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Microsoft AZ-204 Exam Question & Answers
Developing Solutions for Microsoft Azure Exam Exam

Product Questions: 384

Version: 30.0

Topic 1, Windows Server 2016 virtual machine

Case study

This is a case study. Case studies are not timed separately. You can use as much exam time as you would like to complete each case. However, there may be additional case studies and sections on this exam. You must manage your time to ensure that you are able to complete all questions included on this exam in the time provided.

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To start the case study

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information displayed on the subsequent tabs. When you are ready to answer a question, click the Question button to return to the question.

Current environment

Windows Server 2016 virtual machine

The virtual machine (VM) runs BizTalk Server 2016. The VM runs the following workflows:

Ocean Transport – This workflow gathers and validates container information including container contents and arrival notices at various shipping ports.

Inland Transport – This workflow gathers and validates trucking information including fuel usage, number of stops, and routes.

The VM supports the following REST API calls:

Container API – This API provides container information including weight, contents, and other attributes.

Location API – This API provides location information regarding shipping ports of call and tracking stops.

Shipping REST API – This API provides shipping information for use and display on the shipping website.

Shipping Data

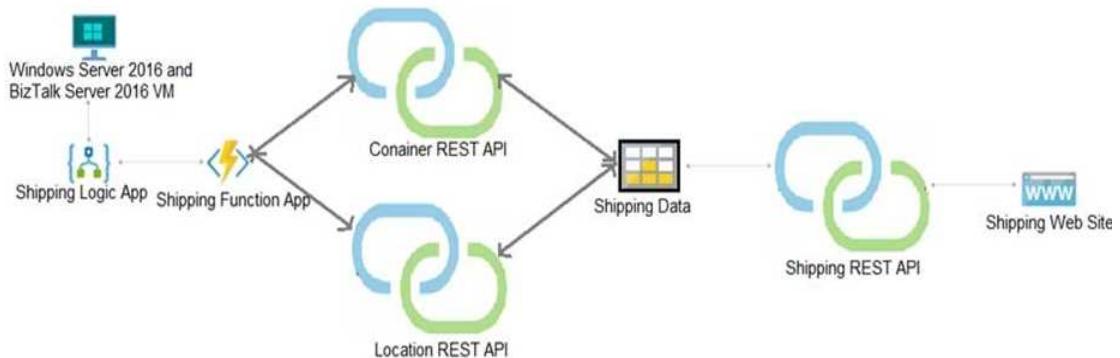
The application uses MongoDB JSON document storage database for all container and transport information.

Shipping Web Site

The site displays shipping container tracking information and container contents. The site is located at <http://shipping.wideworldimporters.com/>

Proposed solution

The on-premises shipping application must be moved to Azure. The VM has been migrated to a new Standard_D16s_v3 Azure VM by using Azure Site Recovery and must remain running in Azure to complete the BizTalk component migrations. You create a Standard_D16s_v3 Azure VM to host BizTalk Server. The Azure architecture diagram for the proposed solution is shown below:



Requirements

Shipping Logic app

The Shipping Logic app must meet the following requirements:

Support the ocean transport and inland transport workflows by using a Logic App.

Support industry-standard protocol X12 message format for various messages including vessel content details and arrival notices.

Secure resources to the corporate VNet and use dedicated storage resources with a fixed costing model.

Maintain on-premises connectivity to support legacy applications and final BizTalk migrations.

Shipping Function app

Implement secure function endpoints by using app-level security and include Azure Active Directory (Azure AD).

REST APIs

The REST API's that support the solution must meet the following requirements:

Secure resources to the corporate VNet.

Allow deployment to a testing location within Azure while not incurring additional costs.

Automatically scale to double capacity during peak shipping times while not causing application downtime.

Minimize costs when selecting an Azure payment model.

Shipping data

Data migration from on-premises to Azure must minimize costs and downtime.

Shipping website

Use Azure Content Delivery Network (CDN) and ensure maximum performance for dynamic content while minimizing latency and costs.

Issues

Windows Server 2016 VM

The VM shows high network latency, jitter, and high CPU utilization. The VM is critical and has not been backed up in the past. The VM must enable a quick restore from a 7-day snapshot to include in-place restore of disks in case of failure.

Shipping website and REST APIs

The following error message displays while you are testing the website:

Failed to load <http://test-shippingapi.wideworldimporters.com/>: No 'Access-Control-Allow-Origin' header is present on the requested resource. Origin 'http://test.wideworldimporters.com/' is therefore not allowed access.

Question: 1

HOTSPOT

You need to configure Azure CDN for the Shipping web site.

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

NOTE: Each correct selection is worth one point.

Option	Value
Tier	<input type="button" value="▼"/> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"> Standard Premium </div>
Profile	<input type="button" value="▼"/> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"> Akamai Microsoft </div>
Optimization	<input type="button" value="▼"/> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"> general web delivery large file download dynamic site acceleration video-on-demand media streaming </div>

Explanation:

Answer:

Option	Value
Tier	<div style="border: 1px solid black; padding: 5px; width: fit-content;"> <div style="background-color: #f0f0f0; height: 15px; margin-bottom: 2px;"></div> <div style="background-color: #e0e0e0; height: 15px; margin-bottom: 2px;"></div> <div style="background-color: #d0d0d0; height: 15px; margin-bottom: 2px;"></div> <div style="background-color: #c0c0c0; height: 15px; margin-bottom: 2px;"></div> <div style="background-color: #b0b0b0; height: 15px; margin-bottom: 2px;"></div> <div style="background-color: #a0a0a0; height: 15px; margin-bottom: 2px;"></div> <div style="background-color: #909090; height: 15px; margin-bottom: 2px;"></div> <div style="background-color: #808080; height: 15px; margin-bottom: 2px;"></div> <div style="background-color: #707070; height: 15px; margin-bottom: 2px;"></div> <div style="background-color: #606060; height: 15px; margin-bottom: 2px;"></div> <div style="background-color: #505050; height: 15px; margin-bottom: 2px;"></div> <div style="background-color: #404040; height: 15px; margin-bottom: 2px;"></div> <div style="background-color: #303030; height: 15px; margin-bottom: 2px;"></div> <div style="background-color: #202020; height: 15px; margin-bottom: 2px;"></div> <div style="background-color: #101010; height: 15px; margin-bottom: 2px;"></div> <div style="background-color: #000000; height: 15px;"></div> </div>
Profile	<div style="border: 1px solid black; padding: 5px; width: fit-content;"> <div style="background-color: #f0f0f0; height: 15px; margin-bottom: 2px;"></div> <div style="background-color: #e0e0e0; height: 15px; margin-bottom: 2px;"></div> <div style="background-color: #d0d0d0; height: 15px; margin-bottom: 2px;"></div> <div style="background-color: #c0c0c0; height: 15px; margin-bottom: 2px;"></div> <div style="background-color: #b0b0b0; height: 15px; margin-bottom: 2px;"></div> <div style="background-color: #a0a0a0; height: 15px; margin-bottom: 2px;"></div> <div style="background-color: #909090; height: 15px; margin-bottom: 2px;"></div> <div style="background-color: #808080; height: 15px; margin-bottom: 2px;"></div> <div style="background-color: #707070; height: 15px; margin-bottom: 2px;"></div> <div style="background-color: #606060; height: 15px; margin-bottom: 2px;"></div> <div style="background-color: #505050; height: 15px; margin-bottom: 2px;"></div> <div style="background-color: #404040; height: 15px; margin-bottom: 2px;"></div> <div style="background-color: #303030; height: 15px; margin-bottom: 2px;"></div> <div style="background-color: #202020; height: 15px; margin-bottom: 2px;"></div> <div style="background-color: #101010; height: 15px; margin-bottom: 2px;"></div> <div style="background-color: #000000; height: 15px;"></div> </div>
Optimization	<div style="border: 1px solid black; padding: 5px; width: fit-content;"> <div style="background-color: #f0f0f0; height: 15px; margin-bottom: 2px;"></div> <div style="background-color: #e0e0e0; height: 15px; margin-bottom: 2px;"></div> <div style="background-color: #d0d0d0; height: 15px; margin-bottom: 2px;"></div> <div style="background-color: #c0c0c0; height: 15px; margin-bottom: 2px;"></div> <div style="background-color: #b0b0b0; height: 15px; margin-bottom: 2px;"></div> <div style="background-color: #a0a0a0; height: 15px; margin-bottom: 2px;"></div> <div style="background-color: #909090; height: 15px; margin-bottom: 2px;"></div> <div style="background-color: #808080; height: 15px; margin-bottom: 2px;"></div> <div style="background-color: #707070; height: 15px; margin-bottom: 2px;"></div> <div style="background-color: #606060; height: 15px; margin-bottom: 2px;"></div> <div style="background-color: #505050; height: 15px; margin-bottom: 2px;"></div> <div style="background-color: #404040; height: 15px; margin-bottom: 2px;"></div> <div style="background-color: #303030; height: 15px; margin-bottom: 2px;"></div> <div style="background-color: #202020; height: 15px; margin-bottom: 2px;"></div> <div style="background-color: #101010; height: 15px; margin-bottom: 2px;"></div> <div style="background-color: #000000; height: 15px;"></div> </div>

Scenario: Shipping website

Use Azure Content Delivery Network (CDN) and ensure maximum performance for dynamic content while minimizing latency and costs.

Tier: Standard

Profile: Akamai

Optimization: Dynamic site acceleration

Dynamic site acceleration (DSA) is available for Azure CDN Standard from Akamai, Azure CDN Standard from Verizon, and Azure CDN Premium from Verizon profiles.

DSA includes various techniques that benefit the latency and performance of dynamic content. Techniques include route and network optimization, TCP optimization, and more.

You can use this optimization to accelerate a web app that includes numerous responses that aren't cacheable. Examples are search results, checkout transactions, or real-time dat

- a. You can continue to use core Azure CDN caching capabilities for static data.

Reference:

<https://docs.microsoft.com/en-us/azure/cdn/cdn-optimization-overview>

Question: 2

HOTSPOT

You need to secure the Shipping Function app.

How should you configure the app? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Setting**Value**

Authorization level

Function

Anonymous

Admin

User claims

JSON Web Token (JWT)

Shared Access Signature (SAS) token

API Key

Trigger type

blob

HTTP

queue

timer

Answer:

Explanation:

Setting	Value
Authorization level	<ul style="list-style-type: none"> Function Anonymous Admin
User claims	<ul style="list-style-type: none"> JSON Web Token (JWT) Shared Access Signature (SAS) token API Key
Trigger type	<ul style="list-style-type: none"> blob HTTP queue timer

Scenario: Shipping Function app: Implement secure function endpoints by using app-level security and include Azure Active Directory (Azure AD).

Box 1: Function

Box 2: JSON based Token (JWT)

Azure AD uses JSON based tokens (JWTs) that contain claims

Box 3: HTTP

How a web app delegates sign-in to Azure AD and obtains a token

User authentication happens via the browser. The OpenID protocol uses standard HTTP protocol messages.

Reference:

<https://docs.microsoft.com/en-us/azure/active-directory/develop/authentication-scenarios>

Question: 3

You need to secure the Shipping Logic App.

What should you use?

- A. Azure App Service Environment (ASE)
- B. Azure AD B2B integration
- C. Integration Service Environment (ISE)
- D. VNet service endpoint

Answer: C

Explanation:

Scenario: The Shipping Logic App requires secure resources to the corporate VNet and use dedicated storage resources with a fixed costing model.

You can access to Azure Virtual Network resources from Azure Logic Apps by using integration service environments (ISEs).

Sometimes, your logic apps and integration accounts need access to secured resources, such as virtual machines (VMs) and other systems or services, that are inside an Azure virtual network. To set

up this access, you can create an integration service environment (ISE) where you can run your logic apps and create your integration accounts.

Reference:

<https://docs.microsoft.com/en-us/azure/logic-apps/connect-virtual-network-vnet-isolated-environment-overview>

Question: 4

DRAG DROP

You need to support the message processing for the ocean transport workflow.

Which four 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.

Actions	Answer Area
Create an integration account in the Azure portal.	
Link the custom connector to the Logic App.	
Update the Logic App to use the partners, schemas, certificates, maps, and agreements.	 
Create a custom connector for the Logic App.	
Add partners, schemas, certificates, maps, and agreements.	
Link the Logic App to the integration account.	

Answer:

Explanation:

Create an integration account in the Azure portal.

Link the Logic App to the integration account.

Add partners, schemas, certificates, maps, and agreements.

Create a custom connector for the Logic App.

Step 1: Create an integration account in the Azure portal

You can define custom metadata for artifacts in integration accounts and get that metadata during runtime for your logic app to use. For example, you can provide metadata for artifacts, such as partners, agreements, schemas, and maps - all store metadata using key-value pairs.

Step 2: Link the Logic App to the integration account

A logic app that's linked to the integration account and artifact metadata you want to use.

Step 3: Add partners, schemas, certificates, maps, and agreements

Step 4: Create a custom connector for the Logic App.

Reference:

<https://docs.microsoft.com/bs-latn-ba/azure/logic-apps/logic-apps-enterprise-integration-metadata>

Question: 5

You need to support the requirements for the Shipping Logic App.

What should you use?

A. Azure Active Directory Application Proxy

B. Point-to-Site (P2S) VPN connection

C. Site-to-Site (S2S) VPN connection

D. On-premises Data Gateway

Answer: D

Explanation:

Before you can connect to on-premises data sources from Azure Logic Apps, download and install the on-premises data gateway on a local computer. The gateway works as a bridge that provides quick data transfer and encryption between data sources on premises (not in the cloud) and your logic apps.

The gateway supports BizTalk Server 2016.

Note: Microsoft have now fully incorporated the Azure BizTalk Services capabilities into Logic Apps and Azure App Service Hybrid Connections.

Logic Apps Enterprise Integration pack bring some of the enterprise B2B capabilities like AS2 and X12, EDI standards support

Scenario: The Shipping Logic app must meet the following requirements:

Support the ocean transport and inland transport workflows by using a Logic App.

Support industry-standard protocol X12 message format for various messages including vessel content details and arrival notices.

Secure resources to the corporate VNet and use dedicated storage resources with a fixed costing model.

Maintain on-premises connectivity to support legacy applications and final BizTalk migrations.

Reference:

<https://docs.microsoft.com/en-us/azure/logic-apps/logic-apps-gateway-install>

Question: 6

You need to migrate on-premises shipping data to Azure.

What should you use?

- A. Azure Migrate
- B. Azure Cosmos DB Data Migration tool (dt.exe)
- C. AzCopy
- D. Azure Database Migration service

Answer: D

Explanation:

Migrate from on-premises or cloud implementations of MongoDB to Azure Cosmos DB with minimal downtime by using Azure Database Migration Service. Perform resilient migrations of MongoDB data at scale and with high reliability.

Scenario: Data migration from on-premises to Azure must minimize costs and downtime.

The application uses MongoDB JSON document storage database for all container and transport information.

Reference:

<https://azure.microsoft.com/en-us/updates/mongodb-to-azure-cosmos-db-online-and-offline-migrations-are-now-available/>

Question: 7

HOTSPOT

You need to resolve the Shipping web site error.

How should you configre the Azure Table Storage service? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

```
<?xml version="1.0" encoding="utf-8"?>
<StorageServiceProperties>
  ...
  <Cors>
    <CorsRule>
      <AllowedHeaders>
        AllowedHeaders
        ExposedHeaders
        AllowedMethods
        AllowedOrigins
      </AllowedHeaders>
      <ExposedHeaders>
        http://*.wideworldimporters.com
        http://test.wideworldimporters.com
        http://test-shippingapi.wideworldimporters.com
        http://www.wideworldimporters.com
      </ExposedHeaders>
      <AllowedMethods>
        GET,PUT
        GET
        POST
        GET,HEAD
      </AllowedMethods>
    </CorsRule>
  </Cors>
</StorageServiceProperties>
```

Explanation:

Answer:

```

<?xml version="1.0" encoding="utf-8"?>
<StorageServiceProperties>
  ...
  <Cors>
    <CorsRule>
      <AllowedHeaders>
        AllowedHeaders
        ExposedHeaders
        AllowedMethods
        AllowedOrigins
      </AllowedHeaders>
      <AllowedMethods>
        GET,PUT
        GET
        POST
        GET,HEAD
      </AllowedMethods>
      ...
    </CorsRule>
  </Cors>
</StorageServiceProperties>

```

Box 1: AllowedOrigins

A CORS request will fail if Access-Control-Allow-Origin is missing.

Scenario:

The following error message displays while you are testing the website:

Failed to load <http://test-shippingapi.wideworldimporters.com/>: No 'Access-Control-Allow-Origin' header is present on the requested resource. Origin '<http://testwideworldimporters.com/>' is therefore not allowed access.

Box 2: http://test-shippingapi.wideworldimporters.com

Syntax: Access-Control-Allow-Origin: *

Access-Control-Allow-Origin: <origin>

Access-Control-Allow-Origin: null

<origin> Specifies an origin. Only a single origin can be specified.

Box 3: AllowedOrigins

Box 4: POST

The only allowed methods are GET, HEAD, and POST. In this case POST is used.

"<Corsrule>" "allowedmethods" Failed to load no "Access-control-Origin" header is present

Reference:

<https://developer.mozilla.org/en-US/docs/Web/HTTP/Headers/Access-Control-Allow-Origin>

Question: 8

HOTSPOT

You need to correct the VM issues.

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

NOTE: Each correct selection is worth one point.

Issue	Tool
Backup and Restore	Azure Site Recovery Azure Backup Azure Data Box Azure Migrate
Performance	Azure Network Watcher Azure Traffic Manager ExpressRoute Accelerated Networking

Explanation:

Answer:

Issue	Tool
Backup and Restore	Azure Site Recovery Azure Backup Azure Data Box Azure Migrate
Performance	Azure Network Watcher Azure Traffic Manager ExpressRoute Accelerated Networking

Backup and Restore: Azure Backup

Scenario: The VM is critical and has not been backed up in the past. The VM must enable a quick restore from a 7-day snapshot to include in-place restore of disks in case of failure.

In-Place restore of disks in IaaS VMs is a feature of Azure Backup.

Performance: Accelerated Networking

Scenario: The VM shows high network latency, jitter, and high CPU utilization.

Accelerated networking enables single root I/O virtualization (SR-IOV) to a VM, greatly improving its networking performance. This high-performance path bypasses the host from the datapath, reducing latency, jitter, and CPU utilization, for use with the most demanding network workloads on supported VM types.

Reference:

<https://azure.microsoft.com/en-us/blog/an-easy-way-to-bring-back-your-azure-vm-with-in-place-restore/>

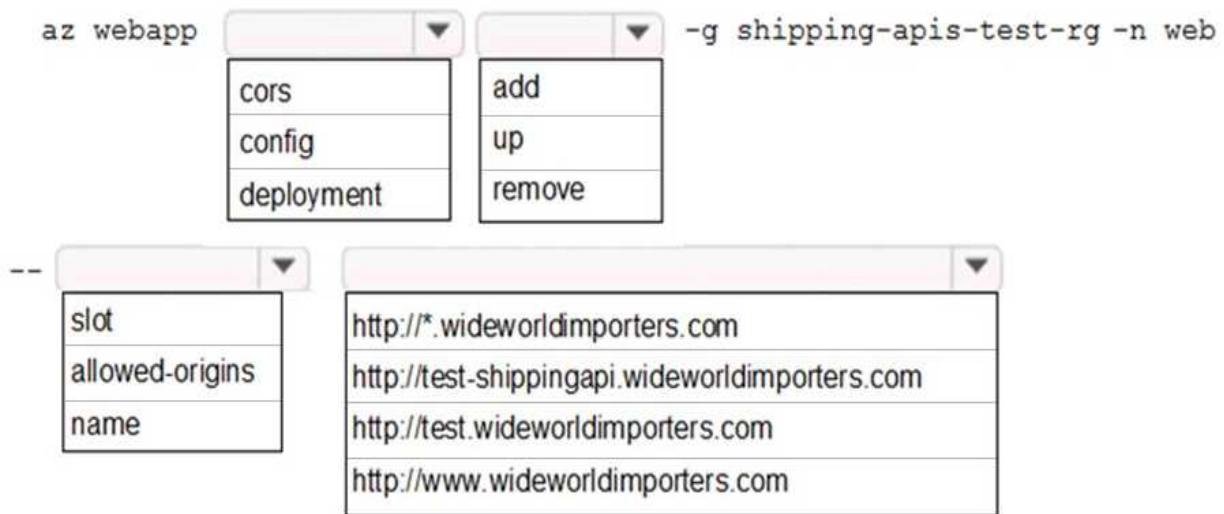
Question: 9

HOTSPOT

You need to update the APIs to resolve the testing error.

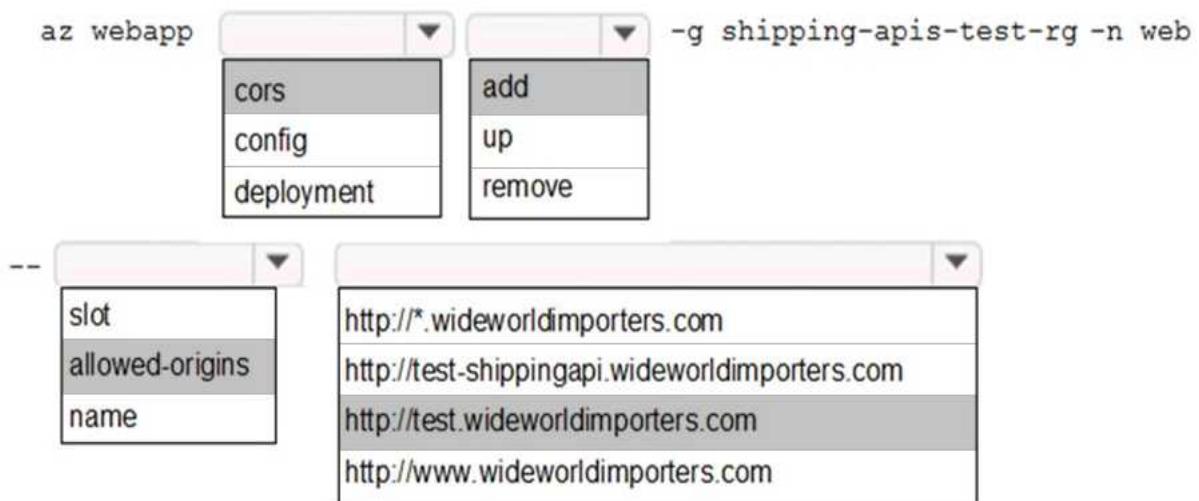
How should you complete the Azure CLI command? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.



Answer:

Explanation:



Enable Cross-Origin Resource Sharing (CORS) on your Azure App Service Web App.

Enter the full URL of the site you want to allow to access your WEB API or * to allow all domains.

Box 1: cors

Box 2: add

Box 3: allowed-origins

Box 4: <http://testwideworldimporters.com/>

Reference:

<http://donovanbrown.com/post/How-to-clear-No-Access-Control-Allow-Origin-header-error-with-Azure-App-Service>

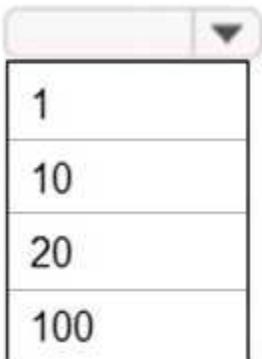
Question: 10

HOTSPOT

You need to configure Azure App Service to support the REST API requirements.

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

NOTE: Each correct selection is worth one point.

Setting	Value
Plan	
Instance Count	

Answer:

Explanation:

Setting	Value
Plan	<div style="border: 1px solid black; padding: 5px; width: fit-content;"> Basic Standard Premium Isolated </div>
Instance Count	<div style="border: 1px solid black; padding: 5px; width: fit-content;"> 1 10 20 100 </div>

Plan: Standard

Standard support auto-scaling

Instance Count: 10

Max instances for standard is 10.

Scenario:

The REST API's that support the solution must meet the following requirements:

Allow deployment to a testing location within Azure while not incurring additional costs.

Automatically scale to double capacity during peak shipping times while not causing application downtime.

Minimize costs when selecting an Azure payment model.

Reference:

<https://azure.microsoft.com/en-us/pricing/details/app-service/plans/>

Topic 2, Contoso, Ltd

Case study

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Background

Overview

You are a developer for Contoso, Ltd. The company has a social networking website that is developed as a Single Page Application (SPA). The main web application for the social networking website loads user uploaded content from blob storage.

You are developing a solution to monitor uploaded data for inappropriate content. The following process occurs when users upload content by using the SPA:

- Messages are sent to ContentUploadService.
- Content is processed by ContentAnalysisService.
- After processing is complete, the content is posted to the social network or a rejection message is posted in its place.

The ContentAnalysisService is deployed with Azure Container Instances from a private Azure Container Registry named contosoimages.

The solution will use eight CPU cores.

Azure Active Directory

Contoso, Ltd. uses Azure Active Directory (Azure AD) for both internal and guest accounts.

Requirements

ContentAnalysisService

The company's data science group built ContentAnalysisService which accepts user generated

content as a string and returns a probable value for inappropriate content. Any values over a specific threshold must be reviewed by an employee of Contoso, Ltd.

You must create an Azure Function named CheckUserContent to perform the content checks.

Costs

You must minimize costs for all Azure services.

Manual review

To review content, the user must authenticate to the website portion of the ContentAnalysisService using their Azure AD credentials. The website is built using React and all pages and API endpoints require authentication. In order to review content a user must be part of a ContentReviewer role. All completed reviews must include the reviewer's email address for auditing purposes.

High availability

All services must run in multiple regions. The failure of any service in a region must not impact overall application availability.

Monitoring

An alert must be raised if the ContentUploadService uses more than 80 percent of available CPU cores.

Security

You have the following security requirements:

Any web service accessible over the Internet must be protected from cross site scripting attacks.

All websites and services must use SSL from a valid root certificate authority.

Azure Storage access keys must only be stored in memory and must be available only to the service.

All Internal services must only be accessible from internal Virtual Networks (VNets).

All parts of the system must support inbound and outbound traffic restrictions.

All service calls must be authenticated by using Azure AD.

User agreements

When a user submits content, they must agree to a user agreement. The agreement allows employees of Contoso, Ltd. to review content, store cookies on user devices, and track user's IP addresses.

Information regarding agreements is used by multiple divisions within Contoso, Ltd.

User responses must not be lost and must be available to all parties regardless of individual service uptime. The volume of agreements is expected to be in the millions per hour.

Validation testing

When a new version of the ContentAnalysisService is available the previous seven days of content must be processed with the new version to verify that the new version does not significantly deviate from the old version.

Issues

Users of the ContentUploadService report that they occasionally see HTTP 502 responses on specific

pages.

Code

ContentUploadService

```
CS01 apiVersion: '2018-10-01'
CS02 type: Microsoft.ContainerInstance/containerGroups
CS03 location: westus
CS04 name: contentUploadService
CS05 properties:
CS06   containers:
CS07     - name: service
CS08       properties:
CS09         image: contoso/contentUploadService:latest
CS10       ports:
CS11         - port: 80
CS12           protocol: TCP
CS13       resources:
CS14         requests:
CS15           cpu: 1.0
CS16           memoryInGB: 1.5
CS17
CS18 ipAddress:
CS19   ip: 10.23.121.112
CS20   ports:
CS21     - port: 80
CS22       protocol: TCP
CS23
CS24
CS25 networkProfile:
CS26
id: /subscriptions/98...19/resourceGroups/container/providers/Microsoft.Network/networkProfiles/subnet
```

```
AM01 {
AM02     "id" : "2b079f03-9b06-2d44-98bb-e9182901fcb6",
AM03     "appId" : "7118a7f0-b5c2-4c9d-833c-3d711396fe65",
AM04
AM05     "createdDateTime" : "2019-12-24T06:01:44Z",
AM06     "logoUrl" : null,
AM07     "logoutUrl" : null,
AM08     "name" : "ContentAnalysisService",
AM09
AM10
AM11     "orgRestrictions" : [],
AM12     "parentalControlSettings" : {
AM13         "countriesBlockedForMinors" : [],
AM14         "legalAgeGroupRule" : "Allow"
AM15     },
AM16     "passwordCredentials" : []
AM17 }
```

Question: 11

You need to configure the ContentUploadService deployment.

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

NOTE: Each correct selection is worth one point.

A. Add the following markup to line CS23:

types: Private

B. Add the following markup to line CS24:

osType: Windows

C. Add the following markup to line CS24:

osType: Linux

D. Add the following markup to line CS23:

types: Public

Answer: C

Explanation:

Scenario: All Internal services must only be accessible from Internal Virtual Networks (VNets)

There are three Network Location types – Private, Public and Domain

Reference:

<https://devblogs.microsoft.com/powershell/setting-network-location-to-private/>

Question: 12

You need to store the user agreements.

Where should you store the agreement after it is completed?

A. Azure Storage queue

B. Azure Event Hub

C. Azure Service Bus topic

D. Azure Event Grid topic

Answer: B

Explanation:

Azure Event Hub is used for telemetry and distributed data streaming.

This service provides a single solution that enables rapid data retrieval for real-time processing as well as repeated replay of stored raw data. It can capture the streaming data into a file for processing and analysis.

It has the following characteristics:

low latency

capable of receiving and processing millions of events per second

at least once delivery

Reference:

<https://docs.microsoft.com/en-us/azure/event-grid/compare-messaging-services>

Question: 13

HOTSPOT

You need to implement the bindings for the CheckUserContent function.

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

NOTE: Each correct selection is worth one point.

```
public static class CheckUserContent
{
    [FunctionName ("CheckUserContent")]
    public static void Run(
        [QueueTrigger("userContent")]
        [BlobTrigger("userContent/{name}")]
        [CosmosDBTrigger("content", "userContent")]
        [Table("content", "userContent", "{name}")] string content,
        Stream output)
    {
        ...
    }
}
```

Answer:

Explanation:

```

public static class CheckUserContent
{
    [FunctionName ("CheckUserContent")]
    public static void Run(
        [QueueTrigger("userContent")]
        [BlobTrigger("userContent/{name}")]
        [CosmosDBTrigger("content", "userContent")]
        [Table("content", "userContent", "{name}")]
        string content,
        Stream output)
    {
        ...
    }
}

```

Box 1: [BlobTrigger(..)]

Box 2: [Blob(..)]

Azure Blob storage output binding for Azure Functions. The output binding allows you to modify and delete blob storage data in an Azure Function.

The attribute's constructor takes the path to the blob and a FileAccess parameter indicating read or write, as shown in the following example:

```

[FunctionName("ResizeImage")]

public static void Run(
    [BlobTrigger("sample-images/{name}")] Stream image,
    [Blob("sample-images-md/{name}", FileAccess.Write)] Stream imageSmall)

```

```
{
```

```
...
```

```
}
```

Scenario: You must create an Azure Function named CheckUserContent to perform the content checks.

The company's data science group built ContentAnalysisService which accepts user generated content as a string and returns a probable value for inappropriate content. Any values over a specific threshold must be reviewed by an employee of Contoso, Ltd.

Reference:

<https://docs.microsoft.com/en-us/azure/azure-functions/functions-bindings-storage-blob-output>

Question: 14

DRAG DROP

You need to add markup at line AM04 to implement the ContentReview role.

How should you complete the markup? To answer, drag the appropriate json segments to the correct locations. Each json segment 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.

Json segments	Answer Area
User	"appRoles" : [
value	{ " [] ":" [
role	" [] " "
Application],
allowedMemberTypes	"displayName": "ContentReviewer", "id": "e1c2ade8-98f8-45fd-aa4a-6d24b512c22a", "isEnabled" : true,
allowedAccountTypes	" [] " :"ContentReviewer"
	}
],

Answer:

Explanation:

```
"appRoles" : [
{
  " [ ] ":" [",
    "User",
  ],
  "displayName": "ContentReviewer",
  "id": "e1c2ade8-98f8-45fd-aa4a-6d24b512c22a",
  "isEnabled" : true,
  " [ ] " :"ContentReviewer"
}
],
```

Box 1: allowedMemberTypes

allowedMemberTypes specifies whether this app role definition can be assigned to users and groups by setting to "User", or to other applications (that are accessing this application in daemon service scenarios) by setting to "Application", or to both.

Note: The following example shows the appRoles that you can assign to users.

```
"appId": "8763f1c4-f988-489c-a51e-158e9ef97d6a",
"appRoles": [
{
  "allowedMemberTypes": [
    "User"
  ],
  "displayName": "Writer",
  "id": "d1c2ade8-98f8-45fd-aa4a-6d06b947c66f",
  "isEnabled": true,
  "description": "Writers Have the ability to create tasks.",
  "value": "Writer"
},
],
"availableToOtherTenants": false,
```

Box 2: User

Scenario: In order to review content a user must be part of a ContentReviewer role.

Box 3: value

value specifies the value which will be included in the roles claim in authentication and access tokens.

Reference:

<https://docs.microsoft.com/en-us/graph/api/resources/approle>

Question: 15

HOTSPOT

You need to add code at line AM09 to ensure that users can review content using ContentAnalysisService.

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

NOTE: Each correct selection is worth one point.

"allowPublicClient":true
"oauth2Permissions": ["login"]
"oauth2AllowUrlPathMatching":true
"oauth2AllowIdTokenImplicitFlow":true

"oauth2AllowImplicitFlow": true
"oauth2RequiredPostResponse":true
"preAuthorizedApplications":["SPA"]
"knownClientApplications":["ContentAnalysisService"]

Answer:

Explanation:

```
"allowPublicClient":true  
"oauth2Permissions": ["login"]  
"oauth2AllowUrlPathMatching":true  
"oauth2AllowIdTokenImplicitFlow":true
```

```
"oauth2AllowImplicitFlow": true  
"oauth2RequiredPostResponse":true  
"preAuthorizedApplications":["SPA"]  
"knownClientApplications":["ContentAnalysisService"]
```

Box 1: "oauth2Permissions": ["login"]

oauth2Permissions specifies the collection of OAuth 2.0 permission scopes that the web API (resource) app exposes to client apps. These permission scopes may be granted to client apps during consent.

Box 2: "oauth2AllowImplicitFlow":true

For applications (Angular, Ember.js, React.js, and so on), Microsoft identity platform supports the OAuth 2.0 Implicit Grant flow.

Reference:

<https://docs.microsoft.com/en-us/azure/active-directory/develop/reference-app-manifest>

Question: 16

HOTSPOT

You need to ensure that network security policies are met.

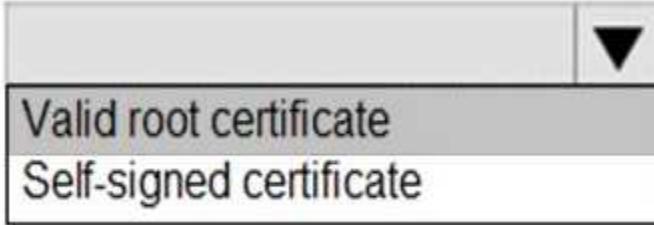
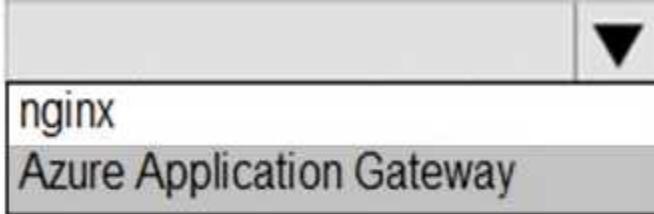
How should you configure network security? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Technology	Value
SSL certificate	<input type="checkbox"/> Valid root certificate <input type="checkbox"/> Self-signed certificate
Proxy type	<input type="checkbox"/> nginx <input type="checkbox"/> Azure Application Gateway

Answer:

Explanation:

Technology	Value
SSL certificate	 <p>Valid root certificate Self-signed certificate</p>
Proxy type	 <p>nginx Azure Application Gateway</p>

Box 1: Valid root certificate

Scenario: All websites and services must use SSL from a valid root certificate authority.

Box 2: Azure Application Gateway

Scenario:

Any web service accessible over the Internet must be protected from cross site scripting attacks.

All Internal services must only be accessible from Internal Virtual Networks (VNets)

All parts of the system must support inbound and outbound traffic restrictions.

Azure Web Application Firewall (WAF) on Azure Application Gateway provides centralized protection of your web applications from common exploits and vulnerabilities. Web applications are increasingly targeted by malicious attacks that exploit commonly known vulnerabilities. SQL injection and cross-site scripting are among the most common attacks.

Application Gateway supports autoscaling, SSL offloading, and end-to-end SSL, a web application firewall (WAF), cookie-based session affinity, URL path-based routing, multisite hosting, redirection, rewrite HTTP headers and other features.

Note: Both Nginx and Azure Application Gateway act as a reverse proxy with Layer 7 load-balancing features plus a WAF to ensure strong protection against common web vulnerabilities and exploits.

You can modify Nginx web server configuration/SSL for X-XSS protection. This helps to prevent cross-site scripting exploits by forcing the injection of HTTP headers with X-XSS protection.

Reference:

<https://docs.microsoft.com/en-us/azure/web-application-firewall/ag/ag-overview>

<https://www.upguard.com/articles/10-tips-for-securing-your-nginx-deployment>

Question: 17

You need to monitor ContentUploadService according to the requirements.

Which command should you use?

A. az monitor metrics alert create -n alert -g ... --scopes ... --condition "avg

Percentage CPU > 8"

B. az monitor metrics alert create -n alert -g ... --scopes ... --condition "avg

Percentage CPU > 800"

C. az monitor metrics alert create -n alert -g ... --scopes ... --condition "CPU

Usage > 800"

D. az monitor metrics alert create -n alert -g ... --scopes ... --condition "CPU

Usage > 8"

Answer: B

Explanation:

Scenario: An alert must be raised if the ContentUploadService uses more than 80 percent of available CPU-cores

Reference:

<https://docs.microsoft.com/sv-se/cli/azure/monitor/metrics/alert>

Question: 18

HOTSPOT

You need to ensure that validation testing is triggered per the requirements.

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

NOTE: Each correct selection is worth one point.

```
var event = getEvent();
if (event.eventType === 'ImagePushed') {
    && event.data.target === 'contentanalysisservice'
    && event.data.topic.contains('contosoimages'))
{
    startValidationTesting();
}
```

The screenshot shows a code editor with the following code:

```
var event = getEvent();
if (event.eventType === 'ImagePushed') {
    && event.data.target === 'contentanalysisservice'
    && event.data.topic.contains('contosoimages'))
{
    startValidationTesting();
}
```

Three dropdown menus are open above the code:

- The first dropdown (event.eventType) contains: ImagePushed, RepositoryItem, ImageDeployed, RepositoryUpdated.
- The second dropdown (event.data.target) contains: aci, image, service, repository.
- The third dropdown (event.data.topic) contains: topic, service, repository, imageCollection.

Answer:

Explanation:

```
var event = getEvent();
if (event.eventType === 'RepositoryUpdated') {
    && event.data.target === 'contentanalysisservice'
    && event.data.repository.contains('contosoimages'))
{
    startValidationTesting();
}
```

The screenshot shows a developer's environment with code snippets. Three dropdown menus are open, each showing a list of options:

- The first dropdown (top) contains: ImagePushed, RepositoryItem, ImageDeployed, and RepositoryUpdated. RepositoryUpdated is highlighted.
- The second dropdown (middle) contains: aci, image, service, and repository. service is highlighted.
- The third dropdown (bottom) contains: topic, service, repository, and imageCollection. imageCollection is highlighted.

Box 1: RepositoryUpdated

When a new version of the ContentAnalysisService is available the previous seven days of content must be processed with the new version to verify that the new version does not significantly deviate from the old version.

Box 2: service

Box 3: imageCollection

Reference:

<https://docs.microsoft.com/en-us/azure/devops/notifications/oob-supported-event-types>

Question: 19

DRAG DROP

You need to add YAML markup at line CS17 to ensure that the ContentUploadService can access Azure Storage access keys.

How should you complete the YAML markup? To answer, drag the appropriate YAML segments to the correct locations. Each YAML segment 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.

YAML segments

secret

envVar

secretValues

volumes

volumeMounts

environmentVariables

Answer Area

YAML segment :

- mountPath: /mnt/secrets
name: accesskey

YAML segment :

- name: accesskey

YAML segment :

key: TXkgZmlyc3Qgc2VjcmV0IEZPTwo=

Explanation:

Answer:

```
volumeMounts :  
  - mountPath: /mnt/secrets  
    name: accesskey  
  
volumes :  
  - name: accesskey  
  
secret :  
  key: TXkgZmlyc3Qgc2VjcmV0IEZPTwo=
```

Box 1: volumeMounts

Example:

volumeMounts:

```
- mountPath: /mnt/secrets  
  name: secretvolume1
```

volumes:

```
- name: secretvolume1
```

secret:

```
mysecret1: TXkgZmlyc3Qgc2VjcmV0IEZPTwo=
```

Box 2: volumes

Box 3: secret

Reference:

<https://docs.microsoft.com/en-us/azure/container-instances/container-instances-volume-secret>

Question: 20

HOTSPOT

You need to add code at line AM10 of the application manifest to ensure that the requirement for manually reviewing content can be met.

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

NOTE: Each correct selection is worth one point.

```
"optionalClaims": [  
    "acct",  
    "platt",  
    "sid",  
    "tenant_ctry",  
    "sid",  
    "upn",  
    "email",  
    "enfpolids"],
```

Answer:

Explanation:

```
"optionalClaims": [  
    "urn:ietf:params:openid-connect:claim:acct",  
    "urn:ietf:params:openid-connect:claim:platf",  
    "urn:ietf:params:openid-connect:claim:sid",  
    "urn:ietf:params:openid-connect:claim:tenant_ctry",  
    "urn:ietf:params:openid-connect:claim:sid",  
    "urn:ietf:params:openid-connect:claim:upn",  
    "urn:ietf:params:openid-connect:claim:email",  
    "urn:ietf:params:openid-connect:claim:enfpolids"],
```

Box 1: sid

Sid: Session ID, used for per-session user sign-out. Personal and Azure AD accounts.

Scenario: Manual review

To review content, the user must authenticate to the website portion of the ContentAnalysisService using their Azure AD credentials. The website is built using React and all pages and API endpoints require authentication. In order to review content a user must be part of a ContentReviewer role.

Box 2: email

Scenario: All completed reviews must include the reviewer's email address for auditing purposes.

Question: 21

You need to investigate the http server log output to resolve the issue with the ContentUploadService.

Which command should you use first?

- A. az webapp log
- B. az ams live-output
- C. az monitor activity-log
- D. az container attach

Answer: C

Explanation:

Scenario: Users of the ContentUploadService report that they occasionally see HTTP 502 responses on specific pages.

"502 bad gateway" and "503 service unavailable" are common errors in your app hosted in Azure App Service.

Microsoft Azure publicizes each time there is a service interruption or performance degradation.

The az monitor activity-log command manages activity logs.

Note: Troubleshooting can be divided into three distinct tasks, in sequential order:

Observe and monitor application behavior

Collect data

Mitigate the issue

Reference:

<https://docs.microsoft.com/en-us/cli/azure/monitor/activity-log>

Question: 22

You need to deploy the CheckUserContent Azure function. The solution must meet the security and cost requirements.

Which hosting model should you use?

- A. Consumption plan
- B. Premium plan
- C. App Service plan

Answer: C

Explanation:

Topic 3, City Power & Light

Case study

This is a case study. Case studies are not timed separately. You can use as much exam time as you would like to complete each case. However, there may be additional case studies and sections on this exam. You must manage your time to ensure that you are able to complete all questions included on this exam in the time provided.

To answer the questions included in a case study, you will need to reference information that is provided in the case study. Case studies might contain exhibits and other resources that provide more information about the scenario that is described in the case study. Each question is independent of the other questions in this case study.

At the end of this case study, a review screen will appear. This screen allows you to review your answers and to make changes before you move to the next section of the exam. After you begin a new section, you cannot return to this section.

To start the case study

To display the first question in this case study, click the Next button. Use the buttons in the left pane to explore the content of the case study before you answer the questions. Clicking these buttons displays information such as business requirements, existing environment, and problem statements. When you are ready to answer a question, click the Question button to return to the question.

Background

City Power & Light company provides electrical infrastructure monitoring solutions for homes and businesses. The company is migrating solutions to Azure.

Current environment

Architecture overview

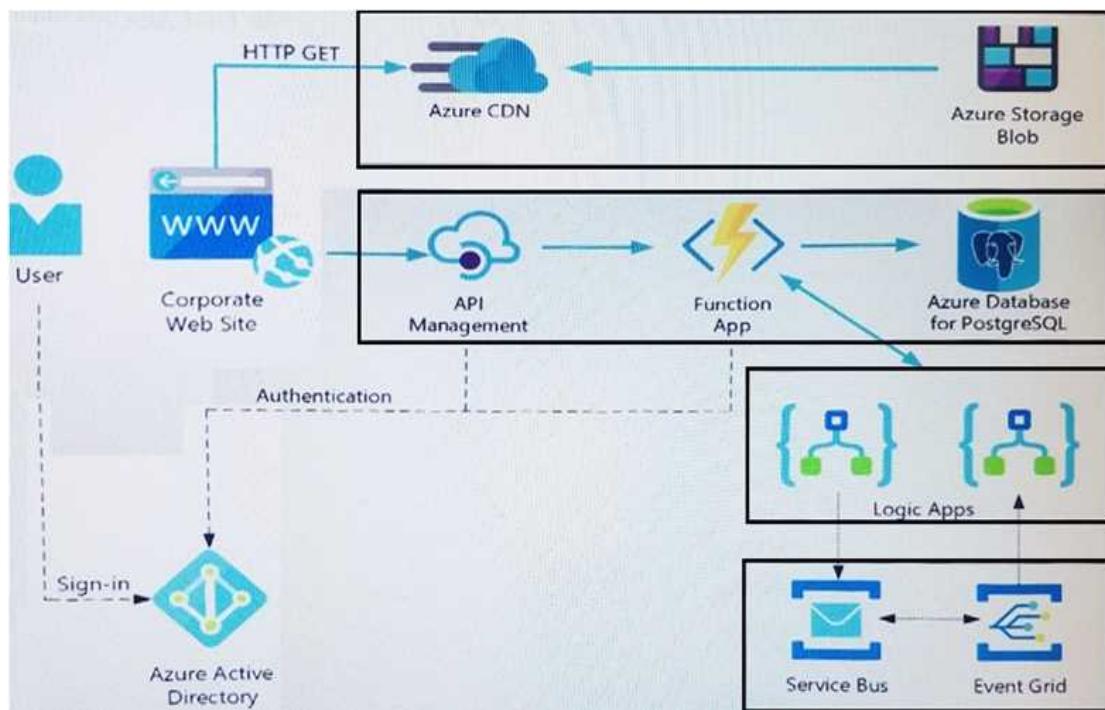
The company has a public website located at <http://www.cpndl.com/>. The site is a single-page web application that runs in Azure App Service on Linux. The website uses files stored in Azure Storage and cached in Azure Content Delivery Network (CDN) to serve static content.

API Management and Azure Function App functions are used to process and store data in Azure Database for PostgreSQL. API Management is used to broker communications to the Azure Function app functions for Logic app integration. Logic apps are used to orchestrate the data processing while Service Bus and Event Grid handle messaging and events.

The solution uses Application Insights, Azure Monitor, and Azure Key Vault.

Architecture diagram

The company has several applications and services that support their business. The company plans to implement serverless computing where possible. The overall architecture is shown below.



User authentication

The following steps detail the user authentication process:

The user selects Sign in in the website.

The browser redirects the user to the Azure Active Directory (Azure AD) sign in page.

The user signs in.

Azure AD redirects the user's session back to the web application. The URL includes an access token.

The web application calls an API and includes the access token in the authentication header. The application ID is sent as the audience ('aud') claim in the access token.

The back-end API validates the access token.

Requirements

Corporate website

Communications and content must be secured by using SSL.

Communications must use HTTPS.

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

Data storage costs must be minimized.

Azure Database for PostgreSQL

The database connection string is stored in Azure Key Vault with the following attributes:

Azure Key Vault name: cpndlkeyvault

Secret name: PostgreSQLConn

Id: 80df3e46ffcd4f1cb187f79905e9a1e8

The connection information is updated frequently. The application must always use the latest information to connect to the database.

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.

Security

All SSL certificates and credentials must be stored in Azure Key Vault.

File access must restrict access by IP, protocol, and Azure AD rights.

All user accounts and processes must receive only those privileges which are essential to perform their intended function.

Compliance

Auditing of the file updates and transfers must be enabled to comply with General Data Protection Regulation (GDPR). The file updates must be read-only, stored in the order in which they occurred, include only create, update, delete, and copy operations, and be retained for compliance reasons.

Issues

Corporate website

While testing the site, the following error message displays:

CryptographicException: The system cannot find the file specified.

Function app

You perform local testing for the RequestUserApproval function. The following error message displays:

'Timeout value of 00:10:00 exceeded by function: RequestUserApproval'

The same error message displays when you test the function in an Azure development environment when you run the following Kusto query:

FunctionAppLogs

```
| where FunctionName == "RequestUserApproval"
```

Logic app

You test the Logic app in a development environment. The following error message displays:

'400 Bad Request'

Troubleshooting of the error shows an HttpTrigger action to call the RequestUserApproval function.

Code

Corporate website

Security.cs:

```
SC01 public class Security
SC02 {
SC03     var bytes = System.IO.File.ReadAllBytes("~/var/ssl/private");
SC04     var cert = new System.Security.Cryptography.X509Certificate2(bytes);
SC05     var certName = cert.FriendlyName;
SC06 }
```

Function app

RequestUserApproval.cs:

```

RA01 public static class RequestUserApproval
RA02 {
RA03 [FunctionName("RequestUserApproval")]
RA04 public static async Task<IActionResult> Run(
RA05 [HttpTrigger(AuthorizationLevel.Function, "get", "post", Route = null)] HttpRequest req,
ILogger log)
RA06 {
RA07     log.LogInformation("RequestUserApproval function processed a request.");
RA08 ...
RA09     return ProcessRequest(req)
RA10     ? (ActionResult)new OkObjectResult($"User approval processed")
RA11     : new BadRequestObjectResult("Failed to process user approval");
RA12 }
RA13 private static bool ProcessRequest(HttpRequest req)
RA14 {
RA15     ...
RA16 }
RA17 }

```

Question: 23

You need to correct the RequestUserApproval Function app error.

What should you do?

- A. Update line RA13 to use the `async` keyword and return an `HttpRequest` object value.
- B. Configure the Function app to use an App Service hosting plan. Enable the Always On setting of the hosting plan.
- C. Update the function to be stateful by using Durable Functions to process the request payload.
- D. Update the `functionTimeout` property of the `host.json` project file to 15 minutes.

Answer: C

Explanation:

Async operation tracking

The HTTP response mentioned previously is designed to help implement long-running HTTP `async` APIs with Durable Functions. This pattern is sometimes referred to as the polling consumer pattern.

Both the client and server implementations of this pattern are built into the Durable Functions HTTP APIs.

Function app

You perform local testing for the RequestUserApproval function. The following error message displays:

'Timeout value of 00:10:00 exceeded by function: RequestUserApproval'

The same error message displays when you test the function in an Azure development environment when you run the following Kusto query:

FunctionAppLogs

```
| where FunctionName == "RequestUserApproval"
```

Reference:

<https://docs.microsoft.com/en-us/azure/azure-functions/durable/durable-functions-http-features>

Question: 24

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.

Create storage account

X

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 ⓘ	<input checked="" type="radio"/> Standard <input type="radio"/> Premium						
Account kind ⓘ	<table><tr><td>StorageV2 (general purpose v2)</td></tr><tr><td>Storage (general purpose v1)</td></tr><tr><td>BlobStorage</td></tr></table>	StorageV2 (general purpose v2)	Storage (general purpose v1)	BlobStorage			
StorageV2 (general purpose v2)							
Storage (general purpose v1)							
BlobStorage							
	▼						
Replication ⓘ	<table><tr><td>Locally-redundant storage (LRS)</td></tr><tr><td>Zone-redundant storage (ZRS)</td></tr><tr><td>Geo-redundant storage (GRS)</td></tr><tr><td>Read-access geo-redundant storage (RA-GRS)</td></tr><tr><td>Geo-zone-redundant storage (GZRS)</td></tr><tr><td>Read-access geo-zone-redundant storage (RA-GZRS)</td></tr></table>	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)
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) ⓘ	<input type="radio"/> Cool <input checked="" type="radio"/> Hot						

Explanation:

Answer:

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 <small>i</small>	corporatewebsitecontent 
* Location	(US) East US 
Performance <small>i</small>	<input checked="" type="radio"/> Standard <input type="radio"/> Premium
Account kind <small>i</small>	 StorageV2 (general purpose v2) Storage (general purpose v1) BlobStorage
Replication <small>i</small>	 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) <small>i</small>	<input type="radio"/> Cool <input checked="" type="radio"/> 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 transaction 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>

Question: 25

HOTSPOT

You need to retrieve the database connection string.

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

NOTE: Each correct selection is worth one point.

