DP-420$^{\text{Q\&As}}$

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

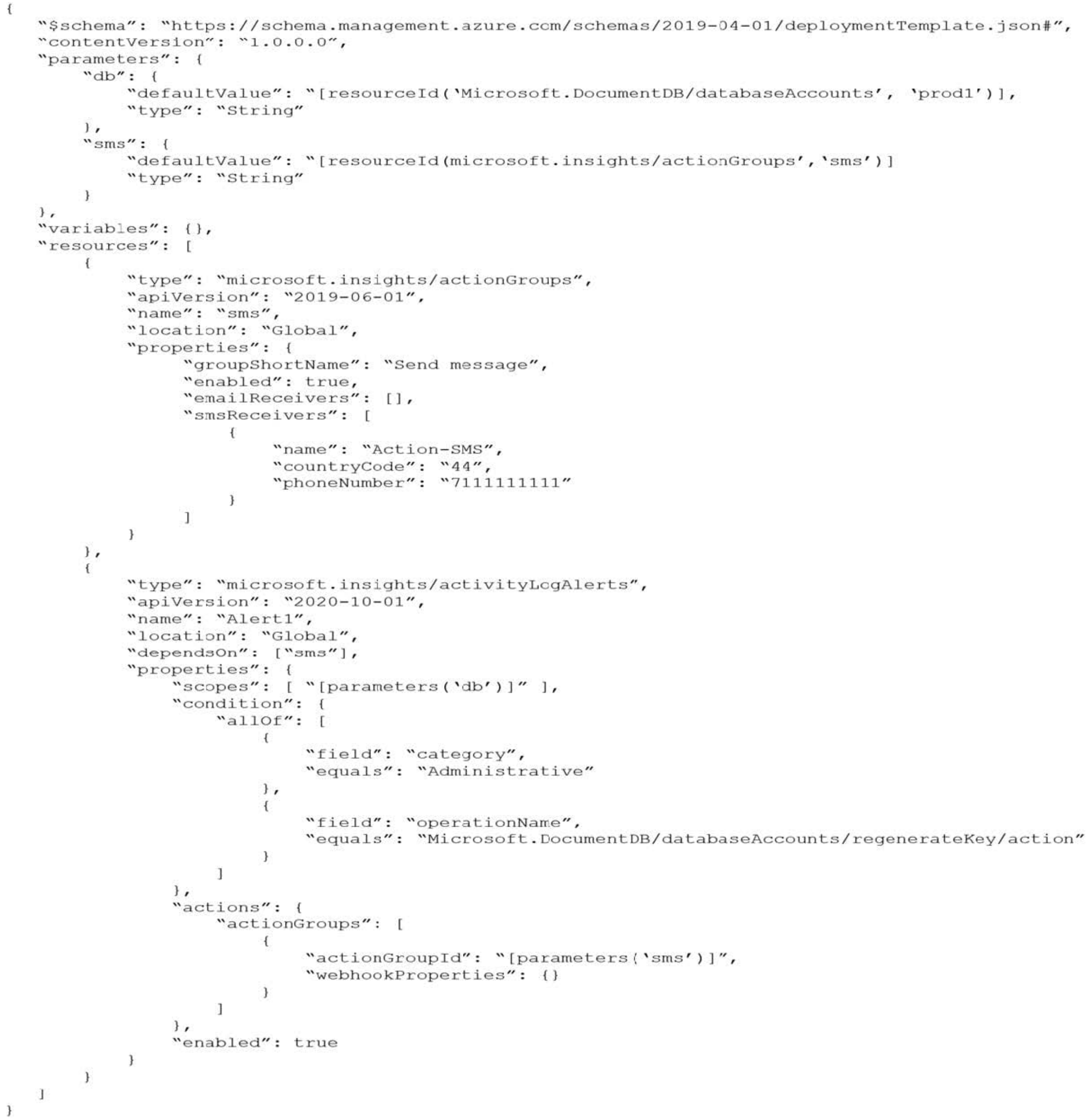
Pass Microsoft DP-420 Exam with 100% Guarantee

Following Questions and Answers are all new published by Microsoft Official Exam Center

QUESTION 1

HOTSPOT

You provision Azure resources by using the following Azure Resource Manager (ARM) template.

