DESIGN AND IMPLEMENT CLOUD-NATIVE APPLICATIONS WITH MICROSOFT AZURE COSMOS DB (DP-420)

Course Code: 821496

Learn how to create application using the NoSQL API and SDK for Azure Cosmos DB.

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.

What You'll Learn

Students will learn to,

- Get started with Azure Cosmos DB for NoSQL
- Plan and implement Azure Cosmos DB for NoSQL
- Connect to Azure Cosmos DB for NoSQL with the SDK
- Access and manage data with the Azure Cosmos DB for NoSQL SDKs
- Execute queries in Azure Cosmos DB for NoSQL
- Define and implement an indexing strategy for Azure Cosmos DB for NoSQL
- Integrate Azure Cosmos DB for NoSQL with Azure services

- Implement a data modeling and partitioning strategy for Azure Cosmos DB for NoSQL
- Design and implement a replication strategy for Azure Cosmos DB for NoSQL
- Optimize query and operation performance in Azure Cosmos DB for NoSQL
- Monitor and troubleshoot an Azure Cosmos DB for NoSQL solution
- Manage an Azure Cosmos DB for NoSQL solution using DevOps practices
- Create server-side programming constructs in Azure Cosmos DB for NoSQL

Who Needs to Attend

Software engineers tasked with authoring cloud-native solutions that leverage Azure Cosmos DB SQL API 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.

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CLASSROOM LIVE	$2,595 USD	4 Day

Classroom Live Outline

Module 1: Get started with Azure Cosmos DB for NoSQL

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

Module 2: 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

Module 3: 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

Module 4: 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

Module 5: Execute queries in Azure Cosmos DB for NoSQL

- Query the Azure Cosmos DB for NoSQL
- Author complex queries with the Azure Cosmos DB for NoSQL

Module 6: 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

Module 7: 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

Module 8: Implement a data modeling and partitioning strategy for Azure Cosmos DB for NoSQL

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

Module 9: 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

Module 10: 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

Module 11: 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

Module 12: 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

Module 13: 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

Classroom Live Labs

- Lab : Exercise: Create an Azure Cosmos DB SQL API account
- Lab : Exercise: Configure throughput for Azure Cosmos DB SQL API with the Azure portal
- Lab : Exercise: Migrate existing data using Azure Data Factory
- Lab : Exercise: Configure the Azure Cosmos DB SQL API SDK for offline development
- Lab : Exercise: Connect to Azure Cosmos DB SQL API with the SDK
- Lab : Exercise: Create and update documents with the Azure Cosmos DB SQL API SDK
- Lab : Exercise: Batch multiple point operations together with the Azure

Cosmos DB SQL API SDK
- Lab : Exercise: Move multiple documents in bulk with the Azure Cosmos DB SQL API SDK
- Lab : Exercise: Paginate cross-product query results with the Azure Cosmos DB SQL API SDK
- Lab : Exercise: Execute a query with the Azure Cosmos DB SQL API SDK
- Lab : Exercise: Review the default index policy for an Azure Cosmos DB SQL API container with the portal
- Lab : Exercise: Configure an Azure Cosmos DB SQL API container's index policy with the portal
- Lab : Exercise: Archive Azure Cosmos DB SQL API data using Azure Functions
- Lab : Exercise: Process change feed events using the Azure Cosmos DB SQL API SDK
- Lab : Exercise: Archive data using Azure Functions and Azure Cosmos DB SQL API
- Lab : Exercise: Measure performance for customer entities
- Lab : Exercise: Advanced modeling patterns
- Lab : Exercise: Configure consistency models in the portal and the Azure Cosmos DB SQL API SDK
- Lab : Exercise: Connect to different regions with the Azure Cosmos DB SQL API SDK
- Lab : Exercise: Connect to a multi-region write account with the Azure Cosmos DB SQL API SDK
- Lab : Exercise: Optimize an Azure Cosmos DB SQL API container's index policy for common operations
- Lab : Exercise: Optimize an Azure Cosmos DB SQL API container's index policy for a specific query
- Lab : Exercise: Troubleshoot an application using the Azure Cosmos DB SQL API SDK
- Lab : Exercise: Use Azure Monitor to analyze an Azure Cosmos DB SQL API account
- Lab : Exercise: Recover a database or container from a recovery point
- Lab : Exercise: Store Azure Cosmos DB SQL API account keys in Azure Key Vault
- Lab : Exercise: Adjust provisioned throughput using an Azure CLI script
- Lab : Exercise: Create an Azure Cosmos DB SQL API container using Azure Resource Manager templates
- Lab : Exercise: Implement and then use a UDF using the SDK
- Lab : Exercise: Create a stored procedure with the Azure Portal

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