REST API Endpoint:

https://	<input type="text"/>	.vault.azure.net/secrets/	<input type="text"/> /
	cpandlkeyvault		
	PostgreSQLConn		
	80df3e46ffcd4f1cb187f79905e9a1e8		

Variable type to access Azure Key Vault secret values:

<input type="text"/>	<input type="button" value="▼"/>
Environment	
Session	
ViewState	
QueryString	

Answer:

Explanation:

REST API Endpoint:

https://	<input type="text"/>	.vault.azure.net/secrets/	<input type="text"/> /
	cpandlkeyvault		
	PostgreSQLConn		
	80df3e46ffcd4f1cb187f79905e9a1e8		

Variable type to access Azure Key Vault secret values:

<input type="text"/>	<input type="button" value="▼"/>
Environment	
Session	
ViewState	
QueryString	

Azure database connection string retrieve REST API vault.azure.net/secrets/

Box 1: cpandlkeyvault

We specify the key vault, cpandlkeyvault.

Scenario: The database connection string is stored in Azure Key Vault with the following attributes:

Azure Key Vault name: cpndlkeyvault

Secret name: PostgreSQLConn

Id: 80df3e46ffcd4f1cb187f79905e9a1e8

Box 2: PostgreSQLConn

We specify the secret, PostgreSQLConn

Example, sample request:

<https://myvault.vault.azure.net//secrets/mysecretname/4387e9f3d6e14c459867679a90fd0f79?api-version=7.1>

Box 3: Querystring

Reference:

<https://docs.microsoft.com/en-us/rest/api/keyvault/getsecret/getsecret>

Question: 26

DRAG DROP

You need to correct the corporate website error.

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

Actions	Answer Area
Upload the certificate to Azure Key Vault.	
Update line SC05 of Security.cs to include error handling and then redeploy the code.	
Update line SC03 of Security.cs to include a using statement and then re-deploy the code.	
Add the certificate thumbprint to the WEBSITE_LOAD_CERTIFICATES app setting.	
Upload the certificate to source control.	
Import the certificate to Azure App Service.	
Generate a certificate.	

Answer:

Explanation:

Generate a certificate.
Upload the certificate to Azure Key Vault.
Import the certificate to Azure App Service.
Update line SC05 of Security.cs to include error handling and then redeploy the code.

Scenario: Corporate website

While testing the site, the following error message displays:

CryptographicException: The system cannot find the file specified.

Step 1: Generate a certificate

Step 2: Upload the certificate to Azure Key Vault

Scenario: All SSL certificates and credentials must be stored in Azure Key Vault.

Step 3: Import the certificate to Azure App Service

Step 4: Update line SCO5 of Security.cs to include error handling and then redeploy the code

Reference:

<https://docs.microsoft.com/en-us/azure/app-service/configure-ssl-certificate>

Question: 27

HOTSPOT

You need to configure API Management for authentication.

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

NOTE: Each correct selection is worth one point.

Setting	Value
Policy	<div style="border: 1px solid black; padding: 5px; width: fit-content;"> <div style="border-bottom: 1px solid black; padding-bottom: 2px;">Check HTTP header</div> <div>Restrict caller IPs</div> <div>Limit call rate by key</div> <div>Validate JWT</div> </div>
Policy section	<div style="border: 1px solid black; padding: 5px; width: fit-content;"> <div style="border-bottom: 1px solid black; padding-bottom: 2px;">Inbound</div> <div>Outbound</div> </div>

Answer:

Explanation:

Setting	Value
Policy	<div style="border: 1px solid black; padding: 5px; width: fit-content;"> <div style="border-bottom: 1px solid black; padding-bottom: 2px;">Check HTTP header</div> <div>Restrict caller IPs</div> <div>Limit call rate by key</div> <div>Validate JWT</div> </div>
Policy section	<div style="border: 1px solid black; padding: 5px; width: fit-content;"> <div style="border-bottom: 1px solid black; padding-bottom: 2px;">Inbound</div> <div>Outbound</div> </div>

Box 1: Validate JWT

The validate-jwt policy enforces existence and validity of a JWT extracted from either a specified HTTP Header or a specified query parameter.

Scenario: User authentication (see step 5 below)

The following steps detail the user authentication process:

The user selects Sign in in the website.

The browser redirects the user to the Azure Active Directory (Azure AD) sign in page.

The user signs in.

Azure AD redirects the user's session back to the web application. The URL includes an access token.

The web application calls an API and includes the access token in the authentication header. The application ID is sent as the audience ('aud') claim in the access token.

The back-end API validates the access token.

Box 2: Outbound

Reference:

<https://docs.microsoft.com/en-us/azure/api-management/api-management-access-restriction-policies>

Question: 28

You need to authenticate the user to the corporate website as indicated by the architectural diagram.

Which two values should you use? Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point.

A. ID token signature

B. ID token claims

C. HTTP response code

D. Azure AD endpoint URI

E. Azure AD tenant ID

Answer: B, E

Explanation:

Claims in access tokens

JWTs (JSON Web Tokens) are split into three pieces:

Header - Provides information about how to validate the token including information about the type of token and how it was signed.

Payload - Contains all of the important data about the user or app that is attempting to call your service.

Signature - Is the raw material used to validate the token.

Your client can get an access token from either the v1.0 endpoint or the v2.0 endpoint using a variety of protocols.

Scenario: User authentication (see step 5 below)

The following steps detail the user authentication process:

The user selects Sign in in the website.

The browser redirects the user to the Azure Active Directory (Azure AD) sign in page.

The user signs in.

Azure AD redirects the user's session back to the web application. The URL includes an access token.

The web application calls an API and includes the access token in the authentication header. The application ID is sent as the audience ('aud') claim in the access token.

The back-end API validates the access token.

Reference:

<https://docs.microsoft.com/en-us/azure/api-management/api-management-access-restriction-policies>

Question: 29

You need to investigate the Azure Function app error message in the development environment.

What should you do?

- A. Connect Live Metrics Stream from Application Insights to the Azure Function app and filter the metrics.
- B. Create a new Azure Log Analytics workspace and instrument the Azure Function app with Application Insights.
- C. Update the Azure Function app with extension methods from Microsoft.Extensions.Logging to log events by using the log instance.
- D. Add a new diagnostic setting to the Azure Function app to send logs to Log Analytics.

Answer: A

Explanation:

Azure Functions offers built-in integration with Azure Application Insights to monitor functions.

The following areas of Application Insights can be helpful when evaluating the behavior, performance, and errors in your functions:

Live Metrics: View metrics data as it's created in near real-time.

Failures

Performance

Metrics

Reference:

<https://docs.microsoft.com/en-us/azure/azure-functions/functions-monitoring>

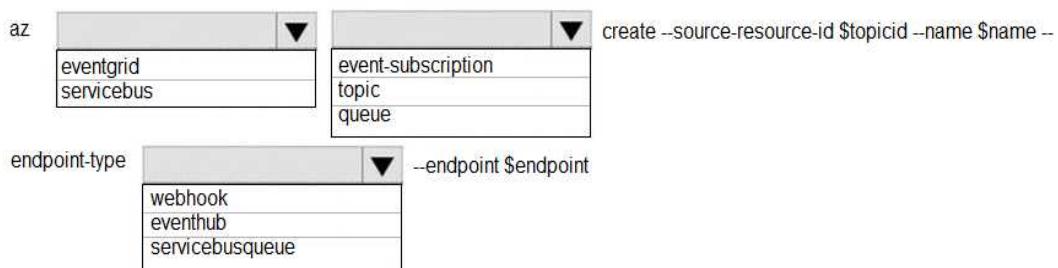
Question: 30

HOTSPOT

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

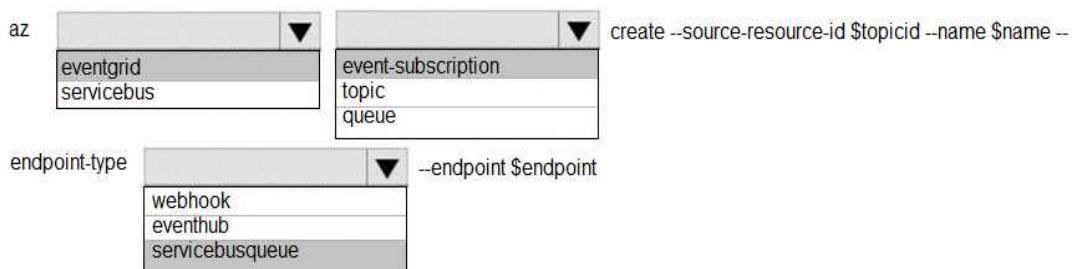
How should you complete the CLI statement? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.



Answer:

Explanation:



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

Question: 31

HOTSPOT

You need to correct the Azure Logic app error message.

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

NOTE: Each correct selection is worth one point.

Setting	Value
authentication level	<div style="border: 1px solid #ccc; padding: 5px; width: fit-content;"> <div style="border-bottom: 1px solid #ccc; padding-bottom: 2px;"></div> anonymous function admin </div>
managed identity	<div style="border: 1px solid #ccc; padding: 5px; width: fit-content;"> <div style="border-bottom: 1px solid #ccc; padding-bottom: 2px;"></div> system-assigned user-assigned </div>

Answer:

Explanation:

Setting	Value
authentication level	<div style="border: 1px solid #ccc; padding: 5px; width: fit-content;"> <div style="border-bottom: 1px solid #ccc; padding-bottom: 2px;"></div> anonymous function admin </div>
managed identity	<div style="border: 1px solid #ccc; padding: 5px; width: fit-content;"> <div style="border-bottom: 1px solid #ccc; padding-bottom: 2px;"></div> system-assigned user-assigned </div>

Scenario: You test the Logic app in a development environment. The following error message displays:

'400 Bad Request'

Troubleshooting of the error shows an HttpTrigger action to call the RequestUserApproval function.

Note: If the inbound call's request body doesn't match your schema, the trigger returns an HTTP 400 Bad Request error.

Box 1: function

If you have an Azure function where you want to use the system-assigned identity, first enable authentication for Azure functions.

Box 2: system-assigned

Your logic app or individual connections can use either the system-assigned identity or a single user-assigned identity, which you can share across a group of logic apps, but not both.

Reference:

<https://docs.microsoft.com/en-us/azure/logic-apps/create-managed-service-identity>

Question: 32

HOTSPOT

You need to configure Azure Service Bus to Event Grid integration.

Which Azure Service Bus settings should you use? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Setting	Value
Tier	<div style="border: 1px solid black; padding: 5px; width: fit-content;"> ▾ Basic Standard Premium </div>
RBAC role	<div style="border: 1px solid black; padding: 5px; width: fit-content;"> ▾ Owner Contributor Azure Service Bus Data Owner Azure Service Bus Data Receiver </div>

Answer:

Explanation:

Setting	Value
Tier	<div style="border: 1px solid black; padding: 5px; width: fit-content;"> ▾ Basic Standard Premium </div>
RBAC role	<div style="border: 1px solid black; padding: 5px; width: fit-content;"> ▾ Owner Contributor Azure Service Bus Data Owner Azure Service Bus Data Receiver </div>

Box 1: Premium

Service Bus can now emit events to Event Grid when there are messages in a queue or a subscription when no receivers are present. You can create Event Grid subscriptions to your Service Bus namespaces, listen to these events, and then react to the events by starting a receiver. With this feature, you can use Service Bus in reactive programming models.

To enable the feature, you need the following items:

A Service Bus Premium namespace with at least one Service Bus queue or a Service Bus topic with at least one subscription.

Contributor access to the Service Bus namespace.

Box 2: Contributor

Reference:

<https://docs.microsoft.com/en-us/azure/service-bus-messaging/service-bus-to-event-grid-integration-concept>

Question: 33

HOTSPOT

You need to configure security and compliance for the corporate website files.

Which Azure Blob storage settings should you use? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Action	Setting
Restrict file access	role-based access control (RBAC) managed identity shared access signature (SAS) token connection string
Enable file auditing	access tier change feed blob indexer storage account type

Answer:

Explanation:

Box 1: role-based access control (RBAC)

Azure Storage supports authentication and authorization with Azure AD for the Blob and Queue services via Azure role-based access control (Azure RBAC).

Scenario: File access must restrict access by IP, protocol, and Azure AD rights.

Box 2: change feed

The purpose of the change feed is to provide transaction logs of all the changes that occur to the blobs and the blob metadata in your storage account.

The file updates must be read-only, stored in the order in which they occurred, include only create, update, delete, and copy operations, and be retained for compliance reasons.

Reference:

<https://docs.microsoft.com/en-us/azure/cdn/cdn-sas-storage-support>

<https://docs.microsoft.com/en-us/azure/storage/blobs/storage-blob-change-feed?tabs=azure-portal>

Question: 34

You need to ensure that all messages from Azure Event Grid are processed.

What should you use?

- A. Azure Event Grid topic
- B. Azure Service Bus topic
- C. Azure Service Bus queue
- D. Azure Storage queue
- E. Azure Logic App custom connector

Answer: B

Explanation:

As a solution architect/developer, you should consider using Service Bus queues when:

Your solution needs to receive messages without having to poll the queue. With Service Bus, you can achieve it by using a long-polling receive operation using the TCP-based protocols that Service Bus supports.

Reference:

<https://docs.microsoft.com/en-us/azure/service-bus-messaging/service-bus-azure-and-service-bus-queues-compared-contrasted>

Topic 4, Proseware, Inc

Case study

This is a case study. Case studies are not timed separately. You can use as much exam time as you would like to complete each case. However, there may be additional case studies and sections on this exam. You must manage your time to ensure that you are able to complete all questions included on this exam in the time provided.

To answer the questions included in a case study, you will need to reference information that is provided in the case study. Case studies might contain exhibits and other resources that provide more information about the scenario that is described in the case study. Each question is independent of the other questions in this case study.

At the end of this case study, a review screen will appear. This screen allows you to review your answers and to make changes before you move to the next section of the exam. After you begin a new section, you cannot return to this section.

To start the case study

To display the first question in this case study, click the Next button. Use the buttons in the left pane to explore the content of the case study before you answer the questions. Clicking these buttons displays information such as business requirements, existing environment, and problem statements. When you are ready to answer a question, click the Question button to return to the question.

Background

You are a developer for Proseware, Inc. You are developing an application that applies a set of governance policies for Proseware's internal services, external services, and applications. The application will also provide a shared library for common functionality.

Requirements

Policy service

You develop and deploy a stateful ASP.NET Core 2.1 web application named Policy service to an Azure App Service Web App. The application reacts to events from Azure Event Grid and performs policy actions based on those events.

The application must include the Event Grid Event ID field in all Application Insights telemetry.

Policy service must use Application Insights to automatically scale with the number of policy actions that it is performing.

Policies

Log policy

All Azure App Service Web Apps must write logs to Azure Blob storage. All log files should be saved to a container named logdrop. Logs must remain in the container for 15 days.

Authentication events

Authentication events are used to monitor users signing in and signing out. All authentication events must be processed by Policy service. Sign outs must be processed as quickly as possible.

PolicyLib

You have a shared library named PolicyLib that contains functionality common to all ASP.NET Core web services and applications. The PolicyLib library must:

Exclude non-user actions from Application Insights telemetry.

Provide methods that allow a web service to scale itself.

Ensure that scaling actions do not disrupt application usage.

Other

Anomaly detection service

You have an anomaly detection service that analyzes log information for anomalies. It is implemented as an Azure Machine Learning model. The model is deployed as a web service. If an anomaly is detected, an Azure Function that emails administrators is called by using an HTTP WebHook.

Health monitoring

All web applications and services have health monitoring at the /health service endpoint.

Issues

Policy loss

When you deploy Policy service, policies may not be applied if they were in the process of being applied during the deployment.

Performance issue

When under heavy load, the anomaly detection service undergoes slowdowns and rejects connections.

Notification latency

Users report that anomaly detection emails can sometimes arrive several minutes after an anomaly is detected.

App code

EventGridController.cs

Relevant portions of the app files are shown below. Line numbers are included for reference only and include a two-character prefix that denotes the specific file to which they belong.

```
EventGridController.cs
EG01 public class EventGridController : Controller
EG02 {
EG03     public static AsyncLocal<string> EventId = new AsyncLocal<string>();
EG04     public IActionResult Process([FromBody] string eventsJson)
EG05     {
EG06         var events = JArray.Parse(eventsJson);
EG07
EG08         foreach (var @event in events)
EG09         {
EG10             EventId.Value = @event["id"].ToString();
EG11             if (@event["topic"].ToString().Contains("providers/Microsoft.Storage"))
EG12             {
EG13                 SendToAnomalyDetectionService(@event["data"]["url"].ToString());
EG14             }
EG15
EG16             {
EG17                 EnsureLogging(@event["subject"].ToString());
EG18             }
EG19         }
EG20         return null;
EG21     }
EG22     private void EnsureLogging(string resource)
EG23     {
EG24         . .
EG25     }
EG26     private async Task SendToAnomalyDetectionService(string uri)
EG27     {
EG28         var content = GetLogData(uri);
EG29         var scoreRequest = new
EG30         {
EG31             Inputs = new Dictionary<string, List<Dictionary<string, string>>()
EG32             {
EG33                 {
EG34                     "input1",
EG35                     new List<Dictionary<string, string>>()
EG36                     {
EG37                         new Dictionary<string, string>()
EG38                         {
EG39                             {
EG40                                 "logcontent", content
EG41                             }
EG42                         }
EG43                     }
EG44                 },
EG45             },
EG46             GlobalParameters = new Dictionary<string, string>() { }
EG47         };
EG48         var result = await (new HttpClient()).PostAsJsonAsync("...", scoreRequest);
EG49         var rawModelResult = await result.Content.ReadAsStringAsync();
EG50         var modelResult = JObject.Parse(rawModelResult);
EG51         if (modelResult["notify"].HasValues)
EG52         {
EG53             . .
EG54         }
EG55     }
EG56     private (string name, string resourceGroup) ParseResourceId(string resourceId)
EG57     {
EG58         . .
EG59     }
EG60     private string GetLogData(string uri)
EG61     {
EG62         . .
EG63     }
EG64     static string BlobStoreAccountSAS(string containerName)
EG65     {
EG66         .
EG67     }
EG68 }
```

LoginEvent.cs

Relevant portions of the app files are shown below. Line numbers are included for reference only and include a two-character prefix that denotes the specific file to which they belong.

```
LoginEvent.cs
LE01 public class LoginEvent
LE02 {
LE03
LE04     public string subject { get; set; }
LE05     public DateTime eventTime { get; set; }
LE06     public Dictionary<string, string> data { get; set; }
LE07     public string Serialize()
LE08     {
LE09         return JsonConvert.SerializeObject(this);
LE10     }
LE11 }
```

Question: 35

You need to resolve a notification latency issue.

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

NOTE: Each correct selection is worth one point.

- A. Set Always On to true.
- B. Ensure that the Azure Function is using an App Service plan.
- C. Set Always On to false.
- D. Ensure that the Azure Function is set to use a consumption plan.

Answer: AB

Explanation:

Azure Functions can run on either a Consumption Plan or a dedicated App Service Plan. If you run in a dedicated mode, you need to turn on the Always On setting for your Function App to run properly. The Function runtime will go idle after a few minutes of inactivity, so only HTTP triggers will actually "wake up" your functions. This is similar to how WebJobs must have Always On enabled.

Scenario: Notification latency: Users report that anomaly detection emails can sometimes arrive several minutes after an anomaly is detected.

Anomaly detection service: You have an anomaly detection service that analyzes log information for anomalies. It is implemented as an Azure Machine Learning model. The model is deployed as a web service. If an anomaly is detected, an Azure Function that emails administrators is called by using an HTTP WebHook.

Reference:

<https://github.com/Azure/Azure-Functions/wiki/Enable-Always-On-when-running-on-dedicated-App-Service-Plan>

Question: 36

DRAG DROP

You need to implement the Log policy.

How should you complete the Azure Event Grid subscription? To answer, drag the appropriate JSON segments to the correct locations. Each JSON segment may be used once, more than once, or not at all. You may need to drag the split bar between panes to view content.

NOTE: Each correct selection is worth one point.

Code segment
All
WebHook
EventHub
subjectEndsWith
Microsoft.Storage
subjectBeginsWith
Microsoft.Storage.BlobCreated

Answer Area

```
{
  "name": "newlogs",
  "properties": {
    "topic": "/subscriptions/. . ./providers/Microsoft.EventGrid/topics/. . .",
    "destination": {
      "endpointType" : " [ code segment ] ",
      "filter": {
        " [ code segment ] ": "/blobServices/default/containers/logdrop/",
        "includedEventTypes": [ " [ code segment ] " ]
      },
      "labels": [],
      "eventDeliverySchema": "EventGridSchema"
    }
  }
}
```

Answer:

Explanation:

```
{
  "name": "newlogs",
  "properties": {
    "topic": "/subscriptions/. . ./providers/Microsoft.EventGrid/topics/. . .",
    "destination": {
      "endpointType" : " [ WebHook ] ",
      "filter": {
        " [ subjectBeginsWith ] ": "/blobServices/default/containers/logdrop/",
        "includedEventTypes": [ " [ Microsoft.Storage.BlobCreated ] " ]
      },
      "labels": [],
      "eventDeliverySchema": "EventGridSchema"
    }
  }
}
```

Box 1:WebHook

Scenario: If an anomaly is detected, an Azure Function that emails administrators is called by using an HTTP WebHook.

endpointType: The type of endpoint for the subscription (webhook/HTTP, Event Hub, or queue).

Box 2: SubjectBeginsWith

Box 3: Microsoft.Storage.BlobCreated

Scenario: Log Policy

All Azure App Service Web Apps must write logs to Azure Blob storage. All log files should be saved to a container named logdrop. Logs must remain in the container for 15 days.

Example subscription schema

```
{  
  "properties": {  
    "destination": {  
      "endpointType": "webhook",  
      "properties": {  
        "endpointUrl":  
          "https://example.azurewebsites.net/api/HttpTriggerCSharp1?code=VXbGWce53I48Mt8wuotr0GPmy  
          J/nDT4hgdFj9DpBiRt38qqnnm5OFg=="  
      }  
    },  
    "filter": {  
      "includedEventTypes": [ "Microsoft.Storage.BlobCreated", "Microsoft.Storage.BlobDeleted" ],  
      "subjectBeginsWith": "blobServices/default/containers/mycontainer/log",  
      "subjectEndsWith": ".jpg",  
      "isSubjectCaseSensitive": "true"  
    }  
  }  
}
```

Reference:

<https://docs.microsoft.com/en-us/azure/event-grid/subscription-creation-schema>

Question: 37

You need to ensure that the solution can meet the scaling requirements for Policy Service.

Which Azure Application Insights data model should you use?

- A. an Application Insights dependency
- B. an Application Insights event
- C. an Application Insights trace
- D. an Application Insights metric

Answer: D

Explanation:

Application Insights provides three additional data types for custom telemetry:

Trace - used either directly, or through an adapter to implement diagnostics logging using an instrumentation

framework that is familiar to you, such as Log4Net or System.Diagnostics.

Event - typically used to capture user interaction with your service, to analyze usage patterns.

Metric - used to report periodic scalar measurements.

Scenario:

Policy service must use Application Insights to automatically scale with the number of policy actions that it is

performing.

Reference:

<https://docs.microsoft.com/en-us/azure/azure-monitor/app/data-model>

Question: 38

DRAG DROP

You need to implement telemetry for non-user actions.

How should you complete the Filter class? To answer, drag the appropriate code segments to the correct locations. Each code segment 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.

Code segments

/health
/status
RequestTelemetry
PageViewTelemetry
ITelemetryProcessor
ITelemetryInitializer

Answer Area

```
public class Filter : code segment
{
    private readonly code segment _next;
    public (Filter code segment next)
    {
        _next = next;
    }
    public void Process(ITelemetry item)
    {
        var x = item as code segment;
        if (x?.Url.AbsolutePath == "code segment")
        {
            return;
        }
        _next.Process(item);
    }
}
```

Explanation:

Answer:

```
public class Filter : ITelemetryProcessor
{
    private readonly ITelemetryProcessor _next;
    public (Filter ITelemetryProcessor next)
    {
        _next = next;
    }
    public void Process(ITelemetry item)
    {
        var x = item as RequestTelemetry ;
        if (x?.Url.AbsolutePath == "/health" )
        {
            return;
        }
        _next.Process(item);
    }
}
```

Scenario: Exclude non-user actions from Application Insights telemetry.

Box 1: ITelemetryProcessor

To create a filter, implement ITelemetryProcessor. This technique gives you more direct control over what is included or excluded from the telemetry stream.

Box 2: ITelemetryProcessor

Box 3: ITelemetryProcessor

Box 4: RequestTelemetry

Box 5: /health

To filter out an item, just terminate the chain.

Reference:

<https://docs.microsoft.com/en-us/azure/azure-monitor/app/api-filtering-sampling>

Question: 39

DRAG DROP

You need to ensure that PolicyLib requirements are met.

How should you complete the code segment? To answer, drag the appropriate code segments to the correct locations. Each code segment 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.

Code segments	Answer Area
Process	public class IncludeEventId : <input type="text"/> code segment
Initialize	{ public void <input type="text"/> code segment (ITelemetry telemetry)
telemetry.Sequence	{ <input type="text"/> code segment <input type="text"/> code segment .Properties["EventId"] =
ITelemetryProcessor	 }
ITelemetryInitializer	 }
telemetry.Context	((EventTelemetry)telemetry).Properties["EventId"]
EventGridController.EventId.Value	
(EventTelemetry)telemetry.Properties["EventId"]	

Answer:

Explanation:

```
public class IncludeEventId : ITelemetryInitializer
{
    public void Initialize(ITelemetry telemetry)
    {
        telemetry.Context.Properties["EventId"] =
            ((EventTelemetry)telemetry).Properties["EventId"];
    }
}
```

Scenario: You have a shared library named PolicyLib that contains functionality common to all ASP.NET Core web services and applications. The PolicyLib library must:

Exclude non-user actions from Application Insights telemetry.

Provide methods that allow a web service to scale itself.

Ensure that scaling actions do not disrupt application usage.

Box 1: ITelemetryInitializer

Use telemetry initializers to define global properties that are sent with all telemetry; and to override selected behavior of the standard telemetry modules.

Box 2: Initialize

Box 3: Telemetry.Context

Box 4: ((EventTelemetry)telemetry).Properties["EventID"]

Reference:

<https://docs.microsoft.com/en-us/azure/azure-monitor/app/api-filtering-sampling>

Question: 40

DRAG DROP

You need to add code at line EG15 in EventGridController.cs to ensure that the Log policy applies to all services.

How should you complete the code? To answer, drag the appropriate code segments to the correct locations. Each code segment 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.

Code segments	Answer Area
topic	
status	
eventType	
Succeeded	
operationName	
resourceProvider	

```
if {
    @event[ "data" ][ " code segment " ].ToString() == " code segment "
    &&
    @event[ "data" ][ " code segment " ].ToString() == "Microsoft.Web/sites/write"
}
```

Answer:

Explanation:

```
if {
    @event[ "data" ][ " status " ].ToString() == " Succeeded "
    &&
    @event[ "data" ][ " operationName " ].ToString() == "Microsoft.Web/sites/write"
}
```

Scenario, Log policy: All Azure App Service Web Apps must write logs to Azure Blob storage.

Box 1: Status

Box 2: Succeeded

Box 3: operationName

Microsoft.Web/sites/write is resource provider operation. It creates a new Web App or updates an existing one.

Reference:

<https://docs.microsoft.com/en-us/azure/role-based-access-control/resource-provider-operations>

Question: 41

HOTSPOT

You need to insert code at line LEO3 of LoginEvent.cs to ensure that all authentication events are processed correctly.

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

NOTE: Each correct selection is worth one point.

```
public string ( get; set; )
```

id
eventType
dataVersion
metadataVersion

```
public string ( get; set; )
```

id
eventType
dataVersion
metadataVersion

```
public string ( get; set; )
```

id
eventType
dataVersion
metadataVersion

Answer:

Explanation:

public string	<input type="text"/>	(get; set;)
	id	
	eventType	
	dataVersion	
	metadataVersion	
public string	<input type="text"/>	(get; set;)
	id	
	eventType	
	dataVersion	
	metadataVersion	
public string	<input type="text"/>	(get; set;)
	id	
	eventType	
	dataVersion	
	metadataVersion	

Box 1: id

id is a unique identifier for the event.

Box 2: eventType

eventType is one of the registered event types for this event source.

Box 3: dataVersion

dataVersion is the schema version of the data object. The publisher defines the schema version.

Scenario: Authentication events are used to monitor users signing in and signing out. All authentication events must be processed by Policy service. Sign outs must be processed as quickly as possible.

The following example shows the properties that are used by all event publishers:

```
[  
{  
  "topic": string,  
  "subject": string,  
  "id": string,  
  "eventType": string,  
  "eventTime": string,  
  "data": {  
    object-unique-to-each-publisher  
  },  
  "dataVersion": string,  
  "metadataVersion": string  
}  
]
```

Reference:

<https://docs.microsoft.com/en-us/azure/event-grid/event-schema>

Question: 42

HOTSPOT

You need to implement the Log policy.

How should you complete the EnsureLogging method in EventGridController.cs? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

```
var client = new WebSiteManagementClient(. . .);
var id = ParseResourceID(resource);
var appSettings = new StringDictionary(name: "properties",
    properties: new Dictionary<string, string> {
        {"DIAGNOSTICS_AZUREBLOBCONTAINERSASURL", BlobStoreAccountSAS(""),
            logs
            logdrop
        },
        {"DIAGNOSTICS_AZUREBLOBRETENTIONINDAYS", "15"} // Box 1
        30
    });
client.WebApps.() // Box 2
    UploadLoggingSettings
    UpdateApplicationSetting
    id.resourceGroup,
    id.name, appSettings);
```

Answer:

Explanation:

```
var client = new WebSiteManagementClient(. . .);
var id = ParseResourceID(resource);
var appSettings = new StringDictionary(name: "properties",
    properties: new Dictionary<string, string> {
        {"DIAGNOSTICS_AZUREBLOBCONTAINERSASURL", BlobStoreAccountSAS(""),
            logs
            logdrop
        },
        {"DIAGNOSTICS_AZUREBLOBRETENTIONINDAYS", "15"} // Box 1
        30
    });
client.WebApps.() // Box 2
    UploadLoggingSettings
    UpdateApplicationSetting
    id.resourceGroup,
    id.name, appSettings);
```

Box 1: logdrop

All log files should be saved to a container named logdrop.

Box 2: 15

Logs must remain in the container for 15 days.

Box 3: UpdateApplicationSettings

All Azure App Service Web Apps must write logs to Azure Blob storage.

Reference:

<https://blog.hompus.nl/2017/05/29/adding-application-logging-blob-to-a-azure-web-app-service-using-powershell/>

Topic 5, Litware Inc

Case study

This is a case study. Case studies are not timed separately. You can use as much exam time as you would like to complete each case. However, there may be additional case studies and sections on this exam. You must manage your time to ensure that you are able to complete all questions included on this exam in the time provided.

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Background

You are a developer for Litware Inc., a SaaS company that provides a solution for managing employee expenses. The solution consists of an ASP.NET Core Web API project that is deployed as an Azure Web App.

Overall architecture

Employees upload receipts for the system to process. When processing is complete, the employee receives a summary report email that details the processing results. Employees then use a web application to manage their receipts and perform any additional tasks needed for reimbursement.

Receipt processing

Employees may upload receipts in two ways:

Uploading using an Azure Files mounted folder

Uploading using the web application

Data Storage

Receipt and employee information is stored in an Azure SQL database.

Documentation

Employees are provided with a getting started document when they first use the solution. The documentation includes details on supported operating systems for Azure File upload, and instructions on how to configure the mounted folder.

Solution details

Users table

Column	Description
UserId	unique identifier for an employee
ExpenseAccount	employees expense account number in the format 1234-123-1234
AllowedAmount	limit of allowed expenses before approval is needed
SupervisorId	unique identifier for employee's supervisor
SecurityPin	value used to validate user identity

Web Application

You enable MSI for the Web App and configure the Web App to use the security principal name WebAppIdentity.

Processing

Processing is performed by an Azure Function that uses version 2 of the Azure Function runtime. Once processing is completed, results are stored in Azure Blob Storage and an Azure SQL database. Then, an email summary is sent to the user with a link to the processing report. The link to the report must remain valid if the email is forwarded to another user.

Logging

Azure Application Insights is used for telemetry and logging in both the processor and the web

application. The processor also has TraceWriter logging enabled. Application Insights must always contain all log messages.

Requirements

Receipt processing

Concurrent processing of a receipt must be prevented.

Disaster recovery

Regional outage must not impact application availability. All DR operations must not be dependent on application running and must ensure that data in the DR region is up to date.

Security

User's SecurityPin must be stored in such a way that access to the database does not allow the viewing of SecurityPins. The web application is the only system that should have access to SecurityPins.

All certificates and secrets used to secure data must be stored in Azure Key Vault.

You must adhere to the principle of least privilege and provide privileges which are essential to perform the intended function.

All access to Azure Storage and Azure SQL database must use the application's Managed Service Identity (MSI).

Receipt data must always be encrypted at rest.

All data must be protected in transit.

User's expense account number must be visible only to logged in users. All other views of the expense account number should include only the last segment, with the remaining parts obscured.

In the case of a security breach, access to all summary reports must be revoked without impacting

other parts of the system.

Issues

Upload format issue

Employees occasionally report an issue with uploading a receipt using the web application. They report that when they upload a receipt using the Azure File Share, the receipt does not appear in their profile. When this occurs, they delete the file in the file share and use the web application, which returns a 500 Internal Server error page.

Capacity issue

During busy periods, employees report long delays between the time they upload the receipt and when it appears in the web application.

Log capacity issue

Developers report that the number of log messages in the trace output for the processor is too high, resulting in lost log messages.

Application code

Processing.cs

```
PC01 public static class Processing
PC02 {
PC03     public static class Function
PC04     {
PC05         [FunctionName("IssueWork")]
PC06         public static async Task Run([TimerTrigger("0 */5 * * *")] TimerInfo timer, ILogger
log)
PC07         {
PC08             var container = await GetCloudBlobContainer();
PC09             foreach (var fileItem in await ListFiles())
PC10             {
PC11                 var file = new CloudFile(fileItem.StorageUri.PrimaryUri);
PC12                 var ms = new MemoryStream();
PC13                 await file.DownloadToStreamAsync(ms);
PC14                 var blob = container.GetBlockBlobReference(fileItem.Uri.ToString());
PC15                 await blob.UploadFromStreamAsync(ms);
PC16
PC17             }
PC18         }
PC19         private static CloudBlockBlob GetDRBlockBlob(CloudBlockBlob sourceBlob)
PC20         {
PC21             . . .
PC22         }
PC23         private static async Task<CloudBlobContainer> GetCloudBlobContainer()
PC24         {
PC25             var cloudBlobClient = new CloudBlobClient(new Uri(" . . ."), await GetCredentials());
PC26
PC27             await cloudBlobClient.GetRootContainerReference().CreateIfNotExistsAsync();
PC28             return cloudBlobClient.GetRootContainerReference();
PC29         }
PC30         private static async Task<StorageCredentials> GetCredentials()
PC31         {
PC32             . . .
PC33         }
PC34         private static async Task<List<IListFileItem>> ListFiles()
PC35         {
PC36             . . .
PC37         }
PC38         private KeyVaultClient _keyVaultClient = new KeyVaultClient(" . . .");
PC39     }
```

Database.cs

```
DB01 public class Database
DB02 {
DB03     private string ConnectionString =
DB04
DB05     public async Task<object> LoadUserDetails(string userId)
DB06     {
DB07
DB08         return await policy.ExecuteAsync(async () =>
DB09             {
DB10                 using (var connection = new SqlConnection(ConnectionString))
DB11                 {
DB12                     await connection.OpenAsync();
DB13                     using (var command = new SqlCommand("...", connection))
DB14                     using (var reader = command.ExecuteReader())
DB15                     {
DB16                         ...
DB17                     }
DB18                 }
DB19             });
DB20         }
DB21     }
```

ReceiptUploader.cs

```
RU01 public class ReceiptUploader
RU02 {
RU03     public async Task UploadFile(string file, byte[] binary)
RU04     {
RU05         var httpClient = new HttpClient();
RU06         var response = await httpClient.PutAsync("...", new ByteArrayContent(binary));
RU07         while (ShouldRetry(response))
RU08         {
RU09             response = await httpClient.PutAsync("...", new ByteArrayContent(binary));
RU10         }
RU11     }
RU12     private bool ShouldRetry(HttpStatusCode response)
RU13     {
RU14
RU15     }
RU16 }
```

ConfigureSSE.ps1

```
CS01 $storageAccount = Get-AzureRmStorageAccount -ResourceGroupName "..." -AccountName "..."  
CS02 $keyVault = Get-AzureRmKeyVault -VaultName "..."  
CS03 $key = Get-AzureKeyVaultKey -VaultName $keyVault.VaultName -Name "..."  
CS04 Set-AzureRmKeyVaultAccessPolicy `  
CS05   -VaultName $keyVault.VaultName `  
CS06   -ObjectId $storageAccount.Identity.PrincipalId `  
CS07  
CS08  
CS09 Set-AzureRmStorageAccount `  
CS10   -ResourceGroupName $storageAccount.ResourceGroupName `  
CS11   -AccountName $storageAccount.StorageAccountName `  
CS12   -EnableEncryptionService File `  
CS13   -KeyvaultEncryption `  
CS14   -KeyName $key.Name  
CS15   -KeyVersion $key.Version `  
CS16   -KeyVaultUri $keyVault.VaultUri
```

Question: 43

DRAG DROP

You need to add code at line PC32 in Processing.cs to implement the GetCredentials method in the Processing class.

How should you complete the code? To answer, drag the appropriate code segments to the correct locations. Each code segment 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.

Code segments	Answer Area
MSITokenProvider("...", null)	code segment
tp.GetAccessTokenAsync("...")	code segment
AzureServiceTokenProvider()	
StringTokenProvider("storage", "msi")	
tp.GetAuthenticationHeaderAsync(CancellationToken.None)	

Answer:

Explanation:

```
var tp = new AzureServiceTokenProvider()
var t = new TokenCredential(await tp.GetAccessTokenAsync("..."))
return new StorageCredentials(t);
```

Box 1: AzureServiceTokenProvider()

Box 2: tp.GetAccessTokenAsync(..")

Acquiring an access token is then quite easy. Example code:

```
private async Task<string> GetAccessTokenAsync()
{
    var tokenProvider = new AzureServiceTokenProvider();

    return await tokenProvider.GetAccessTokenAsync("https://storage.azure.com/");
}
```

Reference:

<https://joonasw.net/view/azure-ad-authentication-with-azure-storage-and-managed-service-identity>

Question: 44

DRAG DROP

You need to ensure disaster recovery requirements are met.

What code should you add at line PC16?

To answer, drag the appropriate code fragments to the correct locations. Each code fragment 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.

Values	Answer Area
true	<code>var copyOptions = new CopyOptions { };</code>
SingleTransferContext	<code>var context = new Value</code>
ShouldTransferCallbackAsync	<code>= (source, destination) => Task.FromResult(true);</code>
false	<code>context. Value</code>
DirectoryTransferContext	<code>= (source, destination) => Task.FromResult(true);</code>
ShouldOverwriteCallbackAsync	<code>await TransferManager.CopyAsync(blob, GetDRBlob(blob), isServiceCopy: Value</code>
	<code>, context: context, options:copyOptions);</code>

Answer:

Explanation:

```
var copyOptions = new CopyOptions { };
var context = new DirectoryTransferContext { (source, destination) => Task.FromResult(true);
context. ShouldTransferCallbackAsync = (source, destination) => Task.FromResult(true);
await TransferManager.CopyAsync(blob, GetDRBlob(blob), isServiceCopy: false
, context: context, options:copyOptions);
```

Scenario: Disaster recovery. Regional outage must not impact application availability. All DR operations must not be dependent on application running and must ensure that data in the DR region is up to date.

Box 1: DirectoryTransferContext

We transfer all files in the directory.

Note: The TransferContext object comes in two forms: SingleTransferContext and DirectoryTransferContext. The former is for transferring a single file and the latter is for transferring a directory of files.

Box 2: ShouldTransferCallbackAsync

The DirectoryTransferContext.ShouldTransferCallbackAsync delegate callback is invoked to tell whether a transfer should be done.

Box 3: False

If you want to use the retry policy in Copy, and want the copy can be resume if break in the middle, you can use SyncCopy (isServiceCopy = false).

Note that if you choose to use service side copy ('isServiceCopy' set to true), Azure (currently) doesn't provide SLA for that. Setting 'isServiceCopy' to false will download the source blob loca

Reference:

<https://docs.microsoft.com/en-us/azure/storage/common/storage-use-data-movement-library>

<https://docs.microsoft.com/en-us/dotnet/api/microsoft.windowsazure.storage.datamovement.directorytransfercontext.shouldtransfercallbackasync?view=azure-dotnet>

Question: 45

HOTSPOT

You need to add code at line PC26 of Processing.cs to ensure that security policies are met.

How should you complete the code that you will add at line PC26? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

```
var resolver = new KeyVaultKeyResolver(_keyVaultClient);
var keyBundle = await _keyVaultClient.GetKeyAsync("...", "...");
```

```
var key = keyBundle.Key;
var key = keyBundle.KeyIdentifier.Identifier;
var key = await resolver.ResolveKeyAsync("encrypt", null);
var key = await resolver.ResolveKeyAsync(keyBundle.KeyIdentifier.Identifier, CancellationToken.None);
```

```
var x = keyBundle.Managed;
var x = AuthenticationScheme.SharedKey;
var x = new BlobEncryptionPolicy(key, resolver);
var x = new DeleteRetentionPolicy {Enabled = key.Kid != null};
```

```
cloudBlobClient.AuthenticationScheme = x;
cloudBlobClient.DefaultRequestOptions.RequireEncryption = x;
cloudBlobClient.DefaultRequestOptions.EncryptionPolicy = x;
cloudBlobClient.SetServiceProperties(new ServiceProperties(deleteRetentionPolicy:x));
```

Answer:

Explanation:

```
var resolver = new KeyVaultKeyResolver(_keyVaultClient);
var keyBundle = await _keyVaultClient.GetKeyAsync("...", "...");
```

```
var key = keyBundle.Key;
var key = keyBundle.KeyIdentifier.Identifier;
var key = await resolver.ResolveKeyAsync("encrypt", null);
var key = await resolver.ResolveKeyAsync(keyBundle.KeyIdentifier.Identifier, CancellationToken.None);
```

```
var x = keyBundle.Managed;
var x = AuthenticationScheme.SharedKey;
var x = new BlobEncryptionPolicy(key, resolver);
var x = new DeleteRetentionPolicy {Enabled = key.Kid != null};
```

```
cloudBlobClient.AuthenticationScheme = x;
cloudBlobClient.DefaultRequestOptions.RequireEncryption = x;
cloudBlobClient.DefaultRequestOptions.EncryptionPolicy = x;
cloudBlobClient.SetServiceProperties(new ServiceProperties(deleteRetentionPolicy:x));
```

Box 1: var key = await Resolver.ResolveKeyAsyn(keyBundle,KeyIdentifier.CancellationToken.None);

Box 2: var x = new BlobEncryptionPolicy(key,resolver);

Example:

```
// We begin with cloudKey1, and a resolver capable of resolving and caching Key Vault secrets.
```

```
BlobEncryptionPolicy encryptionPolicy = new BlobEncryptionPolicy(cloudKey1, cachingResolver);
```

```
client.DefaultRequestOptions.EncryptionPolicy = encryptionPolicy;
```

Box 3: cloudblobClient. DefaultRequestOptions.EncryptionPolicy = x;

Reference:

<https://github.com/Azure/azure-storage-net/blob/master/Samples/GettingStarted/EncryptionSamples/KeyRotation/Program.cs>

Question: 46

You need to ensure the security policies are met.

What code do you add at line CS07 of ConfigureSSE.ps1?

- A. -PermissionsToKeys create, encrypt, decrypt
- B. -PermissionsToCertificates create, encrypt, decrypt
- C. -PermissionsToCertificates wrapkey, unwrapkey, get
- D. -PermissionsToKeys wrapkey, unwrapkey, get

Answer: B

Explanation:

Scenario: All certificates and secrets used to secure data must be stored in Azure Key Vault.

You must adhere to the principle of least privilege and provide privileges which are essential to perform the intended function.

The Set-AzureRmKeyVaultAccessPolicy parameter -PermissionsToKeys specifies an array of key operation permissions to grant to a user or service principal. The acceptable values for this parameter: decrypt, encrypt, unwrapKey, wrapKey, verify, sign, get, list, update, create, import, delete, backup, restore, recover, purge

Reference:

<https://docs.microsoft.com/en-us/powershell/module/azurerm.keyvault/set-azurermkeyvaultaccesspolicy>

Question: 47

You need to ensure receipt processing occurs correctly.

What should you do?

- A. Use blob properties to prevent concurrency problems
- B. Use blob SnapshotTime to prevent concurrency problems
- C. Use blob metadata to prevent concurrency problems
- D. Use blob leases to prevent concurrency problems

Answer: D

Explanation:

You can create a snapshot of a blob. A snapshot is a read-only version of a blob that's taken at a point in time. Once a snapshot has been created, it can be read, copied, or deleted, but not modified. Snapshots provide a way to back up a blob as it appears at a moment in time.

Scenario: Processing is performed by an Azure Function that uses version 2 of the Azure Function runtime. Once processing is completed, results are stored in Azure Blob Storage and an Azure SQL database. Then, an email summary is sent to the user with a link to the processing report. The link to the report must remain valid if the email is forwarded to another user.

Reference:

<https://docs.microsoft.com/en-us/rest/api/storageservices/creating-a-snapshot-of-a-blob>

Question: 48

You need to resolve the capacity issue.

What should you do?

- A. Convert the trigger on the Azure Function to an Azure Blob storage trigger

B. Ensure that the consumption plan is configured correctly to allow scaling

C. Move the Azure Function to a dedicated App Service Plan

D. Update the loop starting on line PC09 to process items in parallel

Answer: D

Explanation:

If you want to read the files in parallel, you cannot use forEach. Each of the async callback function calls does return a promise. You can await the array of promises that you'll get with Promise.all.

Scenario: Capacity issue: During busy periods, employees report long delays between the time they upload the receipt and when it appears in the web application.

```
PC08    var container = await GetCloudBlobContainer();
PC09    foreach (var fileItem in await ListFiles())
PC10    {
PC11        var file = new CloudFile(fileItem.StorageUri.PrimaryUri);
PC12        var ms = new MemoryStream();
PC13        await file.DownloadToStreamAsync(ms);
PC14        var blob = container.GetBlockBlobReference(fileItem.Uri.ToString());
PC15        await blob.UploadFromStreamAsync(ms);
PC16
PC17    }
```

Reference:

<https://stackoverflow.com/questions/37576685/using-async-await-with-a-foreach-loop>

Question: 49

You need to resolve the log capacity issue.

What should you do?

- A. Create an Application Insights Telemetry Filter
- B. Change the minimum log level in the host.json file for the function
- C. Implement Application Insights Sampling
- D. Set a LogCategoryFilter during startup

Answer: C

Explanation:

Scenario, the log capacity issue: Developers report that the number of log message in the trace output for the processor is too high, resulting in lost log messages.

Sampling is a feature in Azure Application Insights. It is the recommended way to reduce telemetry traffic and storage, while preserving a statistically correct analysis of application data. The filter selects items that are related, so that you can navigate between items when you are doing diagnostic investigations. When metric counts are presented to you in the portal, they are renormalized to take account of the sampling, to minimize any effect on the statistics.

Sampling reduces traffic and data costs, and helps you avoid throttling.

Reference:

<https://docs.microsoft.com/en-us/azure/azure-monitor/app/sampling>

Topic 6, Coho Winery

Case study

This is a case study. Case studies are not timed separately. You can use as much exam time as you would like to complete each case. However, there may be additional case studies and sections on

this exam. You must manage your time to ensure that you are able to complete all questions included on this exam in the time provided.

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LabelMaker app

Coho Winery produces, bottles, and distributes a variety of wines globally. You are a developer implementing highly scalable and resilient applications to support online order processing by using Azure solutions.

Coho Winery has a LabelMaker application that prints labels for wine bottles. The application sends data to several printers. The application consists of five modules that run independently on virtual machines (VMs). Coho Winery plans to move the application to Azure and continue to support label creation.

External partners send data to the LabelMaker application to include artwork and text for custom label designs.

Requirements. Data

You identify the following requirements for data management and manipulation:

Order data is stored as nonrelational JSON and must be queried using SQL.

Changes to the Order data must reflect immediately across all partitions. All reads to the Order data must fetch the most recent writes.

Requirements. Security

You have the following security requirements:

Users of Coho Winery applications must be able to provide access to documents, resources, and applications to external partners.

External partners must use their own credentials and authenticate with their organization's identity management solution.

External partner logins must be audited monthly for application use by a user account administrator to maintain company compliance.

Storage of e-commerce application settings must be maintained in Azure Key Vault.

E-commerce application sign-ins must be secured by using Azure App Service authentication and Azure Active Directory (AAD).

Conditional access policies must be applied at the application level to protect company content.

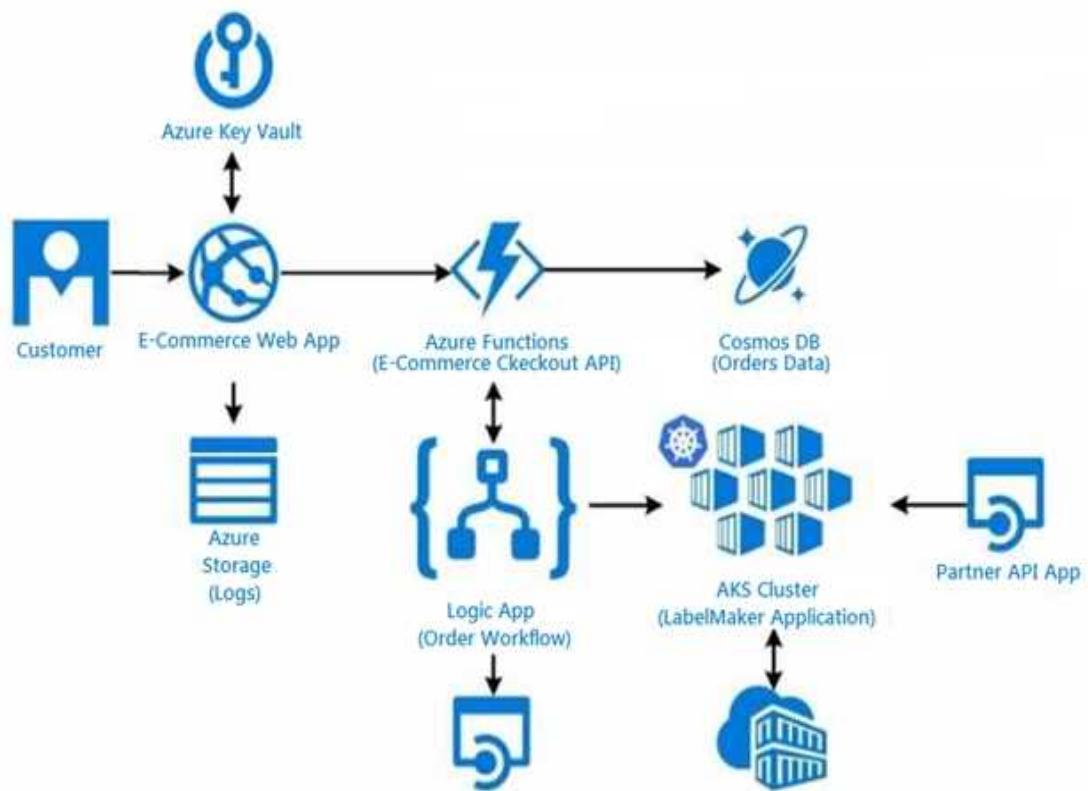
The LabelMaker application must be secured by using an AAD account that has full access to all namespaces of the Azure Kubernetes Service (AKS) cluster.

Requirements. LabelMaker app

Azure Monitor Container Health must be used to monitor the performance of workloads that are deployed to Kubernetes environments and hosted on Azure Kubernetes Service (AKS).

You must use Azure Container Registry to publish images that support the AKS deployment.

Architecture



Issues

Calls to the Printer API App fail periodically due to printer communication timeouts.

Printer communication timeouts occur after 10 seconds. The label printer must only receive up to 5 attempts within one minute.

The order workflow fails to run upon initial deployment to Azure.

Order.json

Relevant portions of the app files are shown below. Line numbers are included for reference only.

This JSON file contains a representation of the data for an order that includes a single item.

Order.json

```
01 {
02   "id" : 1,
03   "customers" : [
04     {
05       "familyName" : "Doe",
06       "givenName" : "John",
07       "customerid" : 5
08     }
09   ],
10   "line_items" : [
11     {
12       "fulfillable_quantity" : 1,
13       "id" : 6,
14       "price" : "199.99" ,
15       "product_id" : 7513594,
16       "quantity": 1,
17       "requires_shipping" : true ,
18       "sku" : "SFC-342-N" ,
19       "title": "Surface Go" ,
20       "vendor" : "Microsoft" ,
21       "name" : "Surface Go - 8GB" ,
22       "taxable" : true ,
23       "tax_lines" : [
24         {
25           "title" : "State Tax" ,
26           "price" : "3.98" ,
27           "rate" : 0.06
28         }
29       ],
30       "total_discount" : "5.00" ,
31       "discount_allocations" : [
32         {
33           "amount" : "5.00" ,
34           "discount_application_index" : 2
35         }
36       ]
37     }
38   ],
39   "address" : {
40     "state" : "NY" ,
41     "state": "Manhattan" ,
42     "city" : "NY"
43   }
44 }
```

Question: 50

DRAG DROP

You need to deploy a new version of the LabelMaker application to ACR.

