

Design and implement cloud-native applications with Microsoft Azure Cosmos DB (DP-420)

Durée: 4 Jours Réf de cours: M-DP420

Résumé:

Learn how to create application using the NoSQL API and SDK for Azure Cosmos DB. This course teaches developers how to create application using the NoSQL 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.

Public visé:

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.

Objectifs pédagogiques:

- Students will learn to,
- Get started with Azure Cosmos DB for NoSQL
- Plan and implement Azure Cosmos DB for NoSQL
- Connect to Azure Cosmos DB for NoSQL with the SDK
- Access and manage data with the Azure Cosmos DB for NoSQL SDKs
- Execute queries in Azure Cosmos DB for NoSQL
- Define and implement an indexing strategy for Azure Cosmos DB for NoSQL
- Integrate Azure Cosmos DB for NoSQL with Azure services
- Implement a data modeling and partitioning strategy for Azure Cosmos DB for NoSQL
- Design and implement a replication strategy for Azure Cosmos DB for NoSQL
- Optimize query and operation performance in Azure Cosmos DB for NoSQL
- Monitor and troubleshoot an Azure Cosmos DB for NoSQL solution
- Manage an Azure Cosmos DB for NoSQL solution using DevOps practices
- Create server-side programming constructs in Azure Cosmos DB for NoSQL

Pré-requis:

- M-AZ900 - Introduction to Cloud Infrastructure (AZ-900)

Test et certification

- [Microsoft Certified: Azure Cosmos DB Developer Specialty](#)

Contenu:

Module 1: Get started with Azure Cosmos DB for NoSQL

- Introduction to Azure Cosmos DB for NoSQL
- Try Azure Cosmos DB for NoSQL

Module 2: Plan and implement Azure Cosmos DB for NoSQL

- Plan Resource Requirements
- Configure Azure Cosmos DB for NoSQL
- Move data into and out of Azure Cosmos DB for NoSQL

Module 3: Connect to Azure Cosmos DB for NoSQL with the SDK

- Use the Azure Cosmos DB for NoSQL SDK
- Configure the Azure Cosmos DB for NoSQL SDK

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

- Implement Azure Cosmos DB for NoSQL point operations
- Perform cross-document transactional operations with the Azure Cosmos DB for NoSQL
- Process bulk data in Azure Cosmos DB for NoSQL

Module 5: Execute queries in Azure Cosmos DB for NoSQL

- Query the Azure Cosmos DB for NoSQL
- Author complex queries with the Azure Cosmos DB for NoSQL

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

- Define indexes in Azure Cosmos DB for NoSQL
- Customize indexes in Azure Cosmos DB for NoSQL

Module 7: Integrate Azure Cosmos DB for NoSQL with Azure services

- Consume an Azure Cosmos DB for NoSQL change feed using the SDK
- Handle events with Azure Functions and Azure Cosmos DB for NoSQL change feed
- Search Azure Cosmos DB for NoSQL data with Azure Cognitive Search

Module 8: Implement a data modeling and partitioning strategy for Azure Cosmos DB for NoSQL

- Implement a non-relational data model
- Design a data partitioning strategy

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

- Configure replication and manage failovers in Azure Cosmos DB
- Use consistency models in Azure Cosmos DB for NoSQL
- Configure multi-region write in Azure Cosmos DB for NoSQL

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

- Customize an indexing policy in Azure Cosmos DB for NoSQL
- Measure index performance in Azure Cosmos DB for NoSQL
- Implement integrated cache in Azure Cosmos DB for NoSQL

Module 11: Monitor and troubleshoot an Azure Cosmos DB for NoSQL solution

- Measure performance in Azure Cosmos DB for NoSQL
- Monitor responses and events in Azure Cosmos DB for NoSQL
- Implement backup and restore for Azure Cosmos DB for NoSQL
- Implement security in Azure Cosmos DB for NoSQL

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

- Write management scripts for Azure Cosmos DB for NoSQL
- Create resource template for Azure Cosmos DB for NoSQL

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

- Build multi-item transactions with the Azure Cosmos DB for NoSQL
- Expand query and transaction functionality in Azure Cosmos DB for NoSQL

Autres moyens pédagogiques et de suivi:

- Compétence du formateur : Les experts qui animent la formation sont des spécialistes des matières abordées et ont au minimum cinq ans d'expérience d'animation. Nos équipes ont validé à la fois leurs connaissances techniques (certifications le cas échéant) ainsi que leur compétence pédagogique.
- Suivi d'exécution : Une feuille d'émargement par demi-journée de présence est signée par tous les participants et le formateur.
- En fin de formation, le participant est invité à s'auto-évaluer sur l'atteinte des objectifs énoncés, et à répondre à un questionnaire de satisfaction qui sera ensuite étudié par nos équipes pédagogiques en vue de maintenir et d'améliorer la qualité de nos prestations.

Délais d'inscription :

- Vous pouvez vous inscrire sur l'une de nos sessions planifiées en inter-entreprises jusqu'à 5 jours ouvrés avant le début de la formation sous réserve de disponibilité de places et de labs le cas échéant.
- Votre place sera confirmée à la réception d'un devis ou "booking form" signé. Vous recevrez ensuite la convocation et les modalités d'accès en présentiel ou distanciel.
- Attention, si cette formation est éligible au Compte Personnel de Formation, vous devrez respecter un délai minimum et non négociable fixé à 11 jours ouvrés avant le début de la session pour vous inscrire via moncompteformation.gouv.fr.

Accueil des bénéficiaires :