DP-420T00: Designing and Implementing Cloud-Native Applications Using Microsoft Azure Cosmos DB

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.

Objectives

- Create and configure Azure Cosmos DB SQL API account, database, and container
- Use the .NET SDK to manage resources and perform operations
- Perform queries of varying complexity
- Design a data modeling and partitioning strategy
- Optimize queries and indexes based on characteristics of an application
- Use the Azure Resource Manager to manage accounts and resources with CLI or JSON and Bicep templates

Prerequisites

Before attending this course, students must have:

- Knowledge of Microsoft Azure and ability to navigate the Azure portal (AZ-900 equivalent)
- Experience writing in an Azure-supported language at the intermediate level. (C#, JavaScript, Python, or Java)
- Ability to write code to connect and perform operations on a SQL or NoSQL database product. (SQL Server, Oracle, MongoDB, Cassandra or similar)

METHOD+

Intended Audience

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.

Topics

- Getting started with Azure Cosmos DB SQL API
- Plan and implement Azure Cosmos DB SQL API
- Connect to Azure Cosmos DB SQL API with the SDK
- Access and manage data with Azure Cosmos DB SQL API SDKs
- Execute queries in Azure Cosmos DB SQL API
- Define and implement an indexing strategy for Azure Cosmos DB SQL API
- Integrate Azure Cosmos DB SQL API with Azure services
- Implement a data modeling and partitioning strategy for Azure Cosmos DB SQL API
- Design and implement a replication strategy for Azure Cosmos DB SQL API
- Optimize query performance in Azure Cosmos DB SQL API
- Administrating and Monitoring tasks for an Azure Cosmos DB SQL API solution
- Manage an Azure Cosmos DB SQL API solution using DevOps Practices
- Create server-side programming constructs in Azure Cosmos DB SQL API