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.

Actions

Log in to the registry and push image.

Create an alias of the image with a new build number.

Create an alias of the image with the fully qualified path to the registry.

Download the image to your local computer.

Build a new application image by using dockerfile.

Answer Area

Explanation:

Answer:

Build a new application image by using dockerfile.

Create an alias of the image with the fully qualified path to the registry.

Log in to the registry and push image.

Step 1: Build a new application image by using dockerfile

Step 2: Create an alias if the image with the fully qualified path to the registry

Before you can push the image to a private registry, you've to ensure a proper image name. This can be achieved using the docker tag command. For demonstration purpose, we'll use Docker's hello world image, rename it and push it to ACR.

```
# pulls hello-world from the public docker hub  
$ docker pull hello-world  
  
# tag the image in order to be able to push it to a private registry  
$ docker tag hello-word <REGISTRY_NAME>/hello-world  
  
# push the image  
$ docker push <REGISTRY_NAME>/hello-world
```

Step 3: Log in to the registry and push image

In order to push images to the newly created ACR instance, you need to login to ACR form the Docker CLI. Once logged in, you can push any existing docker image to your ACR instance.

Scenario:

Coho Winery plans to move the application to Azure and continue to support label creation.

LabelMaker app

Azure Monitor Container Health must be used to monitor the performance of workloads that are deployed to Kubernetes environments and hosted on Azure Kubernetes Service (AKS).

You must use Azure Container Registry to publish images that support the AKS deployment.

Reference:

<https://thorsten-hans.com/how-to-use-a-private-azure-container-registry-with-kubernetes-9b86e67b93b6>

<https://docs.microsoft.com/en-us/azure/container-registry/container-registry-tutorial-quick-task>

Question: 51

You need to access data from the user claim object in the e-commerce web app.

What should you do first?

- A. Write custom code to make a Microsoft Graph API call from the e-commerce web app.
- B. Assign the Contributor RBAC role to the e-commerce web app by using the Resource Manager create role assignment API.
- C. Update the e-commerce web app to read the HTTP request header values.
- D. Using the Azure CLI, enable Cross-origin resource sharing (CORS) from the e-commerce checkout API to the e-commerce web app.

Answer: C

Explanation:

Methods to Get User Identity and Claims in a .NET Azure Functions App include:

ClaimsPrincipal from the Request Context

The ClaimsPrincipal object is also available as part of the request context and can be extracted from the HttpRequest.HttpContext.

User Claims from the Request Headers.

App Service passes user claims to the app by using special request headers.

Reference:

<https://levelup.gitconnected.com/four-alternative-methods-to-get-user-identity-and-claims-in-a-.net-azurefunctions-app-df98c40424bb>

Question: 52

HOTSPOT

You need to configure Azure Cosmos DB.

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

NOTE: Each correct selection is worth one point.

Setting	Value
Consistency Level	<input type="button" value="▼"/> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"> Strong Bounded-staleness Session Eventual </div>
API	<input type="button" value="▼"/> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"> SQL MongoDB Graph Table </div>

Answer:

Explanation:

Setting	Value
Consistency Level	<input type="button" value="▼"/> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"> Strong Bounded-staleness Session Eventual </div>
API	<input type="button" value="▼"/> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"> SQL MongoDB Graph Table </div>

Box 1: Strong

When the consistency level is set to strong, the staleness window is equivalent to zero, and the clients are guaranteed to read the latest committed value of the write operation.

Scenario: Changes to the Order data must reflect immediately across all partitions. All reads to the Order data must fetch the most recent writes.

Note: You can choose from five well-defined models on the consistency spectrum. From strongest to weakest, the models are: Strong, Bounded staleness, Session, Consistent prefix, Eventual

Box 2: SQL

Scenario: You identify the following requirements for data management and manipulation:

Order data is stored as nonrelational JSON and must be queried using Structured Query Language (SQL).

Question: 53

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.

SELECT li.id AS lineitemid, li.price

FROM

Orders o
LineItems li

JOIN

li
o

IN

o.line_items
li.line_items
o.address

ORDER BY

ASC

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

Answer:

Explanation:

```
SELECT li.id AS lineitemid, li.price
FROM
    Orders o
    Lineltems li
JOIN
    li
    o
    IN
        o.line_items
        li.line_items
        o.address
ORDER BY
    o.address.city
    li.address.city
    o.city
    li.city
    ASC
```

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.

Topic 7, VanArsdel, Ltd

Case study

This is a case study. Case studies are not timed separately. You can use as much exam time as you would like to complete each case. However, there may be additional case studies and sections on this exam. You must manage your time to ensure that you are able to complete all questions included on this exam in the time provided.

To answer the questions included in a case study, you will need to reference information that is provided in the case study. Case studies might contain exhibits and other resources that provide more information about the scenario that is described in the case study. Each question is independent of the other questions in this case study.

At the end of this case study, a review screen will appear. This screen allows you to review your answers and to make changes before you move to the next section of the exam. After you begin a new section, you cannot return to this section.

To start the case study

To display the first question in this case study, click the Next button. Use the buttons in the left pane to explore the content of the case study before you answer the questions. Clicking these buttons displays information such as business requirements, existing environment, and problem statements. If the case study has an All Information tab, note that the information displayed is identical to the information displayed on the subsequent tabs. When you are ready to answer a question, click the Question button to return to the question.

Background

VanArsdel, Ltd. is a global office supply company. The company is based in Canada and has retail store locations across the world. The company is developing several cloud-based solutions to support their stores, distributors, suppliers, and delivery services.

Current environment

Requirements

The application components must meet the following requirements:

Corporate website

- Secure the website by using SSL
- Minimize costs for data storage and hosting.
- Implement native GitHub workflows for continuous integration and continuous deployment

(CI/CO).

- Distribute the website content globally for local use.
- Implement monitoring by using Application Insights and availability web tests including SSL certificate validity and custom header value verification.
- The website must have 99.95 percent uptime.

Corporate website

The company provides a public website located at <http://www.vanaisdelttd.com>. The website consists of a React JavaScript user interface, HTML,CSS, image assets, and several APIs hosted in Azure functions.

Retail store locations

- Azure Functions must process data immediately when data is uploaded to Blob storage. Azure Functions must update Azure Cosmos D3 by using native SQL language queries.
- Audit store sale transaction information nightly to validate data, process sates financials, and reconcile inventory.

Delivery services

- Store service telemetry data in Azure Cosmos DB by using an Azure Function. Data must include an item id. the delivery vehicle license plate, vehicle package capacity, and current vehicle location coordinates.
- Store delivery driver profile information in Azure Active Directory (Azure AD) by using an Azure Function called from the corporate website.

Inventory services

The company has contracted a third-party to develop an API for inventory processing that requires access to a specific blob within the retail store storage account for three months to include read-only access to the data.

Security

- All Azure Functions must centralize management and distribution of configuration data for different environments and geographies, encrypted by using a company-provided RSA-HSM key.
- Authentication and authorization must use Azure AD and services must use managed identities where possible.

Retail Store Locations

- You must perform a point-in-time restoration of the retail store location data due to an unexpected

and accidental deletion of data.

- Azure Cosmos DB queries from the Azure Function exhibit high Request Unit (RU) usage and contain multiple, complex queries that exhibit high point read latency for large items as the function app is scaling.

Question: 54

HOTSPOT

You need to implement the retail store location Azure Function.

How should you configure the solution? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Answer Area

Configuration	Value
Binding	Blob storage Azure Cosmos DB Event Grid HTTP
Binding Direction	Input Output
Trigger	Blob storage Azure Cosmos DB Event Grid HTTP

Answer:

Explanation:

Configuration	Value
Binding	<div style="border: 1px solid black; padding: 5px; width: fit-content;"> <div style="background-color: #f0f0f0; height: 10px; margin-bottom: 5px;"></div> <div>Blob storage</div> <div>Azure Cosmos DB</div> <div>Event Grid</div> <div style="background-color: #cccccc; color: white; padding: 2px;">HTTP</div> <div style="background-color: #f0f0f0; height: 10px; margin-top: 5px;"></div> </div>
Binding Direction	<div style="border: 1px solid black; padding: 5px; width: fit-content;"> <div style="background-color: #f0f0f0; height: 10px; margin-bottom: 5px;"></div> <div style="background-color: #cccccc; color: white; padding: 2px;">Input</div> <div style="background-color: #f0f0f0; height: 10px; margin-top: 5px;"></div> </div>
Trigger	<div style="border: 1px solid black; padding: 5px; width: fit-content;"> <div style="background-color: #f0f0f0; height: 10px; margin-bottom: 5px;"></div> <div style="background-color: #cccccc; color: white; padding: 2px;">Blob storage</div> <div>Azure Cosmos DB</div> <div>Event Grid</div> <div style="background-color: #cccccc; color: white; padding: 2px;">HTTP</div> <div style="background-color: #f0f0f0; height: 10px; margin-top: 5px;"></div> </div>

Scenario: Retail store locations: Azure Functions must process data immediately when data is uploaded to Blob storage.

Box 1: HTTP

Binding configuration example: `https://<storage_account_name>.blob.core.windows.net`

Box 2: Input

Read blob storage data in a function: Input binding

Box 3: Blob storage

The Blob storage trigger starts a function when a new or updated blob is detected.

Azure Functions integrates with Azure Storage via triggers and bindings. Integrating with Blob storage allows you to build functions that react to changes in blob data as well as read and write values.

Reference:

<https://docs.microsoft.com/en-us/azure/azure-functions/functions-bindings-storage-blob-trigger>

Question: 55

You need to secure the Azure Functions to meet the security requirements.

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

NOTE: Each correct selection is worth one point.

- A. Store the RSA-HSM key in Azure Cosmos DB. Apply the built-in policies for customer-managed keys and allowed locations.
- B. Create a free tier Azure App Configuration instance with a new Azure AD service principal.
- C. Store the RSA-HSM key in Azure Key Vault with soft-delete and purge-protection features enabled.
- D. Store the RSA-HSM key in Azure Blob storage with an Immutability policy applied to the container.
- E. Create a standard tier Azure App Configuration instance with an assigned Azure AD managed identity.

Answer: CE

Explanation:

Scenario: All Azure Functions must centralize management and distribution of configuration data for different environments and geographies, encrypted by using a company-provided RSA-HSM key.

Microsoft Azure Key Vault is a cloud-hosted management service that allows users to encrypt keys and small secrets by using keys that are protected by hardware security modules (HSMs).

You need to create a managed identity for your application.

Reference:

<https://docs.microsoft.com/en-us/azure/app-service/app-service-key-vault-references>

Question: 56

You need to audit the retail store sales transactions.

What are two possible ways to achieve the goal? Each correct answer presents a complete solution.

NOTE: Each correct selection is worth one point.

- A. Update the retail store location data upload process to include blob index tags. Create an Azure Function to process the blob index tags and filter by store location

- B. Enable blob versioning for the storage account. Use an Azure Function to process a list of the blob versions per day.

- C. Process an Azure Storage blob inventory report by using an Azure Function. Create rule filters on the blob inventory report,

- D. Subscribe to blob storage events by using an Azure Function and Azure Event Grid. Filter the events by store location.

- E. Process the change feed logs of the Azure Blob storage account by using an Azure Function. Specify a time range for the change feed data.

Answer: DE

Explanation:

Scenario: Audit store sale transaction information nightly to validate data, process sales financials, and reconcile inventory.

"Process the change feed logs of the Azure Blob storage account by using an Azure Function. Specify a time range for the change feed data": Change feed support is well-suited for scenarios that process data based on objects that have changed. For example, applications can:

Store, audit, and analyze changes to your objects, over any period of time, for security, compliance or intelligence for enterprise data management.

"Subscribe to blob storage events by using an Azure Function and Azure Event Grid. Filter the events by store location": Azure Storage events allow applications to react to events, such as the creation and deletion of blobs. It does so without the need for complicated code or expensive and inefficient polling services. The best part is you only pay for what you use.

Blob storage events are pushed using Azure Event Grid to subscribers such as Azure Functions, Azure Logic Apps, or even to your own http listener. Event Grid provides reliable event delivery to your applications through rich retry policies and dead-lettering.

Reference:

<https://docs.microsoft.com/en-us/azure/storage/blobs/storage-blob-change-feed>

<https://docs.microsoft.com/en-us/azure/storage/blobs/storage-blob-event-overview>

Question: 57

You need to implement a solution to resolve the retail store location data issue.

Which three Azure Blob features should you enable? Each correct answer presents part of the solution.

NOTE Each correct selection is worth one point

A. Immutability

B. Snapshots

C. Versioning

D. Soft delete

E. Object replication

F. Change feed

Answer: CDF

Explanation:

Scenario: You must perform a point-in-time restoration of the retail store location data due to an unexpected and accidental deletion of data.

Before you enable and configure point-in-time restore, enable its prerequisites for the storage account: soft delete, change feed, and blob versioning.

Reference:

<https://docs.microsoft.com/en-us/azure/storage/blobs/point-in-time-restore-manage>

Question: 58

HOTSPOT

YOU need to reliably identify the delivery driver profile information.

How should you configure the system? To answer, select the appropriate options in the answer area.

NOTE Each correct selection is worth one point.

Configuration	Value
JSON web token (JWT) type	<input type="button" value="▼"/> ID Refresh Access
Payload claim value	<input type="button" value="▼"/> aid aud idp

Answer:

Explanation:

Configuration	Value
JSON web token (JWT) type	ID
Payload claim value	<input type="button" value="▼"/> idp

Question: 59

HOTSPOT

You need to implement event routing for retail store location data.

Which configuration should you use?

Event data	Configuration
Source	<ul style="list-style-type: none"> Azure Blob Storage Azure Event Grid Azure Service Bus Azure Event Hub
Receiver	<ul style="list-style-type: none"> Azure Event Grid Azure Event Hub Azure Service Bus Azure Blob Storage
Handler	<ul style="list-style-type: none"> Azure Function App Azure Logic App Azure Event Grid Azure Blob Storage

Answer:

Explanation:

Event data	Configuration
Source	Azure Event Grid
Receiver	Azure Event Hub
Handler	Azure Logic App

Question: 60

HOTSPOT

You need to implement the delivery service telemetry data

How should you configure the solution?

NOTE: Each correct selection is worth one point.

Azure Cosmos DB	Value
API	<ul style="list-style-type: none"> Core (SQL) Gremlin Table MongoDB
Partition Key	<ul style="list-style-type: none"> Item id Vehicle license plate Vehicle package capacity Vehicle location coordinates

Answer:

Explanation:

Azure Cosmos DB	Value
API	Core (SQL)
Partition Key	Vehicle package capacity

Question: 61

you need to reduce read latency for the retail store solution.

What are two possible ways to achieve the goal? Each correct answer presents a complete solution.

NOTE: Each correct selection is worth one point.

- A. Create a new composite index for the store location data queries in Azure Cosmos DB. Modify the queries to support parameterized SQL and update the Azure function app to call the new Queries.
- B. Configure Azure Cosmos DB consistency to strong consistency Increase the RUs for the container supporting store location data.
- C. Provision an Azure Cosmos DB dedicated gateway, update blob storage to use the new dedicated gateway endpoint.
- D. Configure Azure Cosmos DB consistency to session consistency. Cache session tokens in a new Azure Redis cache instance after every write. Update reads to use the session token stored in Azure Redis.
- E. Provision an Azure Cosmos DB dedicated gateway Update the Azure Function app connection string to use the new dedicated gateway endpoint.

Answer: AC

Explanation:

Question: 62

HOTSPOT

You need to implement the corporate website.

How should you configure the solution?



Answer:

Explanation:

Answer Area

Azure Configuration

Plan

	▼
Free	
Standard	
Premium	
Isolated	

Service

	▼
App Service Web App	
App Service Static Web App	
Azure Function App	
Azure Blob Storage	

Question: 63

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

Answer: AB

Explanation:

Question: 64

You need to secure the Azure Functions to meet the security requirements.

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

NOTE: Each correct selection is worth one point.

- A. Store the RSA-HSM key in Azure Key Vault with soft-delete and purge-protection features enabled
- B. Store the RSA-HSM key in Azure Blob storage with an immutability policy applied to the container.
- C. Store the RSA-HSM key in Azure Cosmos DB. Apply the built-in policies for customer-managed Keys and allowed locations
- D. Create a standard tier Azure App Configuration instance with an assigned Azure AD managed identity.
- E. Create a free tier Azure App Configuration instance with a new Azure AD service principal.

Answer: BC

Explanation:

Question: 65

You need to grant access to the retail store location data for the inventory service development effort. What should you use?

- A. Azure AD access token
- B. Azure RBAC role

- C. Azure AD ID token
- D. Shared access signature (SAS) token
- E. Azure AD refresh token

Answer: D

Explanation:

Topic 8, Misc. Questions

Question: 66

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 develop a software as a service (SaaS) offering to manage photographs. Users upload photos to a web service which then stores the photos in Azure Storage Blob storage. The storage account type is General-purpose V2.

When photos are uploaded, they must be processed to produce and save a mobile-friendly version of the image. The process to produce a mobile-friendly version of the image must start in less than one minute.

You need to design the process that starts the photo processing.

Solution: Convert the Azure Storage account to a BlockBlobStorage storage account.

Does the solution meet the goal?

A. Yes

B. No

Answer: B

Explanation:

Not necessary to convert the account, instead move photo processing to an Azure Function triggered from the blob upload..

Azure Storage events allow applications to react to events. Common Blob storage event scenarios include image or video processing, search indexing, or any file-oriented workflow.

Note: Only storage accounts of kind StorageV2 (general purpose v2) and BlobStorage support event integration. Storage (general purpose v1) does not support integration with Event Grid.

Reference:

<https://docs.microsoft.com/en-us/azure/storage/blobs/storage-blob-event-overview>

Question: 67

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.

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When photos are uploaded, they must be processed to produce and save a mobile-friendly version of the image. The process to produce a mobile-friendly version of the image must start in less than one minute.

You need to design the process that starts the photo processing.

Solution: Move photo processing to an Azure Function triggered from the blob upload.

Does the solution meet the goal?

- A. Yes
- B. No

Answer: A

Explanation:

Azure Storage events allow applications to react to events. Common Blob storage event scenarios include image or video processing, search indexing, or any file-oriented workflow.

Events are pushed using Azure Event Grid to subscribers such as Azure Functions, Azure Logic Apps, or even to your own http listener.

Note: Only storage accounts of kind StorageV2 (general purpose v2) and BlobStorage support event integration. Storage (general purpose v1) does not support integration with Event Grid.

Reference:

<https://docs.microsoft.com/en-us/azure/storage/blobs/storage-blob-event-overview>

Question: 68

You are developing an application that uses Azure Blob storage.

The application must read the transaction logs of all the changes that occur to the blobs and the blob metadata in the storage account for auditing purposes. The changes must be in the order in which they occurred, include only create, update, delete, and copy operations and be retained for compliance reasons.

You need to process the transaction logs asynchronously.

What should you do?

- A. Process all Azure Blob storage events by using Azure Event Grid with a subscriber Azure Function app.
- B. Enable the change feed on the storage account and process all changes for available events.
- C. Process all Azure Storage Analytics logs for successful blob events.
- D. Use the Azure Monitor HTTP Data Collector API and scan the request body for successful blob events.

Answer: B

Explanation:

Change feed support in Azure Blob Storage

The purpose of the change feed is to provide transaction logs of all the changes that occur to the blobs and the blob metadata in your storage account. The change feed provides ordered, guaranteed, durable, immutable, read-only log of these changes. Client applications can read these logs at any time, either in streaming or in batch mode. The change feed enables you to build efficient and scalable solutions that process change events that occur in your Blob Storage account at a low

cost.

Reference:

<https://docs.microsoft.com/en-us/azure/storage/blobs/storage-blob-change-feed>

Question: 69

DRAG DROP

You are developing an application to use Azure Blob storage. You have configured Azure Blob storage to include change feeds.

A copy of your storage account must be created in another region. Data must be copied from the current storage account to the new storage account directly between the storage servers.

You need to create a copy of the storage account in another region and copy the data.

In which order should you perform the actions? To answer, move all actions from the list of actions to the answer area and arrange them in the correct order.

Actions**Answer Area**

Use AZCopy to copy the data to the new storage account.

Deploy the template to create a new storage account in the target region.

Export a Resource Manager template.

Create a new template deployment.

Modify the template by changing the storage account name and region.



Answer:

Explanation:

Export a Resource Manager template.

Create a new template deployment.

Modify the template by changing the storage account name and region.

Deploy the template to create a new storage account in the target region.

Use AZCopy to copy the data to the new storage account.

<https://docs.microsoft.com/en-us/azure/storage/common/storage-account-move?tabs=azure-portal#modify-the-template>

Question: 70

HOTSPOT

You are developing an ASP.NET Core web application. You plan to deploy the application to Azure Web App for Containers.

The application needs to store runtime diagnostic data that must be persisted across application restarts. You have the following code:

```
public void SaveDiagData(string data)
{
    var path = Environment.GetEnvironmentVariable("DIAGDATA")
    File.WriteAllText(Path.Combine(path, "data"), data);
}
```

You need to configure the application settings so that diagnostic data is stored as required.

How should you configure the web app's settings? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

App setting	Value
LOCALAPPDATA	true
WEBSITE_LOCALCACHE_ENABLED	
DOTNET_HOSTING_OPTIMIZATION_CACHE	
WEBSITES_ENABLE_APP_SERVICE_STORAGE	
DIAGDATA	/home /local D:\home D:\local

Answer:

Explanation:

App setting	Value
LOCALAPPDATA	true
WEBSITE_LOCALCACHE_ENABLED	
DOTNET_HOSTING_OPTIMIZATION_CACHE	
WEBSITES_ENABLE_APP_SERVICE_STORAGE	
DIAGDATA	

Box 1: If WEBSITES_ENABLE_APP_SERVICE_STORAGE

If WEBSITES_ENABLE_APP_SERVICE_STORAGE setting is unspecified or set to true, the /home/ directory will be shared across scale instances, and files written will persist across restarts

Box 2: /home

Reference:

<https://docs.microsoft.com/en-us/azure/app-service/containers/app-service-linux-faq>

Question: 71

You are developing a web app that is protected by Azure Web Application Firewall (WAF). All traffic to the web app is routed through an Azure Application Gateway instance that is used by multiple web apps. The web app address is contoso.azurewebsites.net.

All traffic must be secured with SSL. The Azure Application Gateway instance is used by multiple web apps.

You need to configure the Azure Application Gateway for the app.

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

NOTE: Each correct selection is worth one point.

- A. In the Azure Application Gateway's HTTP setting, enable the Use for App service setting.
- B. Convert the web app to run in an Azure App service environment (ASE).
- C. Add an authentication certificate for contoso.azurewebsites.net to the Azure Application gateway.
- D. In the Azure Application Gateway's HTTP setting, set the value of the Override backend path option to contoso22.azurewebsites.net.

Answer: AD

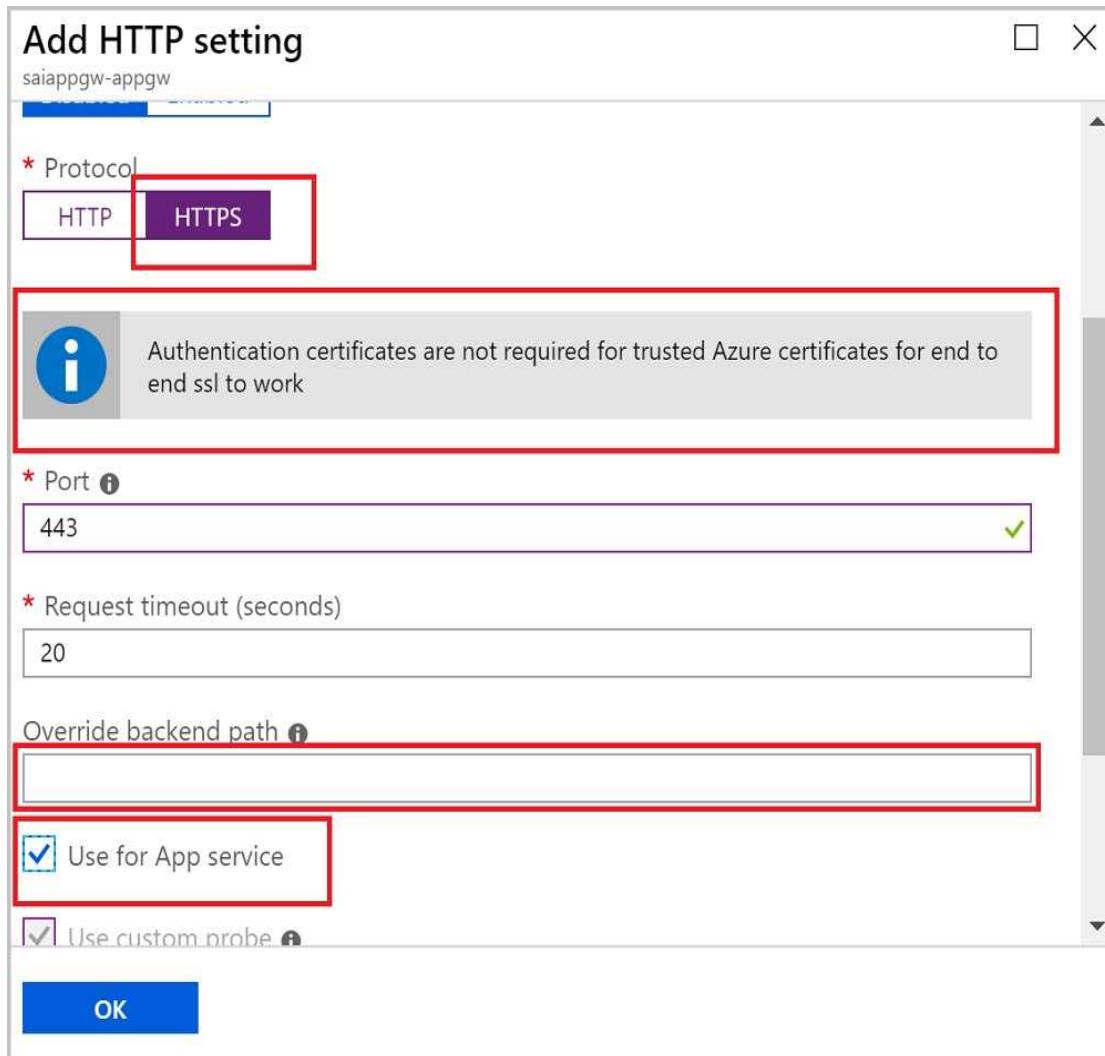
Explanation:

D: The ability to specify a host override is defined in the HTTP settings and can be applied to any back-end pool during rule creation.

The ability to derive the host name from the IP or FQDN of the back-end pool members. HTTP settings also provide an option to dynamically pick the host name from a back-end pool member's FQDN if configured with the option to derive host name from an individual back-end pool member.

A (not C): SSL termination and end to end SSL with multi-tenant services.

In case of end to end SSL, trusted Azure services such as Azure App service web apps do not require whitelisting the backends in the application gateway. Therefore, there is no need to add any authentication certificates.



Reference:

<https://docs.microsoft.com/en-us/azure/application-gateway/application-gateway-web-app-overview>

Question: 72

HOTSPOT

You are implementing a software as a service (SaaS) ASP.NET Core web service that will run as an Azure Web App. The web service will use an on-premises SQL Server database for storage. The web service also includes a WebJob that processes data updates. Four customers will use the web service.

Each instance of the WebJob processes data for a single customer and must run as a singleton instance.

Each deployment must be tested by using deployment slots prior to serving production data.

Azure costs must be minimized.

Azure resources must be located in an isolated network.

You need to configure the App Service plan for the Web App.

How should you configure the App Service plan? To answer, select the appropriate settings in the answer area.

NOTE: Each correct selection is worth one point.

App service plan setting	Value
Number of VM instances	<input type="button" value="▼"/> 2 4 8 16
Pricing tier	<input type="button" value="▼"/> Isolated Standard Premium Consumption

Explanation:

Answer:

App service plan setting	Value				
Number of VM instances	<div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p style="margin: 0;">▼</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="padding: 2px;">2</td></tr> <tr><td style="background-color: #cccccc; padding: 2px;">4</td></tr> <tr><td style="padding: 2px;">8</td></tr> <tr><td style="padding: 2px;">16</td></tr> </table> </div>	2	4	8	16
2					
4					
8					
16					
Pricing tier	<div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p style="margin: 0;">▼</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="background-color: #cccccc; padding: 2px;">Isolated</td></tr> <tr><td style="padding: 2px;">Standard</td></tr> <tr><td style="padding: 2px;">Premium</td></tr> <tr><td style="padding: 2px;">Consumption</td></tr> </table> </div>	Isolated	Standard	Premium	Consumption
Isolated					
Standard					
Premium					
Consumption					

Number of VM instances: 4

You are not charged extra for deployment slots.

Pricing tier: Isolated

The App Service Environment (ASE) is a powerful feature offering of the Azure App Service that gives network isolation and improved scale capabilities. It is essentially a deployment of the Azure App Service into a subnet of a customer's Azure Virtual Network (VNet).

Reference:

<https://azure.microsoft.com/sv-se/blog/announcing-app-service-isolated-more-power-scale-and-ease-of-use/>

Question: 73

DRAG DROP

You are a developer for a software as a service (SaaS) company that uses an Azure Function to process orders. The Azure Function currently runs on an Azure Function app that is triggered by an Azure Storage queue.

You are preparing to migrate the Azure Function to Kubernetes using Kubernetes-based Event Driven Autoscaling (KEDA).

You need to configure Kubernetes Custom Resource Definitions (CRD) for the Azure Function.

Which CRDs should you configure? To answer, drag the appropriate CRD types to the correct locations. Each CRD type 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.

CRD types	Setting	CRD type
Secret	Azure Function code	
Deployment		
ScaledObject	Polling interval	
TriggerAuthentication	Azure Storage connection string	

Answer:

Explanation:

Setting	CRD type
Azure Function code	Deployment
Polling interval	ScaledObject
Azure Storage connection string	Secret

Box 1: Deployment

To deploy Azure Functions to Kubernetes use the `func kubernetes deploy` command has several attributes that directly control how our app scales, once it is deployed to Kubernetes.

Box 2: ScaledObject

With `--polling-interval`, we can control the interval used by KEDA to check Azure Service Bus Queue for messages.

Example of ScaledObject with polling interval

```
apiVersion: keda.k8s.io/v1alpha1
kind: ScaledObject
metadata:
  name: transformer-fn
  namespace: tt
  labels:
    deploymentName: transformer-fn
spec:
  scaleTargetRef:
    deploymentName: transformer-fn
```

```
pollingInterval: 5  
minReplicaCount: 0  
maxReplicaCount: 100
```

Box 3: Secret

Store connection strings in Kubernetes Secrets.

Example: to create the Secret in our demo Namespace:

```
# create the k8s demo namespace  
kubectl create namespace tt  
  
# grab connection string from Azure Service Bus  
KEDA_SCALER_CONNECTION_STRING=$(az servicebus queue authorization-rule keys list \  
-g $RG_NAME \  
--namespace-name $SBN_NAME \  
--queue-name inbound \  
-n keda-scaler \  
--query "primaryConnectionString" \  
-o tsv)  
  
# create the kubernetes secret  
kubectl create secret generic tt-keda-auth \  
--from-literal KedaScaler=$KEDA_SCALER_CONNECTION_STRING \  
--namespace tt
```

Reference:

<https://www.thinktecture.com/en/kubernetes/serverless-workloads-with-keda/>

Question: 74

HOTSPOT

You are creating a CLI script that creates an Azure web app related services in Azure App Service. The web app uses the following variables:

Variable name	Value
\$gitrepo	https://github.com/Contos/webaapp
&webappname	Webapp1103

You need to automatically deploy code from GitHub to the newly created web app.

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

NOTE: Each correct selection is worth one point.

```

az group create - --location westeurope - --name myResourceGroup
    ▼ - --name $webappname - --resource-group myResourceGroup - --sku FREE
az webapp create
az appservice plan create
az webapp deployment
az group delete

az webapp create
az appservice plan create
az webapp deployment
az group delete

- --repo-url $gitrepo - --branch master - --manual-integration
git clone $gitrepo
- --plan $webappname

source config - --name $webappname
az webapp create
az appservice plan create
az webapp deployment
az group delete
- --resource-group myResourceGroup
    ▼ - --repo-url $gitrepo - --branch master - --manual-integration
        git clone $gitrepo
        - --plan $webappname

```

Answer:

Explanation:

```

az group create - --location westeurope - --name myResourceGroup
az webapp create - --name $webappname - --resource-group myResourceGroup - --sku FREE
az appservice plan create
az webapp deployment
az group delete

az webapp create - --name $webappname - --resource-group myResourceGroup
az appservice plan create
az webapp deployment
az group delete

- --repo-url $gitrepo - --branch master - --manual-integration
git clone $gitrepo
--plan $webappname

source config - --name $webappname
az webapp create
az appservice plan create
az webapp deployment
az group delete
--resource-group myResourceGroup
- --repo-url $gitrepo - --branch master - --manual-integration
git clone $gitrepo
--plan $webappname

```

Box 1: az appservice plan create

The azure group creates command successfully returns JSON result. Now we can use resource group to create a azure app service plan

Box 2: az webapp create

Create a new web app..

Box 3: --plan \$webappname

..with the serviceplan we created in step 1.

Box 4: az webapp deployment

Continuous Delivery with GitHub. Example:

```
az webapp deployment source config --name firstsamplewebsite1 --resource-group websites --repo-url $gitrepo --branch master --git-token $token
```

Box 5: --repo-url \$gitrepo --branch master --manual-integration

Reference:

<https://medium.com/@satish1v/devops-your-way-to-azure-web-apps-with-azure-cli-206ed4b3e9b1>

Question: 75

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 develop a software as a service (SaaS) offering to manage photographs. Users upload photos to a web service which then stores the photos in Azure Storage Blob storage. The storage account type is General-purpose V2.

When photos are uploaded, they must be processed to produce and save a mobile-friendly version of the image. The process to produce a mobile-friendly version of the image must start in less than one minute.

You need to design the process that starts the photo processing.

Solution: Trigger the photo processing from Blob storage events.

Does the solution meet the goal?

A. Yes

B. NO

Answer: B

Explanation:

You need to catch the triggered event, so move the photo processing to an Azure Function triggered from the blob upload

Note: Azure Storage events allow applications to react to events. Common Blob storage event scenarios include image or video processing, search indexing, or any file-oriented workflow.

Events are pushed using Azure Event Grid to subscribers such as Azure Functions, Azure Logic Apps, or even to your own http listener.

Note: Only storage accounts of kind StorageV2 (general purpose v2) and BlobStorage support event integration. Storage (general purpose v1) does not support integration with Event Grid.

Reference:

<https://docs.microsoft.com/en-us/azure/storage/blobs/storage-blob-event-overview>

Question: 76

HOTSPOT

You are developing a ticket reservation system for an airline.

The storage solution for the application must meet the following requirements:

Ensure at least 99.99% availability and provide low latency.

Accept reservations event when localized network outages or other unforeseen failures occur.

Process reservations in the exact sequence as reservations are submitted to minimize overbooking or selling the same seat to multiple travelers.

Allow simultaneous and out-of-order reservations with a maximum five-second tolerance window.

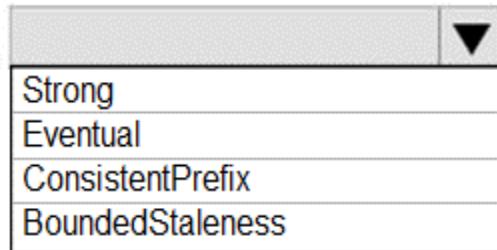
You provision a resource group named airlineResourceGroup in the Azure South-Central US region.

You need to provision a SQL SPI Cosmos DB account to support the app.

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

NOTE: Each correct selection is worth one point.

```
resourceGroupName- +airlineResourceGroup'
name- +docdb-airline-reservations'
databaseName- 'docdb-tickets-database'
collectionName- 'docdb-tickets-collection'
consistencyLevel-
```



```
az cosmosdb create \
--name $name \
```

A dropdown menu with a black arrow pointing down in the top right corner. Inside the menu, there are two items listed vertically: "--kind 'GlobalDocumentDB'" and "--kind 'MongoDB'".

```
--resource group $resourceGroupName \
--max interval 5 \
```

A dropdown menu with a black arrow pointing down in the top right corner. Inside the menu, there are four items listed vertically: "--locations 'southcentralus'", "--locations 'eastus'", "--locations 'southcentralus=0 eastus=1 westus=2'", and "--locations 'southcentralus=0'".

```
--default-consistency-level - $consistencylevel
```

Answer:

Explanation:

```

resourceGroupName= +airlineResourceGroup'
name= +docdb-airline-reservations'
databaseName= 'docdb-tickets-database'
collectionName= 'docdb-tickets-collection'
consistencyLevel-
    ▼
    Strong
    Eventual
    ConsistentPrefix
    BoundedStaleness

az cosmosdb create \
--name $name \
    ▼
--enable-virtual-network true\
--enable-automatic-failover true\
--kind 'GlobalDocumentDB' \
--kind 'MongoDB'\

--resource group $resourceGroupName \
--max interval 5 \
    ▼
--locations 'southcentralus'
--locations 'eastus'
--locations'southcentralus=0 eastus=1 westus=2'
--locations 'southcentralus=0'

--default-consistency-level - $consistencylevel

```

Box 1: BoundedStaleness

Bounded staleness: The reads are guaranteed to honor the consistent-prefix guarantee. The reads might lag behind writes by at most "K" versions (that is, "updates") of an item or by "T" time interval. In other words, when you choose bounded staleness, the "staleness" can be configured in two ways:

The number of versions (K) of the item

The time interval (T) by which the reads might lag behind the writes

Incorrect Answers:

Strong

Strong consistency offers a linearizability guarantee. Linearizability refers to serving requests concurrently. The reads are guaranteed to return the most recent committed version of an item. A client never sees an uncommitted or partial write. Users are always guaranteed to read the latest committed write.

Box 2: --enable-automatic-failover true\

For multi-region Cosmos accounts that are configured with a single-write region, enable automatic-failover by using Azure CLI or Azure portal. After you enable automatic failover, whenever there is a regional disaster, Cosmos DB will automatically failover your account.

Question: 77

HOTSPOT

You are developing a ticket reservation system for an airline.

The storage solution for the application must meet the following requirements:

Ensure at least 99.99% availability and provide low latency.

Accept reservations event when localized network outages or other unforeseen failures occur.

Process reservations in the exact sequence as reservations are submitted to minimize overbooking or selling the same seat to multiple travelers.

Allow simultaneous and out-of-order reservations with a maximum five-second tolerance window.

You provision a resource group named airlineResourceGroup in the Azure South-Central US region.

You need to provision a SQL SPI Cosmos DB account to support the app.

How should you complete the Azure CLI commands? To answer, select the appropriate options in the

answer area.

NOTE: Each correct selection is worth one point.

```
resourceGroupName= +airlineResourceGroup'
name= +docdb-airline-reservations'
databaseName= 'docdb-tickets-database'
collectionName= 'docdb-tickets-collection'
consistencyLevel-
```

A dropdown menu with a list of four items: "Strong", "Eventual", "ConsistentPrefix", and "BoundedStaleness".

```
az cosmosdb create \
--name $name \
```

```
--enable-virtual-network true \
--enable-automatic-failover true \
--kind 'GlobalDocumentDB' \
--kind 'MongoDB'
```

```
--resource group $resourceGroupName \
--max interval 5 \
```

```
--locations 'southcentralus'
--locations 'eastus'
--locations 'southcentralus=0 eastus=1 westus=2'
--locations 'southcentralus=0'
```

```
--default-consistency-level - $consistencylevel
```

Answer:

Explanation:

```

resourceGroupName= +airlineResourceGroup'
name= +docdb-airline-reservations'
databaseName= 'docdb-tickets-database'
collectionName= 'docdb-tickets-collection'
consistencyLevel-
    ▼
    Strong
    Eventual
    ConsistentPrefix
    BoundedStaleness

az cosmosdb create \
--name $name \
    ▼
--enable-virtual-network true\
--enable-automatic-failover true\
--kind 'GlobalDocumentDB' \
--kind 'MongoDB'\

--resource group $resourceGroupName \
--max interval 5 \
    ▼
--locations 'southcentralus'
--locations 'eastus'
--locations'southcentralus=0 eastus=1 westus=2'
--locations 'southcentralus=0'

--default-consistency-level - $consistencylevel

```

Box 1: BoundedStaleness

Bounded staleness: The reads are guaranteed to honor the consistent-prefix guarantee. The reads might lag behind writes by at most "K" versions (that is, "updates") of an item or by "T" time interval. In other words, when you choose bounded staleness, the "staleness" can be configured in two ways:

The number of versions (K) of the item

The time interval (T) by which the reads might lag behind the writes

Incorrect Answers:

Strong

Strong consistency offers a linearizability guarantee. Linearizability refers to serving requests concurrently. The reads are guaranteed to return the most recent committed version of an item. A client never sees an uncommitted or partial write. Users are always guaranteed to read the latest committed write.

Box 2: --enable-automatic-failover true\

For multi-region Cosmos accounts that are configured with a single-write region, enable automatic failover by using Azure CLI or Azure portal. After you enable automatic failover, whenever there is a regional disaster, Cosmos DB will automatically failover your account.

Question: 78

You develop Azure solutions.

You must connect to a No-SQL globally-distributed database by using the .NET API.

You need to create an object to configure and execute requests in the database.

Which code segment should you use?

- A. new Container(EndpointUri, PrimaryKey);
- B. new Database(Endpoint, PrimaryKey);
- C. new CosmosClient(EndpointUri, PrimaryKey);

Answer: C

Explanation:

Example:

```
// Create a new instance of the Cosmos Client  
this.cosmosClient = new CosmosClient(EndpointUri, PrimaryKey)
```

```
//ADD THIS PART TO YOUR CODE
```

```
await this.CreateDatabaseAsync();
```

Reference:

<https://docs.microsoft.com/en-us/azure/cosmos-db/sql-api-get-started>

Question: 79

DRAG DROP

You are developing a new page for a website that uses Azure Cosmos DB for data storage. The feature uses documents that have the following format:

```
{
    "name": "John",
    "city" : "Seattle"
}
```

You must display data for the new page in a specific order. You create the following query for the page:

```
SELECT*
FROM People p
ORDER BY p.name, p.city DESC
```

You need to configure a Cosmos DB policy to support the query.

How should you configure the policy? To answer, drag the appropriate JSON segments to the correct locations. Each JSON segment 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.

JSON segments

orderBy
sortOrder
ascending
descending
compositeIndexes

Answer Area

```
{  
    "automatic": true,  
    "ngMode": "Consistent",  
    "includedPaths": [  
        {  
            "path": "/"  
        }  
    ], "excludedPaths": [],  
    "orderBy": [  
        [  
            {  
                "path": "/name", "order": "descending"  
            },  
            {  
                "path": "/city", "order": " "  
            }  
        ]  
    ]  
}
```

Explanation:

Answer:

```
{
  "automatic": true,
  "ngMode": "Consistent",
  "includedPaths": [
    {
      "path": "/**"
    }
  ], "excludedPaths": [],
  "compositeIndexes": [
    [
      {
        "path": "/name", "order": "descending"
      },
      {
        "path": "/city", "order": "descending"
      }
    ]
  ]
}
```

Box 1: compositeIndexes

You can order by multiple properties. A query that orders by multiple properties requires a composite index.

Box 2: descending

Example: Composite index defined for (name ASC, age ASC):

It is optional to specify the order. If not specified, the order is ascending.

```
{
  "automatic":true,
  "indexingMode":"Consistent",
  "includedPaths":[
    {
      "path":"/**"
    }
  ]}
```

```
],  
  "excludedPaths":[],  
  "compositeIndexes": [  
    [  
      {  
        "path": "/name",  
      },  
      {  
        "path": "/age",  
      }  
    ]  
  ]  
}
```

Question: 80

HOTSPOT

You are building a traffic monitoring system that monitors traffic along six highways. The system produces time series analysis-based reports for each highway. Data from traffic sensors are stored in Azure Event Hub.

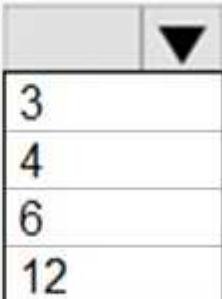
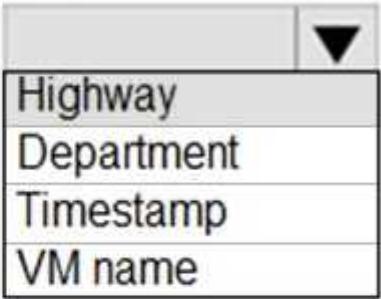
Traffic data is consumed by four departments. Each department has an Azure Web App that displays the time-series-based reports and contains a WebJob that processes the incoming data from Event Hub. All Web Apps run on App Service Plans with three instances.

Data throughout must be maximized. Latency must be minimized.

You need to implement the Azure Event Hub.

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

NOTE: Each correct selection is worth one point.

Setting	Value
Number of partitions	 3 4 6 12
Partition Key	 Highway Department Timestamp VM name

Explanation:

Answer:

Setting	Value								
Number of partitions	<table border="1"> <tr> <td>3</td> <td>▼</td> </tr> <tr> <td>4</td> <td>▼</td> </tr> <tr> <td>6</td> <td>▼</td> </tr> <tr> <td>12</td> <td>▼</td> </tr> </table>	3	▼	4	▼	6	▼	12	▼
3	▼								
4	▼								
6	▼								
12	▼								
Partition Key	<table border="1"> <tr> <td>Highway</td> <td>▼</td> </tr> <tr> <td>Department</td> <td>▼</td> </tr> <tr> <td>Timestamp</td> <td>▼</td> </tr> <tr> <td>VM name</td> <td>▼</td> </tr> </table>	Highway	▼	Department	▼	Timestamp	▼	VM name	▼
Highway	▼								
Department	▼								
Timestamp	▼								
VM name	▼								

Box 1: 6

The number of partitions is specified at creation and must be between 2 and 32.

There are 6 highways.

Box 2: Highway

Reference:

<https://docs.microsoft.com/en-us/azure/event-hubs/event-hubs-features>

Question: 81

DRAG DROP

You are developing a microservices solution. You plan to deploy the solution to a multinode Azure Kubernetes Service (AKS) cluster.

You need to deploy a solution that includes the following features:

reverse proxy capabilities

configurable traffic routing

TLS termination with a custom certificate

Which components should you use? To answer, drag the appropriate components to the correct requirements. Each component 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.

Components	Answer area	Action	Component
Helm	Deploy solution.		Component
Draft	View cluster and external IP addressing.		Component
Brigade	Implement a single, public IP endpoint that is routed to multiple microservices.		Component
KubeCtl			
Ingress Controller			
CoreDNS			
Virtual Kubelet			

Answer:

Explanation:

Answer Area

Action	Component
Deploy solution.	Helm
View cluster and external IP addressing.	KubeCtl
Implement a single, public IP endpoint that is routed to multiple microservices.	Ingress Controller

Box 1: Helm

To create the ingress controller, use Helm to install nginx-ingress.

Box 2: kubectl

To find the cluster IP address of a Kubernetes pod, use the kubectl get pod command on your local machine, with the option -o wide .

Box 3: Ingress Controller

An ingress controller is a piece of software that provides reverse proxy, configurable traffic routing, and TLS termination for Kubernetes services. Kubernetes ingress resources are used to configure the ingress rules and routes for individual Kubernetes services.

Incorrect Answers:

Virtual Kubelet: Virtual Kubelet is an open-source Kubernetes kubelet implementation that masquerades as a kubelet. This allows Kubernetes nodes to be backed by Virtual Kubelet providers such as serverless cloud container platforms.

CoreDNS: CoreDNS is a flexible, extensible DNS server that can serve as the Kubernetes cluster DNS.

Like Kubernetes, the CoreDNS project is hosted by the CNCF.

Reference:

<https://docs.microsoft.com/bs-cyrl-ba/azure/aks/ingress-basic>

<https://www.digitalocean.com/community/tutorials/how-to-inspect-kubernetes-networking>

Question: 82

Your company is developing an Azure API.

You need to implement authentication for the Azure API. You have the following requirements:

All API calls must be secure.

Callers to the API must not send credentials to the API.

Which authentication mechanism should you use?

- A. Basic
- B. Anonymous
- C. Managed identity
- D. Client certificate

Answer: C

Explanation:

Use the authentication-managed-identity policy to authenticate with a backend service using the managed identity of the API Management service. This policy essentially uses the managed identity to obtain an access token from Azure Active Directory for accessing the specified resource. After successfully obtaining the token, the policy will set the value of the token in the Authorization header using the Bearer scheme.

Reference:

<https://docs.microsoft.com/bs-cyrillic/azure/api-management/api-management-authentication-policies>

Question: 83

You are a developer for a SaaS company that offers many web services.

All web services for the company must meet the following requirements:

Use API Management to access the services

Use OpenID Connect for authentication

Prevent anonymous usage

A recent security audit found that several web services can be called without any authentication.

Which API Management policy should you implement?

A. jsonp

B. authentication-certificate

C. check-header

D. validate-jwt

Answer: D

Explanation:

Add the validate-jwt policy to validate the OAuth token for every incoming request.

Incorrect Answers:

A: The jsonp policy adds JSON with padding (JSONP) support to an operation or an API to allow cross-

domain calls from JavaScript browser-based clients. JSONP is a method used in JavaScript programs to request data from a server in a different domain. JSONP bypasses the limitation enforced by most web browsers where access to web pages must be in the same domain.

JSONP - Adds JSON with padding (JSONP) support to an operation or an API to allow cross-domain calls from JavaScript browser-based clients.

Reference:

<https://docs.microsoft.com/en-us/azure/api-management/api-management-howto-protect-backend-with-aad>

Question: 84

DRAG DROP

Contoso, Ltd. provides an API to customers by using Azure API Management (APIM). The API authorizes users with a JWT token.

You must implement response caching for the APIM gateway. The caching mechanism must detect the user ID of the client that accesses data for a given location and cache the response for that user ID.

You need to add the following policies to the policies file:

- a set-variable policy to store the detected user identity
- a cache-lookup-value policy
- a cache-store-value policy
- a find-and-replace policy to update the response body with the user profile information

To which policy section should you add the policies? To answer, drag the appropriate sections to the correct policies. Each section 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



Answer:

Explanation:

Policy	Policy section
Set-variable	<u>Inbound</u>
Cache-lookup-value	<u>Inbound</u>
Cache-store-value	<u>Outbound</u>
Find-and-replace	<u>Outbound</u>

Box 1: Inbound.

A set-variable policy to store the detected user identity.

Example:

```
<policies>
```

```
  <inbound>
```

```
    <!-- How you determine user identity is application dependent -->
```

```
    <set-variable
```

```
      name="enduserid"
```

```
      value="@({context.Request.Headers.GetValueOrDefault("Authorization","").Split(
')[1].AsJwt()?.Subject})" />
```

Box 2: Inbound

A cache-lookup-value policy

Example:

```
<inbound>

    <base />

    <cache-lookup vary-by-developer="true | false" vary-by-developer-groups="true | false"
downstream-caching-type="none | private | public" must-revalidate="true | false">

        <vary-by-query-parameter>parameter name</vary-by-query-parameter> <!-- optional, can
repeated several times -->

    </cache-lookup>

</inbound>
```

Box 3: Outbound

A cache-store-value policy.

Example:

```
<outbound>

    <base />

    <cache-store duration="3600" />

</outbound>
```

Box 4: Outbound

A find-and-replace policy to update the response body with the user profile information.

Example:

```
<outbound>

    <!-- Update response body with user profile-->

    <find-and-replace

        from="$userprofile$"
```

```
to="@((string)context.Variables["userprofile"])" />  
<base />  
</outbound>
```

Reference:

<https://docs.microsoft.com/en-us/azure/api-management/api-management-caching-policies>

<https://docs.microsoft.com/en-us/azure/api-management/api-management-sample-cache-by-key>

Question: 85

DRAG DROP

You develop a web application.

You need to register the application with an active Azure Active Directory (Azure AD) tenant.

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

Actions	Answer Area
---------	-------------

Select **Manifest** from the middle-tier service registration.

In Enterprise Applications, select **New application**.

Add a Cryptographic key.

Create a new application and provide the name, account type, and redirect URL



Select the Azure AD instance.

Use an access token to access the secure resource.

In App Registrations, select **New registration**.



Answer:

Explanation:

In App Registrations, select **New registration**.

Select the Azure AD instance.

Create a new application and provide the name, account type, and redirect URL

Register a new application using the Azure portal

Sign in to the Azure portal using either a work or school account or a personal Microsoft account.

