

# Microsoft

## Exam Questions DP-420

Designing and Implementing Cloud-Native Applications Using Microsoft Azure Cosmos DB



### NEW QUESTION 1

- (Exam Topic 2)

You have a container named container1 in an Azure Cosmos DB Core (SQL) API account. The container1 container has 120 GB of data. The following is a sample of a document in container1.

The orderId property is used as the partition key.

For each of the following statements, select Yes if the statement is true. Otherwise, select No. NOTE: Each correct selection is worth one point.

- A. Mastered
- B. Not Mastered

**Answer:** A

#### **Explanation:**

Box 1: Yes

Records with different OrderIDs will match.

Box 2: Yes

Records with different OrderIDs will match.

Box 3: No

Only records with one specific OrderId will match

### NEW QUESTION 2

- (Exam Topic 2)

You have an Azure Cosmos DB Core (SQL) API account named account1.

In account1, you run the following query in a container that contains 100GB of data. SELECT \*

FROM c

WHERE LOWER(c.categoryid) = "hockey"

You view the following metrics while performing the query.

For each of the following statements, select Yes if the statement is true. Otherwise, select No. NOTE: Each correct selection is worth one point.

- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

Box 1: No

Each physical partition should have its own index, but since no index is used, the query is not cross-partition.

Box 2: No

Index utilization is 0% and Index Look up time is also zero.

Box 3: Yes

A partition key index will be created, and the query will perform across the partitions. Reference: <https://docs.microsoft.com/en-us/azure/cosmos-db/sql/how-to-query-container>

**NEW QUESTION 3**

- (Exam Topic 2)

You have an Azure Cosmos DB Core (SQL) API account.

You run the following query against a container in the account. SELECT

IS\_NUMBER("1234") AS A, IS\_NUMBER(1234) AS B, IS\_NUMBER({prop: 1234}) AS C

What is the output of the query?

- A. [{"A": false, "B": true, "C": false}]
- B. [{"A": true, "B": false, "C": true}]
- C. [{"A": true, "B": true, "C": false}]
- D. [{"A": true, "B": true, "C": true}]

**Answer:** A

**Explanation:**

IS\_NUMBER returns a Boolean value indicating if the type of the specified expression is a number. "1234" is a string, not a number.

Reference: <https://docs.microsoft.com/en-us/azure/cosmos-db/sql/sql-query-is-number>

**NEW QUESTION 4**

- (Exam Topic 2)

You have an Azure Cosmos DB Core (SQL) API account that is configured for multi-region writes. The account contains a database that has two containers named container1 and container2.

The following is a sample of a document in container1:

```
{
  "customerId": 1234, "firstName": "John",
  "lastName": "Smith", "policyYear": 2021
}
```

The following is a sample of a document in container2:

```
{
  "gpsId": 1234,
  "latitude": 38.8951,
  "longitude": -77.0364
}
```

You need to configure conflict resolution to meet the following requirements:

For container1 you must resolve conflicts by using the highest value for policyYear.

For container2 you must resolve conflicts by accepting the distance closest to latitude: 40.730610 and longitude: -73.935242.

Administrative effort must be minimized to implement the solution.

What should you configure for each container? To answer, drag the appropriate configurations to the correct containers. Each configuration may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.

NOTE: Each correct selection is worth one point.

- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

Box 1: Last Write Wins (LWW) (default) mode

Last Write Wins (LWW): This resolution policy, by default, uses a system-defined timestamp property. It's based on the time-synchronization clock protocol.

Box 2: Merge Procedures (custom) mode

Custom: This resolution policy is designed for application-defined semantics for reconciliation of conflicts. When you set this policy on your Azure Cosmos container, you also need to register a merge stored procedure. This procedure is automatically invoked when conflicts are detected under a database transaction on the server. The system provides exactly once guarantee for the execution of a merge procedure as part of the commitment protocol.

Reference:

<https://docs.microsoft.com/en-us/azure/cosmos-db/conflict-resolution-policies> <https://docs.microsoft.com/en-us/azure/cosmos-db/sql/how-to-manage-conflicts>

**NEW QUESTION 5**

- (Exam Topic 2)

You have three containers in an Azure Cosmos DB Core (SQL) API account as shown in the following table.

