

Exam Alert: Develop for Azure Storage

PREPARING FOR THE EXAM



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Objectives for the Exam

Develop for Azure Storage

10-15%

**Develop Solutions that Use
Cosmos DB Storage**

**Develop Solutions that use
Blob Storage**

Develop
Solutions that
Use Cosmos
DB Storage

Select the appropriate API for your solution

Implement partitioning schemes

Interact with data using the appropriate SDK

Set the appropriate consistency level for operations

Create Cosmos DB containers

Implement scaling (partitions, containers)

Implement server-side programming including stored procedures, triggers, and change feed notifications

Develop
Solutions that
use Blob
Storage

**Move items in Blob Storage between
storage accounts or containers**

Set and retrieve properties and metadata

**Interact with data using the appropriate
SDK**

Implement data archiving and retention

Implement hot, cool, and archive storage

Review Solutions that Use Cosmos DB Storage

Cosmos DB Areas of Focus

Be able to select an API for Cosmos DB based on scenario

Be able to select a consistency level for Cosmos DB based on a scenario

Understand server-side execution code (triggers, stored procedures, UDF's)

Review partition key strategies

Select redundancy options based on a scenario

Supported Cosmos DB API's

SQL

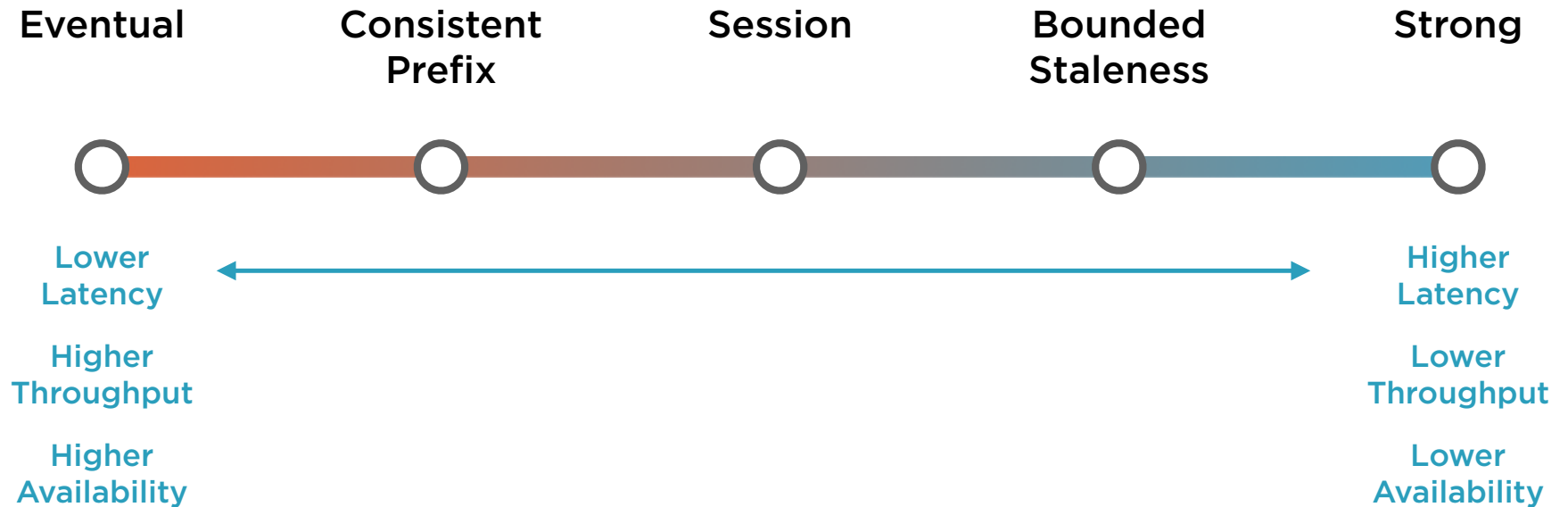
Cassandra

MongoDB

Gremlin

Azure Table

Consistency Level Spectrum



Cosmos DB Server-side Concepts

Stored Procedures

Triggers

**User Defined
Functions (UDF's)**

Change Feed

Cosmos DB Trigger Example

```
function preEmployeeTrigger() {  
  const request = getContext().getRequest();  
  const newItem = request.getBody();  
  
  // Add fullname  
  if (!("fullName" in newItem)) {  
    newItem.fullName = `${newItem.firstName} ${newItem.surname}`;  
  }  
  
  // Validate email  
  if (!isEmailValid(newItem.email)) {  
    throw new Error(`Invalid email address: ${newItem.email}`);  
  }  
  
  request.setBody(newItem);  
}
```

Review Solutions that Use Blob Storage

Blob Storage Areas of Focus

Know steps for copying data between storage accounts

Review differences between V1 and V2 storage account

Examine capabilities of change feed notifications for blob storage

Understand archive lifecycle and data access tiers

Apply knowledge of data redundancy options to scenarios

Data Access Tiers



The diagram consists of three solid orange squares arranged horizontally. Each square contains a white text label representing a data access tier. The first square on the left is labeled 'Hot', the middle square is labeled 'Cool', and the third square on the right is labeled 'Archive'.