If your account gives you access to more than one tenant, select your account in the upper right corner. Set your portal session to the Azure AD tenant that you want.

Search for and select Azure Active Directory. Under Manage, select App registrations.

Select New registration. (Step 1)

In Register an application, enter a meaningful application name to display to users.

Specify who can use the application. Select the Azure AD instance. (Step 2)

Under Redirect URI (optional), select the type of app you're building: Web or Public client (mobile & desktop). Then enter the redirect URI, or reply URL, for your application. (Step 3)

When finished, select Register.

Question: 86

You are developing an internal website for employees to view sensitive data

- a. The website uses Azure Active Directory (AAD) for authentication. You need to implement multifactor authentication for the website.

What should you do? Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point.

- A. In Azure AD, create a new conditional access policy.
- B. In Azure AD, enable application proxy.
- C. Configure the website to use Azure AD B2C.
- D. In Azure AD conditional access, enable the baseline policy.
- E. Upgrade to Azure AD Premium.

Answer: A, E

Explanation:

Reference:

<https://docs.microsoft.com/en-us/azure/active-directory/authentication/howto-mfa-getstarted>

Question: 87

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.

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



Answer:

Explanation:

```
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 <subscriptionID>
```

Step 3: Get-AzStorageAccountKey

You must get that storage account key.

```
Step 4: $secretvalue = ConvertTo-SecureString <storageAccountKey> -AsPlainText -Force
```

```
Set-AzKeyVaultSecret -VaultName <vaultName> -Name <secretName> -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 <vaultName>
```

Reference:

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

Question: 88

You are developing an ASP.NET Core Web API web service. The web service uses Azure Application Insights for all telemetry and dependency tracking. The web service reads and writes data to a database other than Microsoft SQL Server.

You need to ensure that dependency tracking works for calls to the third-party database.

Which two Dependency Telemetry properties should you store in the database? Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point.

A. Telemetry.Context.Operation.Id

B. Tetemetry.Context.Cloud.RoleInstance

C. Telemetry.Id

D. Telemetry.ContextSession.Id

E. Telemetry.Name

Answer: AC

Explanation:

Reference:

<https://docs.microsoft.com/en-us/azure/azure-monitor/app/custom-operations-tracking>

Example:

```
public async Task Enqueue(string payload)
{
    // StartOperation is a helper method that initializes the telemetry item
    // and allows correlation of this operation with its parent and children.

    var operation = telemetryClient.StartOperation<DependencyTelemetry>("enqueue " +
queueName);

    operation.Telemetry.Type = "Azure Service Bus";
    operation.Telemetry.Data = "Enqueue " + queueName;

    var message = new BrokeredMessage(payload);
    // Service Bus queue allows the property bag to pass along with the message.
    // We will use them to pass our correlation identifiers (and other context)
    // to the consumer.

    message.Properties.Add("ParentId", operation.Telemetry.Id);
    message.Properties.Add("RootId", operation.Telemetry.Context.Operation.Id);
```

Reference:

Question: 89

HOTSPOT

You are using Azure Front Door Service.

You are expecting inbound files to be compressed by using Brotli compression. You discover that inbound XML files are not compressed. The files are 9 megabytes (MB) in size.

You need to determine the root cause for the issue.

To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Statement	Yes	No
The file MIME type is supported by the service.	<input type="radio"/>	<input type="radio"/>
Edge nodes must be purged of all cache assets.	<input type="radio"/>	<input type="radio"/>
The compression type is supported.	<input type="radio"/>	<input type="radio"/>

Answer:

Explanation:

Statement	Yes	No
The file MIME type is supported by the service.	<input type="radio"/>	<input checked="" type="radio"/>
Edge nodes must be purged of all cache assets.	<input checked="" type="radio"/>	<input type="radio"/>
The compression type is supported.	<input type="radio"/>	<input checked="" type="radio"/>

Box 1: No

Front Door can dynamically compress content on the edge, resulting in a smaller and faster response to your clients. All files are eligible for compression. However, a file must be of a MIME type that is eligible for compression list.

Box 2: No

Sometimes you may wish to purge cached content from all edge nodes and force them all to retrieve new updated assets. This might be due to updates to your web application, or to quickly update assets that contain incorrect information.

Box 3: Yes

These profiles support the following compression encodings: Gzip (GNU zip), Brotli

Reference:

<https://docs.microsoft.com/en-us/azure/frontdoor/front-door-caching>

Question: 90

HOTSPOT

You are developing an Azure App Service hosted ASP.NET Core web app to deliver video on-demand streaming media.

a. You enable an Azure Content Delivery Network (CDN) Standard for the web endpoint. Customer videos are downloaded from the web app by using the following example URL.:

<http://www.contoso.com/content.mp4?quality=1>

All media content must expire from the cache after one hour. Customer videos with varying quality must be delivered to the closest regional point of presence (POP) node.

You need to configure Azure CDN caching rules.

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

NOTE: Each correct selection is worth one point.

Setting	Action
Caching behavior	<div style="border: 1px solid black; padding: 5px; width: fit-content;"> ▼ <div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;"></div> <div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;">Bypass cache</div> <div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;">Override</div> <div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;">Set if missing</div> </div>
Cache expiration duration	<div style="border: 1px solid black; padding: 5px; width: fit-content;"> ▼ <div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;"></div> <div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;">1 second</div> <div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;">1 minute</div> <div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;">1 hour</div> <div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;">1 day</div> </div>
Query string caching behavior	<div style="border: 1px solid black; padding: 5px; width: fit-content;"> ▼ <div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;"></div> <div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;">Ignore query strings</div> <div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;">Bypass caching for query strings</div> <div style="border: 1px solid black; padding: 2px; margin-bottom: 2px;">Cache every unique URL</div> </div>

Explanation:

Answer:

Setting	Action
Caching behavior	<ul style="list-style-type: none"> Bypass cache Override Set if missing
Cache expiration duration	<ul style="list-style-type: none"> 1 second 1 minute 1 hour 1 day
Query string caching behavior	<ul style="list-style-type: none"> Ignore query strings Bypass caching for query strings Cache every unique URL

Box 1: Override

Override: Ignore origin-provided cache duration; use the provided cache duration instead. This will not override cache-control: no-cache.

Set if missing: Honor origin-provided cache-directive headers, if they exist; otherwise, use the provided cache duration.

Incorrect:

Bypass cache: Do not cache and ignore origin-provided cache-directive headers.

Box 2: 1 hour

All media content must expire from the cache after one hour.

Box 3: Cache every unique URL

Cache every unique URL: In this mode, each request with a unique URL, including the query string, is treated as a unique asset with its own cache. For example, the response from the origin server for a request for example.ashx?q=test1 is cached at the POP node and returned for subsequent caches with the same query string. A request for example.ashx?q=test2 is cached as a separate asset with its own time-to-live setting.

Incorrect Answers:

Bypass caching for query strings: In this mode, requests with query strings are not cached at the CDN POP node. The POP node retrieves the asset directly from the origin server and passes it to the requestor with each request.

Ignore query strings: Default mode. In this mode, the CDN point-of-presence (POP) node passes the query strings from the requestor to the origin server on the first request and caches the asset. All subsequent requests for the asset that are served from the POP ignore the query strings until the cached asset expires.

Reference:

<https://docs.microsoft.com/en-us/azure/cdn/cdn-query-string>

Question: 91

DRAG DROP

You develop a web app that uses tier D1 app service plan by using the Web Apps feature of Microsoft Azure App Service.

Spikes in traffic have caused increases in page load times.

You need to ensure that the web app automatically scales when CPU load is about 85 percent and minimize costs.

Which four 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.

NOTE: More than one order of answer choices is correct. You will receive credit for any of the correct orders you select.

Actions	Answer Area
Configure the web app to the Premium App Service tier.	
Configure the web app to the Standard App Service tier.	
Enable autoscaling on the web-app.	
Add a Scale rule.	
Switch to an Azure App Services consumption plan.	
Configure a Scale condition.	



Answer:

Explanation:

Configure the web app to the Standard App Service tier.

Enable autoscaling on the web-app.

Add a Scale rule.

Configure a Scale condition.

Step 1: Configure the web app to the Standard App Service Tier

The Standard tier supports auto-scaling, and we should minimize the cost.

Step 2: Enable autoscaling on the web app

First enable autoscale

Step 3: Add a scale rule

Step 4: Add a Scale condition

Reference:

<https://docs.microsoft.com/en-us/azure/monitoring-and-diagnostics/monitoring-autoscale-get-started>

Question: 92

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 are developing an Azure Service application that processes queue data when it receives a message from a mobile application. Messages may not be sent to the service consistently.

You have the following requirements:

Queue size must not grow larger than 80 gigabytes (GB).

Use first-in-first-out (FIFO) ordering of messages.

Minimize Azure costs.

You need to implement the messaging solution.

Solution: Use the .Net API to add a message to an Azure Service Bus Queue from the mobile application. Create an Azure Function App that uses an Azure Service Bus Queue trigger.

Does the solution meet the goal?

A. Yes

B. No

Answer: A

Explanation:

You can create a function that is triggered when messages are submitted to an Azure Storage queue.

Reference:

<https://docs.microsoft.com/en-us/azure/azure-functions/functions-create-storage-queue-triggered-function>

Question: 93

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 are developing an Azure solution to collect point-of-sale (POS) device data from 2,000 stores located throughout the world. A single device can produce 2 megabytes (MB) of data every 24 hours. Each store location has one to five devices that send data.

You must store the device data in Azure Blob storage. Device data must be correlated based on a device identifier. Additional stores are expected to open in the future.

You need to implement a solution to receive the device data.

Solution: Provision an Azure Notification Hub. Register all devices with the hub.

Does the solution meet the goal?

A. Yes

B. No

Answer: B

Explanation:

Instead use an Azure Service Bus, which is used for order processing and financial transactions.

Reference:

<https://docs.microsoft.com/en-us/azure/event-grid/compare-messaging-services>

Question: 94

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.

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You must store the device data in Azure Blob storage. Device data must be correlated based on a device identifier. Additional stores are expected to open in the future.

You need to implement a solution to receive the device data.

Solution: Provision an Azure Service Bus. Configure a topic to receive the device data by using a correlation filter.

Does the solution meet the goal?

A. Yes

B. No

Answer: A

Explanation:

A message is raw data produced by a service to be consumed or stored elsewhere. The Service Bus is for high-value enterprise messaging, and is used for order processing and financial transactions.

Reference:

<https://docs.microsoft.com/en-us/azure/event-grid/compare-messaging-services>

Question: 95

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 are developing an Azure solution to collect point-of-sale (POS) device data from 2,000 stores located throughout the world. A single device can produce 2 megabytes (MB) of data every 24 hours. Each store location has one to five devices that send data.

You must store the device data in Azure Blob storage. Device data must be correlated based on a device identifier. Additional stores are expected to open in the future.

You need to implement a solution to receive the device data.

Solution: Provision an Azure Event Grid. Configure event filtering to evaluate the device identifier.

Does the solution meet the goal?

A. Yes

B. No

Answer: B

Explanation:

Instead use an Azure Service Bus, which is used for order processing and financial transactions.

Note: An event is a lightweight notification of a condition or a state change. Event hubs are usually used for reacting to status changes.

Reference:

<https://docs.microsoft.com/en-us/azure/event-grid/compare-messaging-services>

Question: 96

DRAG DROP

You manage several existing Logic Apps.

You need to change definitions, add new logic, and optimize these apps on a regular basis.

What should you use? To answer, drag the appropriate tools to the correct functionalities. Each tool 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.

Tools	Functionality	Tool
Logic Apps Designer	Edit B2B workflows	
Code View Editor	Edit definitions in JSON	
Enterprise Integration Pack	Visually add functionality	

Answer:

Explanation:

Functionality	Tool
Edit B2B workflows	Enterprise Integration Pack
Edit definitions in JSON	Code View Editor
Visually add functionality	Logic Apps Designer

Box 1: Enterprise Integration Pack

After you create an integration account that has partners and agreements, you are ready to create a business to business (B2B) workflow for your logic app with the Enterprise Integration Pack.

Box 2: Code View Editor

To work with logic app definitions in JSON, open the Code View editor when working in the Azure portal or in Visual Studio, or copy the definition into any editor that you want.

Box 3: Logical Apps Designer

You can build your logic apps visually with the Logic Apps Designer, which is available in the Azure portal through your browser and in Visual Studio.

Reference:

<https://docs.microsoft.com/en-us/azure/logic-apps/logic-apps-enterprise-integration-b2b>

<https://docs.microsoft.com/en-us/azure/logic-apps/logic-apps-author-definitions>

<https://docs.microsoft.com/en-us/azure/logic-apps/logic-apps-overview>

Question: 97

A company is developing a solution that allows smart refrigerators to send temperature information to a central location. You have an existing Service Bus.

The solution must receive and store message until they can be processed. You create an Azure Service Bus Instance by providing a name, pricing tier, subscription, resource group, and location.

You need to complete the configuration.

Which Azure CLI or PowerShell command should you run?

- A. `az servicebus queue create
--resource-group fridge-rg
--namespace-name fridge-ns
--name fridge-q`
- B. `New-AzureRmResourceGroup
-Name fridge-rg
-Location fridge-loc`
- C. `New-AzureRmServiceBusNamespace
-ResourceGroupName fridge-rg
-NamespaceName fridge-loc
-Location fridge-loc`
- D. `connectionString-$)az serviceBus namespace authorization-rule keys list
--resource-group fridge-rg
--fridge-ns fridge-ns
--query primaryConnectionString -output tsv)`

A. Option A

B. Option B

C. Option C

D. Option D

Answer: A

Explanation:

A service bus instance has already been created (Step 2 below). Next is step 3, Create a Service Bus queue.

Note:

Steps:

Step 1: # Create a resource group

```
resourceGroupName="myResourceGroup"
```

```
az group create --name $resourceGroupName --location eastus
```

Step 2: # Create a Service Bus messaging namespace with a unique name

```
namespaceName=myNameSpace$RANDOM
```

```
az servicebus namespace create --resource-group $resourceGroupName --name $namespaceName --location eastus
```

Step 3: # Create a Service Bus queue

```
az servicebus queue create --resource-group $resourceGroupName --namespace-name $namespaceName --name BasicQueue
```

Step 4: # Get the connection string for the namespace

```
connectionString=$(az servicebus namespace authorization-rule keys list --resource-group $resourceGroupName --namespace-name $namespaceName --name RootManageSharedAccessKey -query primaryConnectionString --output tsv)
```

Reference:

<https://docs.microsoft.com/en-us/azure/service-bus-messaging/service-bus-quickstart-cli>

Question: 98

HOTSPOT

You are developing an application that uses Azure Storage Queues.

You have the following code:

```
CloudStorageAccount storageAccount = CloudStorageAccount.Parse  
    (CloudConfigurationManager.GetSetting("StorageConnectionString"));  
CloudQueueClient queueClient = storageAccount.CreateCloudQueueClient()  
  
CloudQueue queue = queueClient.GetQueueReference("appqueue") ;  
await queue.CreateIfNotExistsAsync() ;  
  
CloudQueueMessage peekedMessage = await queue.PeekMessageAsync() ;  
if (peekedMessage != null)  
{  
    Console.WriteLine("The peeked message is: {0}", peekedMessageAsString);  
}  
CloudQueueMessage message = await queue.GetMessageAsync() ;
```

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

NOTE: Each correct selection is worth one point.

Statement	Yes	No
The code configures the lock duration for the queue.	<input type="radio"/>	<input checked="" type="radio"/>
The last message read remains in the queue after the code runs.	<input checked="" type="radio"/>	<input type="radio"/>
The storage queue remains in the storage account after the code runs.	<input type="radio"/>	<input checked="" type="radio"/>

Answer:

Explanation:

Statement	Yes	No
The code configures the lock duration for the queue.	<input type="radio"/>	<input checked="" type="radio"/>
The last message read remains in the queue after the code runs.	<input checked="" type="radio"/>	<input type="radio"/>
The storage queue remains in the storage account after the code runs.	<input type="radio"/>	<input checked="" type="radio"/>

Box 1: No

The QueueDescription.LockDuration property gets or sets the duration of a peek lock; that is, the amount of time that the message is locked for other receivers. The maximum value for LockDuration is 5 minutes; the default value is 1 minute.

Box 2: Yes

You can peek at the message in the front of a queue without removing it from the queue by calling the PeekMessage method.

Box 3: Yes

Reference:

<https://docs.microsoft.com/en-us/azure/storage/queues/storage-dotnet-how-to-use-queues>

<https://docs.microsoft.com/en-us/dotnet/api/microsoft.servicebus.messaging.queueDescription.lockDuration>

Question: 99

HOTSPOT

You are working for Contoso, Ltd.

You define an API Policy object by using the following XML markup:

```
<set-variable name="bodySize" value="@{context.Request.Headers["Content-Length"] [0]}"/>
<choose>
  <when condition="@(int.Parse(context.Variables.GetValueOrDefault<string> ("bodySize"))<512000)">
  </when>
  <otherwise>
    <rewrite-uri template="/put"/>
    <set-backend-service base-url="http://contoso.com/api/9.1/" />
  </otherwise>
</choose>
```

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

NOTE: Each correct selection is worth one point.

Statement	Yes	No
The XML segment belongs in the <inbound> section of the policy.	<input type="radio"/>	<input type="radio"/>
If the body size is >256k, an error will occur.	<input type="radio"/>	<input type="radio"/>
If the request is http://contoso.com/api/9.2/ , the policy will retain the higher version.	<input checked="" type="radio"/>	<input type="radio"/>

Answer:

Explanation:

Statement	Yes	No
The XML segment belongs in the <inbound> section of the policy.	<input checked="" type="radio"/>	<input type="radio"/>
If the body size is >256K, an error will occur.	<input type="radio"/>	<input checked="" type="radio"/>
If the request is http://contoso.com/api/9.2/ , the policy will retain the higher version.	<input checked="" type="radio"/>	<input type="radio"/>

Box 1: Yes

Use the set-backend-service policy to redirect an incoming request to a different backend than the one specified in the API settings for that operation. Syntax: <set-backend-service base-url="base URL of the backend service" />

Box 2: No

The condition is on 512k, not on 256k.

Box 3: No

The set-backend-service policy changes the backend service base URL of the incoming request to the one specified in the policy.

Reference:

<https://docs.microsoft.com/en-us/azure/api-management/api-management-transformation-policies>

Question: 100

You are developing a solution that will use Azure messaging services.

You need to ensure that the solution uses a publish-subscribe model and eliminates the need for constant polling.

What are two possible ways to achieve the goal? Each correct answer presents a complete solution.

NOTE: Each correct selection is worth one point.

- A. Service Bus
- B. Event Hub
- C. Event Grid
- D. Queue

Answer: A, C

Explanation:

It is strongly recommended to use available messaging products and services that support a publish-subscribe model, rather than building your own. In Azure, consider using Service Bus or Event Grid. Other technologies that can be used for pub/sub messaging include Redis, RabbitMQ, and Apache Kafka.

Reference:

<https://docs.microsoft.com/en-us/azure/architecture/patterns/publisher-subscriber>

Question: 101

A company is implementing a publish-subscribe (Pub/Sub) messaging component by using Azure Service Bus. You are developing the first subscription application.

In the Azure portal you see that messages are being sent to the subscription for each topic. You create and initialize a subscription client object by supplying the correct details, but the subscription application is still not consuming the messages.

You need to complete the source code of the subscription client

What should you do?

- A. await subscriptionClient.CloseAsync();
- B. await subscriptionClient.AddRuleAsync(new RuleDescription(RuleDescription.DefaultRuleName, new TrueFilter()));
- C. subscriptionClient.RegisterMessageHandler(ProcessMessagesAsync, messageHandlerOptions);
- D. subscriptionClient = new SubscriptionClient(ServiceBusConnectionString, TopicName, SubscriptionName);

Answer: C

Explanation:

Using topic client, call RegisterMessageHandler which is used to receive messages continuously from the entity. It registers a message handler and begins a new thread to receive messages. This handler is waited on every time a new message is received by the receiver.

subscriptionClient.RegisterMessageHandler(ReceiveMessagesAsync, messageHandlerOptions);

Reference:

<https://www.c-sharpcorner.com/article/azure-service-bus-topic-and-subscription-pub-sub/>

Question: 102

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.

Margie's Travel is an international travel and bookings management service. The company is expanding into restaurant bookings. You are tasked with implementing Azure Search for the restaurants listed in their solution.

You create the index in Azure Search.

You need to import the restaurant data into the Azure Search service by using the Azure Search .NET SDK.

Solution:

1. Create a `SearchServiceClient` object to connect to the search index.
2. Create a `DataContainer` that contains the documents which must be added.
3. Create a `DataSource` instance and set its `Container` property to the `DataContainer`.
4. Set the `DataSource` property of the `SearchServiceClient`

Does the solution meet the goal?

A. Yes

B. No

Answer: B

Explanation:

Use the following method:

1. Create a `SearchIndexClient` object to connect to the search index

2. Create an IndexBatch that contains the documents which must be added.
3. Call the Documents.Index method of the SearchIndexClient and pass the IndexBatch.

Reference:

<https://docs.microsoft.com/en-us/azure/search/search-howto-dotnet-sdk>

Question: 103

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.

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You create the index in Azure Search.

You need to import the restaurant data into the Azure Search service by using the Azure Search .NET SDK.

Solution:

- 1 Create a SearchIndexClient object to connect to the search index
2. Create an IndexBatch that contains the documents which must be added.
3. Call the Documents.Index method of the SearchIndexClient and pass the IndexBatch.

.

Does the solution meet the goal?

A. Yes

B. No

Answer: A

Explanation:

1. The index needs to be populated. To do this, we will need a `SearchIndexClient`. There are two ways to obtain one: by constructing it, or by calling `Indexes.GetClient` on the `SearchServiceClient`. Here we will use the first method.

2. Create the `indexBatch` with the documents

Something like:

```
var hotels = new Hotel[];  
{  
    new Hotel()  
    {  
        HotelId = "3",  
        BaseRate = 129.99,  
        Description = "Close to town hall and the river"  
    }  
};  
...  
var batch = IndexBatch.Upload(hotels);
```

3. The next step is to populate the newly-created index

Example:

```
var batch = IndexBatch.Upload(hotels);  
  
try  
{
```

```
indexClient.Documents.Index(batch);  
}
```

Reference:

<https://docs.microsoft.com/en-us/azure/search/search-howto-dotnet-sdk>

Question: 104

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.

Margie's Travel is an international travel and bookings management service. The company is expanding into restaurant bookings. You are tasked with implementing Azure Search for the restaurants listed in their solution.

You create the index in Azure Search.

You need to import the restaurant data into the Azure Search service by using the Azure Search .NET SDK.

Solution:

1. Create a `SearchIndexClient` object to connect to the search index.
2. Create a `DataContainer` that contains the documents which must be added.
3. Create a `DataSource` instance and set its `Container` property to the `DataContainer`.
4. Call the `Documents.Suggest` method of the `SearchIndexClient` and pass the `DataSource`.

Does the solution meet the goal?

A. Yes

B. No

Answer: B

Explanation:

Question: 105

You use Azure Table storage to store customer information for an application. The data contains customer details and is partitioned by last name. You need to create a query that returns all customers with the last name Smith. Which code segment should you use?

A. TableQuery.GenerateFilterCondition("PartitionKey", Equals, "Smith")

B. TableQuery.GenerateFilterCondition("LastName", Equals, "Smith")

C. TableQuery.GenerateFilterCondition("PartitionKey", QueryComparisons.Equal, "Smith")

D. TableQuery.GenerateFilterCondition("LastName", QueryComparisons.Equal, "Smith")

Answer: C

Explanation:

Retrieve all entities in a partition. The following code example specifies a filter for entities where 'Smith' is the partition key. This example prints the fields of each entity in the query results to the console.

Construct the query operation for all customer entities where PartitionKey="Smith".

```
TableQuery<CustomerEntity> query = new  
TableQuery<CustomerEntity>().Where(TableQuery.GenerateFilterCondition("PartitionKey",  
QueryComparisons.Equal, "Smith"));
```

Reference:

<https://docs.microsoft.com/en-us/azure/cosmos-db/table-storage-how-to-use-dotnet>

Question: 106

DRAG DROP

You are developing a solution for a hospital to support the following use cases:

- The most recent patient status details must be retrieved even if multiple users in different locations have updated the patient record.
- Patient health monitoring data retrieved must be the current version or the prior version.
- After a patient is discharged and all charges have been assessed, the patient billing record contains the final charges.

You provision a Cosmos DB NoSQL database and set the default consistency level for the database account to Strong. You set the value for Indexing Mode to Consistent.

You need to minimize latency and any impact to the availability of the solution. You must override the default consistency level at the query level to meet the required consistency guarantees for the scenarios.

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

Consistency levels	Answer Area
Strong	Return the most recent patient status.
Bounded Staleness	
Consistent Prefix	Return health monitoring data that is no less than one version behind.
Eventual	After patient is discharged and all changes are assessed, retrieve the correct billing data with the final charges

Answer:

Explanation:

Return the most recent patient status.	Strong
Return health monitoring data that is no less than one version behind.	Bounded Staleness
After patient is discharged and all changes are assessed, retrieve the correct billing data with the final charges	Eventual

Box 1: Strong

Strong: Strong consistency offers a linearizability guarantee. The reads are guaranteed to return the most recent committed version of an item. A client never sees an uncommitted or partial write. Users are always guaranteed to read the latest committed write.

Box 2: Bounded staleness

Bounded staleness: The reads are guaranteed to honor the consistent-prefix guarantee. The reads might lag behind writes by at most "K" versions (that is "updates") of an item or by "t" time interval. When you choose bounded staleness, the "staleness" can be configured in two ways:

The number of versions (K) of the item

The time interval (t) by which the reads might lag behind the writes

Box 3: Eventual

Eventual: There's no ordering guarantee for reads. In the absence of any further writes, the replicas eventually converge.

Incorrect Answers:

Consistent prefix: Updates that are returned contain some prefix of all the updates, with no gaps.
Consistent prefix guarantees that reads never see out-of-order writes.

Reference:

<https://docs.microsoft.com/en-us/azure/cosmos-db/consistency-levels>

Question: 107

HOTSPOT

You are developing an app that manages users for a video game. You plan to store the region, email address, and phone number for the player. Some players may not have a phone number. The player's region will be used to load-balance data.

Data for the app must be stored in Azure Table Storage.

You need to develop code to retrieve data for an individual player.

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

NOTE: Each correct selection is worth one point.

```

public class PlayerEntity : TableEntity
{
    public PlayerEntity()
    {
    }
    public PlayerEntity(string region, string email)
    {
        PartitionKey = 

|        |   |
|--------|---|
|        | ▼ |
| email  |   |
| phone  |   |
| region |   |

;
        RowKey= 

|        |   |
|--------|---|
|        | ▼ |
| email  |   |
| phone  |   |
| region |   |

;
    }
    public string Phone { get; set; }
}
public class Player
}

protected PlayerEntity player;
async void GetPlayer(string cs,


|                    |   |
|--------------------|---|
|                    | ▼ |
| CloudTable         |   |
| CloudTableClient   |   |
| TableEntity        |   |
| TableEntityAdapter |   |


table, string pk, string rk)
{


|                                                                       |   |
|-----------------------------------------------------------------------|---|
|                                                                       | ▼ |
| TableEntity query =TableEntity.Retrieve<PlayerEntity>(pk, rk);        |   |
| TableOperation query =TableOperation.Retrieve<PlayerEntity>(pk,rk);   |   |
| TableResult query =TableQuery.Retrieve<PlayerEntity>(pk,rk);          |   |
| TableResultSegment query =TableResult.Retrieve<PlayerEntity>(pk, rk); |   |



|                                                       |   |
|-------------------------------------------------------|---|
|                                                       | ▼ |
| TableEntity data =await table.ExecuteAsync(query);    |   |
| TableOperation data =await.table.ExecuteAsync(query); |   |
| TableQuery data =await table.ExecuteAsync(query);     |   |
| TableResult data =await table.ExecuteAsync(query);    |   |


player=data.Result as PlayerEntity;
}
}

```

Answer:

Explanation:

Answer Area

```
public class PlayerEntity : TableEntity
{
    public PlayerEntity()
    {
    }

    public PlayerEntity(string region, string email)
    {
        PartitionKey = 

|        |
|--------|
| email  |
| phone  |
| region |

 ;
        RowKey= 

|        |
|--------|
| email  |
| phone  |
| region |

 ;
    }

    public string Phone { get; set; }
}

public class Player
{
    protected PlayerEntity player;
    async void GetPlayer(string cs, 

|                    |
|--------------------|
| CloudTable         |
| CloudTableClient   |
| TableEntity        |
| TableEntityAdapter |

 table, string pk, string rk)
{
    TableEntity query =TableEntity.Retrieve<PlayerEntity>(pk, rk);
    TableOperation query =TableOperation.Retrieve<PlayerEntity>(pk,rk);
    TableResult query =TableQuery.Retrieve<PlayerEntity>(pk,rk);
    TableResultSegment query =TableResult.Retrieve<PlayerEntity>(pk, rk);

    TableEntity data =await table.ExecuteAsync(query);
    TableOperation data =await.table.ExeucteAsync(query);
    TableQuery data =await table.ExecuteAsync(query);
    TableResult data =await table.ExecuteAsync(query);

    player=data.Result as PlayerEntity;
}
}
```

Box 1: region

The player's region will be used to load-balance data.

Choosing the PartitionKey.

The core of any table's design is based on its scalability, the queries used to access it, and storage operation requirements. The PartitionKey values you choose will dictate how a table will be partitioned and the type of queries that can be used. Storage operations, in particular inserts, can

also affect your choice of PartitionKey values.

Box 2: email

Not phone number some players may not have a phone number.

Box 3: CloudTable

Box 4 : TableOperation query =..

Box 5: TableResult

Reference:

<https://docs.microsoft.com/en-us/rest/api/storageservices/designing-a-scalable-partitioning-strategy-for-azure-table-storage>

Question: 108

HOTSPOT

You are developing a data storage solution for a social networking app.

The solution requires a mobile app that stores user information using Azure Table Storage.

You need to develop code that can insert multiple sets of user information.

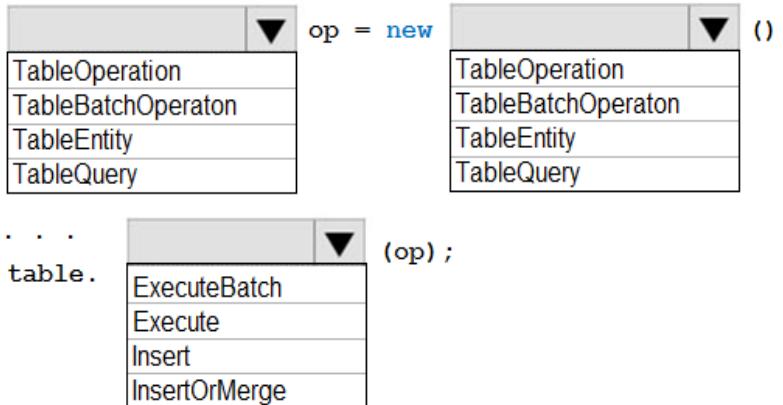
How should you complete the code? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

```

CloudStorageAccount storageAccount = CloudStorageAccount.Parse(
    CloudConfigurationManager.GetSetting("StorageConnectionString"));
CloudTableClient tableClient = storageAccount.CreateCloudTableClient();
CloudTable table = tableClient.GetTableReference("clients");
Table.CreateIfNotExists();

```



Answer:

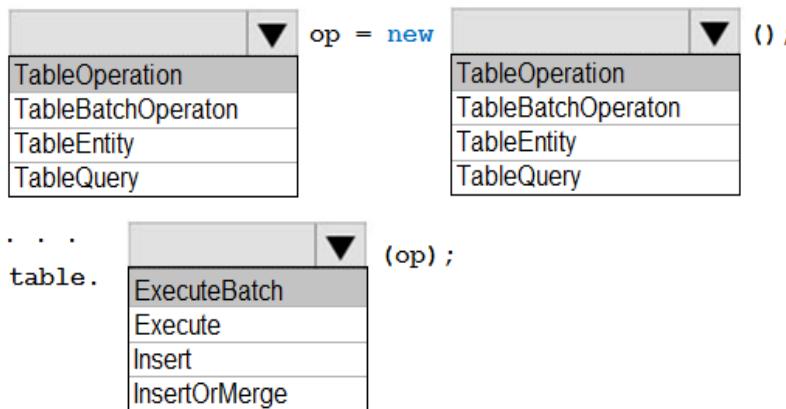
Explanation:

Answer Area

```

CloudStorageAccount storageAccount = CloudStorageAccount.Parse(
    CloudConfigurationManager.GetSetting("StorageConnectionString"));
CloudTableClient tableClient = storageAccount.CreateCloudTableClient();
CloudTable table = tableClient.GetTableReference("clients");
Table.CreateIfNotExists();

```



Box 1, Box 2: TableBatchOperation

Create the batch operation.

```
TableBatchOperation op = new TableBatchOperation();
```

Box 3: ExecuteBatch

/ Execute the batch operation.

```
table.ExecuteBatch(op);
```

Note: You can insert a batch of entities into a table in one write operation. Some other notes on batch operations:

You can perform updates, deletes, and inserts in the same single batch operation.

A single batch operation can include up to 100 entities.

All entities in a single batch operation must have the same partition key.

While it is possible to perform a query as a batch operation, it must be the only operation in the batch.

Reference:

<https://docs.microsoft.com/en-us/azure/cosmos-db/table-storage-how-to-use-dotnet>

Question: 109

You are developing a software solution for an autonomous transportation system. The solution uses large data sets and Azure Batch processing to simulate navigation sets for entire fleets of vehicles.

You need to create compute nodes for the solution on Azure Batch.

What should you do?

- A. In Python, implement the class: TaskAddParameter
- B. In Python, implement the class: JobAddParameter
- C. In the Azure portal, create a Batch account
- D. In a .NET method, call the method: BatchClient.PoolOperations.CreateJob

Answer: D

Explanation:

A Batch job is a logical grouping of one or more tasks. A job includes settings common to the tasks, such as priority and the pool to run tasks on. The app uses the `BatchClient.JobOperations.CreateJob` method to create a job on your pool.

Note:

Step 1: Create a pool of compute nodes. When you create a pool, you specify the number of compute nodes for the pool, their size, and the operating system. When each task in your job runs, it's assigned to execute on one of the nodes in your pool.

Step 2 : Create a job. A job manages a collection of tasks. You associate each job to a specific pool where that job's tasks will run.

Step 3: Add tasks to the job. Each task runs the application or script that you uploaded to process the data files it downloads from your Storage account. As each task completes, it can upload its output to Azure Storage.

Incorrect Answers:

C: To create a Batch pool in Python, the app uses the `PoolAddParameter` class to set the number of nodes, VM size, and a pool configuration.

Reference:

<https://docs.microsoft.com/en-us/azure/batch/quick-run-dotnet>

Question: 110

DRAG DROP

You are deploying an Azure Kubernetes Services (AKS) cluster that will use multiple containers.

You need to create the cluster and verify that the services for the containers are configured correctly and available.

Which four commands should you use to develop the solution? To answer, move the appropriate command segments from the list of command segments to the answer area and arrange them in the correct order.

Command segments

az aks get-credentials

az appservice plan create

az aks create

az group create

kubectl apply

Answer Area



Explanation:

Answer:

az group create

az aks create

kubectl apply

az aks get-credentials

Step 1: az group create

Create a resource group with the az group create command. An Azure resource group is a logical group in which Azure resources are deployed and managed.

Example: The following example creates a resource group named myAKSCluster in the eastus location.

```
az group create --name myAKSCluster --location eastus
```

Step 2 : az aks create

Use the az aks create command to create an AKS cluster.

Step 3: kubectl apply

To deploy your application, use the kubectl apply command. This command parses the manifest file and creates the defined Kubernetes objects.

Step 4: az aks get-credentials

Configure it with the credentials for the new AKS cluster. Example:

```
az aks get-credentials --name aks-cluster --resource-group aks-resource-group
```

Reference:

<https://docs.bitnami.com/azure/get-started-aks/>

Question: 111

HOTSPOT

You have an Azure Batch project that processes and converts files and stores the files in Azure storage. You are developing a function to start the batch job.

You add the following parameters to the function.

Parameter name	Description
fileTasks	a list of tasks to be run
jobId	the identifier that must be assigned to the job
outputContainerSasUrl	a storage SAS URL to store successfully converted files
failedContainerSasUrl	a storage SAS URL to store copies of files that failed to convert.

You must ensure that converted files are placed in the container referenced by the outputContainerSasUrl parameter. Files which fail to convert are places in the container referenced by the failedContainerSasUrl parameter.

You need to ensure the files are correctly processed.

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

NOTE: Each correct selection is worth one point.

Answer Area

```
public list<CloudTasks> StartTasks(List<FileTask> fileTasks, string jobId,
    string outputContainerSasUrl, string failedContainerSasUrl)
{
    BatchSharedKeyCredentials sharedKeyCredentials =
        new BatchSharedKeyCredentials(batchAccountUrl, batchAccountName,
batchAccountKey);
    List<CloudTask> tasks = new List<CloudTask>();
    using (BatchClient batchClient = BatchClient.Open(sharedKeyCredentials))
    {
        CloudJob = batchClient.JobOperations.▼ () ;
        ▼ GetJob
        ▼ GetTask
        ▼ EnableJob
        CreateJob
        job.Id = jobId,
        job.PoolInformation = new PoolInformation { PoolId = poolId };
        job.Commit();
        fileTasks.ForEach((fileTask) =>
        {
            string taskId = $"Task{DateTime.NowToFileTimeUtc().ToString()}";
            CloudTask task = new CloudTask (taskId, fileTask.Command);
            List<OutputFile> outputFileList = new List<OutputFile>();
            OutputFileBlobContainerDestination outputContainer =
                new OutputFileBlobContainerDestination(outputContainerSasUrl);
            OutputFileBlobContainerDestination failedContainer =
                new OutputFileBlobContainerDestination (failedContainerSasUrl);
            outputFileList.Add(new OutputFile(fileTask.Output,
                new OutputFileDestination(outputContainer),
                new OutputFileUploadOptions(OutputFileUploadCondition.▼ ))));
            outputFileList.Add(new OutputFile(fileTask.Output,
                new OutputFileDestination(failedContainer),
                new OutputFileUploadOptions(OutputFileUploadCondition.▼ ))));
            task.▼ =outputFileList;
            ▼ OutputFiles
            ▼ FilesToStage
            ▼ ResourceFiles
            ▼ StageFiles
            task.Add(task);
        });
    }
    return tasks;
}
```

Explanation:

Answer:

```

CloudJob = batchClient.JobOperations. ▼ ();
GetJob
GetTask
EnableJob
CreateJob

job.Id = jobId,
job.PoolInformation = new PoolInformation { PoolId = poolId };
job.Commit();
fileTasks.ForEach((fileTask) =>
{
    string taskId = $"Task{DateTime.Now.ToString("yyyy-MM-ddTHH:mm:ss")}";
    CloudTask task = new CloudTask (taskId, fileTask.Command);
    List<OutputFile> output fileList = new List<OutputFile>();
    OutputFileBlobContainerDestination outputContainer =
        new OutputFileBlobContainerDestination(outputContainerSasUrl);
    OutputFileBlobContainerDestination failedContainer =
        new OutputFileBlobContainerDestination (failedContainerSasUrl);
    output fileList.Add(new OutputFile(fileTask.Output,
        new OutputFileDestination(outputContainer),
        new OutputFileUploadOptions(OutputFileUploadCondition. ▼ ))));
    output fileList.Add(new OutputFile(fileTask.Output,
        new OutputFileDestination(failedContainer),
        new OutputFileUploadOptions(OutputFileUploadCondition, ▼ ))));
    task. ▼ =output fileList;
    task.Add(task);
});
]
return tasks,
}

```

Box 1: CreateJob

Box 2: TaskSuccess

TaskSuccess: Upload the file(s) only after the task process exits with an exit code of 0.

Incorrect: TaskCompletion: Upload the file(s) after the task process exits, no matter what the exit code was.

Box 3: TaskFailure

TaskFailure:Upload the file(s) only after the task process exits with a nonzero exit code.

Box 4: OutputFiles

To specify output files for a task, create a collection of `OutputFile` objects and assign it to the `CloudTask.OutputFiles` property when you create the task.

Reference:

<https://docs.microsoft.com/en-us/dotnet/api/microsoft.azure.batch.protocol.models.outputfileuploadcondition>

<https://docs.microsoft.com/en-us/azure/batch/batch-task-output-files>

Question: 112

DRAG DROP

You are developing an ASP.NET Core Web API web service that uses Azure Application Insights to monitor performance and track events.

You need to enable logging and ensure that log messages can be correlated to events tracked by Application Insights.

How should you complete the code? To answer, drag the appropriate code segments to the correct locations. Each code segment 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.

Code segments	Answer Area
IncludeEventId	public class Startup { . . . public void ConfigureServices(IServiceCollection services) { services.AddOptions<ApplicationInsightsLoggerOptions>(). Configure(o => o.IncludeEventId = true); services.AddMvc(); } }
ServerFeatures	
LoggerFilterOptions	
ApplicationServices	
ApplicationInsightsLoggerOptions	
TrackExceptionsAsExceptionTelemetry	public void Configure(IApplicationBuilder app, IHostingEnvironment env, ILoggerFactory loggerFactory) { loggerFactory.AddApplicationInsights(app, ApplicationServices, LogLevel.Trace); app.UseMvc(); }

Answer:

Explanation:

```
public class Startup
{
    . . .

    public void ConfigureServices(IServiceCollection services)
    {
        services.AddOptions<ApplicationInsightsLoggerOptions>().  

        Configure(o => o.IncludeEventId = true);  

        services.AddMvc();
    }
    public void Configure(IApplicationBuilder app,
        IHostingEnvironment env, ILoggerFactory loggerFactory)
    {
        loggerFactory.AddApplicationInsights(app, ApplicationServices, LogLevel.Trace);
        app.UseMvc();
    }
}
```

Box 1: ApplicationInsightsLoggerOptions

If you want to include the EventId and EventName properties, then add the following to the ConfigureServices method:

services

```
.AddOptions<ApplicationInsightsLoggerOptions>()  
.Configure(o => o.IncludeEventId = true);
```

Box 2: IncludeEventID

Box 3: ApplicationServices

In Asp.Net core apps it turns out that trace logs do not show up in Application Insights out of the box. We need to add the following code snippet to our Configure method in Startup.cs:

```
loggerFactory.AddApplicationInsights(app.ApplicationServices, logLevel);
```

Reference:

<https://blog.computedcloud.com/enabling-application-insights-trace-logging-in-asp-net-core/>

Question: 113

DRAG DROP

Your company has several websites that use a company logo image. You use Azure Content Delivery Network (CDN) to store the static image.

You need to determine the correct process of how the CDN and the Point of Presence (POP) server will distribute the image and list the items in the correct order.

In which order do the actions occur? To answer, move all actions from the list of actions to the answer area and arrange them in the correct order.

Actions

Answer Area

A user requests the image from the CDN URL. The DNS routes the request to the best performing POP location.



Subsequent requests for the file may be directed to the same POP using the CDN logo image URL. The POP edge server returns the files from cache if the TTL has not expired.

If no edge servers in the POP have the image in cache, the POP requests the file from the origin server.

The origin server returns the logo image to an edge server in the POP. An edge server in the POP caches the logo image and returns the image to the client.

Answer:

Explanation:

A user requests the image from the CDN URL. The DNS routes the request to the best performing POP location.

If no edge servers in the POP have the image in cache, the POP requests the file from the origin server.

The origin server returns the logo image to an edge server in the POP. An edge server in the POP caches the logo image and returns the image to the client.

Subsequent requests for the file may be directed to the same POP using the CDN logo image URL. The POP edge server returns the files from cache if the TTL has not expired.

Step 1: A user requests the image..

A user requests a file (also called an asset) by using a URL with a special domain name, such as <endpoint name>.azureedge.net. This name can be an endpoint hostname or a custom domain. The DNS routes the request to the best performing POP location, which is usually the POP that is geographically closest to the user.

Step 2: If no edge servers in the POP have the..

If no edge servers in the POP have the file in their cache, the POP requests the file from the origin server. The origin server can be an Azure Web App, Azure Cloud Service, Azure Storage account, or any publicly accessible web server.

Step 3: The origin server returns the..

The origin server returns the file to an edge server in the POP.

An edge server in the POP caches the file and returns the file to the original requestor (Alice). The file remains cached on the edge server in the POP until the time-to-live (TTL) specified by its HTTP headers expires. If the origin server didn't specify a TTL, the default TTL is seven days.

Step 4: Subsequent requests for..

Additional users can then request the same file by using the same URL that the original user used, and can also be directed to the same POP.

If the TTL for the file hasn't expired, the POP edge server returns the file directly from the cache. This process results in a faster, more responsive user experience.

Reference:

<https://docs.microsoft.com/en-us/azure/cdn/cdn-overview>

Question: 114

HOTSPOT

You are creating an app that uses Event Grid to connect with other services. Your app's event data will be sent to a serverless function that checks compliance. This function is maintained by your company.

You write a new event subscription at the scope of your resource. The event must be invalidated after 3 specific period of time. You need to configure Event Grid to ensure security.

What should you implement? To answer, select the appropriate options in [he answer are

a.

NOTE: Each correct selection is worth one point

Authentication

Type

WebHook event delivery

SAS tokens
Key authentication
JWT token

Topic publishing

ValidationCode handshake
ValidationURL handshake
Management Access Control

Answer:

Explanation:

Authentication

Type

WebHook event delivery

SAS tokens
Key authentication
JWT token

Topic publishing

ValidationCode handshake
ValidationURL handshake
Management Access Control

Box 1: SAS tokens

Custom topics use either Shared Access Signature (SAS) or key authentication. Microsoft recommends SAS, but key authentication provides simple programming, and is compatible with many existing webhook publishers.

In this case we need the expiration time provided by SAS tokens.

Box 2: ValidationCode handshake

Event Grid supports two ways of validating the subscription: ValidationCode handshake (programmatic) and ValidationURL handshake (manual).

If you control the source code for your endpoint, this method is recommended.

Incorrect Answers:

ValidationURL handshake (manual): In certain cases, you can't access the source code of the endpoint to implement the ValidationCode handshake. For example, if you use a third-party service (like Zapier or IFTTT), you can't programmatically respond with the validation code.

Reference:

<https://docs.microsoft.com/en-us/azure/event-grid/security-authentication>

Question: 115

You develop a gateway solution for a public facing news API. The news API back end is implemented as a RESTful service and uses an OpenAPI specification.

You need to ensure that you can access the news API by using an Azure API Management service instance.

Which Azure PowerShell command should you run?

A. `Import-AzureRmApiManagementApi -Context $ApiMgmtContext -SpecificationFormat`

`"Swagger" -SpecificationPath $SwaggerPath -Path $Path`

B. `New-AzureRmApiManagementBackend -Context $ApiMgmtContext -Url $Url -Protocol`

http

C. New-AzureRmApiManagement –ResourceGroupName \$ResourceGroup –Name \$Name –

Location \$Location –Organization \$Org –AdminEmail \$AdminEmail

D. New-AzureRmApiManagementBackendProxy –Url \$ApiUrl

Answer: D

Explanation:

New-AzureRmApiManagementBackendProxy creates a new Backend Proxy Object which can be piped when creating a new Backend entity.

Example: Create a Backend Proxy In-Memory Object

```
PS C:\>$secpassword = ConvertTo-SecureString "PlainTextPassword" -AsPlainText -Force
```

```
PS C:\>$proxyCreds = New-Object System.Management.Automation.PSCredential ("foo",  
$secpassword)
```

```
PS C:\>$credential = New-AzureRmApiManagementBackendProxy -Url "http://12.168.1.1:8080" -  
ProxyCredential $proxyCreds
```

```
PS C:\>$apimContext = New-AzureRmApiManagementContext -ResourceGroupName "Api-Default-  
WestUS" -ServiceName "contoso"
```

```
PS C:\>$backend = New-AzureRmApiManagementBackend -Context $apimContext -BackendId 123 -  
Url 'https://contoso.com/awesomeapi' -Protocol http -Title "first backend" -  
SkipCertificateChainValidation $true -Proxy $credential -Description "backend with proxy server"
```

Creates a Backend Proxy Object and sets up Backend

Incorrect Answers:

A: The Import-AzureRmApiManagementApi cmdlet imports an Azure API Management API from a file or a URL in Web Application Description Language (WADL), Web Services Description Language

(WSDL), or Swagger format.

B: New-AzureRmApiManagementBackend creates a new backend entity in Api Management.

C: The New-AzureRmApiManagement cmdlet creates an API Management deployment in Azure API Management.

Reference:

<https://docs.microsoft.com/en-us/powershell/module/azurerm.apimanagement/new-azurermapimanagerbackendproxy?view=azurermps-6.13.0>

Question: 116

DRAG DROP

You are implementing an order processing system. A point of sale application publishes orders to topics in an Azure Service Bus queue. The label property for the topic includes the following data:

Property	Description
ShipLocation	the country/region where the order will be shipped
CorrelationId	a priority value for the order
Quantity	a user-defined field that stores the quantity of items in an order
AuditedAt	a user-defined field that records the date an order is audited

The system has the following requirements for subscriptions

Subscription type	Comments
FutureOrders	This subscription is reserved for future use and must not receive any orders.
HighPriorityOrders	Handle all high priority orders and International orders.
InternationalOrders	Handle orders where the country/region is not United States.
HighQuantityOrders	Handle only orders with quantities greater than 100 units.
AllOrders	This subscription is used for auditing purposes. This subscription must receive every single order. AllOrders has an Action defined that updates the AuditedAt property to include the date and time it was received by the subscription.

You need to implement filtering and maximize throughput while evaluating filters.

Which filter types should you implement? To answer, drag the appropriate filter types to the correct subscriptions. Each filter type 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.

Filter types

SQLFilter

CorrelationFilter

No Filter

Answer Area

Subscription

FutureOrders

HighPriorityOrders

InternationalOrders

HighQuantityOrders

AllOrders

Filter type

Answer:

Explanation:

Answer Area

Subscription

FutureOrders

HighPriorityOrders

InternationalOrders

HighQuantityOrders

AllOrders

Filter type

SQLFilter

CorrelationFilter

SQLFilter

SQLFilter

No Filter

FutureOrders: SQLFilter

HighPriorityOrders: CorrelationFilter

CorrelationID only

InternationalOrders: SQLFilter

Country NOT USA requires an SQL Filter

HighQuantityOrders: SQLFilter

Need to use relational operators so an SQL Filter is needed.

AllOrders: No Filter

SQL Filter: SQL Filters - A SqlFilter holds a SQL-like conditional expression that is evaluated in the broker against the arriving messages' user-defined properties and system properties. All system properties must be prefixed with sys. in the conditional expression. The SQL-language subset for filter conditions tests for the existence of properties (EXISTS), as well as for null-values (IS NULL), logical NOT/AND/OR, relational operators, simple numeric arithmetic, and simple text pattern matching with LIKE.

Correlation Filters - A CorrelationFilter holds a set of conditions that are matched against one or more of an arriving message's user and system properties. A common use is to match against the CorrelationId property, but the application can also choose to match against ContentType, Label, MessageId, ReplyTo, ReplyToSessionId, SessionId, To, and any user-defined properties. A match exists when an arriving message's value for a property is equal to the value specified in the correlation filter. For string expressions, the comparison is case-sensitive. When specifying multiple match properties, the filter combines them as a logical AND condition, meaning for the filter to match, all conditions must match.

Boolean filters - The TrueFilter and FalseFilter either cause all arriving messages (true) or none of the

arriving messages (false) to be selected for the subscription.

Reference:

<https://docs.microsoft.com/en-us/azure/service-bus-messaging/topic-filters>

Question: 117

You are creating a hazard notification system that has a single signaling server which triggers audio and visual alarms to start and stop.

You implement Azure Service Bus to publish alarms. Each alarm controller uses Azure Service Bus to receive alarm signals as part of a transaction. Alarm events must be recorded for audit purposes. Each transaction record must include information about the alarm type that was activated.

You need to implement a reply trail auditing solution.

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

NOTE: Each correct selection is worth one point.

- A. Assign the value of the hazard message SessionID property to the ReplyToSessionId property.
- B. Assign the value of the hazard message MessageId property to the DeliveryCount property.
- C. Assign the value of the hazard message SessionID property to the SequenceNumber property.
- D. Assign the value of the hazard message MessageId property to the CorrelationId property.
- E. Assign the value of the hazard message SequenceNumber property to the DeliveryCount property.
- F. Assign the value of the hazard message MessageId property to the SequenceNumber property.

Answer: A, C

Explanation:

Reference:

<https://docs.microsoft.com/en-us/azure/service-bus-messaging/service-bus-messages-payloads>

Question: 118

You provide an Azure API Management managed web service to clients. The back end web service implements HTTP Strict Transport Security (HSTS).

Every request to the backend service must include a valid HTTP authorization header.

You need to configure the Azure API Management instance with an authentication policy.

Which two policies can you use? Each correct answer presents a complete solution

NOTE: Each correct selection is worth one point.

