includes multiple technologies that you can combine to build a modern data warehousing solution.

Learning objectives

In this module, you will learn how to:

- 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

Prerequisites

Before starting this module, you should have a conceptual understanding of data and databases, and be familiar with Microsoft Azure services for data workloads such as Azure Storage, Azure SQL Database, and Azure Cosmos DB.

Module 8: Explore fundamentals of real-time analytics

Learn about the basics of stream processing, and the services in Microsoft Azure that you can use to implement real-time analytics solutions.

Learning objectives

In this module, you'll learn how to:

- 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

Prerequisites

- None

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Prerequisites

Before starting this module, you should have some conceptual understanding of modern data warehousing and analytics, and you should be familiar with Azure services for data workloads, including Azure Storage, Azure SQL Database, and Azure Synapse Analytics.

Module 9: Explore fundamentals of data visualization

Learn the fundamental principles of analytical data modeling and data visualization, using Microsoft Power BI as a platform to explore these principles in action.

Learning objectives

After completing this module, you will be able to:

- 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