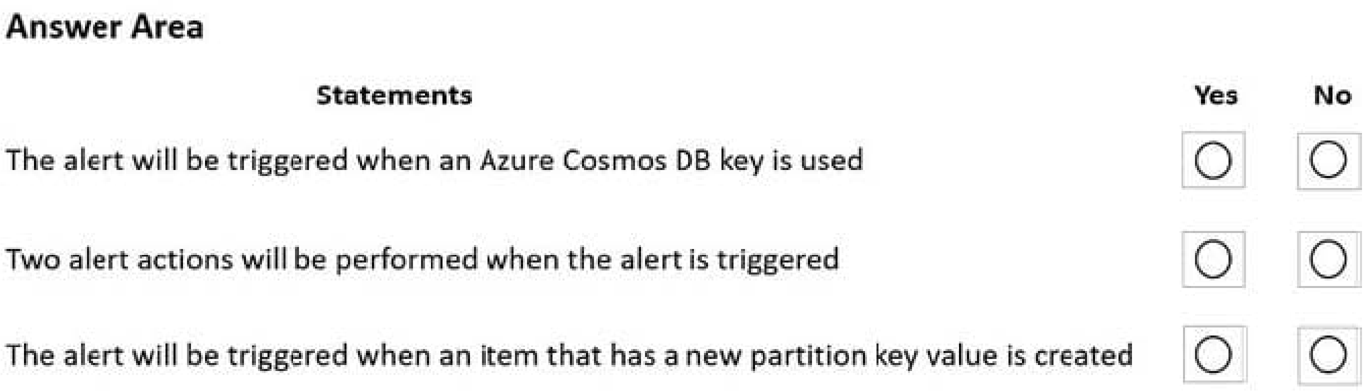


```
{
   “$schema”: “https://schema.management.azure.com/schemas/2019-04-01/deploymentTemplate.json#”,
   “contentVersion”: “1.0.0.0”,
   “parameters”: {
       “db”: {
           “defaultValue”: “[resourceId(‘Microsoft.DocumentDB/databaseAccounts’, ‘prod1’)],
           “type”: “String”
       },
       “sms”: {
           “defaultValue”: “[resourceId(microsoft.insights/actionGroups’,‘sms’)]
           “type”: “String”
       }
   },
   “variables”: {},
   “resources”: [
       {
           “type”: “microsoft.insights/actionGroups”,
           “apiVersion”: “2019-06-01”,
           “name”: “sms”,
           “location”: “Global”,
           “properties”: {
                “groupShortName”: “Send message”,
                “enabled”: true,
                “emailReceivers”: [],
                “smsReceivers”: [
                    {
                        “name”: “Action-SMS”,
                        “countryCode”: “44”,
                        “phoneNumber”: “7111111111”
                    }
                ]
           }
       },
       {
           “type”: “microsoft.insights/activityLogAlerts”,
           “apiVersion”: “2020-10-01”,
           “name”: “Alert1”,
           “location”: “Global”,
           “dependsOn”: [“sms”],
           “properties”: {
               “scopes”: [ “[parameters(‘db’)]” ],
               “condition”: {
                   “allOf”: [
                       {
                           “field”: “category”,
                           “equals”: “Administrative”
                       },
                       {
                           “field”: “operationName”,
                           “equals”: “Microsoft.DocumentDB/databaseAccounts/regenerateKey/action”
                       }
                   ]
               },
               “actions”: {
                   “actionGroups”: [
                       {
                           “actionGroupId”: “[parameters(‘sms’)]”,
                           “webhookProperties”: {}
                       }
                   ]
               },
               “enabled”: true
           }
       }
   ]
}
```

For each of the following statements, select Yes if the statement is true. Otherwise, select No.

NOTE: Each correct selection is worth one point.