A. Certificate Authentication

B. Basic Authentication

C. OAuth Client Credential Grant

D. Digest Authentication

Answer: AB

Explanation:

Question: 119

You are developing a project management service by using ASP.NET. The service hosts conversations, files, to-do lists, and a calendar that users can interact with at any time.

The application uses Azure Search for allowing users to search for keywords in the project data.

You need to implement code that creates the object which is used to create indexes in the Azure Search service.

Which two objects should you use? Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point.

- A. SearchService
- B. SearchIndexClient
- C. SearchServiceClient
- D. SearchCredentials

Answer: BC

Explanation:

The various client libraries define classes like Index, Field, and Document, as well as operations like Indexes.Create and Documents.Search on the SearchServiceClient and SearchIndexClient classes.

Example:

The sample application we'll be exploring creates a new index named "hotels", populates it with a few documents, then executes some search queries. Here is the main program, showing the overall flow:

```
/ This sample shows how to delete, create, upload documents and query an index

static void Main(string[] args)
{
    IConfigurationBuilder builder = new ConfigurationBuilder().AddJsonFile("appsettings.json");

    IConfigurationRoot configuration = builder.Build();

    SearchServiceClient serviceClient = CreateSearchServiceClient(configuration);

    Console.WriteLine("{0}", "Deleting index...\n");

    DeleteHotelsIndexIfExists(serviceClient);
```

```
Console.WriteLine("{0}", "Creating index...\n");
CreateHotelsIndex(serviceClient);

ISearchIndexClient indexClient = serviceClient.Indexes.GetClient("hotels");
```

Reference:

<https://docs.microsoft.com/en-us/azure/search/search-howto-dotnet-sdk>

Question: 120

You must implement Application Insights instrumentation capabilities utilizing the Azure Mobile Apps SDK to provide meaningful analysis of user interactions with a mobile app.

You need to capture the data required to implement the Usage Analytics feature of Application Insights. Which three data values should you capture? Each correct answer presents part of the solution

NOTE: Each correct selection is worth one point.

- A. Trace
- B. Session Id
- C. Exception
- D. User Id
- E. Events

Answer: ADE

Explanation:

Application Insights is a service for monitoring the performance and usage of your apps. This module allows you to send telemetry of various kinds (events, traces, etc.) to the Application Insights service

where your data can be visualized in the Azure Portal.

Application Insights manages the ID of a session for you.

Reference:

<https://github.com/microsoft/ApplicationInsights-Android>

Question: 121

DRAG DROP

You are developing Azure WebJobs.

You need to recommend a WebJob type for each scenario.

Which WebJob type should you recommend? To answer, drag the appropriate WebJob types to the correct scenarios. Each WebJob type 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.

WebJob types	Scenario	WebJob type
Triggered	Run on all instances that the web app runs on. Optionally restrict the WebJob to a single instance.	<input type="text"/>
Continuous	Run on a single instance that Azure select for load balancing.	<input type="text"/>
	Supports remote debugging	<input type="text"/>

Answer:

Explanation:

Scenario	WebJob type
Run on all instances that the web app runs on. Optionally restrict the WebJob to a single instance.	Continuous
Run on a single instance that Azure select for load balancing.	Triggered
Supports remote debugging	Continuous

Box 1: Continuous

Continuous runs on all instances that the web app runs on. You can optionally restrict the WebJob to a single instance.

Box 2: Triggered

Triggered runs on a single instance that Azure selects for load balancing.

Box 3: Continuous

Continuous supports remote debugging.

Note:

The following table describes the differences between continuous and triggered WebJobs.

Continuous	Triggered
Starts immediately when the WebJob is created. To keep the job from ending, the program or script typically does its work inside an endless loop. If the job does end, you can restart it.	Starts only when triggered manually or on a schedule.
Runs on all instances that the web app runs on. You can optionally restrict the WebJob to a single instance.	Runs on a single instance that Azure selects for load balancing.
Supports remote debugging.	Doesn't support remote debugging.

Reference:

<https://docs.microsoft.com/en-us/azure/app-service/web-sites-create-web-jobs>

Question: 122

DRAG DROP

You are developing a .NET Core model-view controller (MVC) application hosted on Azure for a health care system that allows providers access to their information.

You develop the following code:

```
services.AddAuthorization (options =>
{
    options.AddPolicy("ProviderPartner", policy =>
    {
        policy.AddAuthenticationSchemes("Cookie, Bearer");
        policy.RequireAuthenticatedUser();
        policy.RequireRole("ProviderAdmin", "SysAdmin");
        policy.RequireClaim("editor", "partner");
    });
})
```

You define a role named SysAdmin.

You need to ensure that the application meets the following authorization requirements:

Allow the ProviderAdmin and SysAdmin roles access to the Partner controller regardless of whether the user holds an editor claim of partner.

Limit access to the Manage action of the controller to users with an editor claim of partner who are also members of the SysAdmin role.

How should you complete the code? To answer, drag the appropriate code segments to the correct locations. Each code segment 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.

Code Segments	Answer Area
```csharp [Authorize(Policy = "ProviderEditor")] [Authorize(Role = "SysAdmin")]  [Authorize(Role = "ProviderAdmin")] [Authorize(Role = "SysAdmin")]  [Authorize(Role = "SysAdmin", "ProviderAdmin")]  [Authorize(Policy = "ProviderEditor", Role= "SysAdmin")] ```	```csharp public class PartnerController : Controller { . . .  public ActionResult Manage() { . . . } }

---

### Answer:

---

Explanation:

```
```csharp  
[Authorize(Role = "ProviderAdmin")]  
[Authorize(Role = "SysAdmin")]  
  
public class PartnerController : Controller  
{  
    . . .  
  
    [Authorize(Policy = "ProviderEditor", Role= "SysAdmin")]  
  
    public ActionResult Manage()  
    {  
        . . .  
    }  
}
```

Box 1:

Allow the ProviderAdmin and SysAdmin roles access to the Partner controller regardless of whether the user holds an editor claim of partner.

Box 2:

Limit access to the Manage action of the controller to users with an editor claim of partner who are

also members of the SysAdmin role.

Question: 123

You have an Azure App Services Web App. Azure SQL Database instance. Azure Storage Account and an Azure Redis Cache instance in a resource group.

A developer must be able to publish code to the web app. You must grant the developer the Contribute role to the web app

You need to grant the role.

What two commands can you use? Each correct answer presents a complete solution.

NOTE: Each correct selection is worth one point.

- A. New-AzureRmRoleAssignment
- B. az role assignment create
- C. az role definition create
- D. New-AzureRmRoleDefinition

Answer: AB

Explanation:

Reference:

<https://docs.microsoft.com/en-us/cli/azure/role/assignment?view=azure-cli-latest#az-role-assignment-create>

<https://docs.microsoft.com/en-us/powershell/module/azurerm.resources/new-azureroleassignment?view=azurermps-6.13.0>

Question: 124

HOTSPOT

You are developing an Azure Web App. You configure TLS mutual authentication for the web app.

You need to validate the client certificate in the web app. To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Property	Value
Client certificate location	<div style="border: 1px solid black; padding: 5px;"><p>HTTP request header</p><p>Client cookie</p><p>HTTP message body</p><p>URL query string</p></div>
Encoding type	<div style="border: 1px solid black; padding: 5px;"><p>HTML</p><p>URL</p><p>Unicode</p><p>Base64</p></div>

Explanation:

Answer:

Property	Value
Client certificate location	<div style="border: 1px solid #ccc; padding: 5px; width: fit-content;">HTTP request header Client cookie HTTP message body URL query string</div>
Encoding type	<div style="border: 1px solid #ccc; padding: 5px; width: fit-content;">HTML URL Unicode Base64</div>

Accessing the client certificate from App Service.

If you are using ASP.NET and configure your app to use client certificate authentication, the certificate will be available through the `HttpRequest.ClientCertificate` property. For other application stacks, the client cert will be available in your app through a base64 encoded value in the "X-ARR-ClientCert" request header. Your application can create a certificate from this value and then use it for authentication and authorization purposes in your application.

Reference:

<https://docs.microsoft.com/en-us/azure/app-service/app-service-web-configure-tls-mutual-auth>

Question: 125

DRAG DROP

Fourth Coffee has an ASP.NET Core web app that runs in Docker. The app is mapped to the `www.fourthcoffee.com` domain.

Fourth Coffee is migrating this application to Azure.

You need to provision an App Service Web App to host this docker image and map the custom domain to the App Service web app.

A resource group named FourthCoffeePublicWebResourceGroup has been created in the WestUS region that contains an App Service Plan named AppServiceLinuxDockerPlan.

Which order should the CLI commands be used to develop the solution? To answer, move all of the Azure CLI command from the list of commands to the answer area and arrange them in the correct order.

Azure CLI commands

```
az webapp config hostname add  
--webapp-name $appName  
--resource-group fourthCoffeePublicWebResourceGroup  
--hostname $fqdn
```

Answer area

```
#!/bin/bash  
appName="FourthCoffeePublicWeb$random"  
location "WestUS"  
dockerHubContainerPath="FourthCoffee/publicweb:v1"  
fqdn=http://www.fourthcoffee.com>www.fourthcoffee.com
```



```
az webapp create  
--name $appName  
--plan AppServiceLinuxDockerPlan  
--resource-group fourthCoffeePublicWebResourceGroup
```

```
az webapp config container set  
--docker-custom-image-name $dockerHubContainerPath  
--name $appName  
--resource-group fourthCoffeePublicWebResourceGroup
```

Answer:

Explanation:

```
#bin/bash
appName="FourthCoffeePublicWeb$random".
location "WestUS"
dockerHubContainerPath="FourthCoffee/publicweb:v1"
fqdn=http://www.fourthcoffee.com>www.fourthcoffee.com
```

```
az webapp config hostname add
--webapp-name $appName
--resource-group fourthCoffeePublicWebResourceGroup
--hostname $fqdn
```

```
az webapp create
--name $appName
--plan AppServiceLinuxDockerPlan
--resource-group fourthCoffeePublicWebResourceGroup
```

```
az webapp config container set
--docker-custom-image-name $dockerHubContainerPath
--name $appName
--resource-group fourthCoffeePublicWebResourceGroup
```

Step 1: #bin/bash

The appName is used when the webapp-name is created in step 2.

Step 2: az webapp config hostname add

The webapp-name is used when the webapp is created in step 3.

Step 3: az webapp create

Create a web app. In the Cloud Shell, create a web app in the myAppServicePlan App Service plan with the az webapp create command.

Step : az webapp config container set

In Create a web app, you specified an image on Docker Hub in the az webapp create command. This is good enough for a public image. To use a private image, you need to configure your Docker account ID and password in your Azure web app.

In the Cloud Shell, follow the az webapp create command with az webapp config container set.

Reference:

<https://docs.microsoft.com/en-us/azure/app-service/containers/tutorial-custom-docker-image>

Question: 126

HOTSPOT

You develop a news and blog content delivery app for Windows devices.

A notification must arrive on a user's device when there is a new article available for them to view.

You need to implement push notifications.

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

NOTE: Each correct selection is worth one point.

Answer Area

```
string notificationHubName = "contoso_hub";
string notificationHubConnection = "connection_string";
hub=
NotificationHubClient
NotificationHubClientSettings
NotificationHubJob
NotificationDetails

GetInstallation
CreateClientFromConnectionString
CreateOrUpdateInstallation
PatchInstallation

(notificationHubConnection, notificationHubName);
string windowsToastPayload =
@"><toast><visual><binding template=""ToastText01""><text id=""1"">" +
@"New item to view" + @"</text></binding></visual></toast>";
try
{
var result=
await hub.
SendWindowsNativeNotificationAsync
SubmitNotificationHubJobAsync
ScheduleNotificationAsync
SendAppleNativeNotificationAsync

...
}
catch (System.Exception ex)
{
...
}
...

```

Answer:

Explanation:

```
string notificationHubName = "contoso_hub";
string notificationHubConnection = "connection_string";
hub=
NotificationHubClient
NotificationHubClientSettings
NotificationHubJob
NotificationDetails

GetInstallation
CreateClientFromConnectionString
CreateOrUpdateInstallation
PatchInstallation

(notificationHubConnection, notificationHubName);
string windowsToastPayload =
@"><toast><visual><binding template=""ToastText01""><text id=""1"">" +
@"New item to view" + @"</text></binding></visual></toast>";
try
{
var result=
await hub.
SendWindowsNativeNotificationAsync
SubmitNotificationHubJobAsync
ScheduleNotificationAsync
SendAppleNativeNotificationAsync
```

Box 1: NotificationHubClient

Box 2: NotificationHubClient

Box 3: CreateClientFromConnectionString

```
// Initialize the Notification Hub
```

```
NotificationHubClient hub =  
    NotificationHubClient.CreateClientFromConnectionString(listenConnString, hubName);
```

Box 4: SendWindowsNativeNotificationAsync

Send the push notification.

```
var result = await hub.SendWindowsNativeNotificationAsync(windowsToastPayload);
```

Reference:

<https://docs.microsoft.com/en-us/azure/notification-hubs/notification-hubs-push-notification-registration-management>

<https://github.com/MicrosoftDocs/azure-docs/blob/master/articles/app-service-mobile/app-service-mobile-windows-store-dotnet-get-started-push.md>

Question: 127

You are developing a mobile instant messaging app for a company.

The mobile app must meet the following requirements:

- Support offline data sync.
- Update the latest messages during normal sync cycles.

You need to implement Offline Data Sync.

Which two actions should you perform? Each conn l answer presents part of the solution.

NOTE: Each correct selection is worth one point.

- A. Retrieve records from Offline Data Sync on every call to the PullAsync method.
- B. Retrieve records from Offline Data Sync using an Incremental Sync.
- C. Push records to Offline Data Sync using an Incremental Sync.
- D. Return the updatedAt column from the Mobile Service Backend and implement sorting by using the column.
- E. Return the updatedAt column from the Mobile Service Backend and implement sorting by the message id.

Answer: B, E

Explanation:

B: Incremental Sync: the first parameter to the pull operation is a query name that is used only on the client. If you use a non-null query name, the Azure Mobile SDK performs an incremental sync. Each time a pull operation returns a set of results, the latest updatedAt timestamp from that result set is stored in the SDK local system tables. Subsequent pull operations retrieve only records after that timestamp.

E (not D): To use incremental sync, your server must return meaningful updatedAt values and must also support sorting by this field. However, since the SDK adds its own sort on the updatedAt field, you cannot use a pull query that has its own orderBy clause.

Reference:

<https://docs.microsoft.com/en-us/azure/app-service-mobile/app-service-mobile-offline-data-sync>

Question: 128

You develop a serverless application using several Azure Functions. These functions connect to data from within the code.

You want to configure tracing for an Azure Function App project.

You need to change configuration settings in the host.json file.

Which tool should you use?

- A. Azure portal
- B. Azure PowerShell
- C. Azure Functions Core Tools (Azure CLI)
- D. Visual Studio

Answer: A

Explanation:

The function editor built into the Azure portal lets you update the function.json file and the code file for a function. The host.json file, which contains some runtime-specific configurations, is in the root folder of the function app.

Reference:

<https://docs.microsoft.com/en-us/azure/azure-functions/functions-reference#fileupdate>

Question: 129

HOTSPOT

You are working for a company that designs mobile applications. They maintain a server where player records are assigned to their different games. The tracking system is new and in development.

The application uses Entity Framework to connect to an Azure Database. The database holds a Player table and Game table.

When adding a player, the code should insert a new player record, and add a relationship between an existing game record and the new player record.

The application will call CreatePlayerWithGame with the correct gameId and the playerId to start the process. (Line numbers are included for reference only.)

```
01. namespace ContosoCraft
02. {
03.     public class PlayerDbContext : DbContext
04.     {
05.         public PlayerDbContext() : base ("name=dBConnectionString") { }
06.         public DbSet<Player> Players { get ; set ; }
07.         public DbSet<Game> Games { get ; set }
08.         protected override void OnModelCreating(OnModelCreating modelBuilder)
09.         {
10.             modelBuilder.Entity<Player>().HasMany(x => x.Games). WithMany (x => x.Players);
11.         }
12.     }
13.     internal sealed class dbConfiguration : DbMigrationsConfiguration<PlayerDbContext>
14.     {
15.         public dbConfiguration() { AutomaticMigrationsEnabled = true ; }
16.     }
17.     public class mp
18.     {
19.         public void CreatePlayerWithGame(int playerId, int gameId) => AddPlayer(playerId, GetGame(gameId));
20.         public Game GetGame(int gameId)
21.         {
22.             using (var db = new PlayerDbContext())
23.             {
24.                 return db.Games.FirstOrDefault(x => x.GameId == gameId);
25.             }
26.         }
27.         public Player AddPlayer (int playerId, Game game)
28.         {
29.             using (var db = new PlayerDbContext())
30.             {
31.                 var player = new Player
32.                 {
33.                     PlayerId = playerId,
34.                     Games = new List <Game> {game },
35.                 };
36.                 db.Players.Add(player);
37.                 db.SaveChanges();
38.                 return player;
39.             }
40.         }
41.         public class Player
42.         {
43.             public int PlayerId { get ; set; }
44.             public string PlayerName { get ; set; }
45.             public virtual List<Game> Games { get ; set; }
46.         }
47.         public class Game
48.         {
49.             public int GameId { get ; set }
50.             public string Title { get ; set; }
51.             public string Platform { get ; set; }
52.             public virtual List<Player> Players { get ; set; }
53.         }
54.     }
```

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

NOTE: Each correct selection is worth one point.

	Yes	No
The code will successfully insert a player record.	<input type="radio"/>	<input type="radio"/>
The code has a bug and will insert an additional copy of the Game record with a new Id.	<input type="radio"/>	<input type="radio"/>
The code has a bug and will insert the wrong gameId value.	<input type="radio"/>	<input type="radio"/>
There is a valid many-to-many relationship between Players and Games.	<input type="radio"/>	<input type="radio"/>

Answer:

Explanation:

	Yes	No
The code will successfully insert a player record.	<input type="radio"/>	<input type="radio"/>
The code has a bug and will insert an additional copy of the Game record with a new Id.	<input type="radio"/>	<input type="radio"/>
The code has a bug and will insert the wrong gameId value.	<input type="radio"/>	<input type="radio"/>
There is a valid many-to-many relationship between Players and Games.	<input type="radio"/>	<input type="radio"/>

Many-to-many relationships without an entity class to represent the join table are not yet supported. However, you can represent a many-to-many relationship by including an entity class for the join table and mapping two separate one-to-many relationships.

```
protected override void OnModelCreating(ModelBuilder modelBuilder)
```

```
{
```

```
    modelBuilder.Entity<PostTag>()
        .HasKey(t => new { t.PostId, t.TagId });
```

```
    modelBuilder.Entity<PostTag>()
```

```
.HasOne(pt => pt.Post)
.WithMany(p => p.PostTags)
.HasForeignKey(pt => pt.PostId);

modelBuilder.Entity<PostTag>()
    .HasOne(pt => pt.Tag)
    .WithMany(t => t.PostTags)
    .HasForeignKey(pt => pt.TagId);
}
```

Question: 130

HOTSPOT

A company develops a series of mobile games. All games use a single leaderboard service.

You have the following requirements:

- Code should be scalable and allow for growth.
- Each record must consist of a playerId, gameId, score, and time played.
- When users reach a new high score, the system will save the new score using the SaveScore function below.
- Each game is assigned and Id based on the series title.

You have the following code. (Line numbers are included for reference only.)

```

01 public void SaveScore(string gameId, string playerId, int score, long timePlayed)
02 {
03     CloudStorageAccount storageAccount = CloudStorageAccount.Parse(connectionString);
04     CloudTableClient tableClient = storageAccount.CreateCloudTableClient();
05     CloudTable table = tableClient.GetTableReference("scoreTable");
06     table.CreateIfNotExists();
07     var scoreRecord = new PlayerScore(gameId, playerId, score, timePlayed);
08     TableOperation insertOperation = TableOperation.Insert(scoreRecord);
09     table.Execute(insertOperation);
10 }
11 public class PlayerScore : TableEntity
12 {
13     public PlayerScore(string gameId, string playerId, int score, long timePlayed)
14     {
15         this.PartitionKey = gameId;
16         this.RowKey = playerId;
17         Score = score;
18         TimePlayed = timePlayed;
19     }
20     public int Score { get; set; }
21     public long TimePlayed { get; set; }
22 }

```

You store customer information in an Azure Cosmos database. The following data already exists in the database:

PartitionKey	RowKey	Email
Harp	Walter	wharp@contoso.com
Smith	Steve	ssmith@contoso.com
Smith	Jeff	jsmith@contoso.com

```

01 CloudTableClient tableClient = account.CreateCloudTableClient();
02 CloudTable table = tableClient.GetTableReference("people");
03 TableQuery<CustomerEntity> query = new TableQuery<CustomerEntity>()
04     .Where(TableQuery.CombineFilters(
05         TableQuery.GenerateAnd, TableQuery.GenerateFilterCondition("Email", QueryComparisons.Equal, "Smith")
06         TableOperstors.And, TableQuery.GenerateFilterCondition("Email", QueryComparisons.Equal,
07         "ssmith@contoso.com"))
08 );
09 await table.ExecuteQuerySegmentedAsync<CustomerEntity>(query, null);

```

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

NOTE: Each correct selection is worth one point.

Yes **No**

The code will work with Cosmos DB.

The save score function will update and replace a record if one already exists with the same playerId and gameId.

The data for the game will be automatically partitioned.

This code will store the values for the gameId and playerId parameters in the database.

Answer:

Explanation:

	Yes	No
The code will work with Cosmos DB.	<input checked="" type="radio"/>	<input type="radio"/>
The save score function will update and replace a record if one already exists with the same playerId and gameId.	<input type="radio"/>	<input checked="" type="radio"/>
The data for the game will be automatically partitioned.	<input type="radio"/>	<input checked="" type="radio"/>
This code will store the values for the gameId and playerId parameters in the database.	<input checked="" type="radio"/>	<input type="radio"/>

Box 1: Yes

Code for CosmosDB, example:

```
// Parse the connection string and return a reference to the storage account.
```

```
CloudStorageAccount storageAccount = CloudStorageAccount.Parse(
```

```
    CloudConfigurationManager.GetSetting("StorageConnectionString"));
```

```
// Create the table client.
```

```
CloudTableClient tableClient = storageAccount.CreateCloudTableClient();
```

```
// Retrieve a reference to the table.
```

```
CloudTable table = tableClient.GetTableReference("people");
```

```
// Create the TableOperation object that inserts the customer entity.
```

```
TableOperation insertOperation = TableOperation.Insert(customer1);
```

Box 2: No

A new record will always be added as TableOperation.Insert is used, instead of TableOperation.InsertOrReplace.

Box 3: No

No partition key is used.

Box 4: Yes

Reference:

<https://docs.microsoft.com/en-us/azure/cosmos-db/table-storage-how-to-use-dotnet>

Question: 131

HOTSPOT

You have an app that stores player scores for an online game. The app stores data in Azure tables using a class named PlayerScore as the table entity. The table is populated with 100,000 records.

You are reviewing the following section of code that is intended to retrieve 20 records where the player score exceeds 15,000. (Line numbers are included for reference only.)

```
1 public void GetScore(string playerId, int score, string gameId)
2 {
3     Table<DynamicTableEntity> query = new TableQuery<DynamicTableEntity>().Select(new string[] { "Score" })
        .Where(TableQuery.GenerateFilterConditionForInt("Score", QueryComparisons.GreaterThanOrEqualTo, 15000)).Take
(20);
4     EntityResolver<KeyValuePair<string, int?>> resolver =
        (partitionKey, rowKey, ts, props, etag) => new KeyValuePair<string, int?>(rowKey, props["Score"].Int32Value);
5     foreach (var scoreItem in scoreTable.ExecuteQuery(query, resolver, null, null))
6     {
        Console.WriteLine($"{scoreItem.Key} {scoreItem.Value}");
7     }
8 }
```

```
9 public class PlayerScore : TableEntity
10 {
11     public PlayerScore(string gameId, string playerId, int score, long timePlayed)
12     {
13         PartitionKey = gameId;
14         RowKey = playerId;
15         Score = score;
16         TimePlayed = timePlayed;
17     }
18     public int Score { get; set; }
19     public long TimePlayed { get; set; }
20 }
```

You have the following code. (Line numbers are included for reference only.)

```

01 public void SaveScore(string gameId, string playerId, int score, long timePlayed)
02 {
03     CloudStorageAccount storageAccount = CloudStorageAccount.Parse(connectionString);
04     CloudTableClient tableClient = storageAccount.CreateCloudTableClient();
05     CloudTable table = tableClient.GetTableReference("scoreTable");
06     table.CreateIfNotExists();
07     var scoreRecord = new PlayerScore(gameId, playerId, score, timePlayed);
08     TableOperation insertOperation = TableOperation.Insert(scoreRecord);
09     table.Execute(insertOperation);
10 }
11 public class PlayerScore : TableEntity
12 {
13     public PlayerScore(string gameId, string playerId, int score, long timePlayed)
14     {
15         this.PartitionKey = gameId;
16         this.RowKey = playerId;
17         Score = score;
18         TimePlayed = timePlayed;
19     }
20     public int Score { get; set; }
21     public long TimePlayed { get; set; }
22 }

```

You store customer information in an Azure Cosmos database. The following data already exists in the database:

```

01 CloudTableClient tableClient = account.CreateCloudTableClient();
02 CloudTable table = tableClient.GetTableReference("people");
03 TableQuery<CustomerEntity> query = new TableQuery<CustomerEntity>()
04     .Where(TableQuery.CombineFilters(
05         TableQuery.GenerateAnd, TableQuery.GenerateFilterCondition("Email", QueryComparisons.Equal, "Smith")
06         TableQuery.GenerateAnd, TableQuery.GenerateFilterCondition("Email", QueryComparisons.Equal,
07         "ssmith@contoso.com"))
07     );
08 await table.ExecuteQuerySegmentedAsync<CustomerEntity>(query, null);

```

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

NOTE: Each correct selection is worth one point.

	Yes	No
The code queries the Azure table and retrieves the TimePlayed property from the table	<input type="radio"/>	<input type="radio"/>
The code will display a maximum of twenty records.	<input type="radio"/>	<input type="radio"/>
All records will be sent to the client. The client will display records for scores greater than or equal to 15,000.	<input type="radio"/>	<input type="radio"/>
The scoreItem.Key property of the KeyValuePairs that ExecuteQuery returns will contain a value for PlayerID.	<input type="radio"/>	<input type="radio"/>

Answer:

Explanation:

	Yes	No
The code queries the Azure table and retrieves the TimePlayed property from the table.	<input type="radio"/>	<input checked="" type="radio"/>
The code will display a maximum of twenty records.	<input type="radio"/>	<input checked="" type="radio"/>
All records will be sent to the client. The client will display records for scores greater than or equal to 15,000.	<input type="radio"/>	<input checked="" type="radio"/>
The scoreItem.Key property of the KeyValuePairs that ExecuteQuery returns will contain a value for PlayerID.	<input type="radio"/>	<input checked="" type="radio"/>

Box 1: No

Box 2: Yes

The TableQuery.Take method defines the upper bound for the number of entities the query returns.

Example:

```
query.Take(10);
```

Box 3: Yes

Box 4: Yes

Reference:

<https://www.vkinfotek.com/azureqa/how-do-i-query-azure-table-storage-using-tablequery-class.html>

Question: 132

DRAG DROP

You develop a gateway solution for a public facing news API.

The news API back end is implemented as a RESTful service and hosted in an Azure App Service instance.

You need to configure back-end authentication for the API Management service instance.

Which target and gateway credential type should you use? To answer, drag the appropriate values to the correct parameters. Each value 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.

Azure Resource	Configuration parameter	Value
HTTP(s) endpoint	Target	value
Basic	Gateway credentials	value
Client cert		

Answer:

Explanation:

Configuration parameter	Value
Target	Azure Resource
Gateway credentials	Client cert

Box 1: Azure Resource

Box 2: Client cert

API Management allows to secure access to the back-end service of an API using client certificates.

Reference:

<https://docs.microsoft.com/en-us/rest/api/apimanagement/apimanagementrest/azure-api-management-rest-api-backend-entity>

Question: 133

HOTSPOT

You are developing a .NET Core MVC application for customers to research hotels. The application

will use Azure Search. The application will search the index by using various criteria to locate documents related to hotels. The index will include search fields for rate, a list of amenities, and distance to the nearest airport.

The application must support the following scenarios for specifying search criteria and organizing results:

- Search the index by using regular expressions.
- Organize results by counts for name-value pairs.
- List hotels within a specified distance to an airport and that fall within a specific price range.

You need to configure the `SearchParameters` class.

Which properties should you configure? To answer, select the appropriate options in the answer area.

NOTE Each correct selection is worth one point.

Scenario	Property
Search the index by using regular expressions.	<code>QueryType</code> <code>OrderBy</code> <code>SearchMode</code>
Organize results by counts for name-value pairs.	<code>Facets</code> <code>Filter</code> <code>SearchMode</code>
List hotels within a specified distance to an airport and that fall within a specific price range.	<code>Order by</code> <code>Top</code> <code>Filter</code>

Answer:

Explanation:

Scenario	Property
Search the index by using regular expressions.	<div style="border: 1px solid black; padding: 5px;"> QueryType OrderBy SearchMode </div>
Organize results by counts for name-value pairs.	<div style="border: 1px solid black; padding: 5px;"> Facets Filter SearchMode </div>
List hotels within a specified distance to an airport and that fall within a specific price range.	<div style="border: 1px solid black; padding: 5px;"> Order by Top Filter </div>

Box 1: QueryType

The `SearchParameters.QueryType` Property gets or sets a value that specifies the syntax of the search query. The default is 'simple'. Use 'full' if your query uses the Lucene query syntax.

You can write queries against Azure Search based on the rich Lucene Query Parser syntax for specialized query forms: wildcard, fuzzy search, proximity search, regular expressions are a few examples.

Box 2: Facets

The facets property gets or sets the list of facet expressions to apply to the search query. Each facet expression contains a field name, optionally followed by a comma-separated list of name:value pairs.

Box 3: Filter

The Filter property gets or sets the OData \$filter expression to apply to the search query.

Reference:

<https://docs.microsoft.com/en-us/dotnet/api/microsoft.azure.search.models.searchparameters>

<https://docs.microsoft.com/en-us/azure/search/query-lucene-syntax>

<https://docs.microsoft.com/en-us/dotnet/api/microsoft.azure.search.models.searchparameters.querytype>

Question: 134

DRAG DROP

You develop software solutions for a mobile delivery service. You are developing a mobile app that users can use to order from a restaurant in their area.

- a. The app uses the following workflow:
 1. A driver selects the restaurants for which they will deliver orders.
 2. Orders are sent to all available drivers in an area.
 3. Only orders for the selected restaurants will appear for the driver.
 4. The first driver to accept an order removes it from the list of available orders.

You need to implement an Azure Service Bus solution.

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.

Actions	Answer area
Create a Service Bus topic for each restaurant for which a driver can receive messages.	
Create a single Service Bus topic.	
Create a single Service Bus subscription.	
Create a single Service Bus Namespace.	>
Create a Service Bus Namespace for each restaurant for which a driver can receive messages.	↑ ↓
Create a Service Bus subscription for each restaurant for which a driver can receive orders.	

Explanation:

Answer:

Answer area

Create a single Service Bus Namespace.

Create a Service Bus topic for each restaurant
for which a driver can receive messages

Create a Service Bus subscription for each restaurant
for which a driver can receive orders.

Box 1: Create a single Service Bus Namespace

To begin using Service Bus messaging entities in Azure, you must first create a namespace with a name that is unique across Azure. A namespace provides a scoping container for addressing Service Bus resources within your application.

Box 2: Create a Service Bus Topic for each restaurant for which a driver can receive messages.

Create topics.

Box 3: Create a Service Bus subscription for each restaurant for which a driver can receive orders.

Topics can have multiple, independent subscriptions.

Reference:

<https://docs.microsoft.com/en-us/azure/service-bus-messaging/service-bus-messaging-overview>

Question: 135

HOTSPOT

A company runs an international travel and bookings management service. The company plans to begin offering restaurant bookings. You must develop a solution that uses Azure Search and meets the following requirements:

- Users must be able to search for restaurants by name, description, location, and cuisine.
- Users must be able to narrow the results further by location, cuisine, rating, and family-friendliness.
- All words in descriptions must be included in searches.

You need to add annotations to the `restaurant` class.

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

NOTE: Each correct selection is worth one point.

```

[SerializePropertyNameAsCamelCase]
public class Restaurant
{
    [Key, IsFilterable]
    public int RestaurantId { get; set; }

    [IsSearchable, IsFilterable, IsSortable]
    public string Name { get; set; }

    [IsSearchable, IsFilterable, IsSortable, IsFacetable]
    [IsFilterable, IsFacetable, Required]
    [IsSearchable]
    [IsSearchable, Required]

    public string location { get; set; }
    public string Phone { get; set; }

    [Required]
    [IsSearchable]
    [IsFilterable, IsFacetable, Required]
    [IsFilterable, IsFacetable, IsSortable]

    public string Description { get; set; }

    [IsFiltrable, IsSortable, IsSearchable]
    [IsFilterable, IsSortable, IsFacetable]
    [IsFiltrable, IsSortable, Key]
    [IsFilterable, IsSortable, IsSearchable, Required]

    public double Rating { get; set; }

    [IsSearchable, IsFilterable, IsFacetable]
    [IsFilterable, IsSortable, Key]
    [IsFilterable, IsSortable, IsSearchable]
    [IsFilterable, IsSortable, Key, Required]

    public List<string> Cuisines { get; set; }

    [IsFilterable, IsSortable, Key, Required]
    [IsSearchable, IsSortable, IsFacetable]
    [IsFilterable, IsSortable, Key, IsSearchable]
    [IsFilterable, IsFacetable]

    public bool FamilyFriendly { get; set; }
}

```

Answer:

Explanation:

Answer Area

```
[SerializePropertyNameAsCamelCase]
public class Restaurant
{
    [Key, IsFilterable]
    public int RestaurantId { get; set; }
    [IsSearchable, IsFilterable, IsSortable]
    public string Name { get; set; }

    [IsSearchable, IsFilterable, IsSortable, IsFacetable]
    [IsFilterable, IsFacetable, Required]
    [IsSearchable]
    [IsSearchable, Required]

    public string location { get; set; }
    public string Phone { get; set; }

    [Required]
    [IsSearchable]
    [IsFilterable, IsFacetable, Required]
    [IsFilterable, IsFacetable, IsSortable]

    public string Description { get; set; }

    [IsFiltrable, IsSortable, IsSearchable]
    [IsFilterable, IsSortable, IsFacetable]
    [IsFiltrable, IsSortable, Key]
    [IsFilterable, IsSortable, IsSearchable, Required]

    public double Rating { get; set; }

    [IsSearchable, IsFilterable, IsFacetable]
    [IsFilterable, IsSortable, Key]
    [IsFilterable, IsSortable, IsSearchable]
    [IsFilterable, IsSortable, Key, Required]

    public List<string> Cuisines { get; set; }

    [IsFilterable, IsSortable, Key, Required]
    [IsSearchable, IsSortable, IsFacetable]
    [IsFilterable, IsSortable, Key, IsSearchable]
    [IsFilterable, IsFacetable]

    public bool FamilyFriendly { get; set; }
}
```

Box 1: [IsSearchable,IsFilterable,IsSortable,IsFacetable]

Location

Users must be able to search for restaurants by name, description, location, and cuisine.

Users must be able to narrow the results further by location, cuisine, rating, and family-friendliness.

Box 2: [IsSearchable,IsFilterable,IsSortable,Required]

Description

Users must be able to search for restaurants by name, description, location, and cuisine.

All words in descriptions must be included in searches.

Box 3: [IsFilterable,IsSortable,IsFacetable]

Rating

Users must be able to narrow the results further by location, cuisine, rating, and family-friendliness.

Box 4: [IsSearchable,IsFilterable,IsFacetable]

Cuisines

Users must be able to search for restaurants by name, description, location, and cuisine.

Users must be able to narrow the results further by location, cuisine, rating, and family-friendliness.

Box 5: [IsFilterable,IsFacetable]

FamilyFriendly

Users must be able to narrow the results further by location, cuisine, rating, and family-friendliness.

Reference:

<https://www.henkboelman.com/azure-search-the-basics/>

Question: 136

DRAG DROP

You have an application that provides weather forecasting data to external partners. You use Azure API Management to publish APIs.

You must change the behavior of the API to meet the following requirements:

- Support alternative input parameters.
- Remove formatting text from responses.
- Provide additional context to back-end services.

Which types of policies should you implement? To answer, drag the policy types to the correct scenarios. Each policy type 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.

Policy types	Answer Area	Requirement	Policy type
Inbound		Rewrite the request URL to match to the format expected by the web service.	<input type="text"/> policy type
Outbound		Remove formatting text from responses.	<input type="text"/> policy type
Backend		Forward the user ID that is associated with the subscription key for the original request to the back-end service.	<input type="text"/> policy type

Answer:

Explanation:

Requirement	Policy type
Rewrite the request URL to match to the format expected by the web service.	<input type="text"/> Outbound
Remove formatting text from responses.	<input type="text"/> Inbound
Forward the user ID that is associated with the subscription key for the original request to the back-end service	<input type="text"/> Backend

Question: 137

HOTSPOT

A company is developing a gaming platform. Users can join teams to play online and see leaderboards that include player statistics. The solution includes an entity named Team.

You plan to implement an Azure Redis Cache instance to improve the efficiency of data operations for entities that rarely change.

You need to invalidate the cache when team data is changed.

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

NOTE: Each correct selection is worth one point.

```
void ClearCachedTeams()
{
    IDatabase cache = Connection.GetDatabase();
    ICache cache = Connection.GetDatabase();

    cache.KeyDelete("teams");
    cache.StringSet("teams", "");
    cache.ValueDelete("teams");
    cache.StringGet("teams", "");

    ViewBag.nsg += Team data removed from cache. ";
}
```

Answer:

Explanation:

```
void ClearCachedTeams()
{
    IDatabase cache = Connection.GetDatabase();
    ICache cache = Connection.GetDatabase();

    cache.KeyDelete("teams");
    cache.StringSet("teams", ""); Selected
    cache.ValueDelete("teams");
    cache.StringGet("teams", "");

    ViewBag.nsg += Team data removed from cache. ";
}
```

Box 1: IDatabase cache = connection.GetDatabase();

Connection refers to a previously configured ConnectionMultiplexer.

Box 2: cache.StringSet("teams", "")

To specify the expiration of an item in the cache, use the TimeSpan parameter of StringSet.

```
cache.StringSet("key1", "value1", TimeSpan.FromMinutes(90));
```

Reference:

<https://azure.microsoft.com/sv-se/blog/lap-around-azure-redis-cache-preview/>

Question: 138

You develop a website. You plan to host the website in Azure. You expect the website to experience high traffic volumes after it is published. You must ensure that the website remains available and responsive while minimizing cost. You need to deploy the website. What should you do?

- A. Deploy the website to an App Service that uses the Shared service tier. Configure the App Service plan to automatically scale when the CPU load is high.
- B. Deploy the website to a virtual machine. Configure the virtual machine to automatically scale when the CPU load is high.
- C. Deploy the website to an App Service that uses the Standard service tier. Configure the App Service plan to automatically scale when the CPU load is high.
- D. Deploy the website to a virtual machine. Configure a Scale Set to increase the virtual machine instance count when the CPU load

Answer: C

Explanation:

Windows Azure Web Sites (WAWS) offers 3 modes: Standard, Free, and Shared.

Standard mode carries an enterprise-grade SLA (Service Level Agreement) of 99.9% monthly, even for sites with just one instance.

Standard mode runs on dedicated instances, making it different from the other ways to buy Windows Azure Web Sites.

Question: 139

You develop an Azure web app. You monitor performance of the web app by using Application Insights. You need to ensure the cost for Application Insights does not exceed a preset budget. What should you do?

- A. Implement ingestion sampling using the Azure portal.
- B. Set a daily cap for the Application Insights instance.
- C. Implement adaptive sampling using the Azure portal.
- D. Implement adaptive sampling using the Application Insights SDK.
- E. Implement ingestion sampling using the Application Insights SDK.

Answer: D

Explanation:

Sampling is an effective way to reduce charges and stay within your monthly quota.

You can set sampling manually, either in the portal on the Usage and estimated costs page; or in the ASP.NET SDK in the .config file; or in the Java SDK in the ApplicationInsights.xml file, to also reduce the network traffic.

Adaptive sampling is the default for the ASP.NET SDK. Adaptive sampling automatically adjusts to the volume of telemetry that your app sends. It operates automatically in the SDK in your web app so that telemetry traffic on the network is reduced.

Reference:

<https://docs.microsoft.com/en-us/azure/azure-monitor/app/sampling>

Question: 140

You are writing code to create and run an Azure Batch job.

You have created a pool of compute nodes.

You need to choose the right class and its method to submit a batch job to the Batch service.

Which method should you use?

- A. JobOperations.CreateJob()
- B. CloudJob.Enable(IEnumerable<BatchClientBehavior>)
- C. CloudJob.CommitAsync(IEnumerable<BatchClientBehavior>, CancellationToken)
- D. JobOperations.EnableJob(String, IEnumerable<BatchClientBehavior>)
- E. JobOperations.EnableJobAsync(String, IEnumerable<BatchClientBehavior>, CancellationToken)

Answer: C

Explanation:

A Batch job is a logical grouping of one or more tasks. A job includes settings common to the tasks, such as priority and the pool to run tasks on. The app uses the BatchClient.JobOperations.CreateJob method to create a job on your pool.

The Commit method submits the job to the Batch service. Initially the job has no tasks.

```
{
```

```
CloudJob job = batchClient.JobOperations.CreateJob();
job.Id = JobId;
job.PoolInformation = new PoolInformation { PoolId = PoolId };
```

```
job.Commit();
```

```
}
```

```
...
```

Reference:

<https://docs.microsoft.com/en-us/azure/batch/quick-run-dotnet>

Question: 141

HOTSPOT

Your company is migrating applications to Azure. The IT department must allow internal developers to communicate with Microsoft support.

The service agents of the IT department must only have view resources and create support ticket permissions to all subscriptions. A new custom role must be created by reusing a default role definition and changing the permissions.

You need to create the custom role.

To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Item	Value				
Powershell command	<pre>Get-AzureRmRoleDefinition-Name"Reader" ConvertTo-Json Out-File C:\SupportRole.json Get-AzureRmRoleDefinition-Name"Operator" ConvertTo-Json Out-File C:\SupportRole.json Set-AzureRmRoleDefinition-Name"Reader" Input-File C:\SupportRole.json Set-AzureRmRoleDefinition Input-File C:\SupportRole.json</pre>				
Actions section	<table border="1"><tr><td>"/read*", *Microsoft.Support/*"</td></tr><tr><td>"read"</td></tr><tr><td>"*, *Microsoft.Support/*"</td></tr><tr><td>"*"</td></tr></table>	"/read*", *Microsoft.Support/*"	"read"	"*, *Microsoft.Support/*"	"*"
"/read*", *Microsoft.Support/*"					
"read"					
"*, *Microsoft.Support/*"					
"*"					

Explanation:

Answer:

Item	Value
Powershell command	<pre>Get-AzureRmRoleDefinition -Name "Reader" ConvertTo-Json Out-File C:\SupportRole.json Get-AzureRmRoleDefinition -Name "Operator" ConvertTo-Json Out-File C:\SupportRole.json Set-AzureRmRoleDefinition -Name "Reader" Input-File C:\SupportRole.json Set-AzureRmRoleDefinition Input-File C:\SupportRole.json</pre>
Actions section	<pre>"/read*, *Microsoft.Support/*" "/read* * *Microsoft.Support/*" ***</pre>

Box 1: Set-AzureRmRoleDefinition Input-File C:\SupportRole.json

The Set-AzureRmRoleDefinition cmdlet updates an existing custom role in Azure Role-Based Access Control. Provide the updated role definition as an input to the command as a JSON file or a PSRoleDefinition object.

The role definition for the updated custom role MUST contain the Id and all other required properties of the role even if they are not updated: DisplayName, Description, Actions, AssignableScope

Box 2: "/read\*, \* Microsoft.Support/\*"

Microsoft.Support/\* Create and manage support tickets

"Microsoft.Support" role definition azure

Incorrect Answers:

Get-AzureRmRoleDefinition. The Get-AzureRmRoleDefinition command does not have an action section.

First, use the Get-AzureRmRoleDefinition command to retrieve the custom role that you wish to modify. Then, modify the properties that you wish to change. Finally, save the role definition using the Set-AzureRmRoleDefinition command.

Reference:

<https://docs.microsoft.com/en-us/azure/role-based-access-control/custom-roles-powershell>

Question: 142

DRAG DROP

You are preparing to deploy a medical records application to an Azure virtual machine (VM). The application will be deployed by using a VHD produced by an on-premises build server.

You need to ensure that both the application and related data are encrypted during and after deployment to Azure.

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.

Actions	Answer area
Encrypt the on-premises VHD by using BitLocker without a TPM. Upload the VM to Azure Storage.	
Run the Azure PowerShell command <code>Set-AzureRmVMDiskEncryptionExtension</code> .	
Run the Azure PowerShell command <code>Set-AzureRmVMDSDisk</code> .	
Encrypt the on-premises VHD by using BitLocker with a TPM. Upload the VM to Azure Storage.	
Run the Azure PowerShell command <code>New-AzureRmVM</code> .	

>
 <

^
 v

Answer:

Explanation:

Encrypt the on-premises VHD by using BitLocker without a TPM.
Upload the VM to Azure Storage.

Run the Azure PowerShell command `Set-AzureRmVMDSDisk`.

Run the Azure PowerShell command `Set-AzureRmVMDiskEncryptionExtension`.

Step 1: Encrypt the on-premises VHD by using BitLocker without a TPM. Upload the VM to Azure Storage

Step 2: Run the Azure PowerShell command Set-AzureRMVMOSDisk

To use an existing disk instead of creating a new disk you can use the Set-AzureRMVMOSDisk command.

Example:

```
$osDiskName = $vmname+'_osDisk'  
$osDiskCaching = 'ReadWrite'  
$osDiskVhdUri = "https://$stoname.blob.core.windows.net/vhds/" + $vmname + "_os.vhd"  
  
$vm = Set-AzureRmVMOSDisk -VM $vm -VhdUri $osDiskVhdUri -name $osDiskName -Create
```

Step 3: Run the Azure PowerShell command Set-AzureRmVMDiskEncryptionExtension

Use the Set-AzVMDiskEncryptionExtension cmdlet to enable encryption on a running IaaS virtual machine in Azure.

Incorrect:

Not TPM: BitLocker can work with or without a TPM. A TPM is a tamper resistant security chip on the system board that will hold the keys for encryption and check the integrity of the boot sequence and allows the most secure BitLocker implementation. A VM does not have a TPM.

Reference:

<https://www.itprotoday.com/iaaspaas/use-existing-vhd-azurerm-vm>

Question: 143

DRAG DROP

You plan to create a Docker image that runs as ASP.NET Core application named ContosoApp. You have a setup script named setupScript.ps1 and a series of application files including ContosoApp.dll.

You need to create a Dockerfile document that meets the following requirements:

- Call setupScript.ps1 when the container is built.
- Run ContosoApp.dll when the container starts.

The Docker document must be created in the same folder where ContosoApp.dll and setupScript.ps1 are stored.

Which four commands should you use to develop the solution? To answer, move the appropriate commands from the list of commands to the answer area and arrange them in the correct order.

Commands

```
RUN powershell ./setupScript.ps1  
CMD ["dotnet", "ContosoApp.dll"]
```

```
EXPOSE ./ContosoApp/ /apps/ContosoApp
```

```
COPY ./
```

```
FROM microsoft/aspnetcore:2.0
```

```
WORKDIR /apps/ContosoApp
```

```
CMD powershell ./setupScript.ps1  
ENTRYPOINT ["dotnet", "ContosoApp.dll"]
```

Answer Area



Explanation:

Answer:

```
WORKDIR /apps/ContosoApp
```

```
COPY ./
```

```
| EXPOSE ./ContosoApp/ /apps/ContosoApp |
```

```
| CMD powershell ./setupScript.ps1  
| ENTRYPOINT ["dotnet", "ContosoApp.dll"] |
```

Step 1: WORKDIR /apps/ContosoApp

Step 2: COPY ./

The Docker document must be created in the same folder where ContosoApp.dll and setupScript.ps1 are stored.

Step 3: EXPOSE ./ContosoApp/ /app/ContosoApp

Step 4: CMD powershell ./setupScript.ps1

ENTRYPOINT ["dotnet", "ContosoApp.dll"]

You need to create a Dockerfile document that meets the following requirements:

Call setupScript.ps1 when the container is built.

Run ContosoApp.dll when the container starts.

Reference:

<https://docs.microsoft.com/en-us/azure/app-service/containers/tutorial-custom-docker-image>

Question: 144

DRAG DROP

You are creating a script that will run a large workload on an Azure Batch pool. Resources will be reused and do not need to be cleaned up after use.

You have the following parameters:

Parameter name	Description
\$script	the script that will run across the batch pool
\$image	the image that pool worker processes will use
\$sku	the node agent SKU Id
\$numberOfJobs	the number of jobs to run

You need to write an Azure CLI script that will create the jobs, tasks, and the pool.

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

Command segments

```
az batch pool create
--id mypool --vm-size Standard_A1_v2
--target-dedicated-nodes 2
--image $image
--node-agent-sku-id $sku
```

Answer Area

```
az batch job
create
--id myjob
--pool-id mypool
```



```
for i in {1..$numberOfJobs}
do
```

```
az batch task create
--task-id mytask$i
--job-id myjob
--command-line $script
```

Answer:

Explanation:

```
az batch pool create  
--id mypool --vm-size Standard_A1_v2  
--target-dedicated-nodes 2  
--image $image  
--node-agent-sku-id $sku
```

```
) az batch task create  
  --task-id mytask$i  
  --job-id myjob  
  --command-line $script
```

```
) az batch job  
  create  
  --id myjob  
  --pool-id mypool
```

```
for i in {1..$numberOfJobs}  
do
```

Step 1: az batch pool create

```
# Create a new Linux pool with a virtual machine configuration.
```

```
az batch pool create \  
  --id mypool \  
  --vm-size Standard_A1 \  
  --target-dedicated 2 \  
  --image canonical:ubuntuserver:16.04-LTS \  
  --node-agent-sku-id "batch.node.ubuntu 16.04"
```

Step 2: az batch job create

```
# Create a new job to encapsulate the tasks that are added.
```

```
az batch job create \
```

```
--id myjob \
```

```
--pool-id mypool
```

Step 3: az batch task create

```
# Add tasks to the job. Here the task is a basic shell command.
```

```
az batch task create \
```

```
--job-id myjob \
```

```
--task-id task1 \
```

```
--command-line "/bin/bash -c 'printenv AZ_BATCH_TASK_WORKING_DIR'"
```

Step 4: for i in {1..\$numberOfJobs} do

Reference:

<https://docs.microsoft.com/bs-latn-ba/azure/batch/scripts/batch-cli-sample-run-job>

Question: 145

HOTSPOT

You are developing an Azure Function App by using Visual Studio. The app will process orders input by an Azure Web App. The web app places the order information into Azure Queue Storage.

You need to review the Azure Function App code shown below.

```

public static class OrderProcessor
{
    [FunctionName("ProcessOrders")]
    public static void ProcessOrders([QueueTrigger("incoming-orders")]CloudQueueMessage myQueueItem, [Table("Orders")]ICollector<Order> tableBindings, TraceWriter log)
    {
        log.Info($"Processing Order: {myQueueItem.Id}");
        log.Info($"Queue Insertion Time: {myQueueItem.InsertionTime}");
        log.Info($"Queue Expiration Time: {myQueueItem.ExpirationTime}");
        tableBindings.Add(JsonConvert.DeserializeObject<Order>(myQueueItem.AsString));
    }
    [FunctionName("ProcessOrders-Poison")]
    public static void ProcessFailedOrders([QueueTrigger("incoming-orders-poison")]CloudQueueMessage myQueueItem, TraceWriter log)
    {
        log.Error($"Failed to process order: {myQueueItem.AsString}");
    }
}

```

NOTE: Each correct selection is worth one point.

- | | Yes | No |
|--|-----------------------|-----------------------|
| The code will log the time that the order was processed from the queue. | <input type="radio"/> | <input type="radio"/> |
| When the ProcessOrders function fails, the function will retry up to five times for a given order, including the first try. | <input type="radio"/> | <input type="radio"/> |
| When there are multiple orders in the queue, a batch of orders will be retrieved from the queue and the ProcessOrders function will run multiple instances concurrently to process the orders. | <input type="radio"/> | <input type="radio"/> |
| The ProcessOrders function will output the order to an Orders table in Azure Table Storage. | <input type="radio"/> | <input type="radio"/> |

Answer:

Explanation:

- | | Yes | No |
|--|----------------------------------|----------------------------------|
| The code will log the time that the order was processed from the queue. | <input type="radio"/> | <input checked="" type="radio"/> |
| When the ProcessOrders function fails, the function will retry up to five times for a given order, including the first try. | <input checked="" type="radio"/> | <input type="radio"/> |
| When there are multiple orders in the queue, a batch of orders will be retrieved from the queue and the ProcessOrders function will run multiple instances concurrently to process the orders. | <input checked="" type="radio"/> | <input type="radio"/> |
| The ProcessOrders function will output the order to an Orders table in Azure Table Storage. | <input type="radio"/> | <input checked="" type="radio"/> |

Box 1: No

ExpirationTime - The time that the message expires.