Hot

Cool

Archive

Data Rehydration Priorities

Standard Priority

High Priority

Data Redundancy

**Locally Redundant
Storage (LRS)**

**Zone-redundant
Storage (ZRS)**

**Geo-redundant
storage (GRS)**

**Geo-zone-redundant
Storage (GZRS)**

**Read-access
Geo-redundant
Storage (RA-GRS)**

**Read-access
Geo-zone-redundant
Storage (RA-GZRS)**

Additional Areas to Review

Using AZCopy

Migrating from
V1 to V2

Triggering Azure
Functions

Rehydration
Duration

Example Scenarios

Scenario 1



Sylvia's company is building a new internal app on Azure

She will be storing all application data in Cosmos DB using the SQL API

Based on requirements, most recent writes must always be read

What should Sylvia set as the default consistency level for the container?

Scenario 2



Edward has created a document processing service for his company

There is a rule to move documents into archive storage after 180 days

He has now been requested to retrieve a group of documents from the archive

What amount of time will it take Edward to retrieve the documents?

Scenario 3



Cindy's company works with sensitive data that is stored in Blob Storage

The account is a general purpose V2 storage account

She wants to record any modifications to the data or its metadata

She needs to be sure that this information is processed in order

How would she best achieve this?

Scenario 4



William's company currently runs a fantasy football platform

He is currently storing all of their app data in Cosmos DB using the SQL API

It is essential that users do not see player trade data out of order

What is the most cost effective consistency level for William?

Scenario 5



Oscar's company sells a collection of products for home maintenance

Oscar has been tasked with building a product recommendation engine

He is planning to leverage Cosmos DB to store purchases

Which API should Oscar leverage with Cosmos DB for this solution?

Scenario 6



James's company is building a workflow tool for their manufacturing facilities

They plan to store workflow data in Cosmos DB with the SQL API

James wants to be sure that he reads writes that are no older than 10 seconds

Which default consistency level should he set for the database?

Scenario 7



Elaine's company performs ML analysis on media files

They are moving to Azure from their own data centers

Their data strategy requires that files are replicated in multiple physical regions

What is the most cost effective data redundancy approach that meets this?

Scenario Answers

Scenario 1



Sylvia's company is building a new internal app on Azure

She will be storing all application data in Cosmos DB using the SQL API

Based on requirements, most recent writes must always be read

What should Sylvia set as the default consistency level for the container?

Solution: Strong consistency



Scenario 2

Edward has created a document processing service for his company

There is a rule to move documents into archive storage after 180 days

He has now been requested to retrieve a group of documents from the archive

What amount of time will it take Edward to retrieve the documents?

Solution: In most cases it will take between 1 and 15 hours with standard priority. High priority may take longer than an hour.

Scenario 3



Cindy's company works with sensitive data that is stored in Blob Storage

The account is a general purpose V2 storage account

She wants to record any modifications to the data or its metadata

She needs to be sure that this information is processed in order

How would she best achieve this?

Solution: Change feed support in Azure Blob Storage

Scenario 4



William's company currently runs a fantasy football platform

He is currently storing all of their app data in Cosmos DB using the SQL API

It is essential that users do not see player trade data out of order

What is the most cost effective consistency level for William?

Solution: Consistent Prefix

Scenario 5



Oscar's company sells a collection of products for home maintenance

Oscar has been tasked with building a product recommendation engine

He is planning to leverage Cosmos DB to store purchases

Which API should Oscar leverage with Cosmos DB for this solution?

Solution: Gremlin (graph database)

Scenario 6



James's company is building a workflow tool for their manufacturing facilities

They plan to store workflow data in Cosmos DB with the SQL API

James wants to be sure that he reads writes that are no older than 10 seconds

Which default consistency level should he set for the database?

Solution: Bounded staleness (10 second interval)

Scenario 7



Elaine's company performs ML analysis on media files

They are moving to Azure from their own data centers

Their data strategy requires that files are replicated in multiple physical regions

What is the most cost effective data redundancy approach that meets this?

Solution: Geo-Redundant Storage (GRS)