Vendor: Microsoft

Exam Code:AZ-204

Exam Name: Developing Solutions for Microsoft Azure

Version: Demo

QUESTION 1

HOTSPOT

You are developing an Azure App Service hosted ASP.NET Core API app by using C#. The API app will allow users to authenticate by using Twitter and Azure Active Directory (Azure AD).

Users must be authenticated before calling API methods. You must log the user\\'s name for each method call.

You need to configure the API method calls.

Which values should you use? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

Code segment	Value
Attribute	▼
	Authorize
	AllowAnonymous
	AutoValidateAntiforgeryToken
Request Header	▼
	X-MS-CLIENT-PRINCIPAL-NAME
	Proxy-Authorization
	X-Forwarded-For
	X-MS-CLIENT-PRINCIPAL-ID

Correct Answer:

Answer Area

Code segment	Value
Attribute	▼

Authorize
AllowAnonymous
AutoValidateAntiforgeryToken

Request Header	▼

X-MS-CLIENT-PRINCIPAL-NAME
Proxy-Authorization
X-Forwarded-For
X-MS-CLIENT-PRINCIPAL-ID

Box 1: Authorize

Box 2: X-MS-CLIENT-PRINCIPAL-NAME

App Service passes user claims to your application by using special headers. External requests aren\\'t allowed to set these headers, so they are present only if set by App Service. Some example headers include:

X-MS-CLIENT-PRINCIPAL-NAME X-MS-CLIENT-PRINCIPAL-ID Here\\'s the set of headers you get from Easy Auth for a Twitter authenticated user:

{ "cookie": "AppServiceAuthSession=Lx43...xHDTA==", ...

 "x-ms-client-principal-name": "evilSnobu",

 "x-ms-client-principal-id": "35....",

 "x-ms-client-principal-idp": "twitter",

 "x-ms-token-twitter-access-token": "35...Dj",

 "x-ms-token-twitter-access-token-secret": "OK3...Jx",

}

References: https://docs.microsoft.com/en-us/azure/app-service/app-service-authentication-how-to

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QUESTION 2

HOTSPOT

You need to configure the Account Kind, Replication, and Storage tier options for the corporate website\\'s Azure Storage account.

How should you complete the configuration? To answer, select the appropriate options in the dialog box in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

Create storage account

×

Basics   Advanced   Tags   Review + create

Azure Storage is a Microsoft-managed service providing cloud storage that is highly available, secure, durable, scalable, and redundant. Azure Storage includes Azure Blobs (objects), Azure Data Lake Storage Gen2, Azure Files, Azure Queues, and Azure Tables. The cost of your storage account depends on the usage and the options you choose below. Learn more

PROJECT DETAILS

Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

* Subscription | Visual Studio Enterprise   ∨ |

      * Resource group | (New) cplcorporatesite   ∨ |
                                   Create new

INSTANCE DETAILS

The default deployment model is Resource Manager, which supports the latest Azure features. You may choose to deploy using the classic deployment model instead. Choose classic deployment model

* Storage account name ⓘ | corporatewebsitecontent   ✓ |

* Location | (US) East US   ∨ |

Performance ⓘ   ◉ Standard   ◯ Premium

Account kind ⓘ | ∨ |
                                   | StorageV2 (general purpose v2) |
                                   | Storage (general purpose v1) |
                                   | BlobStorage |

Replication ⓘ | ∨ |
                                   | Locally-redundant storage (LRS) |
                                   | Zone-redundant storage (ZRS) |
                                   | Geo-redundant storage (GRS) |
                                   | Read-access geo-redundant storage (RA-GRS) |
                                   | Geo-zone-redundant storage (GZRS) |
                                   | Read-access geo-zone-redundant storage (RA-GZRS) |

Access tier (default) ⓘ   ◯ Cool   ◯ Hot

Correct Answer:

Create storage account ✕

Basics   Advanced   Tags   Review + create

Azure Storage is a Microsoft-managed service providing cloud storage that is highly available, secure, durable, scalable, and redundant. Azure Storage includes Azure Blobs (objects), Azure Data Lake Storage Gen2, Azure Files, Azure Queues, and Azure Tables. The cost of your storage account depends on the usage and the options you choose below. Learn more

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	Create new

INSTANCE DETAILS

The default deployment model is Resource Manager, which supports the latest Azure features. You may choose to deploy using the classic deployment model instead. Choose classic deployment model