InsertionTime - The time that the message was added to the queue.

Box 2: Yes

maxDequeueCount - The number of times to try processing a message before moving it to the poison queue. Default value is 5.

Box 3: Yes

When there are multiple queue messages waiting, the queue trigger retrieves a batch of messages and invokes function instances concurrently to process them. By default, the batch size is 16. When the number being processed gets down to 8, the runtime gets another batch and starts processing those messages. So the maximum number of concurrent messages being processed per function on one virtual machine (VM) is 24.

Box 4: Yes

Reference:

<https://docs.microsoft.com/en-us/azure/azure-functions/functions-bindings-storage-queue>

Question: 146

DRAG DROP

You are developing a Docker/Go using Azure App Service Web App for Containers. You plan to run the container in an App Service on Linux. You identify a Docker container image to use.

None of your current resource groups reside in a location that supports Linux. You must minimize the number of resource groups required.

You need to create the application and perform an initial deployment.

Which three Azure CLI commands should you use to develop the solution? To answer, move the appropriate commands from the list of commands to the answer area and arrange them in the correct order.

Azure CLI Commands

az group create

az group update

az webapp update

az webapp create

az appservice plan create

Answer Area



Answer:

Explanation:

az group create

az appservice plan create

az webapp create

You can host native Linux applications in the cloud by using Azure Web Apps. To create a Web App for Containers, you must run Azure CLI commands that create a group, then a service plan, and finally the web app itself.

Step 1: az group create

In the Cloud Shell, create a resource group with the az group create command.

Step 2: az appservice plan create

In the Cloud Shell, create an App Service plan in the resource group with the az appservice plan create command.

Step 3: az webapp create

In the Cloud Shell, create a web app in the myAppServicePlan App Service plan with the az webapp create command. Don't forget to replace with a unique app name, and <docker-ID> with your Docker ID.

Reference:

<https://docs.microsoft.com/mt-ml/azure/app-service/containers/quickstart-docker-go?view=sql-server-ver15>

Question: 147

You are developing a software solution for an autonomous transportation system. The solution uses large data sets and Azure Batch processing to simulate navigation sets for entire fleets of vehicles.

You need to create compute nodes for the solution on Azure Batch.

What should you do?

- A. In the Azure portal, create a Batch account.
- B. In a .NET method, call the method: BatchClient.PoolOperations.CreatePool
- C. In Python, implement the class: JobAddParameter
- D. In Python, implement the class: TaskAddParameter

Answer: B

Explanation:

A Batch job is a logical grouping of one or more tasks. A job includes settings common to the tasks, such as priority and the pool to run tasks on. The app uses the `BatchClient.JobOperations.CreateJob` method to create a job on your pool.

Incorrect Answers:

C, D: To create a Batch pool in Python, the app uses the `PoolAddParameter` class to set the number of nodes, VM size, and a pool configuration.

Reference:

<https://docs.microsoft.com/en-us/azure/batch/quick-run-dotnet>

<https://docs.microsoft.com/en-us/azure/batch/quick-run-python>

Question: 148

You are implementing an Azure API app that uses built-in authentication and authorization functionality.

All app actions must be associated with information about the current user.

You need to retrieve the information about the current user.

What are two possible ways to achieve the goal? Each correct answer presents a complete solution.

NOTE: Each correct selection is worth one point.

A. HTTP headers

B. environment variables

C. `./auth/me` HTTP endpoint

D. `./auth/login` endpoint

Answer: AC

Explanation:

A: After App Service Authentication has been configured, users trying to access your API are prompted to sign in with their organizational account that belongs to the same Azure AD as the Azure AD application used to secure the API. After signing in, you are able to access the information about the current user through the `HttpContext.Current.User` property.

C: While the server code has access to request headers, client code can access `GET /.auth/me` to get the same access tokens (

Reference:

<https://docs.microsoft.com/en-us/azure/app-service/app-service-web-tutorial-auth-aad>

<https://docs.microsoft.com/en-us/sharepoint/dev/spfx/web-parts/guidance/connect-to-api-secured-with-aad>

Question: 149

HOTSPOT

You are developing a back-end Azure App Service that scales based on the number of messages contained in a Service Bus queue.

A rule already exists to scale up the App Service when the average queue length of unprocessed and valid queue messages is greater than 1000.

You need to add a new rule that will continuously scale down the App Service as long as the scale up condition is not met.

How should you configure the Scale rule? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Answer Area

Scale rule

Metric source

- Storage queue
- Service Bus queue
- Current resource
- Storage queue (classic)

Resource type

Service Bus Namespaces

Resource

MessageQueue1103

\* Queues

itemqueue

Criteria

\* Metric name

- Message Count
- Active Message Count

1 minute time grain

\* Time grain statistic

- Total
- Maximum
- Average
- Count

Greater than

Greater than or equal to

Less than

Less than or equal to

\* Threshold

1000

Action

\* Operation

- Increase count by
- Increase count to
- Decrease count by
- Decrease count to

\* Instance count

1

\* Cool down (minutes)

5

Answer:

Explanation:

Answer Area

Scale rule X

Metric source

Storage queue
Service Bus queue **Current resource**
Storage queue (classic)

Resource type

Service Bus Namespaces

Resource

MessageQueue1103

Queues

itemqueue

Criteria

\* Metric name

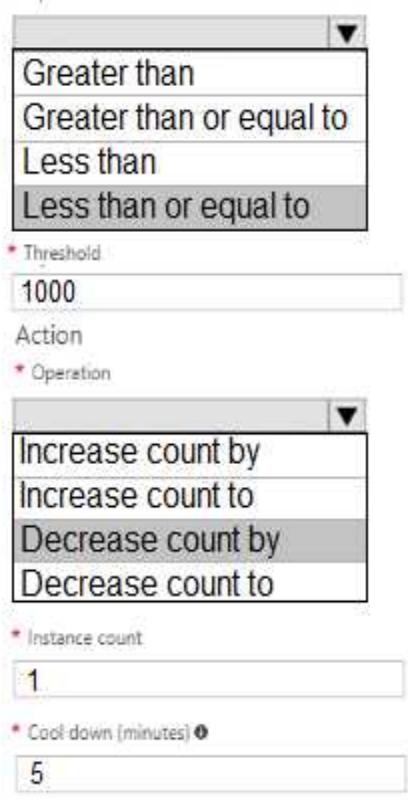
Message Count
Active Message Count

1 minute time grain

\* Time grain statistic •

Total
Maximum
Average
Count

\* Operator



Box 1: Service bus queue

You are developing a back-end Azure App Service that scales based on the number of messages contained in a Service Bus queue.

Box 2: ActiveMessage Count

ActiveMessageCount: Messages in the queue or subscription that are in the active state and ready for delivery.

Box 3: Count

Box 4: Less than or equal to

You need to add a new rule that will continuously scale down the App Service as long as the scale up condition is not met.

Box 5: Decrease count by

Question: 150

HOTSPOT

A company is developing a Java web app. The web app code is hosted in a GitHub repository located at <https://github.com/Contoso/webapp>.

The web app must be evaluated before it is moved to production. You must deploy the initial code release to a deployment slot named staging.

You need to create the web app and deploy the code.

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

NOTE: Each correct selection is worth one point.

az		▼
	group	
	webapp	
	appservice plan	
	webapp deployment slot	
	webapp deployment source	

az
group
webapp
appservice plan
webapp deployment slot
webapp deployment source

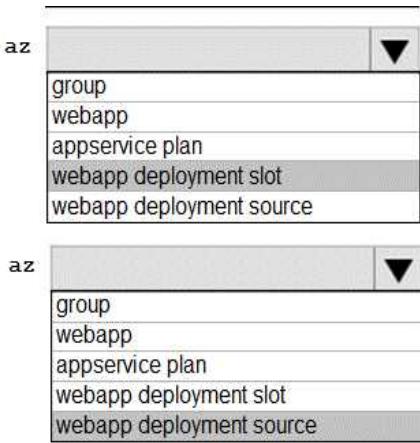
az
group
webapp
appservice plan
webapp deployment slot
webapp deployment source

Answer:

Explanation:

```
gitrepo=https://github.com/Contoso/webapp
webappname=BusinessWebApp
resourcegroupname=BusinessAppResourceGroup

az group create --location centralus --name $resourcegroupname
az webapp create --name $webappname --resource-group $resourcegroupname --sku S3
az appservice plan create --name $webappname --resource-group $resourcegroupname --plan $webappname
az webapp deployment slot create --name $webappname --resource-group $resourcegroupname --slot staging
az webapp config --name $webappname --resource-group $resourcegroupname --slot staging --repo-url $gitrepo --branch master --manual-integration
```



Box 1: group

Create a resource group.

```
az group create --location westeurope --name myResourceGroup
```

Box 2: appservice plan

Create an App Service plan in STANDARD tier (minimum required by deployment slots).

```
az appservice plan create --name $webappname --resource-group myResourceGroup --sku S1
```

Box 3: webapp

Create a web app.

```
az webapp create -name $webappname -resource-group myResourceGroup \
--plan $webappname
```

Box 4: webapp deployment slot

#Create a deployment slot with the name "staging".

```
az webapp deployment slot create --name $webappname --resource-group myResourceGroup \
--slot staging
```

Box 5: webapp deployment source

```
# Deploy sample code to "staging" slot from GitHub.  
  
az webapp deployment source config --name $webappName --resource-group myResourceGroup \  
--slot staging --repo-url $gitrepo --branch master --manual-integration
```

Reference:

<https://docs.microsoft.com/en-us/azure/app-service/scripts/cli-deploy-staging-environment>

Question: 151

DRAG DROP

You have a web app named MainApp. You are developing a triggered App Service background task by using the WebJobs SDK. This task automatically invokes a function code whenever any new data is received in a queue.

You need to configure the services.

Which service should you use for each scenario? To answer, drag the appropriate services to the correct scenarios. Each service 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.

Services	Scenario	Service
Logic Apps	Process a queue data item.	<input type="text"/>
WebJobs	Manage all code segments from the same DevOps environment.	<input type="text"/>
Flow		

Answer:

Explanation:

Scenario	Service
Process a queue data item.	WebJobs
Manage all code segments from the same DevOps environment.	Flow

Box 1: WebJobs

A WebJob is a simple way to set up a background job, which can process continuously or on a schedule. WebJobs differ from a cloud service as it gives you less fine-grained control over your processing environment, making it a more true PaaS service.

Box 2: Flow

Incorrect Answers:

Azure Logic Apps is a cloud service that helps you schedule, automate, and orchestrate tasks, business processes, and workflows when you need to integrate apps, data, systems, and services across enterprises or organizations. Logic Apps simplifies how you design and build scalable solutions for app integration, data integration, system integration, enterprise application integration (EAI), and business-to-business (B2B) communication, whether in the cloud, on premises, or both.

Reference:

<https://code.msdn.microsoft.com/Processing-Service-Bus-84db27b4>

Question: 152

HOTSPOT

A company is developing a mobile app for field service employees using Azure App Service Mobile Apps as the backend.

The company's network connectivity varies throughout the day. The solution must support offline use and synchronize changes in the background when the app is online app.

You need to implement the solution.

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

NOTE: Each correct selection is worth one point.

```
var client = new MobileServiceClient("MOBILE_APP_URL");
var store = new MobileServiceSQLiteStore
(Constants.OfflineDbPath);
store.DefineTable<TodoItem>();
await client.SyncContext.InitializeAsync(store);
```

var todoTable = client.GetSyncTable<TodoItem>();
var todoTable = client.GetTable<TodoItem>();
var todoTable = client.SyncTable;
var todoTable = client.Table;

```
await client.SyncContext.PushAsync();
```

await todoTable.PullAsync("allTodos",todoTable.CreateQuery());
await todoTable.UpdateAsync();
todoTable.PullAsync("allTodos", todoTable.CreateQuery());
todoTable.UpdateAsync();

Answer:

Explanation:

```
var client = new MobileServiceClient("MOBILE_APP_URL");
var store = new MobileServiceSQLiteStore
(Constants.offlineDbPath);
store.DefineTable<TodoItem>();
await client.SyncContext.InitializeAsync(store);

var todoTable = client.GetSyncTable<TodoItem>();
var todoTable = client.GetTable<TodoItem>();
var todoTable = client.SyncTable;
var todoTable = client.Table;

await client.SyncContext.PushAsync();
```

```
await todoTable.PullAsync("allTodos",todoTable.CreateQuery());
await todoTable.UpdateAsync();
todoTable.PullAsync("allTodos", todoTable.CreateQuery());
todoTable.UpdateAsync();
```

Box 1: var todoTable = client.GetSyncTable<TodoItem>()

To setup offline access, when connecting to your mobile service, use the method GetSyncTable instead of GetTable (example):

```
IMobileServiceSyncTable todoTable = App.MobileService.GetSyncTable(); /
```

Box 2: await todoTable.PullAsync("allTodos",todo.Table.CreateQuery());

Your app should now use IMobileServiceSyncTable (instead of IMobileServiceTable) for CRUD operations. This will save changes to the local database and also keep a log of the changes. When the app is ready to synchronize its changes with the Mobile Service, use the methods PushAsync and PullAsync (example):

```
await App.MobileService.SyncContext.PushAsync();
```

```
await todoTable.PullAsync();
```

Reference:

Question: 153

DRAG DROP

A company backs up all manufacturing data to Azure Blob Storage. Admins move blobs from hot storage to archive tier storage every month.

You must automatically move blocks to Archive tier after they have not been accessed for 180 days. The path for any item that is not archived must be placed in an existing queue. This operation must be performed automatically once a month. You set the value of TierAgeInDays to 180.

How should you configure the Logic App? To answer, drag the appropriate triggers or action blocks to the correct trigger or action slots. Each trigger or action block 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.

Triggers and Action Blocks

Insert Entity

- \*Table: processing
- \*Entity: Path

Show advanced options ↴

Tier blob

- If blob is older than the defined value, tier it to Cool or Archive tier
- Blob path: Path
- Blob Tier: Archive

When there are messages in a queue

- Queue Name: processing

Show advanced options ↴

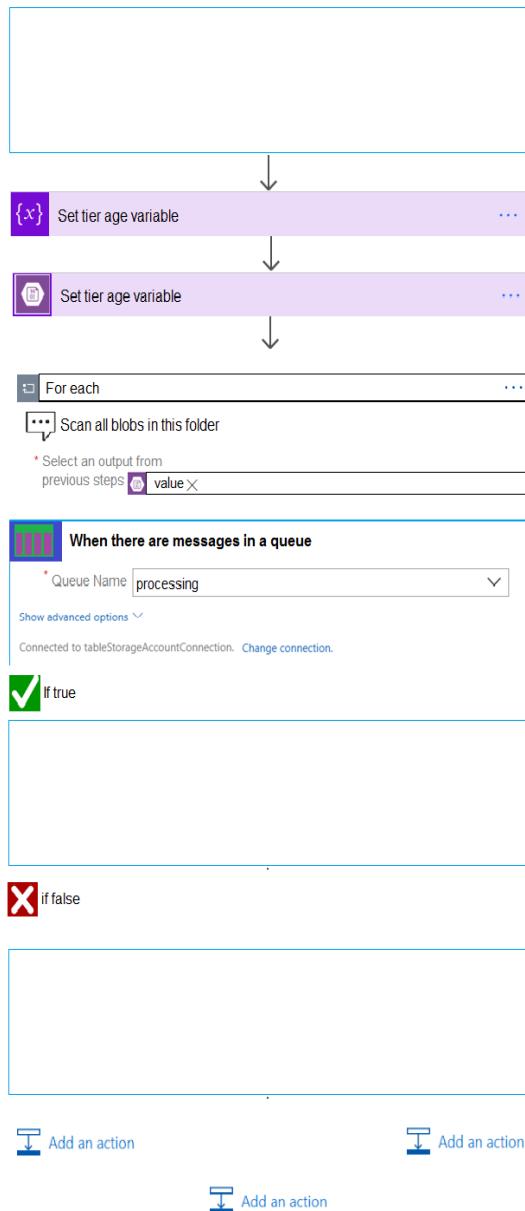
Connected to tableStorageAccountConnection. Change connection.

Recurrence

- Interval: 1
- Frequency: Month

Show advanced options ↴

Answer Area



Answer:

Explanation:

Answer Area

① Recurrence

\* Interval: 1 \* Frequency: Month

Show advanced options ↴

{x} Set tier age variable

blob Set tier age variable

For each

Scan all blobs in this folder

\* Select an output from

previous steps  value 

When there are messages in a queue

\* Queue Name: processing

Show advanced options ↴

Connected to tableStorageAccountConnection. [Change connection.](#)

 If true

① Recurrence

\* Interval: 1 \* Frequency: Month

Show advanced options ↴

 if false

Box 1: Recurrence

Box 2: Insert Entity

Box 3 (if true): Tier Blob

Box 4: (if false):

Leave blank.

Reference:

<https://docs.microsoft.com/en-us/azure/logic-apps/logic-apps-perform-data-operations>

Question: 154

You develop a solution that uses an Azure SQL Database to store user information for a mobile app.

The app stores sensitive information about users.

You need to hide sensitive information from developers that query the data for the mobile app.

Which three items must you identify when configuring dynamic data masking? Each correct answer presents a

part of the solution.

NOTE: Each correct selection is worth one point.

A. Column

B. Table

C. Trigger

D. Index

E. Schema

Answer: ABE

Explanation:

In the Dynamic Data Masking configuration page, you may see some database columns that the recommendations engine has flagged for masking. In order to accept the recommendations, just click Add Mask for one or more columns and a mask is created based on the default type for this column. You can change the masking function by clicking on the masking rule and editing the masking field format to a different format of your choice.

 Dynamic Data Masking
demo\_database

Save Discard Add Mask

 Downlevel clients require the use of Security Enabled Connection Strings.

Masking Rules

MASK NAME	MASK FUNCTION
You haven't created any masking rules.	

SQL users excluded from masking (administrators are always excluded) ⓘ
SQL users excluded from masking (administrators are always excluded) ✓

Recommended fields to mask

SCHEMA	TABLE	COLUMN	
SalesLT	Customer	FirstName	ADD MASK
SalesLT	Customer	LastName	ADD MASK
SalesLT	Customer	EmailAddress	ADD MASK
SalesLT	Customer	Phone	ADD MASK
SalesLT	CustomerAddress	AddressID	ADD MASK

Reference:

<https://docs.microsoft.com/en-us/azure/sql-database/sql-database-dynamic-data-masking-get-started-portal>

Question: 155

A company uses Azure SQL Database to store data for an app. The data includes sensitive information.

You need to implement measures that allow only members of the managers group to see sensitive information.

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

NOTE: Each correct selection is worth one point.

- A. Include the managers group.
- B. Exclude the managers group.
- C. Exclude the administrators group.
- D. Navigate to the following URL:
`PUT https://management.azure.com/subscriptions/00000000-1111-2222-3333-444444444444
/resourceGroups/rg01/providers/Microsoft.Sql/servers/server01/databases/customers
/transparentDataEncryption/current?api-version=2014-04-01`
- E. Run the following Azure PowerShell command:
`New-AzureRmSqlDatabaseDataMaskingRule -SchemaName "dbo" -TableName "customers" '
-ColumnName "ssn" -MaskingFunction "Default"`

A. Option A

B. Option B

C. Option C

D. Option D

E. Option E

Answer: BE

Explanation:

Dynamic data masking helps prevent unauthorized access to sensitive data by enabling customers to designate how much of the sensitive data to reveal with minimal impact on the application layer.

SQL users excluded from masking - A set of SQL users or AAD identities that get unmasked data in the SQL query results.

Note: The New-AzureRmSqlDatabaseDataMaskingRule cmdlet creates a data masking rule for an

Azure SQL database.

Reference:

<https://docs.microsoft.com/en-us/powershell/module/azurerm.sql/new-azurermsqldatabasedatamaskingrule?view=azurermps-6.13.0>

Question: 156

You develop an app that allows users to upload photos and videos to Azure storage. The app uses a storage REST API call to upload the media to a blob storage account named Account1. You have blob storage

containers named Container1 and Container2.

Uploading of videos occurs on an irregular basis.

You need to copy specific blobs from Container1 to Container2 in real time when specific requirements are

met, excluding backup blob copies.

What should you do?

- A. Download the blob to a virtual machine and then upload the blob to Container2.
- B. Run the Azure PowerShell command Start-AzureStorageBlobCopy.
- C. Copy blobs to Container2 by using the Put Blob operation of the Blob Service REST API.
- D. Use AzCopy with the Snapshot switch blobs to Container2.

Answer: B

Explanation:

The Start-AzureStorageBlobCopy cmdlet starts to copy a blob.

Example 1: Copy a named blob

```
C:\PS>Start-AzureStorageBlobCopy -SrcBlob "ContosoPlanning2015" -DestContainer  
"ContosoArchives" -SrcContainer "ContosoUploads"
```

This command starts the copy operation of the blob named ContosoPlanning2015 from the container named ContosoUploads to the container named ContosoArchives.

Reference:

<https://docs.microsoft.com/en-us/powershell/module/azure.storage/start-azurestorageblobcopy?view=azurermps-6.13.0>

Question: 157

HOTSPOT

You plan to deploy a new application to a Linux virtual machine (VM) that is hosted in Azure.

The entire VM must be secured at rest by using industry-standard encryption technology to address organizational security and compliance requirements.

You need to configure Azure Disk Encryption for the VM.

How should you complete the Azure Cli commands? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Answer Area

```
az provider register -n Microsoft.KeyVault  
resourcegroup="myResourceGroup"  
az group create --name $resourcegroup --location westus  
keyvault_name=myvaultname$RANDOM  
az: [ ] create \  
    vm          it_name \  
    keyvault    up $resourcegroup \  
    keyvault key      westus\  
    vm encryption  --enabled-for-disk-encryption True  
az: [ ] create \  
    vm          keyvault_name \  
    keyvault    Software  
    keyvault key      vm encryption  
az: [ ] create \  
    vm          up $resourcegroup \  
    keyvault   cal:UbuntuServer:16.04-LTS:latest \  
    keyvault key      vm encryption  
az: [ ] enable \  
    vm          up $resourcegroup \  
    keyvault  ion-keyvault $keyvault_name \  
    keyvault key      on-key Name1 \  
    vm encryption --volume-type  
        all  
        data  
        os
```

Answer:

Explanation:

```
az provider register -n Microsoft.KeyVault
resourcegroup= "myResourceGroup"
az group create - -name $resourcegroup - -location westus
keyvault name=myvaultname$RANDOM
az [▼ create\]
  vm
  keyvault
  keyvault key
  vm encryption
- -name $keyvault_name \
- -resource -group $resourcegroup\
- -locstion eastus \
- -enabled for-disk-encryption True
```

```
az [▼ create\]
  vm
  keyvault
  keyvault key
  vm encryption
- -vault-name $keyvault_name\
- -name Name1 \
- -protection software
```

```

az create\

vm
keyvault
keyvault key
vm encryption

- -resource -group $resourcegroup \
- -name Name2
- -image Canonical:UbuntuServer:16.04=LTS:latest \
- -admin-username azureuser \
- -generate-ssh-keys \
- -data-disk-sizes-gb 5

az create\

vm
keyvault
keyvault key
vm encryption

- -resource-group $resourcegroup \
- -name Name2 \
- -disk-encryption-keyvault $keyVault_name \
- -key-encryption-key Name1 \
- -volume-type

all
data
os

```

Box 1: keyvault

Create an Azure Key Vault with az keyvault create and enable the Key Vault for use with disk encryption. Specify a unique Key Vault name for keyvault\_name as follows:

keyvault\_name=myvaultname\$RANDOM

```

az keyvault create \
--name $keyvault_name \
--resource-group $resourcegroup \
--location eastus \

```

```
--enabled-for-disk-encryption True
```

Box 2: keyvault key

The Azure platform needs to be granted access to request the cryptographic keys when the VM boots to decrypt the virtual disks. Create a cryptographic key in your Key Vault with az keyvault key create. The following example creates a key named myKey:

```
az keyvault key create \
--vault-name $keyvault_name \
--name myKey \
--protection software
```

Box 3: vm

Create a VM with az vm create. Only certain marketplace images support disk encryption. The following example creates a VM named myVM using an Ubuntu 16.04 LTS image:

```
az vm create \
--resource-group $resourcegroup \
--name myVM \
--image Canonical:UbuntuServer:16.04-LTS:latest \
--admin-username azureuser \
--generate-ssh-keys \
```

Box 4: vm encryption

Encrypt your VM with az vm encryption enable:

```
az vm encryption enable \
```

```
--resource-group $resourcegroup \
--name myVM \
--disk-encryption-keyvault $keyvault_name \
--key-encryption-key myKey \
--volume-type all
```

Note: seems to an error in the question. Should have enable instead of create.

Box 5: all

Encrypt both data and operating system.

Reference:

<https://docs.microsoft.com/bs-latn-ba/azure/virtual-machines/linux/encrypt-disks>

Question: 158

DRAG DROP

You must ensure that the external party cannot access the data in the SSN column of the Person table.

Will each protection method meet the requirement? To answer, drag the appropriate responses to the correct protection methods. Each response 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.

Responses	Protection method	Response
<input type="checkbox"/> Yes	Enable AlwaysOn encryption.	<input type="checkbox"/>
<input type="checkbox"/> No	Set the column encryption setting to disabled.	<input type="checkbox"/>
	Assign users to the Public fixed database role.	<input type="checkbox"/>
	Store column encryption keys in the system catalog view in the database.	<input type="checkbox"/>

Answer:

Explanation:

Responses	Protection method	Response
<input type="checkbox"/> Yes	Enable AlwaysOn encryption.	<input checked="" type="checkbox"/> Yes
<input type="checkbox"/> No	Set the column encryption setting to disabled.	<input type="checkbox"/> No
	Assign users to the Public fixed database role.	<input checked="" type="checkbox"/> Yes
	Store column encryption keys in the system catalog view in the database.	<input type="checkbox"/> No

Box 1: Yes

You can configure Always Encrypted for individual database columns containing your sensitive data.

- a. When setting up encryption for a column, you specify the information about the encryption algorithm and cryptographic keys used to protect the data in the column.

Box 2: No

Box 3: Yes

In SQL Database, the VIEW permissions are not granted by default to the public fixed database role. This enables certain existing, legacy tools (using older versions of DacFx) to work properly.

Consequently, to work with encrypted columns (even if not decrypting them) a database administrator must explicitly grant the two VIEW permissions.

Box 4: No

All cryptographic keys are stored in an Azure Key Vault.

Reference:

<https://docs.microsoft.com/en-us/sql/relational-databases/security/encryption/always-encrypted-database-engine>

Question: 159

DRAG DROP

You develop an ASP.NET Core MVC application. You configure the application to track webpages and custom events.

You need to identify trends in application usage.

Which Azure Application Insights Usage Analysis features should you use? To answer, drag the appropriate features 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.

Features	Requirement	Feature
Users	Which pages visited by users most often correlate to a product purchase?	
Funnels	How does load time of the product display page affect a user's decision to purchase a product?	
Impact	Which events most influence a user's decision to continue to use the application?	
Retention	Are there places in the application that users often perform repetitive actions?	
User Flows		

Answer:

Explanation:

Requirement	Feature
Which pages visited by users most often correlate to a product purchase?	Users
How does load time of the product display page affect a user's decision to purchase a product?	Impact
Which events most influence a user's decision to continue to use the application?	Retention
Are there places in the application that users often perform repetitive actions?	User Flows

Box1: Users

Box 2: Impact

One way to think of Impact is as the ultimate tool for settling arguments with someone on your team about how slowness in some aspect of your site is affecting whether users stick around. While users may tolerate a certain amount of slowness, Impact gives you insight into how best to balance optimization and performance to maximize user conversion.

Box 3: Retention

The retention feature in Azure Application Insights helps you analyze how many users return to your app, and how often they perform particular tasks or achieve goals. For example, if you run a game site, you could compare the numbers of users who return to the site after losing a game with the number who return after winning. This knowledge can help you improve both your user experience and your business strategy.

Box 4: User flows

The User Flows tool visualizes how users navigate between the pages and features of your site. It's great for answering questions like:

How do users navigate away from a page on your site?

What do users click on a page on your site?

Where are the places that users churn most from your site?

Are there places where users repeat the same action over and over?

Incorrect Answers:

Funnel: If your application involves multiple stages, you need to know if most customers are progressing through the entire process, or if they are ending the process at some point. The progression through a series of steps in a web application is known as a funnel. You can use Azure Application Insights Funnels to gain insights into your users, and monitor step-by-step conversion rates.

Reference:

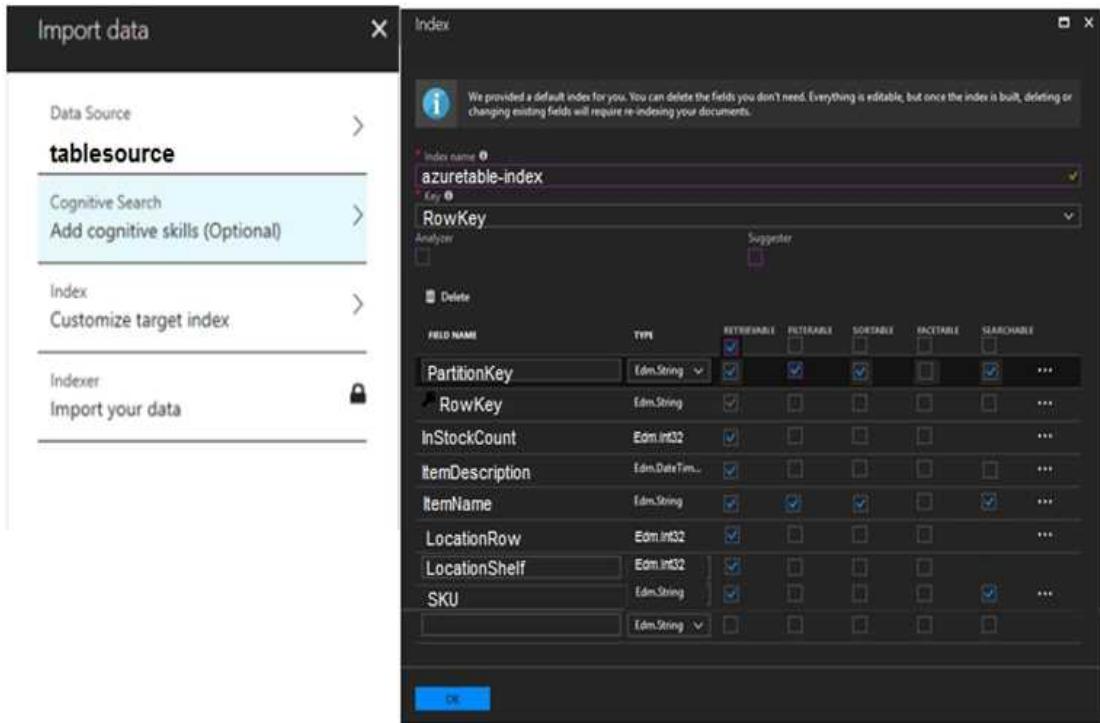
<https://docs.microsoft.com/en-us/azure/azure-monitor/app/usage-impact>

Question: 160

HOTSPOT

You are validating the configuration of an Azure Search indexer.

The service has been configured with an indexer that uses the Import Data option. The index is configured using options as shown in the Index Configuration exhibit. (Click the Index Configuration tab.)



You use an Azure table as the data source for the import operation. The table contains three records with item inventory data that matches the fields in the Storage data exhibit. These records were imported when the index was created. (Click the Storage Data tab.) When users search with no filter, all three records are displayed.

PartitionKey	RowKey	Timestamp	InStockCount	ItemDescription	ItemName	LocationRow	LocationShelf	SKU
Food	3	2018-06-25T19:47:28.170Z	32	A box of CHOCOLATE CHIP COOKIES	Chocolate	3	3	123456
Hardware	2	2018-06-25T19:48:08.405Z	2	A bag of bolts	Bolts	1	4	678901
Hardware	1	2018-06-25T19:48:41.405Z	33	A box of nails	Nails	2	1	654321

The screenshot shows the 'Search explorer' interface in the Azure portal. The 'Query string' field contains 'search=bag'. Below it, the 'Results' pane displays the following JSON response:

```
1{
2  "@odata.context": "https://itemsearch1103.search.windows.net/indexes('azuretable-index')/$entity",
3  "value": []
4}
```

When users search for items by description, Search explorer returns no records. The Search Explorer exhibit shows the query and results for a test. In the test, a user is trying to search for all items in the table that have a description that contains the word bag. (Click the Search Explorer tab.)

You need to resolve the issue.

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

NOTE: Each correct selection is worth one point.

	Yes	No
You can resolve the issue by recreating the search index with the same settings for all fields except ItemDescription. Select the SEARCHABLE option for this field	<input type="radio"/>	<input type="radio"/>
You can resolve the issue by selecting the index, editing the ItemDescription field, and selecting the SEARCHABLE option for the field.	<input type="radio"/>	<input type="radio"/>
You can resolve the issue by running the indexer.	<input type="radio"/>	<input type="radio"/>
You can resolve the issue by changing the query string in Search explorer to bag off to return the correct results	<input type="radio"/>	<input type="radio"/>

Answer:

Explanation:

	Yes	No
You can resolve the issue by recreating the search index with the same settings for all fields except ItemDescription. Select the SEARCHABLE option for this field	<input checked="" type="radio"/>	<input type="radio"/>
You can resolve the issue by selecting the index, editing the ItemDescription field, and selecting the SEARCHABLE option for the field.	<input type="radio"/>	<input checked="" type="radio"/>
You can resolve the issue by running the indexer.	<input checked="" type="radio"/>	<input type="radio"/>
You can resolve the issue by changing the query string in Search explorer to <code>bag of</code> to return the correct results	<input type="radio"/>	<input checked="" type="radio"/>

Box 1: Yes

The ItemDescription field is not searchable.

Box 2: No

The ItemDescription field is not searchable, but we would need to recreate the index.

Box 3: Yes

An indexer in Azure Search is a crawler that extracts searchable data and metadata from an external Azure data source and populates an index based on field-to-field mappings between the index and your data source. This approach is sometimes referred to as a 'pull model' because the service pulls data in without you having to write any code that adds data to an index.

Box 4: No

Reference:

<https://docs.microsoft.com/en-us/azure/search/search-what-is-an-index>

<https://docs.microsoft.com/en-us/azure/search/search-indexer-overview>

Question: 161

HOTSPOT

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.

Code segment	Value
---------------------	--------------

Attribute

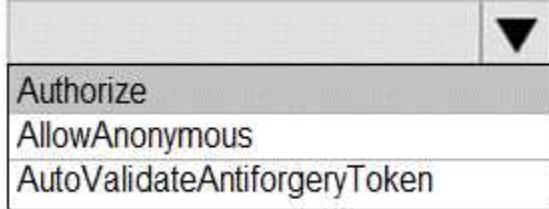
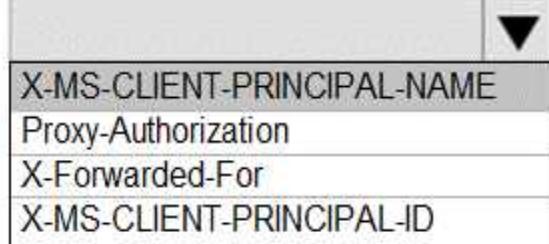
Authorize
AllowAnonymous
AutoValidateAntiforgeryToken

Request Header

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

Answer:

Explanation:

Code segment	Value
Attribute	
Request Header	

+

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",
}
```

Reference:

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

Question: 162

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

Margie's Travel is an international travel and bookings management service. The company is expanding into restaurant bookings. You are tasked with implementing Azure Search for the restaurants listed in their solution.

You create the index in Azure Search.

You need to import the restaurant data into the Azure Search service by using the Azure Search .NET SDK.

Solution:

1. Create a SearchIndexClient object to connect to the search index.
2. Create a DataContainer that contains the documents which must be added.
3. Create a DataSource instance and set its Container property to the DataContainer.
4. Call the Documents.Suggest method of the SearchIndexClient and pass the DataSource.

Does the solution meet the goal?

- A. Yes
- B. No

Answer: B

Explanation:

Use the following method:

1. - Create a SearchIndexClient object to connect to the search index
2. - Create an IndexBatch that contains the documents which must be added.
3. - Call the Documents.Index method of the SearchIndexClient and pass the IndexBatch.

Reference:

<https://docs.microsoft.com/en-us/azure/search/search-howto-dotnet-sdk>

Question: 163

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

Margie's Travel is an international travel and bookings management service. The company is expanding into restaurant bookings. You are tasked with implementing Azure Search for the restaurants listed in their solution.

You create the index in Azure Search.

You need to import the restaurant data into the Azure Search service by using the Azure Search .NET SDK.

Solution:

1. Create a `SearchServiceClient` object to connect to the search index.
2. Create a `DataContainer` that contains the documents which must be added.
3. Create a `DataSource` instance and set its `Container` property to the `DataContainer`.
4. Set the `DataSources` property of the `SearchServiceClient`.

Does the solution meet the goal?

A. Yes

B. No

Answer: B

Explanation:

Use the following method:

1. - Create a SearchIndexClient object to connect to the search index
2. - Create an IndexBatch that contains the documents which must be added.
3. - Call the Documents.Index method of the SearchIndexClient and pass the IndexBatch.

Reference:

<https://docs.microsoft.com/en-us/azure/search/search-howto-dotnet-sdk>

Question: 164

HOTSPOT

A company is developing a Node.js web app. The web app code is hosted in a GitHub repository located at <https://github.com/TailSpinToys/weapp>.

The web app must be reviewed before it is moved to production. You must deploy the initial code release to a deployment slot named review.

You need to create the web app and deploy the code.

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

NOTE: Each correct selection is worth one point.

```

$gitrepo="https://github.com/TailSpinToys/webapp"
$webappname="TailSpinToysWeb"
$location="WestUS2"
New-AzWebAppSlot -Name myResourceGroup -Location $location
New-AzWebApp
New-AzAppServicePlan
New-AzResourceGroup
New-AzWebAppSlot -Name $webappname -Location $location -ResourceGroupName myResourceGroup -Tier Standard
New-AzWebApp
New-AzAppServicePlan
New-AzResourceGroup
New-AzWebAppSlot -Name $webappname -Location $location -AppServicePlan $webappname -ResourceGroupName myResourceGroup
New-AzWebApp
New-AzAppServicePlan
New-AzResourceGroup
New-AzWebAppSlot -Name $webappname -ResourceGroupName myResourceGroup -Slot review
New-AzWebApp
New-AzAppServicePlan
New-AzResourceGroup

$PropertiesObject = @{repoUrl = "$gitrepo";branch = "master";}
Set-AzResource -PropertyObject $PropertiesObject -ResourceGroupName myResourceGroup -ResourceType
Microsoft.Web/sites/slots/sourcecontrols -ResourceName $webappname/review/web -ApiVersion 2015-08-01 -Force
Switch-AzWebAppSlot -Name $webappname -ResourceGroupName myResourceGroup -
-SourceSlotName review -DestinationSlotName production

```

Answer:

Explanation:

```

$gitrepo="https://github.com/TailSpinToys/webapp"
$webappname="TailSpinToysWeb"
$location="WestUS2"
New-AzWebAppSlot -Name myResourceGroup -Location $location
New-AzWebApp
New-AzAppServicePlan
New-AzResourceGroup
New-AzWebAppSlot -Name $webappname -Location $location -ResourceGroupName myResourceGroup -Tier Standard
New-AzWebApp
New-AzAppServicePlan
New-AzResourceGroup
New-AzWebAppSlot -Name $webappname -Location $location -AppServicePlan $webappname -ResourceGroupName myResourceGroup
New-AzWebApp
New-AzAppServicePlan
New-AzResourceGroup
New-AzWebAppSlot -Name $webappname -ResourceGroupName myResourceGroup -Slot review
New-AzWebApp
New-AzAppServicePlan
New-AzResourceGroup

$PropertiesObject = @{repoUrl = "$gitrepo";branch = "master";}
Set-AzResource -PropertyObject $PropertiesObject -ResourceGroupName myResourceGroup -ResourceType
Microsoft.Web/sites/slots/sourcecontrols -ResourceName $webappname/review/web -ApiVersion 2015-08-01 -Force
Switch-AzWebAppSlot -Name $webappname -ResourceGroupName myResourceGroup -
-SourceSlotName review -DestinationSlotName production

```

The New-AzResourceGroup cmdlet creates an Azure resource group.

The New-AzAppServicePlan cmdlet creates an Azure App Service plan in a given location

The New-AzWebApp cmdlet creates an Azure Web App in a given a resource group

The New-AzWebAppSlot cmdlet creates an Azure Web App slot.

Reference:

<https://docs.microsoft.com/en-us/powershell/module/az.resources/new-azresourcegroup?view=azps-2.3.2>

<https://docs.microsoft.com/en-us/powershell/module/az.websites/new-azappserviceplan?view=azps-2.3.2>

<https://docs.microsoft.com/en-us/powershell/module/az.websites/new-azwebapp?view=azps-2.3.2>

<https://docs.microsoft.com/en-us/powershell/module/az.websites/new-azwebappslot?view=azps-2.3.2>

Question: 165

Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution. Determine whether the solution meets the stated goals.

You are developing and deploying several ASP.NET web applications to Azure App Service. You plan to save session state information and HTML output. You must use a storage mechanism with the following requirements:

- Share session state across all ASP.NET web applications
- Support controlled, concurrent access to the same session state data for multiple readers and a single writer
- Save full HTTP responses for concurrent requests

You need to store the information.

Proposed Solution: Deploy and configure an Azure Database for PostgreSQL. Update the web applications.

Does the solution meet the goal?

A. Yes

B. No

Answer: B

Explanation:

Instead deploy and configure Azure Cache for Redis. Update the web applications.

Reference:

<https://docs.microsoft.com/en-us/azure/architecture/best-practices/caching#managing-concurrency-in-a-cache>

Question: 166

Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution. Determine whether the solution meets the stated goals.

You are developing and deploying several ASP.NET web applications to Azure App Service. You plan to save session state information and HTML output. You must use a storage mechanism with the following requirements:

- Share session state across all ASP.NET web applications

- Support controlled, concurrent access to the same session state data for multiple readers and a single writer
- Save full HTTP responses for concurrent requests

You need to store the information.

Proposed Solution: Deploy and configure Azure Cache for Redis. Update the web applications.

Does the solution meet the goal?

A. Yes

B. No

Answer: A

Explanation:

The session state provider for Azure Cache for Redis enables you to share session information between different instances of an ASP.NET web application.

The same connection can be used by multiple concurrent threads.

Redis supports both read and write operations.

The output cache provider for Azure Cache for Redis enables you to save the HTTP responses generated by an ASP.NET web application.

Note: Using the Azure portal, you can also configure the eviction policy of the cache, and control access to the cache by adding users to the roles provided. These roles, which define the operations that members can perform, include Owner, Contributor, and Reader. For example, members of the Owner role have complete control over the cache (including security) and its contents, members of the Contributor role can read and write information in the cache, and members of the Reader role can only retrieve data from the cache.

Reference:

<https://docs.microsoft.com/en-us/azure/architecture/best-practices/caching>

Question: 167

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 are developing an Azure solution to collect point-of-sale (POS) device data from 2,000 stores located throughout the world. A single device can produce 2 megabytes (MB) of data every 24 hours. Each store location has one to five devices that send data.

You must store the device data in Azure Blob storage. Device data must be correlated based on a device identifier. Additional stores are expected to open in the future.

You need to implement a solution to receive the device data.

Solution: Provision an Azure Event Hub. Configure the machine identifier as the partition key and enable capture.

A. Yes

B. No

Answer: A

Explanation:

Reference:

<https://docs.microsoft.com/en-us/azure/event-hubs/event-hubs-programming-guide>

Question: 168

HOTSPOT

You are configuring a development environment for your team. You deploy the latest Visual Studio image from the Azure Marketplace to your Azure subscription.

The development environment requires several software development kits (SDKs) and third-party components to support application development across the organization. You install and customize the deployed virtual machine (VM) for your development team. The customized VM must be saved to allow provisioning of a new team member development environment.

You need to save the customized VM for future provisioning.

Which tools or services should you use? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Answer Area

Action	Tool or service
Generalize the VM.	Azure PowerShell Visual Studio command prompt Azure Migrate Azure Backup
Store images.	Azure Blob Storage Azure Data Lake Storage Azure File Storage Azure Table Storage

Explanation:

Answer:

Action	Tool or service
Generalize the VM.	<ul style="list-style-type: none"> Azure Power Shell Visual Studio command prompt Azure Migrate Azure Backup
Store images.	<ul style="list-style-type: none"> Azure Blob Storage Visual Data Lake Storage Azure File Storage Azure Table Storage

Box 1: Azure Powershell

Creating an image directly from the VM ensures that the image includes all of the disks associated with the VM, including the OS disk and any data disks.

Before you begin, make sure that you have the latest version of the Azure PowerShell module.

You use Sysprep to generalize the virtual machine, then use Azure PowerShell to create the image.

Box 2: Azure Blob Storage

Reference:

<https://docs.microsoft.com/en-us/azure/virtual-machines/windows/capture-image-resource#create-an-image-of-a-vm-using-powershell>

Question: 169

HOTSPOT

You are implementing a software as a service (SaaS) ASP.NET Core web service that will run as an

Azure Web App. The web service will use an on-premises SQL Server database for storage. The web service also includes a WebJob that processes data updates. Four customers will use the web service.

- Each instance of the WebJob processes data for a single customer and must run as a singleton instance.
- Each deployment must be tested by using deployment slots prior to serving production data.
- Azure costs must be minimized.
- Azure resources must be located in an isolated network.

You need to configure the App Service plan for the Web App.

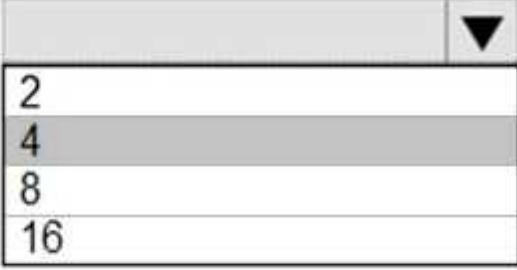
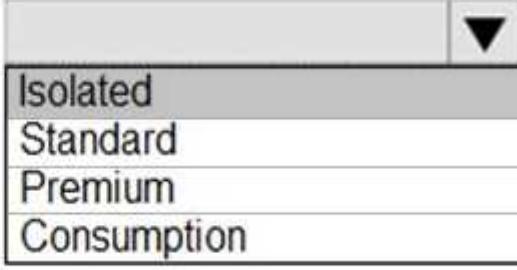
How should you configure the App Service plan? To answer, select the appropriate settings in the answer area.

NOTE: Each correct selection is worth one point.

App service plan setting	Value
Number of VM instances	<input type="button" value="▼"/> 2 4 8 16
Pricing tier	<input type="button" value="▼"/> Isolated Standard Premium Consumption

Answer:

Explanation:

App service plan setting	Value
Number of VM instances	 2 4 8 16
Pricing tier	 Isolated Standard Premium Consumption

Number of VM instances: 4

You are not charged extra for deployment slots.

Pricing tier: Isolated

The App Service Environment (ASE) is a powerful feature offering of the Azure App Service that gives network isolation and improved scale capabilities. It is essentially a deployment of the Azure App Service into a subnet of a customer's Azure Virtual Network (VNet).

Reference:

<https://azure.microsoft.com/sv-se/blog/announcing-app-service-isolated-more-power-scale-and-ease-of-use/>

Question: 170

You develop and deploy a Java RESTful API to Azure App Service.

You open a browser and navigate to the URL for the API. You receive the following error message:

```
Failed to load http://api.azurewebsites.net:6000/#/api/Products: No 'Access-Control-Allow-Origin' header is present on the requested resource.  
Origin 'http://localhost:6000' is therefore not allowed access
```

You need to resolve the error.

What should you do?

- A. Bind an SSL certificate
- B. Enable authentication
- C. Enable CORS
- D. Map a custom domain
- E. Add a CDN

Answer: C

Explanation:

We need to enable Cross-Origin Resource Sharing (CORS).

Reference:

<https://medium.com/@xinganwang/a-practical-guide-to-cors-51e8fd329a1f>

Question: 171

DRAG DROP

You are preparing to deploy an application to an Azure Kubernetes Service (AKS) cluster.

The application must only be available from within the VNet that includes the cluster.

You need to deploy the application.

How should you complete the deployment YAML? To answer, drag the appropriate YAML segments to the correct locations. Each YAML segment 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.

Code segments

- Ingress
- Service
- LoadBalancer
- Deployment
- ingress.class
- azure-load-balancer-internal

Answer Area

```
apiVersion: v1
kind: Code segment
metadata:
  name: web-app
  annotations:
    service.beta.kubernetes.Code segment: "true"
spec:
  type: Code segment
  ports:
  - port: 80
  selector:
    app: web-app
```

Answer:

Explanation:

```
apiVersion: v1
kind: Service
metadata:
  name: web-app
  annotations:
    service.beta.kubernetes.azure-load-balancer-internal: "true"
spec:
  type: LoadBalancer
  ports:
  - port: 80
  selector:
    app: web-app
```

To create an internal load balancer, create a service manifest named internal-lb.yaml with the service type LoadBalancer and the azure-load-balancer-internal annotation as shown in the following example:

YAML:

```
apiVersion: v1
kind: Service
metadata:
  name: internal-app
annotations:
  service.beta.kubernetes.io/azure-load-balancer-internal: "true"
spec:
  type: LoadBalancer
  ports:
  - port: 80
  selector:
    app: internal-app
```

Reference:

<https://docs.microsoft.com/en-us/azure/aks/internal-lb>

Question: 172

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 question, you will NOT be able to return to it. As a result, these

questions will not appear in the review screen.

You are developing a solution that will be deployed to an Azure Kubernetes Service (AKS) cluster. The solution will include a custom VNet, Azure Container Registry images, and an Azure Storage account.

The solution must allow dynamic creation and management of all Azure resources within the AKS cluster.

You need to configure an AKS cluster for use with the Azure APIs.

Solution: Enable the Azure Policy Add-on for Kubernetes to connect the Azure Policy service to the GateKeeper admission controller for the AKS cluster. Apply a built-in policy to the cluster.

Does the solution meet the goal?

A. Yes

B. No

Answer: B

Explanation:

Instead create an AKS cluster that supports network policy. Create and apply a network to allow traffic only from within a defined namespace

Reference:

<https://docs.microsoft.com/en-us/azure/aks/use-network-policies>

Question: 173

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.

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The solution must allow dynamic creation and management of all Azure resources within the AKS cluster.

You need to configure an AKS cluster for use with the Azure APIs.

Solution: Create an AKS cluster that supports network policy. Create and apply a network to allow traffic only from within a defined namespace.

Does the solution meet the goal?

A. Yes

B. No

Answer: A

Explanation:

When you run modern, microservices-based applications in Kubernetes, you often want to control which components can communicate with each other. The principle of least privilege should be

applied to how traffic can flow between pods in an Azure Kubernetes Service (AKS) cluster. Let's say you likely want to block traffic directly to back-end applications. The Network Policy feature in Kubernetes lets you define rules for ingress and egress traffic between pods in a cluster.

Reference:

<https://docs.microsoft.com/en-us/azure/aks/use-network-policies>

Question: 174

Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution. Determine whether the solution meets the stated goals.

You are developing and deploying several ASP.NET web applications to Azure App Service. You plan to save session state information and HTML output. You must use a storage mechanism with the following requirements:

- Share session state across all ASP.NET web applications
- Support controlled, concurrent access to the same session state data for multiple readers and a single writer
- Save full HTTP responses for concurrent requests

You need to store the information.

Proposed Solution: Add the web applications to Docker containers. Deploy the containers. Deploy the containers to Azure Kubernetes Service (AKS).

Does the solution meet the goal?

A. Yes

B. No

Answer: B

Explanation:

Instead use Azure Cache for Redis.

Note: Azure Cache for Redis provides a session state provider that you can use to store your session state in-memory with Azure Cache for Redis instead of a SQL Server database. To use the caching session state provider, first configure your cache, and then configure your ASP.NET application for cache using the Azure Cache for Redis Session State NuGet package.

Reference:

<https://docs.microsoft.com/en-us/azure/azure-cache-for-redis/cache-aspnet-session-state-provider>

Question: 175

You are developing an Azure Cosmos DB solution by using the Azure Cosmos DB SQL API. The data includes millions of documents. Each document may contain hundreds of properties.

The properties of the documents do not contain distinct values for partitioning. Azure Cosmos DB must scale individual containers in the database to meet the performance needs of the application by spreading the workload evenly across all partitions over time.

You need to select a partition key.

Which two partition keys can you use? Each correct answer presents a complete solution.

NOTE: Each correct selection is worth one point.

- A. a concatenation of multiple property values with a random suffix appended
- B. a single property value that does not appear frequently in the documents
- C. a hash suffix appended to a property value
- D. a value containing the collection name
- E. a single property value that appears frequently in the documents

Answer: A,C

Explanation:

You can form a partition key by concatenating multiple property values into a single artificial partitionKey property. These keys are referred to as synthetic keys.

Another possible strategy to 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.

Note: It's the best practice to have a partition key with many distinct values, such as hundreds or thousands. The goal is to distribute your data and workload evenly across the items associated with these partition key values. If such a property doesn't exist in your data, you can construct a synthetic partition key.

Reference:

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

Question: 176

HOTSPOT

You are building a website to access project data related to terms within your organization. The website does not allow anonymous access. Authentication performed using an Azure Active Directory (Azure AD) app named internal.

The website has the following authentication requirements:

- Azure AD users must be able to login to the website.
- Personalization of the website must be based on membership in Active Directory groups.

You need to configure the application's manifest to meet the authentication requirements.

How should you configure the manifest? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