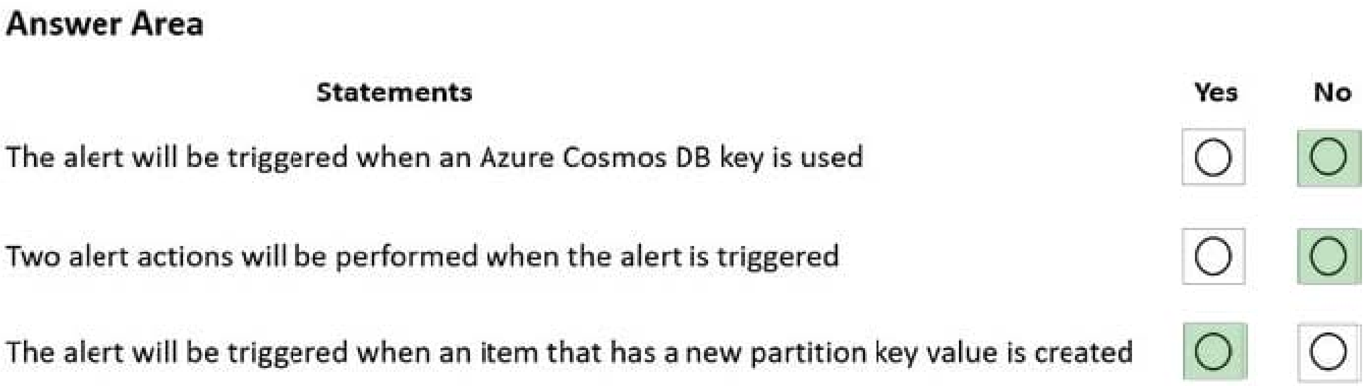
Hot Area:



Answer Area

Statements	Yes	No
The alert will be triggered when an Azure Cosmos DB key is used	○	○
Two alert actions will be performed when the alert is triggered	○	○
The alert will be triggered when an item that has a new partition key value is created	○	○

Correct Answer:



Answer Area

Statements	Yes	No
The alert will be triggered when an Azure Cosmos DB key is used	○	●
Two alert actions will be performed when the alert is triggered	○	●
The alert will be triggered when an item that has a new partition key value is created	●	○

Box 1: No

An alert is triggered when the DB key is regenerated, not when it is used.

Note: The az cosmosdb keys regenerate command regenerates an access key for a Azure Cosmos DB database account.

Box 2: No

Only an SMS action will be taken.

Emailreceivers is empty so no email action is taken.

Box 3: Yes

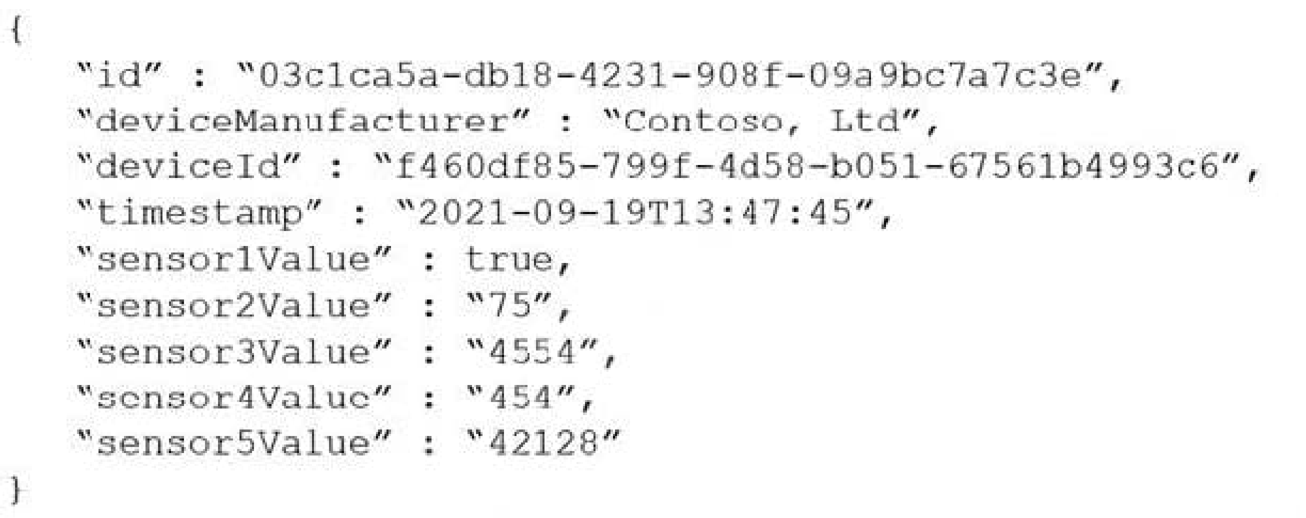
Yes, an alert is triggered when the DB key is regenerated.