You have the following Azure functions:

A function named Fn1 that reads the change feed of cn1 A function named Fn2 that reads the change feed of cn2 A function named Fn3 that reads the change feed of cn3

You perform the following actions: Delete an item named item1 from cn1. Update an item named item2 in cn2.

For an item named item3 in cn3, update the item time to live to 3,600 seconds.

For each of the following statements, select Yes if the statement is true. Otherwise, select No. NOTE: Each correct selection is worth one point.

- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

Box 1: No

Azure Cosmos DB's change feed is a great choice as a central data store in event sourcing architectures where all data ingestion is modeled as writes (no updates or deletes).

Note: The change feed does not capture deletes. If you delete an item from your container, it is also removed from the change feed. The most common method of handling this is adding a soft marker on the items that are being deleted. You can add a property called "deleted" and set it to "true" at the time of deletion. This document update will show up in the change feed. You can set a TTL on this item so that it can be automatically deleted later.

Box 2: No

The \_etag format is internal and you should not take dependency on it, because it can change anytime.

Box 3: Yes

Change feed support in Azure Cosmos DB works by listening to an Azure Cosmos container for any changes. Reference:

<https://docs.microsoft.com/en-us/azure/cosmos-db/sql/change-feed-design-patterns> <https://docs.microsoft.com/en-us/azure/cosmos-db/change-feed>

**NEW QUESTION 6**

- (Exam Topic 2)

Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.

After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You have an Azure Cosmos DB Core (SQL) API account named account 1 that uses autoscale throughput. You need to run an Azure function when the normalized request units per second for a container in account1 exceeds a specific value.

Solution: You configure an application to use the change feed processor to read the change feed and you configure the application to trigger the function.

Does this meet the goal?

- A. Yes
- B. No

**Answer:** B

**Explanation:**

Instead configure an Azure Monitor alert to trigger the function.

You can set up alerts from the Azure Cosmos DB pane or the Azure Monitor service in the Azure portal. Reference: <https://docs.microsoft.com/en-us/azure/cosmos-db/create-alerts>

**NEW QUESTION 7**

- (Exam Topic 2)

You have the indexing policy shown in the following exhibit.

Use the drop-down menus to select the answer choice that answers each question based on the information presented in the graphic.

NOTE: Each correct selection is worth one point.

- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

Box 1: ORDER BY c.name DESC, c.age DESC

Queries that have an ORDER BY clause with two or more properties require a composite index.

The following considerations are used when using composite indexes for queries with an ORDER BY clause with two or more properties:

If the composite index paths do not match the sequence of the properties in the ORDER BY clause, then the composite index can't support the query.

The order of composite index paths (ascending or descending) should also match the order in the ORDER BY clause.

The composite index also supports an ORDER BY clause with the opposite order on all paths. Box 2: At the same time as the item creation

Azure Cosmos DB supports two indexing modes:

Consistent: The index is updated synchronously as you create, update or delete items. This means that the consistency of your read queries will be the consistency configured for the account.

None: Indexing is disabled on the container.

Reference: <https://docs.microsoft.com/en-us/azure/cosmos-db/index-policy>

**NEW QUESTION 8**

- (Exam Topic 2)

You have an Azure Cosmos DB Core (SQL) API account named account1 that has the disableKeyBasedMetadataWriteAccess property enabled.

You are developing an app named App1 that will be used by a user named DevUser1 to create containers in account1. DevUser1 has a non-privileged user account in the Azure Active Directory (Azure AD) tenant.

You need to ensure that DevUser1 can use App1 to create containers in account1. What should you do? To answer, select the appropriate options in the answer area. NOTE: Each correct selection is worth one point.

- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

Box 1: Resource tokens

Resource tokens provide access to the application resources within a database. Resource tokens:

Provide access to specific containers, partition keys, documents, attachments, stored procedures, triggers, and UDFs.

Box 2: Azure Resource Manager API

You can use Azure Resource Manager to help deploy and manage your Azure Cosmos DB accounts, databases, and containers.

