Training: Microsoft

DP-420T00: Build AI applications with Azure Cosmos DB

Microsoft Partner

TRAINING GOALS:

This course teaches developers how to create application using the NoSQL API and SDK for Azure Cosmos DB. Students will learn how to design, build, and optimize high-performance, scalable AI applications with Azure Cosmos DB.

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#, Python, Java, or JavaScript. They also have experience writing code that interacts with a SQL or NoSQL database platform.

CONSPECT:

- Design and develop Azure Cosmos DB database solutions
  - Module 1: Explore Azure Cosmos DB for NoSQL
  - Module 2: Configure resources, throughput, and consistency
  - Module 3: Connect to Azure Cosmos DB with the SDK
  - Module 4: Implement Azure Cosmos DB operations with the SDK
  - Module 5: Query data in Azure Cosmos DB for NoSQL
  - Module 6: Design a data modeling and partitioning strategy
  - Module 7: Process the Azure Cosmos DB for NoSQL change feed
  - Module 8: Implement AI-assisted development tools for Azure Cosmos DB
- Secure, optimize, and deploy Azure Cosmos DB solutions
  - Module 1: Secure an Azure Cosmos DB solution
  - Module 2: Configure backup and restore in Azure Cosmos DB
  - Module 3: Design multi-region availability and failover in Azure Cosmos DB
  - Module 4: Design and optimize an indexing strategy in Azure Cosmos DB
  - Module 5: Analyze and tune query and operation performance in Azure Cosmos DB
  - Module 6: Monitor and troubleshoot Azure Cosmos DB
  - Module 7: Manage Azure Cosmos DB at scale with fleets

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- Implement AI and analytics capabilities in Azure Cosmos DB
  - Module 1: Implement full-text and vector search in Azure Cosmos DB for NoSQL
  - Module 2: Implement hybrid search and optimize AI retrieval in Azure Cosmos DB for NoSQL
  - Module 3: Build RAG applications with Azure Cosmos DB for NoSQL
  - Module 4: Design and implement agent memory stores in Azure Cosmos DB
  - Module 5: Implement operational analytics with Microsoft Fabric

REQUIREMENTS:

- Completion of the Design and develop Azure Cosmos DB database solutions learning path, or equivalent experience building applications on Azure Cosmos DB for NoSQL
- Familiarity with vector embeddings and calling an embedding API such as Azure OpenAI
- Programming experience with Python, which is the primary language throughout this path
- Basic familiarity with Microsoft Fabric workspaces and SQL

Difficulty level



CERTIFICATE:

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

TRAINER:

Microsoft Certified Trainer (MCT)

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