* Storage account name ⓘ	corporatewebsitecontent ✓
* Location	(US) East US ⌄
Performance ⓘ	⦿ Standard ◯ Premium
Account kind ⓘ	⌄

StorageV2 (general purpose v2)
Storage (general purpose v1)
BlobStorage

| Replication ⓘ | ⌄ |

Locally-redundant storage (LRS)
Zone-redundant storage (ZRS)
Geo-redundant storage (GRS)
Read-access geo-redundant storage (RA-GRS)
Geo-zone-redundant storage (GZRS)
Read-access geo-zone-redundant storage (RA-GZRS)

| Access tier (default) ⓘ | ◯ Cool ◯ Hot |

Account Kind: StorageV2 (general-purpose v2)

Scenario: Azure Storage blob will be used (refer to the exhibit). Data storage costs must be minimized.

General-purpose v2 accounts: Basic storage account type for blobs, files, queues, and tables. Recommended for most

scenarios using Azure Storage.

Incorrect Answers:

BlockBlobStorage accounts: Storage accounts with premium performance characteristics for block blobs and append blobs. Recommended for scenarios with high transactions rates, or scenarios that use smaller objects or require

consistently low storage latency.

General-purpose v1 accounts: Legacy account type for blobs, files, queues, and tables. Use general-purpose v2 accounts instead when possible.

Replication: Geo-redundant Storage

Scenario: Data must be replicated to a secondary region and three availability zones.

Geo-redundant storage (GRS) copies your data synchronously three times within a single physical location in the primary region using LRS. It then copies your data asynchronously to a single physical location in the secondary region.

Incorrect Answers:

Geo-zone-redundant storage (GZRS), but it would be more costly.

Storage tier: Cool

Data storage costs must be minimized.

Note: Azure storage offers different access tiers, which allow you to store blob object data in the most cost-effective manner. The available access tiers include:

Hot - Optimized for storing data that is accessed frequently.

Cool - Optimized for storing data that is infrequently accessed and stored for at least 30 days.

Reference:

https://docs.microsoft.com/en-us/azure/storage/common/storage-account-overview

https://docs.microsoft.com/en-us/azure/storage/common/storage-redundancy

https://docs.microsoft.com/en-us/azure/storage/blobs/storage-blob-storage-tiers?tabs=azure-portal

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QUESTION 3

You need to test the availability of the corporate website. Which two test types can you use?

A. Custom testing using the TrackAvailability API method

B. Standard

C. URL Ping

D. Multi-step

Correct Answer: AB

QUESTION 4

You are developing a .Net web application that stores data is Azure Consmos DB. The application must use the Core API and allow millions of reads and writes. The Azure Cosmos DII account has been created with multiple write region

enabled. The application has been deployed to the East US2 and Central US region.

You need to update the application to support multi-region writes.

What are two possible ways to achieve this goal? Each correct answer presents parts of the solutions.

NOTE: Each correct selection is worth one point.

A. Update the ConnectionPolicy class for the Cosmos client and populate the PreferredLocations property based on the geo-proximity of the application.

B. Update Azure Cosmos DB to use the Strong consistency level. Add indexed properties to the container to indicate region.

C. Update the ConnectionPolicy class for the Cosmos client and set the UseMultipleWriteLocations property to true.

D. Create and deploy a custom conflict resolution policy.

E. Update Azure Cosmos DB to use the Session consistency level. Send the SessionToken property value from the FeedResponse object of the write action to the end- user by using a cookie.

Correct Answer: CD

C: The UseMultipleWriteLocations of the ConnectionPolicy class gets or sets the flag to enable writes on any locations (regions) for geo-replicated database accounts in the Azure Cosmos DB service.

Note: Once an account has been created with multiple write regions enabled, you must make two changes in your application to the ConnectionPolicy for the Cosmos client to enable the multi-region writes in Azure Cosmos DB. Within the ConnectionPolicy, set UseMultipleWriteLocations to true and pass the name of the region where the application is deployed to ApplicationRegion. This will populate the PreferredLocations property based on the geo-proximity from location passed in. If a new region is later added to the account, the application does not have to be updated or redeployed, it will automatically detect the closer region and will auto-home on to it should a regional event occur.

Azure core API application " ConnectionPolicy class" cosmos db multiple write regions enabled

D: With multi-region writes, when multiple clients write to the same item, conflicts may occur. When a conflict occurs, you can resolve the conflict by using different conflict resolution policies.

