Training: Microsoft

DP-3015: Get started with Azure Cosmos DB NoSQL development

Microsoft Partner

TRAINING GOALS:

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.

Audience Profile:
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 and have experience writing code that interacts with a SQL or NoSQL database platform.

CONSPECT:

- Get started with Azure Cosmos DB for NoSQL
  - Module 1: Introduction to Azure Cosmos DB for NoSQL
  - Module 2: Try Azure Cosmos DB for NoSQL
- Plan and implement Azure Cosmos DB for NoSQL
  - Module 1: Plan Resource Requirements
  - Module 2: Configure Azure Cosmos DB for NoSQL
  - Module 3: Move data into and out of Azure Cosmos DB for NoSQL
- Connect to Azure Cosmos DB for NoSQL with the SDK
  - Module 1: Use the Azure Cosmos DB for NoSQL SDK
  - Module 2: Configure the Azure Cosmos DB for NoSQL SDK
- Access and manage data with the Azure Cosmos DB for NoSQL SDKs
  - Module 1: Implement Azure Cosmos DB for NoSQL point operations
  - Module 2: Perform cross-document transactional operations with the Azure Cosmos DB for NoSQL
  - Module 3: Process bulk data in Azure Cosmos DB for NoSQL
- Execute queries and build a Generative AI application with Azure Cosmos DB
  - Module 1: Query the Azure Cosmos DB for NoSQL
  - Module 2: Author complex queries with the Azure Cosmos DB for NoSQL

Compendium Centrum Edukacyjne Spółka z o.o.
ul. Tatarska 5, 30-103 Kraków, tel.: (12) 298 47 77
ul. Postępu 18B, 02-676 Warszawa, tel.: (22) 417 41 70
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- Module 3: Build a Generative AI application with Azure Cosmos DB for NoSQL
- Define and implement an indexing strategy for Azure Cosmos DB for NoSQL
  - Module 1: Define indexes in Azure Cosmos DB for NoSQL
  - Module 2: Customize indexes in Azure Cosmos DB for NoSQL
- Integrate Azure Cosmos DB for NoSQL with Azure services
  - Module 1: Consume an Azure Cosmos DB for NoSQL change feed using the SDK
  - Module 2: Handle events with Azure Functions and Azure Cosmos DB for NoSQL change feed
  - Module 3: Search Azure Cosmos DB for NoSQL data with Azure Cognitive Search
- Implement a data modeling and partitioning strategy for Azure Cosmos DB for NoSQL
  - Module 1: Implement a non-relational data model
  - Module 2: Design a data partitioning strategy
- Design and implement a replication strategy for Azure Cosmos DB for NoSQL
  - Module 1: Configure replication and manage failovers in Azure Cosmos DB
  - Module 2: Use consistency models in Azure Cosmos DB for NoSQL
  - Module 3: Configure multi-region write
- Optimize query and operation performance in Azure Cosmos DB for NoSQL
  - Module 1: Customize an indexing policy in Azure Cosmos DB for NoSQL
  - Module 2: Measure index performance in Azure Cosmos DB for NoSQL
  - Module 3: Implement integrated cache in Azure Cosmos DB for NoSQL
- Monitor and troubleshoot an Azure Cosmos DB for NoSQL solution
  - Module 1: Measure performance in Azure Cosmos DB for NoSQL
  - Module 2: Monitor responses and events in Azure Cosmos DB for NoSQL
  - Module 3: Implement backup and restore for Azure Cosmos DB for NoSQL
  - Module 4: Implement security in Azure Cosmos DB for NoSQL
- Manage an Azure Cosmos DB for NoSQL solution using DevOps practices
  - Module 1: Write management scripts for Azure Cosmos DB for NoSQL
  - Module 2: Create resource template for Azure Cosmos DB for NoSQL
- Create server-side programming constructs in Azure Cosmos DB for NoSQL
  - Module 1: Build multi-item transactions with the Azure Cosmos DB for NoSQL
  - Module 2: Expand query and transaction functionality in Azure Cosmos DB for NoSQL

REQUIREMENTS:

Familiarity with Azure and the Azure portal. Experience programming with C#.

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Difficulty level

CERTIFICATE:

The participants will obtain certificates signed by Microsoft (course completion).

TRAINER:

Microsoft Certified Trainer (MCT)

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