Reference:

https://docs.microsoft.com/en-us/cli/azure/cosmosdb/keys

QUESTION 2

You are designing an Azure Cosmos DB Core (SQL) API solution to store data from IoT devices. Writes from the devices will be occur every second. The following is a sample of the data.



```
{
    "id" : "03c1ca5a-db18-4231-908f-09a9bc7a7c3e",
    "deviceManufacturer" : "Contoso, Ltd",
    "deviceId" : "f460df85-799f-4d58-b051-67561b4993c6",
    "timestamp" : "2021-09-19T13:47:45",
    "sensor1Value" : true,
    "sensor2Value" : "75",
    "sensor3Value" : "4554",
    "sensor4Value" : "454",
    "sensor5Value" : "42128"
}
```

You need to select a partition key that meets the following requirements for writes:

1.

Minimizes the partition skew

2.

Avoids capacity limits

3.

Avoids hot partitions What should you do?

A. Use timestampas the partition key.

B. Create a new synthetic key that contains deviceIdand sensor1Value.

C. Create a new synthetic key that contains deviceIdand deviceManufacturer.

D. Create a new synthetic key that contains deviceIdand a random number.

Correct Answer: D

Use a partition key with a random suffix. Distribute the workload more evenly is to append a random number at the end of the partition key value. When you distribute items in this way, you can perform parallel write operations across partitions.

Incorrect Answers:

A: You will also not like to partition the data on “DateTime”, because this will create a hot partition. Imagine you have partitioned the data on time, then for a given minute, all the calls will hit one partition. If you need to retrieve the data for a customer, then it will be a fan-out query because data may be distributed on all the partitions.

B: Senser1Value has only two values.

C: All the devices could have the same manufacturer.

Reference: https://docs.microsoft.com/en-us/azure/cosmos-db/sql/synthetic-partition-keys

QUESTION 3

You have an Azure Cosmos DB for NoSQL account named account1.

You need to create a container named Container1 in account1 by using the Azure Cosmos DB .NET SDK. The solution must ensure that the items in Container1 never expire.

What should you set?

A. TimeToLivePropertyPath to null

B. TimeToLivePropertyPath to 0

C. DefaultTimeToLive to null

D. DefaultTimeToLive to –1

Correct Answer: D

Explanation:

Time to live for containers and items

The time to live value is set in seconds, and it is interpreted as a delta from the time that an item was last modified. You can set time to live on a container or an item within the container:

Time to Live on a container (set using DefaultTimeToLive):

If missing (or set to null), items are not expired automatically.

If present and the value is set to "-1", it is equal to infinity, and items don\\'t expire by default.

If present and the value is set to some non-zero number "n" – items will expire "n" seconds after their last modified time.

Reference:

https://learn.microsoft.com/en-us/azure/cosmos-db/nosql/time-to-live

QUESTION 4

You have an Azure Cosmos DB for NoSQL account named account1 that supports an application named App1. App1 uses the consistent prefix consistency level.

You configure account1 to use a dedicated gateway and integrated cache.

You need to ensure that App1 can use the integrated cache.

Which two actions should you perform for APP1? Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point.

A. Change the connection mode to direct

B. Change the account endpoint to https://account1.sqlx.cosmos.azure.com.

C. Change the consistency level of requests to strong.

D. Change the consistency level of requests to session.

E. Change the account endpoint to https://account1.documents.azure.com

Correct Answer: BD

the Azure Cosmos DB integrated cache is an in-memory cache that is built- in to the Azure Cosmos DB dedicated gateway. The dedicated gateway is a front-end compute that stores cached data and routes requests to the backend database.

You can choose from a variety of dedicated gateway sizes based on the number of cores and memory needed for your workload1. The integrated cache can reduce the RU consumption and latency of read operations by serving them from

the cache instead of the backend containers2.