Note: Conflict resolution policy can only be specified at container creation time and cannot be modified after container creation.

Reference: https://docs.microsoft.com/en-us/dotnet/api/microsoft.azure.documents.client.connectionpolicy https://docs.microsoft.com/en-us/azure/cosmos-db/sql/how-to-multi-master https://docs.microsoft.com/en-us/azure/cosmos-db/sql/how-to-manage-conflicts

QUESTION 5

You are developing a web application that uses the Microsoft identity platform for user and resource authentication. The

web application calls several REST APIs.

A REST API call must read the user\\'s calendar. The web application requires permission to send an email as the user.

You need to authorize the web application and the API.

Which parameter should you use?

A. tenant

B. code_challenge

C. state

D. client_id

E. scope

Correct Answer: E

Microsoft identity platform and OAuth 2.0 authorization code flow, Request an authorization code

https://login.microsoftonline.com/{tenant}/oauth2/v2.0/authorize?

The authorization code flow begins with the client directing the user to the /authorize endpoint. In this request, the client requests the openid, offline_access, and https://graph.microsoft.com/mail.read permissions from the user.

Parameters include:

*

 scope required

A space-separated list of scopes that you want the user to consent to. For the /authorize leg of the request, this parameter can cover multiple resources. This value allows your app to get consent for multiple web APIs you want to call.

Incorrect:

*

 tenant required

The {tenant} value in the path of the request can be used to control who can sign into the application. Valid values are common, organizations, consumers, and tenant identifiers. For guest scenarios where you sign a user from one tenant into

another tenant, you must provide the tenant identifier to sign them into the resource tenant.

*

 code_challenge recommended / required

Used to secure authorization code grants by using Proof Key for Code Exchange (PKCE). Required if code_challenge_method is included. This parameter is now recommended for all application types, both public and confidential clients, and

required by the Microsoft identity platform for single page apps using the authorization code flow.

*

 client_id

The Application (client) ID that the Azure portal – App registrations experience assigned to your app.

Reference: https://learn.microsoft.com/en-us/azure/active-directory/develop/v2-oauth2-auth-code-flow

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QUESTION 6

You develop and deploy a web app to Azure App Service. The Azure App Service uses a Basic plan in a single region.

Users report that the web app is responding slow. You must capture the complete call stack to help identify performance issues in the code. Call stack data must be correlated across app instances. You must minimize cost and impact to

users on the web app.

You need to capture the telemetry.

Which three actions should you perform? Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point.

A. Restart all apps in the App Service plan.

B. Enable Application Insights site extensions.

C. Upgrade the Azure App Service plan to Premium.

D. Enable Profiler.

E. Enable the Always On setting for the app service.

F. Enable Snapshot debugger.

G. Enable remote debugging.

Correct Answer: DEF

Azure Web Apps as well as API Apps and WebJobs can now be remotely profiled. If your process is running slower than expected, or the latency of HTTP requests are higher than normal and the CPU usage of the process is also pretty high,

you can remotely profile your process and get the CPU sampling call stacks to analyze the process activity and code hot paths.

DE: Let\\'s say you\\'re running a web performance test. You\\'ll need traces to understand how your web app is running under load.

Generate traffic to your web app by starting a web performance test or starting a Profiler on-demand session.

View the Profiler traces after your load test or Profiler session.

Read the Profiler performance data and call stack.

Enable Profiler for Azure App Service apps

First Verify "Always On" setting is enabled, and then Enable Application Insights and Profiler.

F (not G): Enhancements in Application Insights Profiler and Snapshot Debugger (2018)

We are pleased to announce a series of improvements on Application Insights Profiler and Snapshot Debugger. Profiler identifies the line of code that slowed down the web app performance under load. Snapshot Debugger captures runtime

exception call stack and local variables to identify the issue in code. To ensure users can easily and conveniently use the tools, we delivered the following new features for Profiler and Snapshot Debugger.

Incorrect:

Not B: Application monitoring for Azure App Service and ASP.NET

Enabling monitoring on your ASP.NET-based web applications running on Azure App Service is now easier than ever. Previously, you needed to manually instrument your app. Now the latest extension/agent is built into the App Service

image by default.

