

PROFESSIONAL COURSE OUTLINE

Microsoft

DP-420

Azure Cosmos DB Developer Specialty

This course teaches developers how to create application using the NoSQL API and SDK for Azure Cosmos DB. Students will learn how to write efficient queries, create indexing policies, manage and provisioned resources, and perform common operations with the SDK.

Data

Intermediate

Azure

PROGRAM CODE

DP-420

DELIVERY

Virtual, On-site, or Hybrid

DURATION

4 days

CERTIFICATION

Microsoft Certified: Azure Cosmos DB Developer Specialty

AUDIENCE PROFILE

Who This Program Is For

Software engineers tasked with authoring cloud-native solutions that leverage Azure Cosmos DB for NoSQL and its various SDKs. They are familiar with C#, Python, Java, or JavaScript. They also have experience writing code that interacts with a SQL or NoSQL database platform.

PROGRAM SUMMARY

What This Course Covers

As a candidate for this certification, you should have subject matter expertise designing, implementing, and monitoring cloud-native applications that store and manage data.

TAILORED DELIVERY

Adapt the program around your team.

This outline can be adapted for virtual, on-site, or hybrid delivery, with emphasis adjusted for your team's platform priorities, role mix, and implementation goals.

Enterprise-ready delivery format

VNode ITeS can align labs, examples, delivery pace, and assessment checkpoints to the required audience profile while preserving the official program sequence where applicable.

COMPLETE MODULE SEQUENCE

Module Flow and Topic Coverage

The structure below presents the current delivery flow for this program, including the associated topics covered under each module.



Plan the next session

We can tune this outline around your delivery goals and team mix.

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MODULE 1

Get started with Azure Cosmos DB for NoSQL

Get started with Azure Cosmos DB for NoSQL

- Introduction to Azure Cosmos DB for NoSQL
- Try Azure Cosmos DB for NoSQL

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MODULE 2

Plan and implement Azure Cosmos DB for NoSQL

Plan and implement Azure Cosmos DB for NoSQL

- Plan Resource Requirements
- Configure Azure Cosmos DB for NoSQL
- Move data into and out of Azure Cosmos DB for NoSQL

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MODULE 3

Connect to Azure Cosmos DB for NoSQL with the SDK

Connect to Azure Cosmos DB for NoSQL with the SDK

- Use the Azure Cosmos DB for NoSQL SDK
- Configure the Azure Cosmos DB for NoSQL SDK

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MODULE 4

Access and manage data with the Azure Cosmos DB for NoSQL SDKs

Access and manage data with the Azure Cosmos DB for NoSQL SDKs

- Implement Azure Cosmos DB for NoSQL point operations
- Perform cross-document transactional operations with the Azure Cosmos DB for NoSQL
- Process bulk data in Azure Cosmos DB for NoSQL

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MODULE 5

Execute queries and build a Generative AI application with Azure Cosmos DB

Execute queries and build a Generative AI application with Azure Cosmos DB

- Query the Azure Cosmos DB for NoSQL
- Author complex queries with the Azure Cosmos DB for NoSQL
- Build Generative AI applications with Azure Cosmos DB

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MODULE 6

Define and implement an indexing strategy for Azure Cosmos DB for NoSQL

Define and implement an indexing strategy for Azure Cosmos DB for NoSQL

- Define indexes in Azure Cosmos DB for NoSQL
- Customize indexes in Azure Cosmos DB for NoSQL

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MODULE 7

Integrate Azure Cosmos DB for NoSQL with Azure services

Integrate Azure Cosmos DB for NoSQL with Azure services

- Consume an Azure Cosmos DB for NoSQL change feed using the SDK
- Handle events with Azure Functions and Azure Cosmos DB for NoSQL change feed
- Search Azure Cosmos DB for NoSQL data with Azure Cognitive Search

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MODULE 8

Implement a data modeling and partitioning strategy for Azure Cosmos DB for NoSQL

Implement a data modeling and partitioning strategy for Azure Cosmos DB for NoSQL

- Implement a non-relational data model
- Design a data partitioning strategy

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MODULE 9

Design and implement a replication strategy for Azure Cosmos DB for NoSQL

Design and implement a replication strategy for Azure Cosmos DB for NoSQL

- Configure replication and manage failovers in Azure Cosmos DB
- Use consistency models in Azure Cosmos DB for NoSQL
- Configure multi-region write in Azure Cosmos DB for NoSQL

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MODULE 10

Optimize query and operation performance in Azure Cosmos DB for NoSQL

Optimize query and operation performance in Azure Cosmos DB for NoSQL

- Customize an indexing policy in Azure Cosmos DB for NoSQL
- Measure index performance in Azure Cosmos DB for NoSQL
- Implement integrated cache in Azure Cosmos DB for NoSQL

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MODULE 11

Monitor and troubleshoot an Azure Cosmos DB for NoSQL solution

Monitor and troubleshoot an Azure Cosmos DB for NoSQL solution

- Measure performance in Azure Cosmos DB for NoSQL
- Monitor responses and events in Azure Cosmos DB for NoSQL
- Implement backup and restore for Azure Cosmos DB for NoSQL
- Implement security in Azure Cosmos DB for NoSQL

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MODULE 12

Manage an Azure Cosmos DB for NoSQL solution using DevOps practices

Manage an Azure Cosmos DB for NoSQL solution using DevOps practices

- Write management scripts for Azure Cosmos DB for NoSQL
- Create resource template for Azure Cosmos DB for NoSQL

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MODULE 13

Create server-side programming constructs in Azure Cosmos DB for NoSQL

Create server-side programming constructs in Azure Cosmos DB for NoSQL

- Build multi-item transactions with the Azure Cosmos DB for NoSQL
- Expand query and transaction functionality in Azure Cosmos DB for NoSQL

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