```
{  
    ...  
    "appId": "d61126e3-089b-4adb-b721-  
d5023213df7d",  
    optionalClaims : "All",  
    "optionalClaims"  
    "groupMembershipClaims"  
  
    ...  
    : true  
    "allowPublicClient"  
    "oauth2Permissions"  
    "requiredResourceAccess"  
    "oauth2AllowImplicitFlow"  
    ...  
}
```

Answer:

Explanation:

Box 1: groupMembershipClaims

Personalization of the website must be based on membership in Active Directory groups.

Group claims can also be configured in the Optional Claims section of the Application Manifest.
Enable group membership claims by changing the groupMembershipClaim

The valid values are:

- "All"
- "SecurityGroup"
- "DistributionList"
- "DirectoryRole"

Here we need to mention that we want to get the groups for the users. Hence we need to mention to set the groupMembershipClaims property to All.

Box 2: oauth2AllowImplicitFlow

Azure AD users must be able to login to the website.

auth2Permissions can only accept collections value like an array, not a boolean.
oauth2AllowImplicitFlow accepts boolean value.

Here from the list of options given, if we want the application to fetch the required tokens , we would need to allow Implicit Flow.

Question: 177

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

You are developing a website that will run as an Azure Web App. Users will authenticate by using their Azure Active Directory (Azure AD) credentials.

You plan to assign users one of the following permission levels for the website: admin, normal, and reader. A user's Azure AD group membership must be used to determine the permission level. You need to configure authorization.

Solution:

- Create a new Azure AD application's manifest, set value of the groupMembershipClaims option to All.
- In the website, use the value of the groups claim from the JWI for the user to determine permissions.

Does the solution meet the goal?

A. Yes

B. No

Answer: A

Explanation:

To configure Manifest to include Group Claims in Auth Token

1. Go to Azure Active Directory to configure the Manifest. Click on Azure Active Directory, and go to App registrations to find your application:

2. Click on your application (or search for it if you have a lot of apps) and edit the Manifest by clicking on it.

3. Locate the “groupMembershipClaims” setting. Set its value to either “SecurityGroup” or “All”. To help you decide which:

“SecurityGroup” - groups claim will contain the identifiers of all security groups of which the user is a member.

“All” - groups claim will contain the identifiers of all security groups and all distribution lists of which the user is a member

Now your application will include group claims in your manifest and you can use this fact in your code.

Reference:

Question: 178

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

You are developing a website that will run as an Azure Web App. Users will authenticate by using their Azure Active Directory (Azure AD) credentials.

You plan to assign users one of the following permission levels for the website: admin, normal, and reader. A user's Azure AD group membership must be used to determine the permission level. You need to configure authorization.

Solution: Configure the Azure Web App for the website to allow only authenticated requests and require Azure AD log on.

Does the solution meet the goal?

A. Yes

B. No

Answer: B

Explanation:

Instead in the Azure AD application's manifest, set value of the groupMembershipClaims option to All.

Reference:

<https://blogs.msdn.microsoft.com/waws/2017/03/13/azure-app-service-authentication-aad-groups/>

Question: 179

DRAG DROP

You are developing an ASP.NET Core website that can be used to manage photographs which are stored in Azure Blob Storage containers.

Users of the website authenticate by using their Azure Active Directory (Azure AD) credentials.

You implement role-based access control (RBAC) role permission on the containers that store photographs. You assign users to RBAC role.

You need to configure the website's Azure AD Application so that user's permissions can be used with the Azure Blob containers.

How should you configure the application? To answer, drag the appropriate setting to the correct location. Each setting 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.

Settings	Answer Area		
	API	Permission	Type
client_id	Azure Storage	Setting	Setting
delegated	Microsoft Graph	User.Read	Setting
profile			
application			
user_impersonation			

Answer:

Explanation:

API	Permission	Type
Azure Storage	user_impersonation	delegated
Microsoft Graph	User.Read	delegated

Box 1: user\_impersonation

Box 2: delegated

Example:

1. Select the API permissions section
2. Click the Add a permission button and then:

Ensure that the My APIs tab is selected

3. In the list of APIs, select the API TodoListService-aspnetcore.
4. In the Delegated permissions section, ensure that the right permissions are checked: user\_impersonation.
5. Select the Add permissions button.

Box 3: delegated

Example

1. Select the API permissions section
2. Click the Add a permission button and then,

Ensure that the Microsoft APIs tab is selected

3. In the Commonly used Microsoft APIs section, click on Microsoft Graph
4. In the Delegated permissions section, ensure that the right permissions are checked: User.Read. Use the search box if necessary.
5. Select the Add permissions button

Reference:

<https://docs.microsoft.com/en-us/samples/azure-samples/active-directory-dotnet-webapp-webapi-openidconnect-aspnetcore/calling-a-web-api-in-an-aspnet-core-web-application-using-azure-ad/>

Question: 180

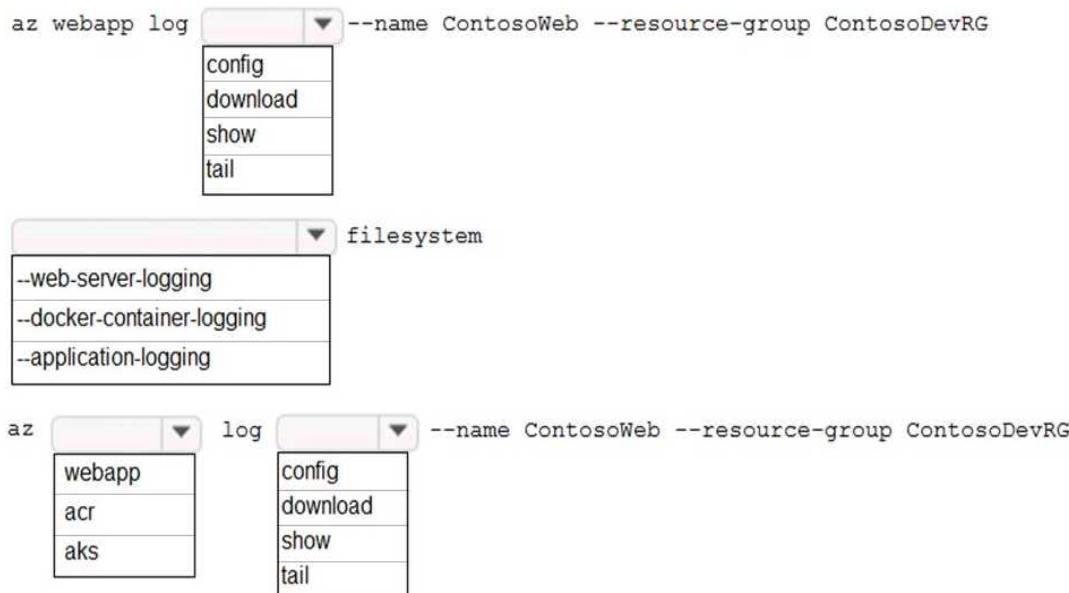
HOTSPOT

You plan to deploy a web app to App Service on Linux. You create an App Service plan. You create and push a custom Docker image that contains the web app to Azure Container Registry.

You need to access the console logs generated from inside the container in real-time.

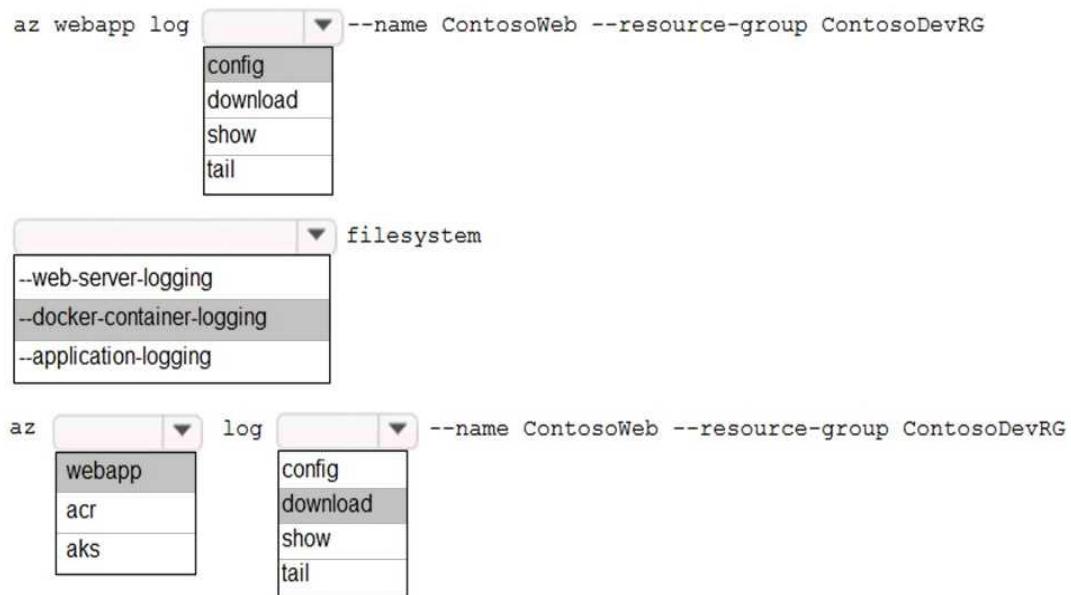
How should you complete the Azure CLI command? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.



Answer:

Explanation:



Box 1: config

To Configure logging for a web app use the command:

`az webapp log config`

Box 2: --docker-container-logging

Syntax include:

```
az webapp log config [--docker-container-logging {filesystem, off}]
```

Box 3: webapp

To download a web app's log history as a zip file use the command:

```
az webapp log download
```

Box 4: download

Reference:

<https://docs.microsoft.com/en-us/cli/azure/webapp/log>

Question: 181

HOTSPOT

You have a web service that is used to pay for food deliveries. The web service uses Azure Cosmos DB as the data store.

You plan to add a new feature that allows users to set a tip amount. The new feature requires that a property named tip on the document in Cosmos DB must be present and contain a numeric value.

There are many existing websites and mobile apps that use the web service that will not be updated to set the tip property for some time.

How should you complete the trigger?

NOTE: Each correct selection is worth one point.

```
function ensureTip() {  
    var r = _.value();  
_.readDocument('item');  
getContext().getRequest();  
getContext().getResponse();  
  
    var i = r.getBody();  
  
if (!("tip" in i)) {  
    if (request.getValue("tip") === null){  
        if (isNaN(i["tip"]) || i["tip"] === null) {  
            if (typeof_.pluck("tip") == 'number') {  
  
                i["tip"] = 0;  
            }  
  
            r.setBody(i);  
            r.setValue(i);  
            _.upsertDocument(i);  
            _.replaceDocument(i)
```

Answer:

Explanation:

```

function ensureTip() {
  var r =
    _.value();
    _.readDocument('item');
    getContext().getRequest();
    getContext().getResponse();

  var i = r.getBody();

  if (!("tip" in i)) {
    if (request.getValue("tip") === null) {
      if (isNaN(i["tip"]) || i["tip"] === null) {
        if (typeof_.pluck("tip") == 'number') {

          i["tip"] = 0;
        }
      }
    }
  }

  r.setBody(i);
  r.setValue(i);
  _.upsertDocument(i);
  _.replaceDocument(i)
}

```

Box 1: getContext().getRequest();

Box 2: if(isNaN(i)["tip"] ..

In JavaScript, there are two ways to check if a variable is a number :

isNaN() – Stands for “is Not a Number”, if variable is not a number, it return true, else return false.

typeof – If variable is a number, it will returns a string named “number”.

```
Box 3:r.setBody(i);  
// update the item that will be created
```

Reference:

<https://docs.microsoft.com/en-us/bs-latn-ba/azure/cosmos-db/how-to-write-stored-procedures-triggers-udfs>

<https://mkyong.com/javascript/check-if-variable-is-a-number-in-javascript/>

Question: 182

HOTSPOT

You are developing an application that uses an Azure blob named data to store application data.

- a. The application creates blob snapshots to allow application state to be reverted to an earlier state. The Azure storage account has soft delete enabled.

The system performs the following operations in order:

- The blob is updated
- Snapshot 1 is created.
- Snapshot 2 is created.
- Snapshot 1 is deleted.

A system error then deletes the data blob and all snapshots.

You need to determine which application states can be restored.

What is the restorability of the application data? To answer, select the appropriate options in the

answer area.

NOTE: Each correct selection is worth one point.

Application State	Restorability
--------------------------	----------------------

Data blob

Can be restored
Cannot be restored

Snapshot 1

Can be restored
Cannot be restored

Snapshot 2

Can be restored
Cannot be restored

Answer:

Explanation:

Application State Restorability

Data blob	
	Can be restored
	Cannot be restored
Snapshot 1	
	Can be restored
	Cannot be restored
Snapshot 2	
	Can be restored
	Cannot be restored

Box 1: Can be restored

When enabled, soft delete enables you to save and recover your data when blobs or blob snapshots are deleted. This protection extends to blob data that is erased as the result of an overwrite.

Box 2: Cannot be restored

It has been deleted.

Box 3: Can be restored

It has not been deleted.

Reference:

<https://docs.microsoft.com/en-us/azure/storage/blobs/storage-blob-soft-delete>

Question: 183

You are preparing to deploy an ASP.NET Core website to an Azure Web App from a GitHub repository. The website includes static content generated by a script.

You plan to use the Azure Web App continuous deployment feature.

You need to run the static generation script before the website starts serving traffic.

What are two possible ways to achieve this goal? Each correct answer presents a complete solution.

NOTE: Each correct selection is worth one point.

- A. Create a file named .deployment in the root of the repository that calls a script which generates the static content and deploys the website.
- B. Add a PreBuild target in the websites csproj project file that runs the static content generation script.
- C. Create a file named run.cmd in the folder /run that calls a script which generates the static content and deploys the website.
- D. Add the path to the static content generation tool to WEBSITE\_RUN\_FROM\_PACKAGE setting in the host.json file.

Answer: AD

Explanation:

A: To customize your deployment, include a .deployment file in the repository root.

You just need to add a file to the root of your repository with the name .deployment and the content:

[config]

command = YOUR COMMAND TO RUN FOR DEPLOYMENT

this command can be just running a script (batch file) that has all that is required for your deployment, like copying files from the repository to the web root directory for example.

D: In Azure, you can run your functions directly from a deployment package file in your function app. The other option is to deploy your files in the d:\home\site\wwwroot directory of your function app (see A above).

To enable your function app to run from a package, you just add a WEBSITE\_RUN\_FROM\_PACKAGE setting to your function app settings.

Note: The host.json metadata file contains global configuration options that affect all functions for a function app.

Reference:

<https://github.com/projectkudu/kudu/wiki/Custom-Deployment-Script>

<https://docs.microsoft.com/bs-latn-ba/azure/azure-functions/run-functions-from-deployment-package>

Question: 184

A company is developing a solution that allows smart refrigerators to send temperature information to a central location. You have an existing Service Bus.

The solution must receive and store messages until they can be processed. You create an Azure Service Bus instance by providing a name, pricing tier, subscription, resource group, and location.

You need to complete the configuration.

Which Azure CLI or PowerShell command should you run?

- A. `az servicebus namespace create
- -resource-group fridge-rg
- -name fridge-ns
- -location fridge-loc`
- B. `az servicebus queue create
--resource-group fridge-rg
--namespace-name fridge-ns
--name fridge-q`
- C. `connectionString=$(az servicebus namespace authorization-rule keys list
--resource-group fridge-rg
--fridge-ns fridge-ns
--name RootManageSharedAccessKey
--query primaryConnectionString --output tsv)`
- D. `az group create
--name fridge-rg
--location fridge-loc`

A. Option A

B. Option B

C. Option C

D. Option D

Answer: B

Explanation:

A service bus instance has already been created (Step 2 below). Next is step 3, Create a Service Bus queue.

Note:

Steps:

Step 1: # Create a resource group

```
resourceGroupName="myResourceGroup"
```

```
az group create --name $resourceGroupName --location eastus
```

Step 2: # Create a Service Bus messaging namespace with a unique name

```
namespaceName=myNameSpace$RANDOM
```

```
az servicebus namespace create --resource-group $resourceGroupName --name $namespaceName --location eastus
```

Step 3: # Create a Service Bus queue

```
az servicebus queue create --resource-group $resourceGroupName --namespace-name $namespaceName --name BasicQueue
```

Step 4: # Get the connection string for the namespace

```
connectionString=$(az servicebus namespace authorization-rule keys list --resource-group $resourceGroupName --namespace-name $namespaceName --name RootManageSharedAccessKey -query primaryConnectionString --output tsv)
```

Reference:

<https://docs.microsoft.com/en-us/azure/service-bus-messaging/service-bus-quickstart-cli>

Question: 185

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 develop and deploy an Azure App Service API app to a Windows-hosted deployment slot named Development. You create additional deployment slots named Testing and Production. You enable auto swap on the Production deployment slot.

You need to ensure that scripts run and resources are available before a swap operation occurs.

Solution: Update the web.config file to include the applicationInitialization configuration element. Specify custom initialization actions to run the scripts.

Does the solution meet the goal?

A. Yes

B. No

Answer: A

Explanation:

Specify custom warm-up.

Some apps might require custom warm-up actions before the swap. The applicationInitialization configuration element in web.config lets you specify custom initialization actions. The swap operation waits for this custom warm-up to finish before swapping with the target slot. Here's a sample web.config fragment.

```
<system.webServer>
  <applicationInitialization>
    <add initializationPage="/" hostName="[app hostname]" />
    <add initializationPage="/Home/About" hostName="[app hostname]" />
  </applicationInitialization>
```

</system.webServer>

Reference:

<https://docs.microsoft.com/en-us/azure/app-service/deploy-staging-slots#troubleshoot-swaps>

Question: 186

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 develop and deploy an Azure App Service API app to a Windows-hosted deployment slot named Development. You create additional deployment slots named Testing and Production. You enable auto swap on the Production deployment slot.

You need to ensure that scripts run and resources are available before a swap operation occurs.

Solution: Enable auto swap for the Testing slot. Deploy the app to the Testing slot.

Does the solution meet the goal?

A. Yes

B. No

Answer: B

Explanation:

Instead update the web.config file to include the applicationInitialization configuration element. Specify custom initialization actions to run the scripts.

Note: Some apps might require custom warm-up actions before the swap. The applicationInitialization configuration element in web.config lets you specify custom initialization actions. The swap operation waits for this custom warm-up to finish before swapping with the target slot. Here's a sample web.config fragment.

```
<system.webServer>  
  <applicationInitialization>  
    <add initializationPage="/" hostName="[app hostname]" />  
    <add initializationPage="/Home/About" hostName="[app hostname]" />  
  </applicationInitialization>  
</system.webServer>
```

Reference:

<https://docs.microsoft.com/en-us/azure/app-service/deploy-staging-slots#troubleshoot-swaps>

Question: 187

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 develop and deploy an Azure App Service API app to a Windows-hosted deployment slot named Development. You create additional deployment slots named Testing and Production. You enable auto swap on the Production deployment slot.

You need to ensure that scripts run and resources are available before a swap operation occurs.

Solution: Disable auto swap. Update the app with a method named statuscheck to run the scripts. Re-enable auto swap and deploy the app to the Production slot.

Does the solution meet the goal?

A. Yes

B. No

Answer: B

Explanation:

Instead update the web.config file to include the applicationInitialization configuration element. Specify custom initialization actions to run the scripts.

Note: Some apps might require custom warm-up actions before the swap. The applicationInitialization configuration element in web.config lets you specify custom initialization actions. The swap operation waits for this custom warm-up to finish before swapping with the target slot. Here's a sample web.config fragment.

```
<system.webServer>  
  <applicationInitialization>
```

```
<add initializationPage="/" hostName="[app hostname]" />  
<add initializationPage="/Home/About" hostName="[app hostname]" />  
</applicationInitialization>  
</system.webServer>
```

Reference:

<https://docs.microsoft.com/en-us/azure/app-service/deploy-staging-slots#troubleshoot-swaps>

Question: 188

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 develop Azure solutions.

You must grant a virtual machine (VM) access to specific resource groups in Azure Resource Manager.

You need to obtain an Azure Resource Manager access token.

Solution: Use an X.509 certificate to authenticate the VM with Azure Resource Manager.

Does the solution meet the goal?

A. Yes

B. No

Answer: B

Explanation:

Instead run the Invoke-RestMethod cmdlet to make a request to the local managed identity for Azure resources endpoint.

Reference:

<https://docs.microsoft.com/en-us/azure/active-directory/managed-identities-azure-resources/tutorial-windows-vm-access-arm>

Question: 189

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 develop Azure solutions.

You must grant a virtual machine (VM) access to specific resource groups in Azure Resource Manager.

You need to obtain an Azure Resource Manager access token.

Solution: Use the Reader role-based access control (RBAC) role to authenticate the VM with Azure Resource Manager.

Does the solution meet the goal?

- A. Yes
- B. No

Answer: B

Explanation:

Instead run the Invoke-RestMethod cmdlet to make a request to the local managed identity for Azure resources endpoint.

Reference:

<https://docs.microsoft.com/en-us/azure/active-directory/managed-identities-azure-resources/tutorial-windows-vm-access-arm>

Question: 190

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 develop Azure solutions.

You must grant a virtual machine (VM) access to specific resource groups in Azure Resource Manager.

You need to obtain an Azure Resource Manager access token.

Solution: Run the `Invoke-RestMethod` cmdlet to make a request to the local managed identity for Azure resources endpoint.

Does the solution meet the goal?

A. Yes

B. No

Answer: A

Explanation:

Get an access token using the VM's system-assigned managed identity and use it to call Azure Resource Manager

You will need to use PowerShell in this portion.

In the portal, navigate to Virtual Machines and go to your Windows virtual machine and in the Overview, click Connect.

Enter in your Username and Password for which you added when you created the Windows VM.

Now that you have created a Remote Desktop Connection with the virtual machine, open PowerShell in the remote session.

Using the `Invoke-WebRequest` cmdlet, make a request to the local managed identity for Azure

resources endpoint to get an access token for Azure Resource Manager.

Example:

```
$response = Invoke-WebRequest -Uri  
'http://169.254.169.254/metadata/identity/oauth2/token?api-version=2018-02-  
01&resource=https://management.azure.com/' -Method GET -Headers @{Metadata="true"}
```

Reference:

<https://docs.microsoft.com/en-us/azure/active-directory/managed-identities-azure-resources/tutorial-windows-vm-access-arm>

Question: 191

Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution. Determine whether the solution meets the stated goals.

You are developing and deploying several ASP.NET web applications to Azure App Service. You plan to save session state information and HTML output.

You must use a storage mechanism with the following requirements:

Share session state across all ASP.NET web applications.

Support controlled, concurrent access to the same session state data for multiple readers and a single writer.

Save full HTTP responses for concurrent requests.

You need to store the information.

Solution: Enable Application Request Routing (ARR).

Does the solution meet the goal?

A. Yes

B. No

Answer: B

Explanation:

Instead deploy and configure Azure Cache for Redis. Update the web applications.

Reference:

<https://docs.microsoft.com/en-us/azure/architecture/best-practices/caching#managing-concurrency-in-a-cache>

Question: 192

HOTSPOT

You are developing an application that needs access to an Azure virtual machine (VM). The access lifecycle for the application must be associated with the VM service instance. You need to enable managed identity for the VM.

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

NOTE Each correct selection is worth one point.

```
$vm = Get-AzVM -ResourceGroupName "ContosoRG" -Name "ContosoVM"
Update-AzVM -ResourceGroupName "ContosoRG" -VM $vm -AssignIdentity:$SystemAssigned
```

The screenshot shows a PowerShell session. The command `$vm = Get-AzVM -ResourceGroupName "ContosoRG" -Name "ContosoVM"` is run first. Then, the command `Update-AzVM -ResourceGroupName "ContosoRG" -VM $vm -AssignIdentity:$SystemAssigned` is run. A context menu is open over the `-AssignIdentity:` parameter, with the `$UserAssigned` option highlighted by a blue selection bar.

Answer:

Explanation:

`$vm = Get-AzVM -ResourceGroupName myResourceGroup -Name myVM`

`Update-AzVM -ResourceGroupName myResourceGroup -VM $vm -AssignIdentity:$SystemAssigned`

<https://docs.microsoft.com/en-us/azure/active-directory/managed-identities-azure-resources/qs-configure-powershell-windows-vm>

Question: 193

You are developing a medical records document management website. The website is used to store scanned copies of patient intake forms. If the stored intake forms are downloaded from storage by a third party, the content of the forms must not be compromised.

You need to store the intake forms according to the requirements.

Solution: Store the intake forms as Azure Key Vault secrets.

Does the solution meet the goal?

A. Yes

B. No

Answer: B

Explanation:

Instead use an Azure Key vault and public key encryption. Store the encrypted from in Azure Storage Blob storage.

Question: 194

You are developing a medical records document management website. The website is used to store scanned copies of patient intake forms. If the stored intake forms are downloaded from storage by a third party, the content of the forms must not be compromised.

You need to store the intake forms according to the requirements.

Solution:

Create a Azure Key Vault key named skey.

Encrypt the intake forms using the public key portion of skey.

Store the encrypted data in Azure Blob storage

Does the solution meet the goal?

A. Yes

B. No

Answer: A

Explanation:

Question: 195

You are developing a medical records document management website. The website is used to store scanned copies of patient intake forms. If the stored intake forms are downloaded from storage by a third party, the content of the forms must not be compromised.

You need to store the intake forms according to the requirements.

Solution:

Create an Azure Cosmos DB database with Storage Service Encryption enabled.

Store the intake forms in the Azure Cosmos DB database.

Does the solution meet the goal?

A. Yes

B. No

Answer: B

Explanation:

Instead use an Azure Key vault and public key encryption. Store the encrypted from in Azure Storage Blob storage.

Question: 196

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.

Features	Answer Area	Action	Feature
Access policy		Enable retention period and accidental deletion.	Feature
Purge protection		Enforce retention period and accidental deletion.	Feature
Soft delete			
Shared access signature			

Answer:

Explanation:

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>

Question: 197

DRAG DROP

You are preparing to deploy an Azure virtual machine (VM) based application. The VMs that run the application have the following requirements:

- When a VM is provisioned the firewall must be automatically configured before it can access Azure resources.
- Supporting services must be installed by using an Azure PowerShell script that is stored in Azure Storage

You need to ensure that the requirements are met.

Which features should you use? To answer, drag the appropriate features to the correct requirements.

Features		Answer Area	
Requirement	Feature		
Run Command		Firewall configuration	
Serial console		Supporting services script	
Hybrid Runbook Worker			
Custom Script Extension			

Answer:

Explanation:

Requirement	Feature
Firewall configuration	Run Command
Supporting services script	Hybrid Runbook Worker

Reference:

<https://docs.microsoft.com/en-us/azure/automation/automation-hybrid-runbook-worker>

<https://docs.microsoft.com/en-us/azure/virtual-machines/windows/run-command>

Question: 198

DRAG DROP

You are developing a serverless Java application on Azure. You create a new Azure Key Vault to work with secrets from a new Azure Functions application.

The application must meet the following requirements:

Reference the Azure Key Vault without requiring any changes to the Java code.

Dynamically add and remove instances of the Azure Functions host based on the number of incoming application events.

Ensure that instances are perpetually warm to avoid any cold starts.

Connect to a VNet.

Authentication to the Azure Key Vault instance must be removed if the Azure Function application is deleted.

You need to grant the Azure Functions application access to the Azure Key Vault.

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.

Actions	Answer Area
Create a user-assigned managed identity for the application.	
Create the Azure Functions app with a Premium plan type.	
Create an access policy in Azure Key Vault for the application identity.	
Create an SSL certification in Azure Key Vault for the application identity.	
Create the Azure Functions app with an App Service plan type.	
Create the Azure Functions app with a Consumption plan type.	
Create a system-assigned managed identity for the application.	

Answer:

Explanation:

Create the Azure Functions app with a Consumption plan type.

Create a user-assigned managed identity for the application.

Create an access policy in Azure Key Vault for the application identity.

Step 1: Create the Azure Functions app with a Consumption plan type.

Use the Consumption plan for serverless.

Step 2: Create a system-assigned managed identity for the application.

Create a system-assigned managed identity for your application.

Key Vault references currently only support system-assigned managed identities. User-assigned identities cannot be used.

Step 3: Create an access policy in Key Vault for the application identity.

Create an access policy in Key Vault for the application identity you created earlier. Enable the "Get" secret permission on this policy. Do not configure the "authorized application" or applicationId settings, as this is not compatible with a managed identity.

Reference:

<https://docs.microsoft.com/en-us/azure/app-service/app-service-key-vault-references>

Question: 199

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 develop an HTTP triggered Azure Function app to process Azure Storage blob data.

- a. The app is triggered using an output binding on the blob.

The app continues to time out after four minutes. The app must process the blob data.

You need to ensure the app does not time out and processes the blob data.

Solution: Use the Durable Function async pattern to process the blob data.

Does the solution meet the goal?

A. Yes

B. No

Answer: B

Explanation:

Instead pass the HTTP trigger payload into an Azure Service Bus queue to be processed by a queue trigger function and return an immediate HTTP success response.

Note: Large, long-running functions can cause unexpected timeout issues. General best practices include:

Whenever possible, refactor large functions into smaller function sets that work together and return responses fast. For example, a webhook or HTTP trigger function might require an acknowledgment

response within a certain time limit; it's common for webhooks to require an immediate response. You can pass the HTTP trigger payload into a queue to be processed by a queue trigger function. This approach lets you defer the actual work and return an immediate response.

Reference:

<https://docs.microsoft.com/en-us/azure/azure-functions/functions-best-practices>

Question: 200

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 develop an HTTP triggered Azure Function app to process Azure Storage blob data.

a. The app is triggered using an output binding on the blob.

The app continues to time out after four minutes. The app must process the blob data.

You need to ensure the app does not time out and processes the blob data.

Solution: Pass the HTTP trigger payload into an Azure Service Bus queue to be processed by a queue trigger function and return an immediate HTTP success response.

Does the solution meet the goal?

A. Yes

B. No

Answer: A

Explanation:

Large, long-running functions can cause unexpected timeout issues. General best practices include:

Whenever possible, refactor large functions into smaller function sets that work together and return responses fast. For example, a webhook or HTTP trigger function might require an acknowledgment response within a certain time limit; it's common for webhooks to require an immediate response. You can pass the HTTP trigger payload into a queue to be processed by a queue trigger function. This approach lets you defer the actual work and return an immediate response.

Reference:

<https://docs.microsoft.com/en-us/azure/azure-functions/functions-best-practices>

Question: 201

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 develop an HTTP triggered Azure Function app to process Azure Storage blob dat

- a. The app is triggered using an output binding on the blob.

The app continues to time out after four minutes. The app must process the blob data.

You need to ensure the app does not time out and processes the blob data.

Solution: Configure the app to use an App Service hosting plan and enable the Always On setting.

Does the solution meet the goal?

A. Yes

B. No

Answer: B

Explanation:

Instead pass the HTTP trigger payload into an Azure Service Bus queue to be processed by a queue trigger function and return an immediate HTTP success response.

Note: Large, long-running functions can cause unexpected timeout issues. General best practices include:

Whenever possible, refactor large functions into smaller function sets that work together and return responses fast. For example, a webhook or HTTP trigger function might require an acknowledgment response within a certain time limit; it's common for webhooks to require an immediate response. You can pass the HTTP trigger payload into a queue to be processed by a queue trigger function. This approach lets you defer the actual work and return an immediate response.

Reference:

<https://docs.microsoft.com/en-us/azure/azure-functions/functions-best-practices>

Question: 202

HOTSPOT

You are developing a solution that uses the Azure Storage Client library for .NET. You have the following code: (Line numbers are included for reference only.)

```
01 CloudBlockBlob src = null;
02 try
03 {
04     src = container.ListBlobs().OfType<CloudBlockBlob>().FirstOrDefault();
05     var id = await src.AcquireLeaseAsync(null);
06     var dst = container.GetBlockBlobReference(src.Name);
07     string cpid = await dst.StartCopyAsync(src);
08     await dst.FetchAttributeAsync();
09     return id;
10 }
11 catch (Exception e)
12 {
13     throw;
14 }
15 finally
16 {
17     if (src != null)
18         await src.FetchAttributesAsync();
19     if (src.Properties.LeaseState != LeaseState.Available)
20         await src.BreakLeaseAsync(new TimeSpan(0));
21 }
```

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

NOTE: Each correct selection is worth one point.

Statement	Yes	No
The code creates an infinite lease	<input type="radio"/>	<input type="radio"/>
The code at line 06 always creates a new blob	<input type="radio"/>	<input type="radio"/>
The <code>finally</code> block releases the lease	<input type="radio"/>	<input type="radio"/>

Answer:

Explanation:

Statement	Yes	No
The code creates an infinite lease	<input checked="" type="radio"/>	<input type="radio"/>
The code at line 06 always creates a new blob	<input type="radio"/>	<input checked="" type="radio"/>
The <code>finally</code> block releases the lease	<input type="radio"/>	<input checked="" type="radio"/>

Box 1: Yes

`AcquireLeaseAsync` does not specify `leaseTime`.

`leaseTime` is a `TimeSpan` representing the span of time for which to acquire the lease, which will be rounded down to seconds. If null, an infinite lease will be acquired. If not null, this must be 15 to 60 seconds.

Box 2: No

The `GetBlockBlobReference` method just gets a reference to a block blob in this container.

Box 3: Yes

The BreakLeaseAsync method initiates an asynchronous operation that breaks the current lease on this container.

Reference:

<https://docs.microsoft.com/en-us/dotnet/api/microsoft.azure.storage.blob.cloudblobcontainer.acquireleaseasync>

<https://docs.microsoft.com/en-us/dotnet/api/microsoft.azure.storage.blob.cloudblobcontainer.getblockblobreference>

<https://docs.microsoft.com/en-us/dotnet/api/microsoft.azure.storage.blob.cloudblobcontainer.breakleaseasync>

Question: 203

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You are building a website that uses Azure Blob storage for data storage. You configure Azure Blob storage lifecycle to move all blobs to the archive tier after 30 days.

Customers have requested a service-level agreement (SLA) for viewing data older than 30 days.

You need to document the minimum SLA for data recovery.

Which SLA should you use?

- A. at least two days
- B. between one and 15 hours
- C. at least one day
- D. between zero and 60 minutes

Answer: B

Explanation:

The archive access tier has the lowest storage cost. But it has higher data retrieval costs compared to the hot and cool tiers. Data in the archive tier can take several hours to retrieve depending on the priority of the rehydration. For small objects, a high priority rehydrate may retrieve the object from archive in under 1 hour.

Reference:

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

Question: 204

You develop an app that allows users to upload photos and videos to Azure storage. The app uses a storage REST API call to upload the media to a blob storage account named Account1. You have blob storage containers named Container1 and Container2.

Uploading of videos occurs on an irregular basis.

You need to copy specific blobs from Container1 to Container2 when a new video is uploaded.

What should you do?

- A. Copy blobs to Container2 by using the Put Blob operation of the Blob Service REST API
- B. Create an Event Grid topic that uses the Start-AzureStorageBlobCopy cmdlet
- C. Use AzCopy with the Snapshot switch to copy blobs to Container2
- D. Download the blob to a virtual machine and then upload the blob to Container2

Answer: B

Explanation:

The Start-AzureStorageBlobCopy cmdlet starts to copy a blob.

Example 1: Copy a named blob

```
C:\PS>Start-AzureStorageBlobCopy -SrcBlob "ContosoPlanning2015" -DestContainer  
"ContosoArchives" -SrcContainer "ContosoUploads"
```

This command starts the copy operation of the blob named ContosoPlanning2015 from the container named ContosoUploads to the container named ContosoArchives.

Reference:

<https://docs.microsoft.com/en-us/powershell/module/azure.storage/start-azurestorageblobcopy?view=azurermps-6.13.0>

Question: 205

You are developing an ASP.NET Core website that uses Azure FrontDoor. The website is used to build custom weather data sets for researchers. Data sets are downloaded by users as Comma Separated Value (CSV) files. The data is refreshed every 10 hours.

Specific files must be purged from the FrontDoor cache based upon Response Header values.

You need to purge individual assets from the Front Door cache.

Which type of cache purge should you use?

A. single path

B. wildcard

C. root domain

Answer: A

Explanation:

These formats are supported in the lists of paths to purge:

Single path purge: Purge individual assets by specifying the full path of the asset (without the protocol and domain), with the file extension, for example, /pictures/strasbourg.png;

Wildcard purge: Asterisk (\*) may be used as a wildcard. Purge all folders, subfolders, and files under an endpoint with /\* in the path or purge all subfolders and files under a specific folder by specifying the folder followed by /\*, for example, /pictures/\*.

Root domain purge: Purge the root of the endpoint with "/" in the path.

Reference:

<https://docs.microsoft.com/en-us/azure/frontdoor/front-door-caching>

Question: 206

HOTSPOT

You are debugging an application that is running on Azure Kubernetes cluster named cluster1. The cluster uses Azure Monitor for containers to monitor the cluster.

The application has sticky sessions enabled on the ingress controller.

Some customers report a large number of errors in the application over the last 24 hours.

You need to determine on which virtual machines (VMs) the errors are occurring.

How should you complete the Azure Monitor query? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

```
let startTimestamp =   
    ago(1d)  
    since(1d)  
    totimespan(1d)  
    date(now() - 1d)
```

```
let ContainerIDs = KubePodInventory  
| where ClusterName == "Cluster1"  
  
    top ContainerID  
    union ContainerID  
    sample ContainerID  
    distinct ContainerID
```

```
ContainerLog  
  
    fork containerIDs  
    where ContainerID in (ContainerIDs)  
    restrict ContainerID in (ContainerIDs)  
    join ContainerID == ContainerIDs.ContainerID  
  
| where TimeGenerated > startTimestamp  
| where LogEntrySource == "stderr"
```

```
  
    project by Computer  
    summarize by Computer  
    partition count() by Computer  
    summarize count() by Computer
```

Answer:

Explanation:

```
let startTimestamp =
```

ago(1d)
since(1d)
totimespan(1d)
date(now() - 1d)

```
| let ContainerIDs = KubePodInventory  
|   | where ClusterName == "Cluster1"
```

top ContainerID
union ContainerID
sample ContainerID
distinct ContainerID

ContainerLog

fork containerIDs
where ContainerID in (ContainerIDs)
restrict ContainerID in (ContainerIDs)
join ContainerID == ContainerIDs.ContainerID

```
| where TimeGenerated > startTimestamp  
| where LogEntrySource == "stderr"
```

project by Computer
summarize by Computer
partition count() by Computer
summarize count() by Computer

Box 1: ago(1d)

Box 2: distinct containerID

Box 3: where ContainerID in (ContainerIDs)

Box 4: summarize Count by Computer

Summarize: aggregate groups of rows

Use summarize to identify groups of records, according to one or more columns, and apply aggregations to them. The most common use of summarize is count, which returns the number of results in each group.

Reference:

<https://docs.microsoft.com/en-us/azure/azure-monitor/log-query/get-started-queries>

<https://docs.microsoft.com/en-us/azure/azure-monitor/log-query/query-optimization>

Question: 207

You develop and deploy an ASP.NET web app to Azure App Service. You use Application Insights telemetry to monitor the app.

You must test the app to ensure that the app is available and responsive from various points around the world

and at regular intervals. If the app is not responding, you must send an alert to support staff.

You need to configure a test for the web app.

Which two test types can you use? Each correct answer presents a complete solution.

NOTE: Each correct selection is worth one point.

- A. integration
- B. multi-step web
- C. URL ping
- D. unit
- E. load

Answer: BC

Explanation:

There are three types of availability tests:

URL ping test: a simple test that you can create in the Azure portal.

Multi-step web test: A recording of a sequence of web requests, which can be played back to test more complex scenarios. Multi-step web tests are created in Visual Studio Enterprise and uploaded to the portal for execution.

Custom Track Availability Tests: If you decide to create a custom application to run availability tests, the `TrackAvailability()` method can be used to send the results to Application Insights.

Reference:

<https://docs.microsoft.com/en-us/azure/azure-monitor/app/monitor-web-app-availability>

Question: 208

DRAG DROP

A web service provides customer summary information for e-commerce partners. The web service is implemented as an Azure Function app with an HTTP trigger. Access to the API is provided by an Azure API Management instance. The API Management instance is configured in consumption plan mode. All API calls are authenticated by using OAuth.

API calls must be cached. Customers must not be able to view cached data for other customers.

You need to configure API Management policies for caching.

How should you complete the policy statement?

Targets	Answer Area				
Expect	<polices>				
Public	<inbound>				
Private	<base />				
Internal	<cache-lookup caching-type="	Target	" downstream-caching-type = "	Target	">
External	<vary-by-header>	Target			
Authorization	</vary-by-header>				
	</cache-lookup>				
	</inbound>				
	</polices>				

Answer:

Explanation:

```

<polices>
<inbound>
<base />
<cache-lookup caching-type="
```

Internal

"

downstream-caching-type

=

Private

">

```

<vary-by-header>
    Authorization
</vary-by-header>
</cache-lookup>
</inbound>
</polices>
```

Box 1: internal

caching-type

Choose between the following values of the attribute:

internal to use the built-in API Management cache,

external to use the external cache as Azure Cache for Redis

prefer-external to use external cache if configured or internal cache otherwise.

Box 2: private

downstream-caching-type

This attribute must be set to one of the following values.

none - downstream caching is not allowed.

private - downstream private caching is allowed.

public - private and shared downstream caching is allowed.

Box 3: Authorization

```
<vary-by-header>Authorization</vary-by-header>  
<!-- should be present when allow-private-response-caching is "true"-->
```

Note: Start caching responses per value of specified header, such as Accept, Accept-Charset, Accept-Encoding, Accept-Language, Authorization, Expect, From, Host, If-Match

Reference:

<https://docs.microsoft.com/en-us/azure/api-management/api-management-caching-policies>

Question: 209

A company is implementing a publish-subscribe (Pub/Sub) messaging component by using Azure Service Bus. You are developing the first subscription application.

In the Azure portal you see that messages are being sent to the subscription for each topic. You create and initialize a subscription client object by supplying the correct details, but the subscription application is still not consuming the messages.

You need to ensure that the subscription client processes all messages.

Which code segment should you use?

- A. await subscriptionClient.AddRuleAsync(new RuleDescription
(RuleDescription.DefaultRuleName, new TrueFilter()));

B. `subscriptionClient = new SubscriptionClient(ServiceBusConnectionString,
TopicName, SubscriptionName);`

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C. `await subscriptionClient.CloseAsync();`

D. `subscriptionClient.RegisterMessageHandler(ProcessMessagesAsync,
messageHandlerOptions);`

Answer: D

Explanation:

Using topic client, call `RegisterMessageHandler` which is used to receive messages continuously from the entity. It registers a message handler and begins a new thread to receive messages. This handler is waited on every time a new message is received by the receiver.

`subscriptionClient.RegisterMessageHandler(ReceiveMessagesAsync, messageHandlerOptions);`

Reference:

<https://www.c-sharpcorner.com/article/azure-service-bus-topic-and-subscription-pub-sub/>

Question: 210

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 are developing an Azure Service application that processes queue data when it receives a message from a mobile application. Messages may not be sent to the service consistently.

You have the following requirements:

Queue size must not grow larger than 80 gigabytes (GB).

Use first-in-first-out (FIFO) ordering of messages.

Minimize Azure costs.

You need to implement the messaging solution.

Solution: Use the .Net API to add a message to an Azure Storage Queue from the mobile application.

Create an Azure VM that is triggered from Azure Storage Queue events.

Does the solution meet the goal?

A. Yes

B. No

Answer: B

Explanation:

Don't use a VM, instead create an Azure Function App that uses an Azure Service Bus Queue trigger.

Reference:

<https://docs.microsoft.com/en-us/azure/azure-functions/functions-create-storage-queue-triggered-function>

Question: 211

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 are developing an Azure Service application that processes queue data when it receives a message from a mobile application. Messages may not be sent to the service consistently.

You have the following requirements:

Queue size must not grow larger than 80 gigabytes (GB).

Use first-in-first-out (FIFO) ordering of messages.

Minimize Azure costs.

You need to implement the messaging solution.

Solution: Use the .Net API to add a message to an Azure Service Bus Queue from the mobile application. Create an Azure Windows VM that is triggered from Azure Service Bus Queue.

Does the solution meet the goal?

A. Yes

B. No

Answer: B

Explanation:

Don't use a VM, instead create an Azure Function App that uses an Azure Service Bus Queue trigger.

Reference:

<https://docs.microsoft.com/en-us/azure/azure-functions/functions-create-storage-queue-triggered-function>

Question: 212

You are developing an e-commerce solution that uses a microservice architecture.

You need to design a communication backplane for communicating transactional messages between various parts of the solution. Messages must be communicated in first-in-first-out (FIFO) order.

What should you use?

A. Azure Storage Queue

B. Azure Event Hub

C. Azure Service Bus

D. Azure Event Grid

Answer: C

Explanation:

As a solution architect/developer, you should consider using Service Bus queues when:

Your solution requires the queue to provide a guaranteed first-in-first-out (FIFO) ordered delivery.

Reference:

<https://docs.microsoft.com/en-us/azure/service-bus-messaging/service-bus-azure-and-service-bus-queues-compared-contrasted>

Question: 213

HOTSPOT

You are preparing to deploy a Python website to an Azure Web App using a container. The solution will use multiple containers in the same container group. The Dockerfile that builds the container is as follows:

```
FROM python:3
ADD website.py
CMD [ "python", "./website.py"]
```

You build a container by using the following command. The Azure Container Registry instance named images is a private registry.

```
docker build -t images.azurecr.io/website:v1.0.0
```

The user name and password for the registry is admin.

The Web App must always run the same version of the website regardless of future builds.

You need to create an Azure Web App to run the website.

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

NOTE: Each correct selection is worth one point.

```
az configure --defaults web=website
az configure --defaults group=website
az appservice plan create --name websitePlan
az webapp create --plan websitePlan
az webapp config
```

The screenshot shows a command-line interface with three dropdown menus. The first menu, for 'az appservice plan create', has the following options: -sku SHARED, -tags container, -sku B1 --hyper-v, and -sku B1 --is-linux. The second menu, for 'az webapp config', has the following options: set --python-version 2.7 --generic-configurations user=admin password=admin, set --python-version 3.6 --generic-configurations user=admin password=admin, container set --docker-registry-server-url https://images.azurecr.io --u admin -p admin, and container set --docker-registry-server-url https://images.azurecr.io/wsebsite -u admin -p admin. The third menu, for 'az webapp create', has the following options: --deployment-source-url images.azurecr.io/website:v1.0.0, --deployment-source-url images.azurecr.io/website:latest, --deployment-container-image-name images.azurecr.io/website:v1.0.0, and --deployment-container-image-name images.azurecr.io/website:latest.

Answer:

Explanation:

```
az configure --defaults web=website
az configure --defaults group=website
az appservice plan create --name websitePlan
az webapp create --plan websitePlan
az webapp config
```

The screenshot shows the completed command examples from the previous interface. The 'az appservice plan create' command includes the '-sku B1 --hyper-v' option. The 'az webapp config' command includes the 'set --python-version 3.6 --generic-configurations user=admin password=admin' and 'container set --docker-registry-server-url https://images.azurecr.io/wsebsite -u admin -p admin' options. The 'az webapp create' command includes the '--deployment-source-url images.azurecr.io/website:latest' option.

Box 1: --SKU B1 --hyper-v

--hyper-v

Host web app on Windows container.

Box 2: --deployment-source-url images.azurecr.io/website:v1.0.0

--deployment-source-url -u

Git repository URL to link with manual integration.

The Web App must always run the same version of the website regardless of future builds.

Incorrect:

--deployment-container-image-name -i

Linux only. Container image name from Docker Hub, e.g. publisher/image-name:tag.

Box 3: az webapp config container set -url https://images.azurecr.io -u admin -p admin

az webapp config container set

Set a web app container's settings.

Parameter: --docker-registry-server-url -r

The container registry server url.

The Azure Container Registry instance named images is a private registry.

Example:

az webapp config container set --docker-registry-server-url https://{azure-container-registry-}

name}.azurecr.io

Reference:

<https://docs.microsoft.com/en-us/cli/azure/appservice/plan>

Question: 214

You are developing a Java application that uses Cassandra to store key and value data.

- a. You plan to use a new Azure Cosmos DB resource and the Cassandra API in the application. You create an Azure Active Directory (Azure AD) group named Cosmos DB Creators to enable provisioning of Azure Cosmos accounts, databases, and containers.

The Azure AD group must not be able to access the keys that are required to access the data.

You need to restrict access to the Azure AD group.

Which role-based access control should you use?

- A. DocumentDB Accounts Contributor
- B. Cosmos Backup Operator
- C. Cosmos DB Operator
- D. Cosmos DB Account Reader

Answer: C

Explanation:

Azure Cosmos DB now provides a new RBAC role, Cosmos DB Operator. This new role lets you provision Azure Cosmos accounts, databases, and containers, but can't access the keys that are

required to access the data. This role is intended for use in scenarios where the ability to grant access to Azure Active Directory service principals to manage deployment operations for Cosmos DB is needed, including the account, database, and containers.

Reference:

<https://azure.microsoft.com/en-us/updates/azure-cosmos-db-operator-role-for-role-based-access-control-rbac-is-now-available/>

Question: 215

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 are developing a website that will run as an Azure Web App. Users will authenticate by using their Azure Active Directory (Azure AD) credentials.

You plan to assign users one of the following permission levels for the website: admin, normal, and reader. A user's Azure AD group membership must be used to determine the permission level.

You need to configure authorization.

Solution:

Create a new Azure AD application. In the application's manifest, define application roles that match the required permission levels for the application.

Assign the appropriate Azure AD group to each role. In the website, use the value of the roles claim

from the JWT for the user to determine permissions.

Does the solution meet the goal?

A. Yes

B. No

Answer: B

Explanation:

To configure Manifest to include Group Claims in Auth Token

Go to Azure Active Directory to configure the Manifest. Click on Azure Active Directory, and go to App registrations to find your application:

Click on your application (or search for it if you have a lot of apps) and edit the Manifest by clicking on it.

Locate the “groupMembershipClaims” setting. Set its value to either “SecurityGroup” or “All”. To help you decide which:

“SecurityGroup” - groups claim will contain the identifiers of all security groups of which the user is a member.

“All” - groups claim will contain the identifiers of all security groups and all distribution lists of which the user is a member

Now your application will include group claims in your manifest and you can use this fact in your code.

Reference:

<https://blogs.microsoft.com/waws/2017/03/13/azure-app-service-authentication-aad-groups/>

Question: 216

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 are developing an Azure Service application that processes queue data when it receives a message from a mobile application. Messages may not be sent to the service consistently.

You have the following requirements:

Queue size must not grow larger than 80 gigabytes (GB).

Use first-in-first-out (FIFO) ordering of messages.

Minimize Azure costs.

You need to implement the messaging solution.

Solution: Use the .Net API to add a message to an Azure Storage Queue from the mobile application. Create an Azure Function App that uses an Azure Storage Queue trigger.

Does the solution meet the goal?

A. Yes

B. No

Answer: B

Explanation:

Create an Azure Function App that uses an Azure Service Bus Queue trigger.

Reference:

<https://docs.microsoft.com/en-us/azure/azure-functions/functions-create-storage-queue-triggered-function>

Question: 217

DRAG DROP

You plan to create a Docker image that runs an ASP.NET Core application named ContosoApp. You have a setup script named setupScript.ps1 and a series of application files including ContosoApp.dll.

You need to create a Dockerfile document that meets the following requirements:

Call setupScripts.ps1 when the container is built.

Run ContosoApp.dll when the container starts.

The Dockerfile document must be created in the same folder where ContosoApp.dll and setupScript.ps1 are stored.

Which five commands should you use to develop the solution? To answer, move the appropriate commands from the list of commands to the answer area and arrange them in the correct order.

Commands

```
FROM microsoft/aspnetcore:latest  
WORKDIR /apps/ContosoApp  
CMD ["dotnet", "ContosoApp.dll"]  
COPY ./ .  
RUN powershell ./setupScript.ps1
```

Answer Area

Answer:

Explanation:

```
CMD ["dotnet", "ContosoApp.dll"]  
FROM microsoft/aspnetcore:latest  
WORKDIR /apps/ContosoApp  
COPY ./ .  
RUN powershell ./setupScript.ps1
```

Box 1: CMD [..]

Cmd starts a new instance of the command interpreter, Cmd.exe.

Syntax: CMD <string>

Specifies the command you want to carry out.

Box 2: FROM microsoft/aspnetcore-build:latest

Box 3: WORKDIR /apps/ContosoApp

Bxo 4: COPY ./ .

Box 5: RUN powershell ./setupScript.ps1

Question: 218

You are developing an Azure Function App that processes images that are uploaded to an Azure Blob container.

Images must be processed as quickly as possible after they are uploaded, and the solution must minimize latency. You create code to process images when the Function App is triggered.

You need to configure the Function App.

What should you do?

- A. Use an App Service plan. Configure the Function App to use an Azure Blob Storage input trigger.
- B. Use a Consumption plan. Configure the Function App to use an Azure Blob Storage trigger.
- C. Use a Consumption plan. Configure the Function App to use a Timer trigger.
- D. Use an App Service plan. Configure the Function App to use an Azure Blob Storage trigger.
- E. Use a Consumption plan. Configure the Function App to use an Azure Blob Storage input trigger.

Answer: B

Explanation:

The Blob storage trigger starts a function when a new or updated blob is detected. The blob contents are provided as input to the function.

The Consumption plan limits a function app on one virtual machine (VM) to 1.5 GB of memory.

Reference:

<https://docs.microsoft.com/en-us/azure/azure-functions/functions-bindings-storage-blob-trigger>

Question: 219

HOTSPOT

You are configuring a new development environment for a Java application.

The environment requires a Virtual Machine Scale Set (VMSS), several storage accounts, and networking components.

The VMSS must not be created until the storage accounts have been successfully created and an associated load balancer and virtual network is configured.

How should you complete the Azure Resource Manager template? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Answer Area

```
{  
  . . .  
  "resources": [  
    {  
      "apiVersion": "2016-01-01",  
      "type": "Microsoft.Storage/storageAccounts",  
      "name": "[concat()  
      . . .  
      (), 'storage', uniqueString(resourceGroup().id))]",  
      "copy"  
      "copyIndex"  
      "priority"  
      "dependsOn"  
    },  
    "location": "[resourceGroup().location]",  
    . . .  
    "sku": {  
      "name": "Standard_LRS"  
    },  
    "kind": "Storage",  
    "properties": {},  
    "copy": {  
      "copy"  
      "copyIndex"  
      "priority"  
      "dependsOn"  
    },  
    "name": "storagesetup",  
    "count": 3  
  },  
  . . .  
  {  
    "apiVersion": "2015-06-15",  
    "type": "Microsoft.Compute/virtualMachines",  
    "name": "[concat('VM', uniqueString(resourceGroup().id))]",  
    "copy": [  
      "copy"  
      "copyIndex"  
      "priority"  
      "dependsOn"  
    ],  
    "[variables('loadBalancerName')]",  
    "[variables('virtualNetworkName')]",  
    "storagesetup",  
    ],  
    . . .  
  }  
],  
"outputs": {}  
}
```

Answer:

Explanation:

```

{
  ...
  "resources": [
    {
      "apiVersion": "2016-01-01",
      "type": "Microsoft.Storage/storageAccounts",
      "name": "[concat('storage', uniqueString(resourceGroup().id))]",
      "copy": {
        "count": 3
      }
    },
    {
      "apiVersion": "2015-06-15",
      "type": "Microsoft.Compute/virtualMachines",
      "name": "[concat('VM', uniqueString(resourceGroup().id))]",
      "dependsOn": [
        "[variables('loadBalancerName')]",
        "[variables('virtualNetworkName')]",
        "storagesetup"
      ],
      ...
    }
  ]
}

```

pyIn

copy
copyIndex
priority
dependsOn

Box 1: copyIndex

Notice that the name of each resource includes the `copyIndex()` function, which returns the current iteration in the loop. `copyIndex()` is zero-based.

Box 2: copy

By adding the copy element to the resources section of your template, you can dynamically set the number of resources to deploy.

Box 3: dependsOn

Example:

```
"type": "Microsoft.Compute/virtualMachineScaleSets",
  "apiVersion": "2020-06-01",
  "name": "[variables('namingInfix')]",
  "location": "[parameters('location')]",
  "sku": {
    "name": "[parameters('vmSku')]",
    "tier": "Standard",
    "capacity": "[parameters('instanceCount')]"
  },
  "dependsOn": [
    "[resourceId('Microsoft.Network/loadBalancers', variables('loadBalancerName'))]",
    "[resourceId('Microsoft.Network/virtualNetworks', variables('virtualNetworkName'))]"
  ]
```

Reference:

<https://docs.microsoft.com/en-us/azure/azure-resource-manager/templates/copy-resources>

<https://docs.microsoft.com/en-us/azure/virtual-machine-scale-sets/quick-create-template-windows>

Question: 220

DRAG DROP

You have an application that uses Azure Blob storage.

You need to update the metadata of the blobs.

Which three methods should you use to develop the solution? To answer, move the appropriate methods from the list of methods to the answer area and arrange them in the correct order.

Methods

Metadata.Add

SetMetadataAsync

FetchAttributesAsync

UploadFileStream

SetPropertiesAsync

Answer Area

Answer:

Explanation:

Metadata.Add

SetMetadataAsync

SetPropertiesAsync

Metadata.Add example:

```
// Add metadata to the dictionary by calling the Add method
```

```
metadata.Add("docType", "textDocuments");
```

SetMetadataAsync example:

```
// Set the blob's metadata.  
  
await blob.SetMetadataAsync(metadata);
```

// Set the blob's properties.