For your scenario, to ensure that App1 can use the integrated cache, you should perform these two actions:

Change the account endpoint to https://account1.sqlx.cosmos.azure.com. This is the dedicated gateway endpoint that you need to use to connect to your Azure Cosmos DB account and leverage the integrated cache. The standard gateway

endpoint (https://account1.documents.azure.com) will not use the integrated cache2.

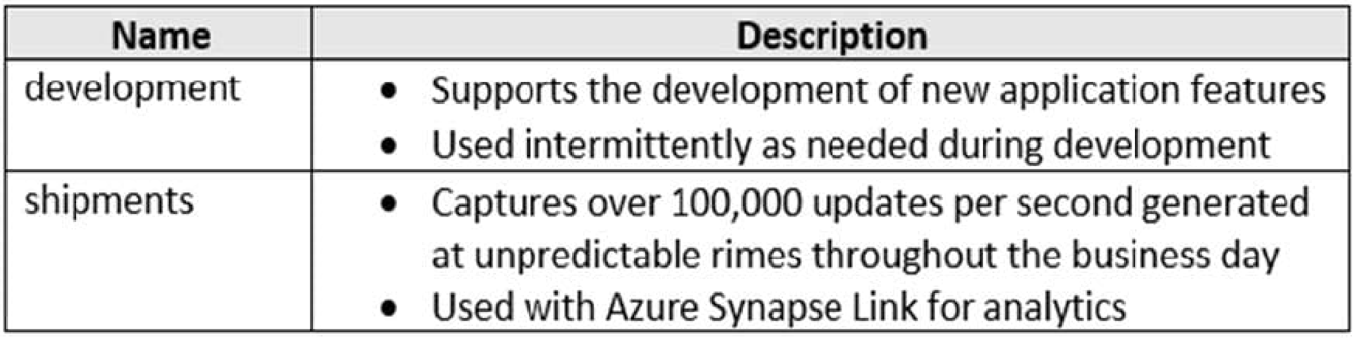
Change the consistency level of requests to session. This is the highest consistency level that is supported by the integrated cache. If you use a higher consistency level (such as strong or bounded staleness), your requests will bypass the

integrated cache and go directly to the backend containers

QUESTION 5

HOTSPOT

You plan to deploy two Azure Cosmos DB Core (SQL) API accounts that will each contain a single database. The accounts will be configured as shown in the following table.

