



Getting Started with Cosmos DB NoSQL Development (DP-3015)

COURSE OVERVIEW

This course teaches developers to utilize Azure Cosmos DB for NoSQL API and SDK. Students will learn query execution, resource configuration, SDK operations, and design strategies for non-relational data modeling and data partitioning.

WHO WILL BENEFIT FROM THIS COURSE?

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

PREREQUISITES

SQL & Database

COURSE OBJECTIVES

- Introduction to Azure Cosmos DB for NoSQL
- Try Azure Cosmos DB for NoSQL
- Plan Resource Requirements
- Configure Azure Cosmos DB for NoSQL database and containers
- Use the Azure Cosmos DB for NoSQL SDK
- Configure the Azure Cosmos DB for NoSQL SDK
- Author complex queries with the Azure Cosmos DB for NoSQL
- Query the Azure Cosmos DB for NoSQL
- Implement Azure Cosmos DB for NoSQL point operations
- Implement a non-relational data model

COURSE OUTLINE

Module 1: Introduction to Azure Cosmos DB for NoSQL

- 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.

Module 2: Try Azure Cosmos DB for NoSQL

- Create a new Azure Cosmos DB for NoSQL account
- Create database, container, and item resources for an Azure Cosmos DB for NoSQL account

Module 3: Plan Resource Requirements

• Evaluate various requirements of your application



Module 4: Configure Azure Cosmos DB for NoSQL database and containers

- Compare the various service and throughput offerings for Azure Cosmos DB
- Migrate between standard and autoscale throughput

Module 5: Use the Azure Cosmos DB for NoSQL SDK

- Integrate the Microsoft.Azure.Cosmos SDK library from NuGet
- Connect to an Azure Cosmos DB for NoSQL account using the SDK and .NET

Module 6: Configure the Azure Cosmos DB for NoSQL SDK

- Configure the SDK for offline development
- Troubleshoot common connection errors
- Implement parallelism in the SDK
- Configure logging using the SDK

Module 7: Implement Azure Cosmos DB for NoSQL point operations

- Perform CRUD operations using the SDK
- Configure TTL for a specific item

Module 8: Query the Azure Cosmos DB for NoSQL

- Create and execute a SQL query
- Project query results
- Use built-in functions in a query

Module 9: Author complex queries with the Azure Cosmos DB for NoSQL

- Implement a correlated subquery
- Create a cross-product query

Module 10: Implement a non-relational data model

- Determine access patterns for data.
- Apply data model and partitioning strategies to support an efficient and scalable NoSQL database.

Module 11: Design a data partitioning strategy

- Manage relationships between data entities by using advanced modeling and partitioning strategies.
- Maintain the referential integrity of your data by using change feed.
- Implement pre-aggregating and denormalizing data strategies to improve data-model performance and scaling.
- Optimizing storage and compute by mixing entity types in a single container

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