Reference:

<https://docs.microsoft.com/en-us/azure/cosmos-db/secure-access-to-data> <https://docs.microsoft.com/en-us/rest/api/resources/>

**NEW QUESTION 9**

- (Exam Topic 2)

You have an app that stores data in an Azure Cosmos DB Core (SQL) API account. The app performs queries that return large result sets.

You need to return a complete result set to the app by using pagination. Each page of results must return 80 items.

Which three actions should you perform in sequence? To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.

- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

Step 1: Configure the MaxItemCount in QueryRequestOptions

You can specify the maximum number of items returned by a query by setting the MaxItemCount. The MaxItemCount is specified per request and tells the query engine to return that number of items or fewer.

Box 2: Run the query and provide a continuation token

In the .NET SDK and Java SDK you can optionally use continuation tokens as a bookmark for your query's progress. Azure Cosmos DB query executions are stateless at the server side and can be resumed at any time using the continuation token.

If the query returns a continuation token, then there are additional query results.

Step 3: Append the results to a variable

Reference: <https://docs.microsoft.com/en-us/azure/cosmos-db/sql/sql-query-pagination>

**NEW QUESTION 10**

- (Exam Topic 2)

You plan to create an Azure Cosmos DB Core (SQL) API account that will use customer-managed keys stored in Azure Key Vault.

You need to configure an access policy in Key Vault to allow Azure Cosmos DB access to the keys. Which three permissions should you enable in the access policy? Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point.

- A. Wrap Key
- B. Get
- C. List
- D. Update
- E. Sign
- F. Verify
- G. Unwrap Key

**Answer:** ABG

**Explanation:**

Reference: <https://docs.microsoft.com/en-us/azure/cosmos-db/how-to-setup-cmk>

**NEW QUESTION 10**

- (Exam Topic 2)

You need to implement a trigger in Azure Cosmos DB Core (SQL) API that will run before an item is inserted into a container.

Which two actions should you perform to ensure that the trigger runs? Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point.

- A. Append pre to the name of the JavaScript function trigger.

- B. For each create request, set the access condition in RequestOptions.
- C. Register the trigger as a pre-trigger.
- D. For each create request, set the consistency level to session in RequestOptions.
- E. For each create request, set the trigger name in RequestOptions.

**Answer:** C

**Explanation:**

C: When triggers are registered, you can specify the operations that it can run with.

F: When executing, pre-triggers are passed in the RequestOptions object by specifying PreTriggerInclude and then passing the name of the trigger in a List object.

Reference: <https://docs.microsoft.com/en-us/azure/cosmos-db/sql/how-to-use-stored-procedures-triggers-udfs>

**NEW QUESTION 12**

- (Exam Topic 2)

You have an Azure Cosmos DB Core (SQL) API account that is used by 10 web apps.

You need to analyze the data stored in the account by using Apache Spark to create machine learning models. The solution must NOT affect the performance of the web apps.

Which two actions should you perform? Each correct answer presents part of the solution. NOTE: Each correct selection is worth one point.

- A. In an Apache Spark pool in Azure Synapse, create a table that uses cosmos.olap as the data source.
- B. Create a private endpoint connection to the account.
- C. In an Azure Synapse Analytics serverless SQL pool, create a view that uses OPENROWSET and the CosmosDB provider.
- D. Enable Azure Synapse Link for the account and Analytical store on the container.
- E. In an Apache Spark pool in Azure Synapse, create a table that uses cosmos.oltp as the data source.

**Answer:** AD

**Explanation:**

Reference:

<https://github.com/microsoft/MCW-Cosmos-DB-Real-Time-Advanced-Analytics/blob/main/Hands-on%20lab/H>

**NEW QUESTION 13**

- (Exam Topic 2)

You have a database in an Azure Cosmos DB Core (SQL) API account. The database is backed up every two hours.

You need to implement a solution that supports point-in-time restore. What should you do first?

- A. Enable Continuous Backup for the account.
- B. Configure the Backup & Restore settings for the account.
- C. Create a new account that has a periodic backup policy.
- D. Configure the Point In Time Restore settings for the account.

**Answer:** A

**Explanation:**

Reference: <https://docs.microsoft.com/en-us/azure/cosmos-db/provision-account-continuous-backup>

**NEW QUESTION 14**

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