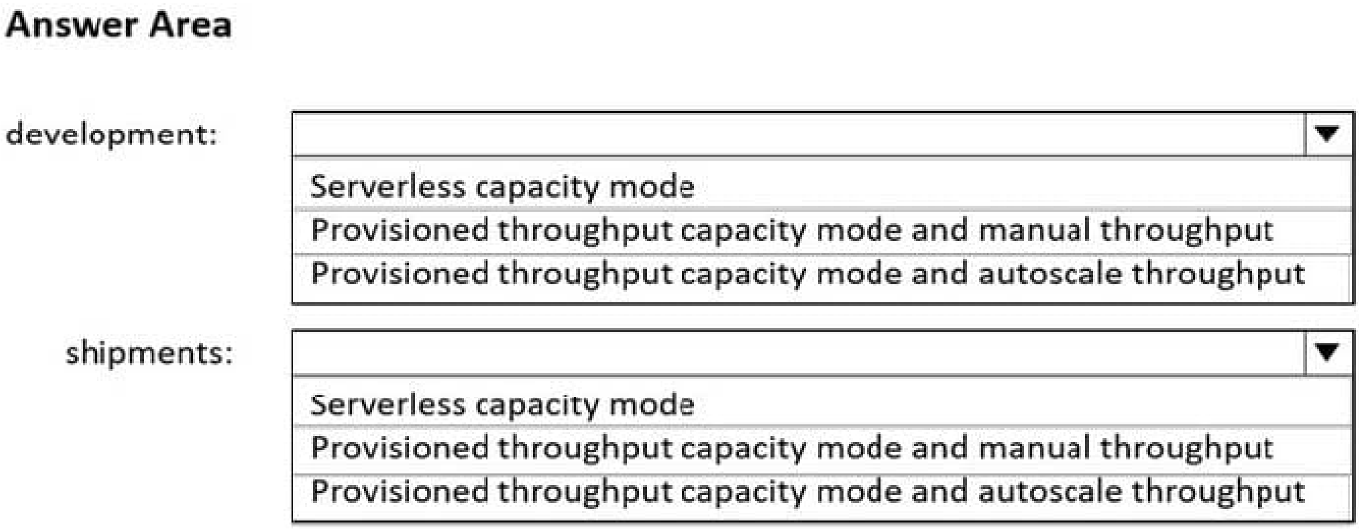


Name	Description
development	- Supports the development of new application features - Used intermittently as needed during development
shipments	- Captures over 100,000 updates per second generated at unpredictable rimes throughout the business day - Used with Azure Synapse Link for analytics

How should you provision the containers within each account to minimize costs? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:



Answer Area

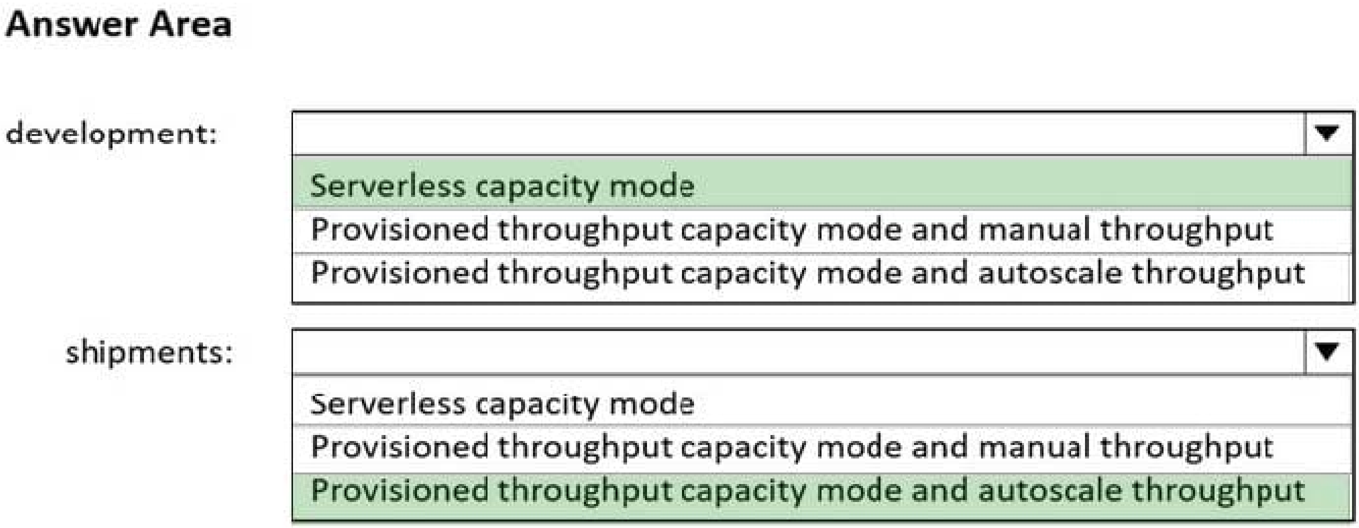
development:

- Serverless capacity mode
- Provisioned throughput capacity mode and manual throughput
- Provisioned throughput capacity mode and autoscale throughput

shipments:

- Serverless capacity mode
- Provisioned throughput capacity mode and manual throughput
- Provisioned throughput capacity mode and autoscale throughput

Correct Answer:



Answer Area

development:

- [✓ Serverless capacity mode]
- Provisioned throughput capacity mode and manual throughput
- Provisioned throughput capacity mode and autoscale throughput

shipments:

- Serverless capacity mode
- Provisioned throughput capacity mode and manual throughput
- [✓ Provisioned throughput capacity mode and autoscale throughput]

Box 1: Serverless capacity mode Azure Cosmos DB serverless best fits scenarios where you expect intermittent and unpredictable traffic with long idle times. Because provisioning capacity in such situations isn\\'t required and may be cost-prohibitive, Azure Cosmos DB serverless should be considered in the following use-cases:

1.

Getting started with Azure Cosmos DB

2.

Running applications with bursty, intermittent traffic that is hard to forecast, or low (