Manually adding an Application Insights site extension via Development Tools > Extensions is deprecated. This method of extension installation was dependent on manual updates for each new version. The latest stable release of the

extension is now preinstalled as part of the App Service image.

Not C: While you can use the Profiler at no extra cost, your web app must be hosted in the basic tier of the Web Apps feature of Azure App Service, at minimum.

Reference:

https://learn.microsoft.com/en-us/azure/azure-monitor/profiler/profiler-data

https://azure.microsoft.com/en-us/blog/enhancements-in-application-insights-profiler-and-snapshot-debugger/

QUESTION 7

HOTSPOT

You need to retrieve all order line items from Order.json and sort the data alphabetically by the city.

How should you complete the code? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

SELECT li.id AS lineitemid, li.price

FROM [▼]

| Orders o |
| LineItems li |

JOIN [▼] IN [▼]

| li |
| o |

| o.line_items |
| li.line_items |
| o.address |

ORDER BY [▼] ASC

| o.address.city |
| li.address.city |
| o.city |
| li.city |

Correct Answer:

Answer Area

SELECT li.id AS lineitemid, li.price

FROM [▼]

Orders o
LineItems li

JOIN [▼] IN [▼]

li
o

o.line_items
li.line_items
o.address

ORDER BY [▼] ASC

o.address.city
li.address.city
o.city
li.city

Box 1: orders o Scenario: Order data is stored as nonrelational JSON and must be queried using SQL. Box 2:li

Box 3: o.line_items Box 4: o.city The city field is in Order, not in the 2s.

QUESTION 8

HOTSPOT

You need to configure the integration for Azure Service Bus and Azure Event Grid.

How should you complete the CLI statement? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

```
az [ eventgrid          ▼ ]   [ event-subscription    ▼ ]   create --source-resource-id $topicid --name $name --
     eventgrid                 event-subscription
     servicebus                topic
                               queue

endpoint-type  [              ▼ ]   --endpoint $endpoint
                 webhook
                 eventhub
                 servicebusqueue
```

Correct Answer:


```
az [ eventgrid          ▼ ]   [ event-subscription    ▼ ]   create --source-resource-id $topicid --name $name --
     eventgrid                 event-subscription
     servicebus                topic
                               queue

endpoint-type  [              ▼ ]   --endpoint $endpoint
                 webhook
                 eventhub
                 servicebusqueue
```

Box 1: eventgrid

To create event subscription use: az eventgrid event-subscription create

Box 2: event-subscription

Box 3: servicebusqueue

Scenario: Azure Service Bus and Azure Event Grid

Azure Event Grid must use Azure Service Bus for queue-based load leveling.

Events in Azure Event Grid must be routed directly to Service Bus queues for use in buffering.

Events from Azure Service Bus and other Azure services must continue to be routed to Azure Event Grid for processing.

Reference:

https://docs.microsoft.com/en-us/cli/azure/eventgrid/event-subscription?view=azure-cli-latest#az_eventgrid_event_subscription_create

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QUESTION 9

DRAG DROP

You develop and deploy an Azure App Service web app. The web app accesses data in an Azure SQL database.

You must update the web app to store frequently used data in a new Azure Cache for Redis Premium instance.

You need to implement the Azure Cache for Redis features.

Which feature should you implement? To answer, drag the appropriate feature to the correct requirements. Each feature 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.

Select and Place:

Features

horizontal partitioning
channel
list
set

Requirement	Feature
Create a data structure for storing collections of related items	Feature
Create a data structure for the most recently accessed cache items	Feature
Send messages through a high-performance publisher/subscriber mechanism	Feature

Correct Answer:

Features

horizontal partitioning

Requirement	Feature
Create a data structure for storing collections of related items	set
Create a data structure for the most recently accessed cache items	list
Send messages through a high-performance publisher/subscriber mechanism	channel

Reference: https://www.red-gate.com/simple-talk/development/dotnet-development/overview-of-azure-cache-for-redis/ https://docs.microsoft.com/en-us/azure/architecture/best-practices/caching

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QUESTION 10

Your company has an Azure Kubernetes Service (AKS) cluster that you manage from an Azure AD-joined device. The cluster is located in a resource group.

Developers have created an application named MyApp. MyApp was packaged into a container image.

You need to deploy the YAML manifest file for the application.

Solution: You install the Azure CLI on the device and run the kubectl apply myapp.yaml command.

Does this meet the goal?

