

Microsoft Azure Data Fundamentals

Module 1: Explore core data concepts

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.

Lessons

- Core data concepts
- Data roles and Services

After completing this module, students will be able to:

- Identify how data is defined and stored
- Identify characteristics of relational and non-relational data
- Describe and differentiate data workloads
- Describe and differentiate batch and streaming data
- 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



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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



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- 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 modern data warehousing, real-time analytics, and data visualization.

Lessons

- Modern data warehousing
- Streaming and real-time analytics
- Data visualization

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



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- 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 modeling
- Identify common types of data visualization and their uses
- Create an interactive report with Power BI Desktop



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