

Design and implement cloud-native applications with Microsoft Azure Cosmos DB

Courses Code: DP-420T00

Duration: 4 Days

Delivery Mode: Instructor-led Training (ILT) | Virtual Instructor led Training (VILT)

Overview

This course teaches developers how to create application using the SQL 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.

Skills Covered

- Evaluate whether Azure Cosmos DB for NoSQL is the right database for your application.
- Describe how the features of the Azure Cosmos DB for NoSQL are appropriate for modern applications.

Who Should 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.

Prerequisites

- Experience developing applications using C#, Python, JavaScript, or Java.
- Familiarity with working with SQL or NoSQL databases.
- Basic understanding of Microsoft Azure fundamentals recommended.

Course Modules

1. Get started with Azure Cosmos DB for NoSQL

Learn about the Azure Cosmos DB for NoSQL and how to get started with your first account, database, and container.

2. Plan and implement Azure Cosmos DB for NoSQL

Plan for configuration options and provisioning choices with a new Azure Cosmos DB for NoSQL account.

3. Connect to Azure Cosmos DB for NoSQL with the SDK

Use the Microsoft.Azure.Cosmos library from NuGet to connect to an Azure Cosmos DB for NoSQL account from a .NET application.



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

Use the .NET SDK for Azure Cosmos DB for NoSQL to perform common operations on databases, containers, and items.

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

Create SQL queries for Azure Cosmos DB for NoSQL using the Data Explorer and SDKs for .NET, Python, and Node.js. Apply these skills to retrieve and process data efficiently, then use them to build a Generative AI application that makes the most of Cosmos DB's capabilities.

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

Create custom indexing policies for Azure Cosmos DB for NoSQL containers.

7. Integrate Azure Cosmos DB for NoSQL with Azure services

Integrate Azure Cosmos DB for NoSQL with Azure Cognitive Search, Azure Functions, and your own solutions.

8. Implement a data modelling and partitioning strategy for Azure Cosmos DB for NoSQL

In this learning path, you'll learn how Azure Cosmos DB uses partitioning to scale containers and how spending some time thinking about your data model helps to meet the performance needs of your applications.

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

Plan and implement techniques to replicate data across the globe in Azure Cosmos DB for NoSQL.

10. Optimize query and operation performance in Azure Cosmos DB for NoSQL

Optimize the performance of your queries and operations using Azure Cosmos DB for NoSQL.

11. Monitor and troubleshoot an Azure Cosmos DB for NoSQL solution

Review the common Cosmos DB administrative tasks of monitor, performance metrics, backup and security used in Azure.

12. Manage an Azure Cosmos DB for NoSQL solution using DevOps practices

Use the command line and Azure Resource Manager to automate common management tasks for Azure Cosmos DB for NoSQL.

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

Use JavaScript to author server-side stored procedures, user-defined functions, and triggers.

Ref: <https://trainocate.com/courses/microsoft/dp-420t00-designing-and-implementing-cloud-native-applications-using-microsoft-azure-cosmos-db-training>

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