A. Yes

B. No

Correct Answer: A

kubectl apply -f myapp.yaml applies a configuration change to a resource from a file or stdin.

Reference: https://kubernetes.io/docs/reference/kubectl/overview/ https://docs.microsoft.com/en-us/cli/azure/aks

QUESTION 11

DRAG DROP

You are developing an application to securely transfer data between on-premises file systems and Azure Blob storage. The application stores keys, secrets, and certificates in Azure Key Vault. The application uses the Azure Key Vault APIs.

The application must allow recovery of an accidental deletion of the key vault or key vault objects. Key vault objects must be retained for 90 days after deletion.

You need to protect the key vault and key vault objects.

Which Azure Key Vault feature should you use? To answer, drag the appropriate features to the correct actions. Each feature 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.

Select and Place:

Features

| Access policy |
| Purge protection |
| Soft delete |
| Shared access signature |

Action	Feature
Enable retention period and accidental deletion.	Feature
Enforce retention period and accidental deletion.	Feature

Correct Answer:

Features

Access policy
Shared access signature

Action	Feature
Enable retention period and accidental deletion.	Soft delete
Enforce retention period and accidental deletion.	Purge protection

Box 1: Soft delete

When soft-delete is enabled, resources marked as deleted resources are retained for a specified period (90 days by default). The service further provides a mechanism for recovering the deleted object, essentially undoing the deletion.

Box 2: Purge protection

Purge protection is an optional Key Vault behavior and is not enabled by default. Purge protection can only be enabled once soft-delete is enabled.

When purge protection is on, a vault or an object in the deleted state cannot be purged until the retention period has passed. Soft-deleted vaults and objects can still be recovered, ensuring that the retention policy will be followed.

Reference:

https://docs.microsoft.com/en-us/azure/key-vault/general/soft-delete-overview

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QUESTION 12

DRAG DROP

You are developing an application. You have an Azure user account that has access to two subscriptions.

You need to retrieve a storage account key secret from Azure Key Vault.

In which order should you arrange the PowerShell commands to develop the solution? To answer, move all commands from the list of commands to the answer area and arrange them in the correct order.

Select and Place:

Powershell commands

```
$secretvalue = ConvertTo-SecureString
$storAcctkey -AsPlainText
-Force
    Set-AzKeyVaultSecret -VaultName
$vaultName -Name $secretName
-SecretValue $secretvalue
```

```
Get-AzStorageAccountKey -
ResourceGroupName $resGroup -Name
$storAcct
```

```
Set-AzContext -SubscriptionId
$subscriptionID
```

```
Get-AzKeyVaultSecret -VaultName
$vaultName
```

```
Get-AzSubscription
```

Answer Area

Correct Answer:

Powershell commands

Answer Area

```
Get-AzSubscription
```

```
Set-AzContext -SubscriptionId
$subscriptionID
```

```
Get-AzStorageAccountKey -
ResourceGroupName $resGroup -Name
$storAcct
```

```
$secretvalue = ConvertTo-SecureString
$storAcctkey -AsPlainText
-Force
    Set-AzKeyVaultSecret -VaultName
$vaultName -Name $secretName
-SecretValue $secretvalue
```

```
Get-AzKeyVaultSecret -VaultName
$vaultName
```

Step 1: Get-AzSubscription

If you have multiple subscriptions, you might have to specify the one that was used to create your key vault. Enter the following to see the subscriptions for your account:

Get-AzSubscription

Step 2: Set-AzContext -SubscriptionId

To specify the subscription that\\'s associated with the key vault you\\'ll be logging, enter:

Set-AzContext -SubscriptionId

Step 3: Get-AzStorageAccountKey

You must get that storage account key.

Step 4: $secretvalue = ConvertTo-SecureString -AsPlainText -Force

Set-AzKeyVaultSecret -VaultName -Name -SecretValue $secretvalue

After retrieving your secret (in this case, your storage account key), you must convert that key to a secure string, and then create a secret with that value in your key vault.

Step 5: Get-AzKeyVaultSecret

Next, get the URI for the secret you created. You\\'ll need this URI in a later step to call the key vault and retrieve your secret. Run the following PowerShell command and make note of the ID value, which is the secret\\'s URI:

Get-AzKeyVaultSecret –VaultName

Reference:

https://docs.microsoft.com/bs-latn-ba/Azure/key-vault/key-vault-key-rotation-log-monitoring