```
await blob.SetPropertiesAsync();
```

Reference:

<https://docs.microsoft.com/en-us/azure/storage/blobs/storage-blob-properties-metadata>

Question: 221

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 are developing an Azure solution to collect point-of-sale (POS) device data from 2,000 stores located throughout the world. A single device can produce 2 megabytes (MB) of data every 24 hours. Each store location has one to five devices that send data.

You must store the device data in Azure Blob storage. Device data must be correlated based on a device identifier. Additional stores are expected to open in the future.

You need to implement a solution to receive the device data.

Solution: Provision an Azure Event Grid. Configure the machine identifier as the partition key and

enable capture.

Does the solution meet the goal?

A. Yes

B. No

Answer: A

Explanation:

Reference:

<https://docs.microsoft.com/en-us/azure/event-grid/compare-messaging-services>

Question: 222

DRAG DROP

You are developing an ASP.NET Core website that can be used to manage photographs which are stored in Azure Blob Storage containers.

Users of the website authenticate by using their Azure Active Directory (Azure AD) credentials.

You implement role-based access control (RBAC) role permissions on the containers that store photographs. You assign users to RBAC roles.

You need to configure the website's Azure AD Application so that user's permissions can be used with the Azure Blob containers.

How should you configure the application? To answer, drag the appropriate setting to the correct location. Each setting can 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.

Settings	Answer Area		
client_id	API	Permission	Type
profile	Azure Storage	Setting	Setting
delegated	Microsoft Graph	User.Read	Setting
application			Setting
user_impersonation			Setting

Answer:

Explanation:

API	Permission	Type
Azure Storage	user_impersonation	delegated
Microsoft Graph	User.Read	delegated

Box 1: user\_impersonation

Box 2: delegated

Example:

1. Select the API permissions section
2. Click the Add a permission button and then:

Ensure that the My APIs tab is selected

3. In the list of APIs, select the API TodoListService-aspnetcore.

4. In the Delegated permissions section, ensure that the right permissions are checked:
`user_impersonation`.
5. Select the Add permissions button.

Box 3: delegated

Example

1. Select the API permissions section
2. Click the Add a permission button and then,
Ensure that the Microsoft APIs tab is selected
3. In the Commonly used Microsoft APIs section, click on Microsoft Graph
4. In the Delegated permissions section, ensure that the right permissions are checked: User.Read.
Use the search box if necessary.
5. Select the Add permissions button

Reference:

<https://docs.microsoft.com/en-us/samples/azure-samples/active-directory-dotnet-webapp-webapi-openidconnect-aspnetcore/calling-a-web-api-in-an-aspnet-core-web-application-using-azure-ad/>

Question: 223

HOTSPOT

You are developing an ASP.NET Core app that includes feature flags which are managed by Azure App Configuration. You create an Azure App Configuration store named `AppFeatureFlagStore` that contains a feature flag named `Export`.

You need to update the app to meet the following requirements:

Use the `Export` feature in the app without requiring a restart of the app.

Validate users before users are allowed access to secure resources.

Permit users to access secure resources.

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

NOTE: Each correct selection is worth one point.

Answer Area

```
public void Configure(IApplicationBuilder app, IWebHostEnvironment env)
{
    if (env.IsDevelopment())
    {
        app.UseDeveloperExceptionPage();
    }
    else
    {
        app.UseExceptionHandler("/Error");
    }

    app.    ();  


|                   |
|-------------------|
| UseAuthentication |
| UseStaticFiles    |
| UseSession        |
| UseCookiePolicy   |

    app.    ();  


|                     |
|---------------------|
| UseAuthorization    |
| UseHttpsRedirection |
| UseSession          |
| UseCookiePolicy     |

    app.    ();  


|                          |
|--------------------------|
| UseAzureAppConfiguration |
| UseRequestLocalization   |
| UseCors                  |
| UseStaticFiles           |

    app.UseEndpoint(endpoints =>
    {
        endpoints.MapRazorPages();
    });
}
```

Answer:

Explanation:

```
}

app.           () ;

    UseAuthentication
    UseStaticFiles
    UseSession
    UseCookiePolicy

app.           () ;

    UseAuthorization
    UseHttpsRedirection
    UseSession
    UseCookiePolicy

app.           () ;

    UseAzureAppConfiguration
    UseRequestLocalization
    UseCors
    UseStaticFiles

app.UseEndpoint(endpoints =>
{
    endpoints.MapRazorPages();
});
```

Box 1: UseAuthentication

Need to validate users before users are allowed access to secure resources.

UseAuthentication adds the AuthenticationMiddleware to the specified IApplicationBuilder, which enables authentication capabilities.

Box 2: UseAuthorization

Need to permit users to access secure resources.

UseAuthorization adds the AuthorizationMiddleware to the specified IApplicationBuilder, which enables authorization capabilities.

Box 3: UseStaticFiles

Need to use the Export feature in the app without requiring a restart of the app.

UseStaticFiles enables static file serving for the current request path

Reference:

<https://docs.microsoft.com/en-us/dotnet/api/microsoft.aspnetcore.builder.iapplicationbuilder?view=aspnetcore-5.0>

Question: 224

You have an application that includes an Azure Web app and several Azure Function apps.

Application secrets including connection strings and certificates are stored in Azure Key Vault.

Secrets must not be stored in the application or application runtime environment. Changes to Azure Active Directory (Azure AD) must be minimized.

You need to design the approach to loading application secrets.

What should you do?

- A. Create a single user-assigned Managed Identity with permission to access Key Vault and configure each App Service to use that Managed Identity.
- B. Create a single Azure AD Service Principal with permission to access Key Vault and use a client secret from within the App Services to access Key Vault.
- C. Create a system assigned Managed Identity in each App Service with permission to access Key Vault.
- D. Create an Azure AD Service Principal with Permissions to access Key Vault for each App Service and use a certificate from within the App Services to access Key Vault.

Answer: A

Explanation:

Use Key Vault references for App Service and Azure Functions.

Key Vault references currently only support system-assigned managed identities. User-assigned identities cannot be used.

Reference:

<https://docs.microsoft.com/en-us/azure/app-service/app-service-key-vault-references>

Question: 225

DRAG DROP

A company has multiple warehouse. Each warehouse contains IoT temperature devices which deliver temperature data to an Azure Service Bus queue.

You need to send email alerts to facility supervisors immediately if the temperature at a warehouse goes above or below specified threshold temperatures.

Which five 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.

Actions
Add a logic app trigger that fires when one or more messages arrive in the queue.
Add a Recurrence trigger that schedules the app to run every 15 minutes.
Add an action that sends an email to specified personnel if the temperature is outside of those thresholds.
Add a trigger that reads IoT temperature data from a Service Bus queue.
Add a logic app action that fires when one or more messages arrive in the queue.
Add a condition that compares the temperature against the upper and lower thresholds.
Create a blank Logic app.
Add an action that reads IoT temperature data from the Service Bus queue.

Answer Area

Answer:

Explanation:

Create a blank Logic app.

Add a logic app action that fires when one or more messages arrive in the queue.

Add an action that reads IoT temperature data from the Service Bus queue.

Add a condition that compares the temperature against the upper and lower thresholds.

Add an action that sends an email to specified personnel if the temperature is outside of those thresholds.

Step 1: Create a blank Logic app.

Create and configure a Logic App.

Step 2: Add a logical app trigger that fires when one or more messages arrive in the queue.

Configure the logic app trigger.

Under Triggers, select When one or more messages arrive in a queue (auto-complete).

Step 3: Add an action that reads IoT temperature data from the Service Bus queue

Step 4: Add a condition that compares the temperature against the upper and lower thresholds.

Step 5: Add an action that sends an email to specified personnel if the temperature is outside of those thresholds

Reference: <https://docs.microsoft.com/en-us/azure/iot-hub/iot-hub-monitoring-notifications-with-azure-logic-apps>

Question: 226

DRAG DROP

You develop software solutions for a mobile delivery service. You are developing a mobile app that users can use to order from a restaurant in their area.

a. The app uses the following workflow:

A driver selects the restaurants from which they will deliver orders.

Orders are sent to all available drivers in an area.

Only orders for the selected restaurants will appear for the driver.

The first driver to accept an order removes it from the list of available orders.

You need to implement an Azure Service Bus solution.

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.

Actions	Answer Area
Create a single Service Bus topic.	
Create a Service Bus Namespace for each restaurant for which a driver can receive messages.	
Create a single Service Bus subscription.	
Create a Service Bus subscription for each restaurant for which a driver can receive orders.	
Create a single Service Bus Namespace.	
Create a Service Bus topic for each restaurant for which a driver can receive messages.	

Answer:

Explanation:

Create a single Service Bus Namespace.

Create a Service Bus topic for each restaurant for which a driver can receive messages.

Create a Service Bus subscription for each restaurant for which a driver can receive orders.

Box 1: Create a single Service Bus Namespace

To begin using Service Bus messaging entities in Azure, you must first create a namespace with a name that is unique across Azure. A namespace provides a scoping container for addressing Service Bus resources within your application.

Box 2: Create a Service Bus Topic for each restaurant for which a driver can receive messages.

Create topics.

Box 3: Create a Service Bus subscription for each restaurant for which a driver can receive orders.

Topics can have multiple, independent subscriptions.

Reference:

<https://docs.microsoft.com/en-us/azure/service-bus-messaging/service-bus-messaging-overview>

Question: 227

HOTSPOT

You develop a news and blog content app for Windows devices.

A notification must arrive on a user's device when there is a new article available for them to view.

You need to implement push notifications.

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

NOTE: Each correct selection is worth one point.

Answer Area

```
string notificationHubName = "contoso_hub";
string notificationHubConnection = "connection_string";
hub =
NotificationHubClient
NotificationHubClientSettings
NotificationHubJob
NotificationDetails
.
NotificationHubClient
NotificationHubClientSettings
NotificationHubJob
NotificationDetails
GetInstallation
CreateClientFromConnectionString
CreateOrUpdateInstallation
PatchInstallation

(notificationHubConnection, notificationHubName);
string windowsToastPayload =
@"<toast><visual><binding template=""ToastText01""><text id=""1"">" +
@"New item to view" + @"</text></binding></visual></toast>";
try
{
var result =
    await hub.
        (windowsToastPayload);
SendWindowsNativeNotificationAsync
SubmitNotificationHubJobAsync
ScheduleNotificationAsync
SendAppleNativeNotificationAsync
...
}
catch (System.Exception ex)
{
    ...
}
...
```

Explanation:

Answer:

```

NotificationHubClient
NotificationHubClientSettings
NotificationHubJob
NotificationDetails

NotificationHubClient
NotificationHubClientSettings
NotificationHubJob
NotificationDetails

(notificationHubConnection, notificationHubName);
string windowsToastPayload =
@"<toast><visual><binding template=""ToastText01""><text id=""1"">" +
@"New item to view" + @"/<text></binding></visual></toast>";
try
{
var result =
await hub.
SendWindowsNativeNotificationAsync(windowsToastPayload);

SendWindowsNativeNotificationAsync
SubmitNotificationHubJobAsync
ScheduleNotificationAsync
SendAppleNativeNotificationAsync
...

```

Box 1: NotificationHubClient

Box 2: NotificationHubClient

Box 3: CreateClientFromConnectionString

```
// Initialize the Notification Hub
```

```
NotificationHubClient hub =
NotificationHubClient.CreateClientFromConnectionString(listenConnString, hubName);
```

Box 4: SendWindowsNativeNotificationAsync

Send the push notification.

```
var result = await hub.SendWindowsNativeNotificationAsync(windowsToastPayload);
```

Reference:

<https://docs.microsoft.com/en-us/azure/notification-hubs/notification-hubs-push-notification-registration-management>

<https://github.com/MicrosoftDocs/azure-docs/blob/master/articles/app-service-mobile/app-service-mobile-windows-store-dotnet-get-started-push.md>

Question: 228

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 develop a software as a service (SaaS) offering to manage photographs. Users upload photos to a web service which then stores the photos in Azure Storage Blob storage. The storage account type is General-purpose V2.

When photos are uploaded, they must be processed to produce and save a mobile-friendly version of the image. The process to produce a mobile-friendly version of the image must start in less than one minute.

You need to design the process that starts the photo processing.

Solution: Create an Azure Function app that uses the Consumption hosting model and that is triggered from the blob upload.

Does the solution meet the goal?

A. Yes

B. No

Answer: A

Explanation:

In the Consumption hosting plan, resources are added dynamically as required by your functions.

Reference:

<https://docs.microsoft.com/en-us/azure/azure-functions/functions-create-storage-blob-triggered-function>

Question: 229

You develop Azure solutions.

A .NET application needs to receive a message each time an Azure virtual machine finishes processing data.

a. The messages must NOT persist after being processed by the receiving application.

You need to implement the .NET object that will receive the messages.

Which object should you use?

A. QueueClient

B. SubscriptionClient

C. TopicClient

D. CloudQueueClient

Answer: A

Explanation:

A queue allows processing of a message by a single consumer. Need a CloudQueueClient to access the Azure VM.

Reference:

<https://docs.microsoft.com/en-us/azure/service-bus-messaging/service-bus-queues-topics-subscriptions>

Question: 230

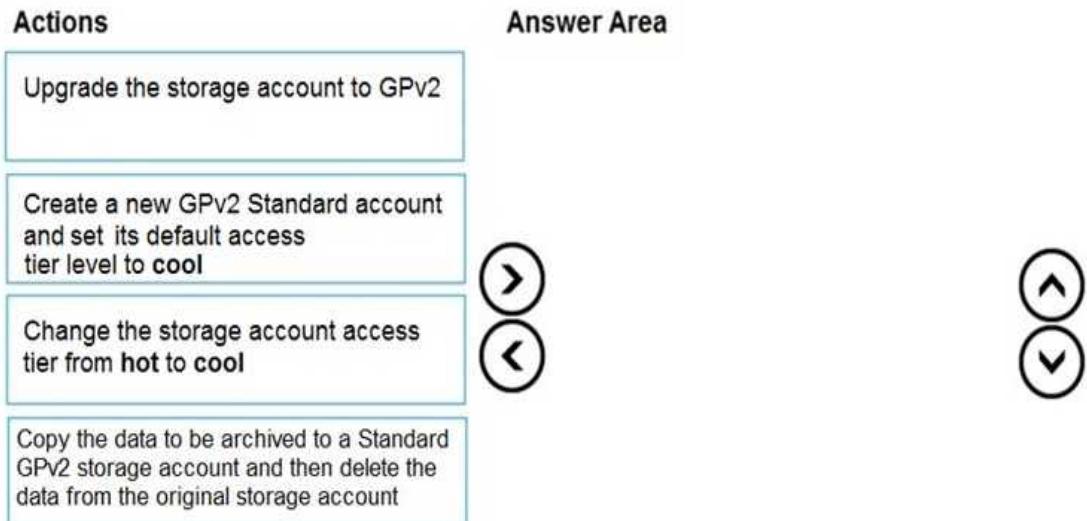
DRAG DROP

You are maintaining an existing application that uses an Azure Blob GPv1 Premium storage account. Data older than three months is rarely used.

Data newer than three months must be available immediately. Data older than a year must be saved but does not need to be available immediately.

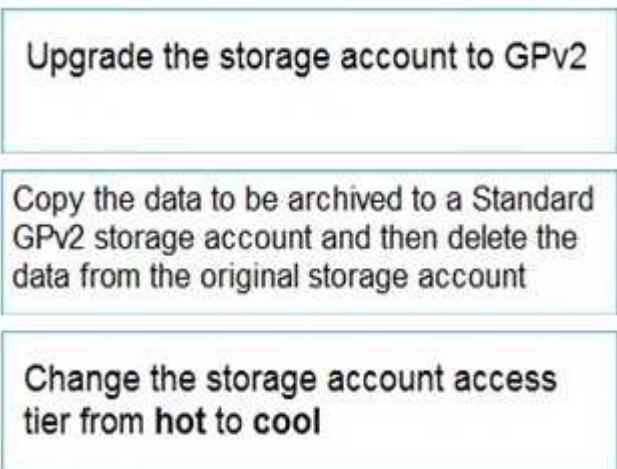
You need to configure the account to support a lifecycle management rule that moves blob data to archive storage for data not modified in the last year.

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.



Answer:

Explanation:



Step 1: Upgrade the storage account to GPv2

Object storage data tiering between hot, cool, and archive is supported in Blob Storage and General Purpose v2 (GPv2) accounts. General Purpose v1 (GPv1) accounts don't support tiering.

You can easily convert your existing GPv1 or Blob Storage accounts to GPv2 accounts through the Azure portal.

Step 2: Copy the data to be archived to a Standard GPv2 storage account and then delete the data from the original storage account

Step 3: Change the storage account access tier from hot to cool

Note: 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.

Archive - Optimized for storing data that is rarely accessed and stored for at least 180 days with flexible latency requirements, on the order of hours.

Only the hot and cool access tiers can be set at the account level. The archive access tier can only be set at the blob level.

Reference:

<https://docs.microsoft.com/en-us/azure/storage/blobs/storage-blob-storage-tiers>

Question: 231

You are developing an Azure function that connects to an Azure SQL Database instance. The function is triggered by an Azure Storage queue.

You receive reports of numerous System.InvalidOperationExceptions with the following message:
“Timeout expired. The timeout period elapsed prior to obtaining a connection from the pool. This may have occurred because all pooled connections were in use and max pool size was reached.”

You need to prevent the exception.

What should you do?

A. In the host.json file, decrease the value of the batchSize option

B. Convert the trigger to Azure Event Hub

C. Convert the Azure Function to the Premium plan

D. In the function.json file, change the value of the type option to queueScaling

Answer: A

Explanation:

With the Premium plan the max outbound connections per instance is unbounded compared to the 600 active (1200 total) in a Consumption plan.

Note: The number of available connections is limited partly because a function app runs in a sandbox environment. One of the restrictions that the sandbox imposes on your code is a limit on the number of outbound connections, which is currently 600 active (1,200 total) connections per instance. When you reach this limit, the functions runtime writes the following message to the logs: Host thresholds exceeded: Connections.

Reference:

<https://docs.microsoft.com/en-us/azure/azure-functions/manage-connections>

<https://docs.microsoft.com/en-us/azure/azure-functions/functions-scale#service-limits>

Question: 232

DRAG DROP

You develop a gateway solution for a public facing news API.

The news API back end is implemented as a RESTful service and hosted in an Azure App Service instance.

You need to configure back-end authentication for the API Management service instance.

Which target and gateway credential type should you use? To answer, drag the appropriate values to the correct parameters. Each value 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.

Values	Answer Area
Azure Resource	Configuration parameter
HTTP(s) endpoint	Target
Basic	Gateway credentials
Client cert	Value

Answer:

Explanation:

Configuration parameter	Value
Target	Azure Resource
Gateway credentials	Client cert

Box 1: Azure Resource

Box 2: Client cert

API Management allows to secure access to the back-end service of an API using client certificates.

Reference:

<https://docs.microsoft.com/en-us/rest/api/apimanagement/apimanagementrest/azure-api-management-rest-api-backend-entity>

Question: 233

HOTSPOT

You have a single page application (SPA) web application that manages information based on data returned by Microsoft Graph from another company's Azure Active Directory (Azure AD) instance.

Users must be able to authenticate and access Microsoft Graph by using their own company's Azure AD instance.

You need to configure the application manifest for the app registration.

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

NOTE: Each correct selection is worth one point.

```

{
  "oauth2AllowImplicitFlow":  ,
    

|       |
|-------|
| add   |
| false |
| spa   |
| true  |

 ,
  "": [<{
    addIns
    orgRestrictions
    availableToOtherTenants
    requiredResourceAccess
  }>,
  "resourceAppId": "00000003-0000-0000-c000-000000000000",
  "resourceAccess": [
    {"id" : "24a6cdd6-fab1-4aaaf-91b8-3cc8225e90d0",
     "type": "Scope"
    }]],
  "signInAudience":  "
    

|                                    |
|------------------------------------|
| All                                |
| AzureADMyOrg                       |
| AzureADMultipleOrgs                |
| AzureADandPersonalMicrosoftAccount |

 "
}

```

Answer:

Explanation:

```

"oauth2AllowImplicitFlow": 

|       |
|-------|
| ▼     |
| add   |
| false |
| spa   |
| true  |

 ,
"resourceAppId": "00000003-0000-0000-c000-000000000000",
"resourceAccess": [
  {
    "id" : "24a6cdd6-fab1-4aaf-91b8-3cc8225e90d0",
    "type": "Scope"
  }]],
"signInAudience": 

|                                    |
|------------------------------------|
| ▼                                  |
| All                                |
| AzureADMyOrg                       |
| AzureADMultipleOrgs                |
| AzureADandPersonalMicrosoftAccount |


```

Box 1: true

The oauth2AllowImplicitFlow attribute Specifies whether this web app can request OAuth2.0 implicit flow access tokens. The default is false. This flag is used for browser-based apps, like JavaScript single-page apps.

In implicit flow, the app receives tokens directly from the Azure Active Directory (Azure AD) authorize endpoint, without any server-to-server exchange. All authentication logic and session handling is done entirely in the JavaScript client with either a page redirect or a pop-up box.

Box 2: requiredResourceAccess

With dynamic consent, requiredResourceAccess drives the admin consent experience and the user consent experience for users who are using static consent. However, this parameter doesn't drive the user consent experience for the general case.

resourceAppId is the unique identifier for the resource that the app requires access to. This value should be equal to the appId declared on the target resource app.

resourceAccess is an array that lists the OAuth2.0 permission scopes and app roles that the app requires from the specified resource. Contains the id and type values of the specified resources.

Example:

```
"requiredResourceAccess": [  
  {  
    "resourceAppId": "00000002-0000-0000-c000-000000000000",  
    "resourceAccess": [  
      {  
        "id": "311a71cc-e848-46a1-bdf8-97ff7156d8e6",  
        "type": "Scope"  
      }  
    ]  
  },  
,
```

Box 3: AzureADMyOrg

The signInAudience attribute specifies what Microsoft accounts are supported for the current application. Supported values are:

AzureADMyOrg - Users with a Microsoft work or school account in my organization's Azure AD tenant (for example, single tenant)

AzureADMultipleOrgs - Users with a Microsoft work or school account in any organization's Azure AD tenant (for example, multi-tenant)

AzureADandPersonalMicrosoftAccount - Users with a personal Microsoft account, or a work or school

account in any organization's Azure AD tenant

Reference:

<https://docs.microsoft.com/en-us/azure/active-directory/develop/reference-app-manifest>

<https://docs.microsoft.com/en-us/azure/active-directory/develop/v2-oauth2-implicit-grant-flow>

Question: 234

You are developing a web application that runs as an Azure Web App. The web application stores data in Azure SQL Database and stores files in an Azure Storage account. The web application makes HTTP requests to external services as part of normal operations.

The web application is instrumented with Application Insights. The external services are OpenTelemetry compliant.

You need to ensure that the customer ID of the signed in user is associated with all operations throughout the overall system.

What should you do?

- A. Create a new SpanContext with the TraceRags value set to the customer ID for the signed in user.
- B. On the current SpanContext, set the Traceld to the customer ID for the signed in user.
- C. Add the customer ID for the signed in user to the CorrelationContext in the web application.
- D. Set the header Ocp-Apim-Trace to the customer ID for the signed in user.

Answer: C

Explanation:

Reference:

<https://docs.microsoft.com/en-us/azure/azure-monitor/app/correlation>

Question: 235

You develop and deploy an Azure Logic app that calls an Azure Function app. The Azure Function app includes an OpenAPI (Swagger) definition and uses an Azure Blob storage account. All resources are secured by using Azure Active Directory (Azure AD).

The Azure Logic app must securely access the Azure Blob storage account. Azure AD resources must remain if the Azure Logic app is deleted.

You need to secure the Azure Logic app.

What should you do?

- A. Create an Azure AD custom role and assign role-based access controls.
- B. Create an Azure AD custom role and assign the role to the Azure Blob storage account.
- C. Create an Azure Key Vault and issue a client certificate.
- D. Create a user-assigned managed identity and assign role-based access controls.
- E. Create a system-assigned managed identity and issue a client certificate.

Answer: D

Explanation:

To give a managed identity access to an Azure resource, you need to add a role to the target resource for that identity.

Note: To easily authenticate access to other resources that are protected by Azure Active Directory (Azure AD) without having to sign in and provide credentials or secrets, your logic app can use a managed identity (formerly known as Managed Service Identity or MSI). Azure manages this identity for you and helps secure your credentials because you don't have to provide or rotate secrets.

If you set up your logic app to use the system-assigned identity or a manually created, user-assigned identity, the function in your logic app can also use that same identity for authentication.

Reference:

<https://docs.microsoft.com/en-us/azure/logic-apps/create-managed-service-identity>

<https://docs.microsoft.com/en-us/azure/api-management/api-management-howto-mutual-certificates-for-clients>

Question: 236

You develop a solution that uses Azure Virtual Machines (VMs).

The VMs contain code that must access resources in an Azure resource group. You grant the VM access to the resource group in Resource Manager.

You need to obtain an access token that uses the VMs system-assigned managed identity.

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

- A. Use PowerShell on a remote machine to make a request to the local managed identity for Azure resources endpoint.
- B. Use PowerShell on the VM to make a request to the local managed identity for Azure resources endpoint.
- C. From the code on the VM, call Azure Resource Manager using an access token.
- D. From the code on the VM, call Azure Resource Manager using a SAS token.
- E. From the code on the VM, generate a user delegation SAS token.

Answer: B, C

Explanation:

Question: 237

HOTSPOT

You are developing an application that uses a premium block blob storage account. You are optimizing costs by automating Azure Blob Storage access tiers.

You apply the following policy rules to the storage account. You must determine the implications of applying the rules to the data.

a. (Line numbers are included for reference only.)

```
01 {
02   "rules":
03   {
04     "name": "agingDataRule",
05     "enabled": true,
06     "type": "Lifecycle",
```

Answer Area

	Yes	No
Block blobs prefixed with container1/salesorders or container2/inventory which have not been modified in over 60 days are moved to cool storage. Blobs that have not been modified in 120 days are moved to the archive tier.	<input type="radio"/>	<input type="radio"/>
Blobs are moved to cool storage if they have not been accessed for 30 days.	<input type="radio"/>	<input checked="" type="radio"/>
Blobs will automatically be tiered from cool back to hot if accessed again after being tiered to cool.	<input type="radio"/>	<input type="radio"/>
All block blobs older than 730 days will be deleted.	<input type="radio"/>	<input type="radio"/>

Answer:

Explanation:

1. Yes

2. Yes

3. Yes

4. No

<https://docs.microsoft.com/en-us/azure/storage/blobs/lifecycle-management-overview?tabs=azure-portal#move-aging-data-to-a-cooler-tier>

Question: 238

HOTSPOT

You are building a website that is used to review restaurants. The website will use an Azure CDN to improve performance and add functionality to requests.

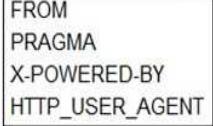
You build and deploy a mobile app for Apple iPhones. Whenever a user accesses the website from an iPhone, the user must be redirected to the app store.

You need to implement an Azure CDN rule that ensures that iPhone users are redirected to the app store.

How should you complete the Azure Resource Manager template? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Answer Area

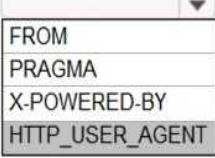
```
"conditions": [ {
    "name": "IsDevice",
    "parameters": {
        "@odata.type": "#Microsoft.Azure.Cdn.Models.
    "operator": "Equal"
    "matchValues": [ "
        
    " ]
},
{
    "name": "RequestHeader",
    "parameters": {
        "@odata.type": "#Microsoft.Azure.Cdn.Models.
    "operator": "Contains",
    "selector": "
        
    " ],
    "matchValues": [ "
        
    " ]
}
]
}
```



Answer:

Explanation:

```

"conditions": [ {
    "name": "IsDevice",
    "parameters": {
        "@odata.type": "#Microsoft.Azure.Cdn.Models."
        "operator": "Equal"
        "matchValues": [ " "
            
        " ]
    }
},
{
    "name": "RequestHeader",
    "parameters": {
        "@odata.type": "#Microsoft.Azure.Cdn.Models."
        "operator": "Contains",
        "selector": " "
            
        " ",
        "matchValues": [ "
            
        " ]
    }
}
]

```

The image shows a JSON configuration for a delivery rule. It includes two conditions: 'IsDevice' and 'RequestHeader'. The 'IsDevice' condition uses the 'Equal' operator to match against device values like 'iOS', 'Mobile', 'iPhone', and 'Desktop'. The 'RequestHeader' condition uses the 'Contains' operator to match against header values like 'FROM', 'PRAGMA', 'X-POWERED-BY', and 'HTTP\_USER\_AGENT'.

Box 1: iOS

Azure AD Conditional Access supports the following device platforms:

Android

iOS

Windows Phone

Windows

macOS

Box 2: DeliveryRuleIsDeviceConditionParameters

The `DeliveryRuleIsDeviceCondition` defines the `IsDevice` condition for the delivery rule. `parameters` defines the parameters for the condition.

Box 3: HTTP\_USER\_AGENT

Box 4: DeliveryRuleRequestHeaderConditionParameters

DeliveryRuleRequestHeaderCondition defines the RequestHeader condition for the delivery rule. parameters defines the parameters for the condition.

Box 5: iOS

The Require approved client app requirement only supports the iOS and Android for device platform condition.

Reference:

<https://docs.microsoft.com/en-us/azure/active-directory/conditional-access/concept-conditional-access-conditions>

<https://docs.microsoft.com/en-us/azure/active-directory/conditional-access/concept-conditional-access-grant>

Question: 239

HOTSPOT

You are developing a .NET application that communicates with Azure Storage.

A message must be stored when the application initializes.

You need to implement the message.

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

NOTE: Each correct selection is worth one point.

Answer Area

```
CloudStorageAccount storageAccount = CloudStorageAccount.Parse(CloudConfigurationManager.GetSetting("StorageConnectionString"));
CloudQueueClient pVar1 = storageAccount.CreateCloudQueueClient();
CloudTableClient pVar2 = pVar1.CreateCloudTableClient("contoso-storage");
CloudQueue tExistsAsync();
CloudTable GetQueueReference();
CloudTable GetTableReference();

CloudQueueClient CreateCloudQueueClient();
CloudTableClient CreateCloudTableClient();
GetQueueReference();
GetTableReference();
```

Answer:

Explanation:

Answer Area

```
CloudStorageAccount storageAccount = CloudStorageAccount.Parse(CloudConfigurationManager.GetSetting("StorageConnectionString"));
CloudQueueClient pVar1 = storageAccount.CreateCloudTableClient();
CloudQueue pVar2 = pVar1.GetQueueReference("contoso-storage");
try
{
    await pVar2.CreateIfNotExistsAsync();
```

Question: 240

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 develop and deploy an Azure App Service API app to a Windows-hosted deployment slot named Development. You create additional deployment slots named Testing and Production. You enable auto swap on the Production deployment slot.

You need to ensure that scripts run and resources are available before a swap operation occurs.

Solution: Update the app with a method named statuscheck to run the scripts. Update the app

settings for the app. Set the WEBSITE\_SWAP\_WARMUP\_PING\_PATH and WEBSITE\_SWAP\_WARMUP\_PING\_STATUSES with a path to the new method and appropriate response codes.

Does the solution meet the goal?

A. Yes

B. No

Answer: A

Explanation:

These are valid warm-up behavior options, but are not helpful in fixing swap problems.

Instead update the web.config file to include the applicationInitialization configuration element. Specify custom initialization actions to run the scripts.

Note: Some apps might require custom warm-up actions before the swap. The applicationInitialization configuration element in web.config lets you specify custom initialization actions. The swap operation waits for this custom warm-up to finish before swapping with the target slot. Here's a sample web.config fragment.

```
<system.webServer>
  <applicationInitialization>
    <add initializationPage="/" hostName="[app hostname]" />
    <add initializationPage="/Home/About" hostName="[app hostname]" />
  </applicationInitialization>
</system.webServer>
```

Reference:

<https://docs.microsoft.com/en-us/azure/app-service/deploy-staging-slots#troubleshoot-swaps>

Question: 241

You have an existing Azure storage account that stores large volumes of data across multiple containers.

You need to copy all data from the existing storage account to a new storage account. The copy process must meet the following requirements:

Automate data movement.

Minimize user input required to perform the operation.

Ensure that the data movement process is recoverable.

What should you use?

- A. AzCopy
- B. Azure Storage Explorer
- C. Azure portal
- D. .NET Storage Client Library

Answer: A

Explanation:

You can copy blobs, directories, and containers between storage accounts by using the AzCopy v10 command-line utility.

The copy operation is synchronous so when the command returns, that indicates that all files have been copied.

Reference:

<https://docs.microsoft.com/en-us/azure/storage/common/storage-use-azcopy-blobs-copy>

Question: 242

DRAG DROP

You are developing a web service that will run on Azure virtual machines that use Azure Storage. You configure all virtual machines to use managed identities.

You have the following requirements:

Secret-based authentication mechanisms are not permitted for accessing an Azure Storage account.

Must use only Azure Instance Metadata Service endpoints.

You need to write code to retrieve an access token to access Azure Storage. To answer, drag the appropriate code segments to the correct locations. Each code segment may be used 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.

Code segment 1
<code>http://localhost:50342/oauth2/token</code>
<code>http://169.254.169.254:50432/oauth2/token</code>
<code>http://localhost/metadata/identity/oauth2/token</code>
<code>http://169.254.169.254/metadata/identity/oauth2/token</code>

Code segment 2
<code>XDocument.Parse(payload);</code>
<code>new MultipartContent(payload);</code>
<code>new NetworkCredential("Azure", payload);</code>
<code>JsonConvert.DeserializeObject<Dictionary<string, string>>(payload);</code>

Answer Area

```
var url = " [REDACTED] Code segment 1 ";
var queryString = "...";
var client = new HttpClient();
var response = await client.GetAsync(url + queryString);
var payload = await response.Content.ReadAsStringAsync();

return [REDACTED] Code segment 2
```

Explanation:

Answer:

```
var url = " [REDACTED] http://169.254.169.254/metadata/identity/oauth2/token " ;
var queryString = "...";
var client = new HttpClient();
var response = await client.GetAsync(url + queryString);
var payload = await response.Content.ReadAsStringAsync();

return [REDACTED] JsonConvert.DeserializeObject<Dictionary<string, string>>(payload);
```

Azure Instance Metadata Service endpoints "/oauth2/token"

Box 1: `http://169.254.169.254/metadata/identity/oauth2/token`

Sample request using the Azure Instance Metadata Service (IMDS) endpoint (recommended):

```
GET 'http://169.254.169.254/metadata/identity/oauth2/token?api-version=2018-02-01&resource=https://management.azure.com/' HTTP/1.1
Metadata: true
```

Box 2: `JsonConvert.DeserializeObject<Dictionary<string, string>>(payload);`

Deserialized token response; returning access code.

Reference:

<https://docs.microsoft.com/en-us/azure/active-directory/managed-identities-azure-resources/how-to-use-vm-token>

<https://docs.microsoft.com/en-us/azure/service-fabric/how-to-managed-identity-service-fabric-app-code>

Question: 243

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 are developing a website that will run as an Azure Web App. Users will authenticate by using their Azure Active Directory (Azure AD) credentials.

You plan to assign users one of the following permission levels for the website: admin, normal, and reader. A user's Azure AD group membership must be used to determine the permission level.

You need to configure authorization.

Solution:

Configure and use Integrated Windows Authentication in the website.

In the website, query Microsoft Graph API to load the group to which the user is a member.

Does the solution meet the goal?

A. Yes

B. No

Answer: B

Explanation:

Microsoft Graph is a RESTful web API that enables you to access Microsoft Cloud service resources.

Instead in the Azure AD application's manifest, set value of the groupMembershipClaims option to All. In the website, use the value of the groups claim from the JWT for the user to determine permissions.

Reference:

<https://blogs.msdn.microsoft.com/waws/2017/03/13/azure-app-service-authentication-aad-groups/>

Question: 244

DRAG DROP

You are developing a REST web service. Customers will access the service by using an Azure API Management instance.

The web service does not correctly handle conflicts. Instead of returning an HTTP status code of 409, the service returns a status code of 500. The body of the status message contains only the word conflict.

You need to ensure that conflicts produce the correct response.

How should you complete the policy? To answer, drag the appropriate code segments to the correct locations. Each code segment 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.

Policy segments	Answer Area
server	< Policy segment >
context	<base />
on-error	<choose>
set-status	<when condition = " @ [Policy segment].Response.StatusCode == 500
when-error	&& [Policy segment].LastError.Message.Contains
override-status	(" conflict = ")) " >

<return-response>

< Policy segment >

</return-response>

</when>

<otherwise />

</choose>

< Policy segment >

Answer:

Explanation:

```
< on-error >
<base />
<choose>
  <when condition = " @ [context].Response.StatusCode == 500
    && [context].LastError.Message.Contains
      ( " conflict = " )) " >
    <return-response>
      < set-status >
    </return-response>
  </when>
  <otherwise />
</choose>
< on-error >
```

Box 1: on-error

Policies in Azure API Management are divided into inbound, backend, outbound, and on-error.

If there is no on-error section, callers will receive 400 or 500 HTTP response messages if an error condition occurs.

Box 2: context

Box 3: context

Box 4: set-status

The return-response policy aborts pipeline execution and returns either a default or custom response to the caller. Default response is 200 OK with no body.

Custom response can be specified via a context variable or policy statements.

Syntax:

```
<return-response response-variable-name="existing context variable">  
  <set-header/>  
  <set-body/>  
  <set-status/>  
</return-response>
```

Box 5: on-error

Reference:

<https://docs.microsoft.com/en-us/azure/api-management/api-management-error-handling-policies>

<https://docs.microsoft.com/en-us/azure/api-management/api-management-transformation-policies>

Question: 245

DRAG DROP

You are developing an Azure Function app.

The app must meet the following requirements:

Enable developers to write the functions by using the Rust language.

Declaratively connect to an Azure Blob Storage account.

You need to implement the app.

Which Azure Function app features should you use? To answer, drag the appropriate features 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.

Features	Answer Area	
Custom handler	Requirement	Feature
Extension bundle	Enable developers to write the functions by using the Rust language.	Feature
Trigger		
Runtime	Declaratively connect to an Azure Blob Storage account.	Feature
Policy		
Hosting plan		

Answer:

Explanation:

Requirement	Feature
Enable developers to write the functions by using the Rust language.	Custom handler
Declaratively connect to an Azure Blob Storage account.	Trigger

Box 1: Custom handler

Custom handlers can be used to create functions in any language or runtime by running an HTTP server process, for example Go or Rust.

Box 2: Trigger

Functions are invoked by a trigger and can have exactly one. In addition to invoking the function, certain triggers also serve as bindings. You may also define multiple bindings in addition to the trigger. Bindings provide a declarative way to connect data to your code.

Reference:

<https://docs.microsoft.com/en-us/azure/azure-functions/create-first-function-vs-code-other>

<https://docs.microsoft.com/en-us/dotnet/architecture/serverless/azure-functions>

Question: 246

HOTSPOT

You create the following PowerShell script:

```

$source = New-AzScheduledQueryRuleSource -Query 'Heartbeat | where TimeGenerated > ago(1h)' -DataSourceId "contoso"
$schedule = New-AzScheduledQueryRuleSchedule -FrequencyInMinutes 60 -TimeWindowInMinutes 60
$triggerCondition = New-AzScheduledQueryRuleTriggerCondition -ThresholdOperator "LessThan" -Threshold 5
$aznsActionGroup = New-AzScheduledQueryRuleAznsActionGroup -ActionGroup "contoso" -EmailSubject "Custom email subject"
-CustomWebhookPayload "{ ""alert"":""#alertrulename"" , ""IncludeSearchResults"":true }"
$alertingAction = New-AzScheduledQueryRuleAlertingAction -AznsAction $aznsActionGroup -Severity "3" -Trigger $triggerCondition
New-AzScheduledQueryRule -ResourceGroupName "contoso" -Location "eastus" -Action $alertingAction -Enabled $true
-Description "Alert description" -Schedule $schedule -Source $source -Name "Alert Name"

```

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

NOTE: Each correct selection is worth one point.

Statements	Yes	No
A log alert is created that sends an email when the CPU percentage is above 60 percent for five minutes.	<input type="radio"/>	<input type="radio"/>
A log alert is created that sends an email when the number of virtual machine heartbeats in the past hour is less than five.	<input type="radio"/>	<input type="radio"/>
The log alert is scheduled to run every two hours.	<input type="radio"/>	<input type="radio"/>

Answer:

Explanation:

Statements	Yes	No
A log alert is created that sends an email when the CPU percentage is above 60 percent for five minutes.	<input type="radio"/>	<input checked="" type="radio"/>
A log alert is created that sends an email when the number of virtual machine heartbeats in the past hour is less than five.	<input checked="" type="radio"/>	<input type="radio"/>
The log alert is scheduled to run every two hours.	<input type="radio"/>	<input checked="" type="radio"/>

Box 1: No

The AzScheduledQueryRuleSource is Heartbeat, not CPU.

Box 2: Yes

The AzScheduledQueryRuleSource is Heartbeat!

Note: New-AzScheduledQueryRuleTriggerCondition creates an object of type Trigger Condition. This object is to be passed to the command that creates Alerting Action object.

Box 3: No

The schedule is 60 minutes, not two hours.

-FrequencyInMinutes: The alert frequency.

-TimeWindowInMinutes: The alert time window

The New-AzAscheduledQueryRuleSchedule command creates an object of type Schedule. This object is to be passed to the command that creates Log Alert Rule.

Reference:

<https://docs.microsoft.com/en-us/powershell/module/az.monitor/new-azscheduledqueryrule>

<https://docs.microsoft.com/en-us/powershell/module/az.monitor/new-azscheduledqueryruletriggercondition>

Question: 247

HOTSPOT

You are developing an Azure-hosted e-commerce web application. The application will use Azure Cosmos DB to store sales orders. You are using the latest SDK to manage the sales orders in the

database.

You create a new Azure Cosmos DB instance. You include a valid endpoint and valid authorization key to an appSettings.json file in the code project.

You are evaluating the following application code: (Line number are included for reference only.)

```
01 using System;
02 using System.Threading.Tasks;
03 using Microsoft.Azure.Cosmos;
04 using Microsoft.Extensions.Configuration;
05 using Newtonsoft.Json;
06 namespace SalesOrders
07 {
08     public class SalesOrder
09     {
10         . .
11     }
12     internal class ManageSalesOrders
13     {
14         private static async Task GenerateSalesOrders()
15         {
16             IConfigurationRoot configuration = new ConfigurationBuilder().AddJsonFile("appSettings.json").Build();
17             string endpoint = configuration["EndPointUrl"];
18             string authKey = configuration["AuthorizationKey"];
19             using CosmosClient client = new CosmosClient(endpoint, authKey);
20             Database database = null;
21             using (await client.GetDatabase("SalesOrders").DeleteStreamAsync()) { }
22             database = await client.CreateDatabaseIfNotExistsAsync("SalesOrders");
23             Container container1 = await database.CreateContainerAsync(id: "Container1", partitionKeyPath: "/AccountNumber");
24             Container container2 = await database.CreateContainerAsync(id: "Container2", partitionKeyPath: "/AccountNumber");
25             SalesOrder salesOrder1 = new SalesOrder() { AccountNumber = "123456" };
26             await container1.CreateItemAsync(salesOrder1, new PartitionKey(salesOrder1.AccountNumber));
27             SalesOrder salesOrder2 = new SalesOrder() { AccountNumber = "654321" };
28             await container1.CreateItemAsync(salesOrder2, new PartitionKey(salesOrder2.AccountNumber));
29             SalesOrder salesOrder3 = new SalesOrder() { AccountNumber = "109876" };
30             await container2.CreateItemAsync(salesOrder3, new PartitionKey(salesOrder3.AccountNumber));
31             _ = await database.CreateUserAsync("User1");
32             User user1 = database.GetUser("User1");
33             _ = await user1.ReadAsync();
34         }
35     }
36 }
```

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

NOTE: Each correct selection is worth one point.

Statements	Yes	No
A database named SalesOrders is created. The database will include two containers.	<input type="radio"/>	<input type="radio"/>
Container1 will contain two items.	<input type="radio"/>	<input type="radio"/>
Container2 will contain one item.	<input type="radio"/>	<input type="radio"/>

Answer:

Explanation:

Statements	Yes	No
A database named SalesOrders is created. The database will include two containers.	<input type="radio"/>	<input type="radio"/>
Container1 will contain two items.	<input type="radio"/>	<input type="radio"/>
Container2 will contain one item.	<input type="radio"/>	<input type="radio"/>

Box 1: Yes

The `createDatabaseIfNotExistsAsync` method checks if a database exists, and if it doesn't, create it.

The `Database.CreateContainerAsync` method creates a container as an asynchronous operation in the Azure Cosmos service.

Box 2: Yes

The `CosmosContainer.CreateItemAsync` method creates an item as an asynchronous operation in the Azure Cosmos service.

Box 3: Yes

Reference:

<https://docs.microsoft.com/en-us/dotnet/api/microsoft.azure.cosmos.cosmosclient.createdatabaseifnotexistsasync>

<https://docs.microsoft.com/en-us/dotnet/api/microsoft.azure.cosmos.database.createcontainerasync>

<https://docs.microsoft.com/en-us/dotnet/api/azure.cosmos.cosmoscontainer.createitemasync>

Question: 248

DRAG DROP

You are developing an Azure solution.

You need to develop code to access a secret stored in Azure Key Vault.

How should you complete the code segment? To answer, drag the appropriate code segments to the correct locations. Each code segment 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.

Code segments	Answer Area
DefaultAzureCredential	<pre>string var1 = Environment.GetEnvironmentVariable("KEY_VAULT_URI");</pre>
ClientSecretCredential	<pre>var var2 = new </pre>
CloudClients	<pre> Code segment (new Uri(var1), new </pre>
SecretClient	<pre> Code segment ());</pre>

Answer:

Explanation:

```
string var1 = Environment.GetEnvironmentVariable("KEY_VAULT_URI");
var var2 = new SecretClient ( new Uri(var1), new DefaultAzureCredential () );
```

Box 1: SecretClient

Box 2: DefaultAzureCredential

In below example, the name of your key vault is expanded to the key vault URI, in the format "https://<your-key-vault-name>.vault.azure.net". This example is using 'DefaultAzureCredential()' class from Azure Identity Library, which allows to use the same code across different environments with different options to provide identity.

```
string keyVaultName = Environment.GetEnvironmentVariable("KEY_VAULT_NAME");

var kvUri = "https://" + keyVaultName + ".vault.azure.net";

var client = new SecretClient(new Uri(kvUri), new DefaultAzureCredential());
```

Reference:

<https://docs.microsoft.com/en-us/azure/key-vault/secrets/quick-create-net>

Question: 249

You are developing an Azure App Service REST API.

The API must be called by an Azure App Service web app. The API must retrieve and update user profile information stored in Azure Active Directory (Azure AD).

You need to configure the API to make the updates.

Which two tools should you use? Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point.

- A. Microsoft Graph API
- B. Microsoft Authentication Library (MSAL)
- C. Azure API Management
- D. Microsoft Azure Security Center
- E. Microsoft Azure Key Vault SDK

Answer: AC

Explanation:

A: You can use the Azure AD REST APIs in Microsoft Graph to create unique workflows between Azure AD resources and third-party services.

Enterprise developers use Microsoft Graph to integrate Azure AD identity management and other services to automate administrative workflows, such as employee onboarding (and termination), profile maintenance, license deployment, and more.

C: API Management (APIM) is a way to create consistent and modern API gateways for existing back-end services.

API Management helps organizations publish APIs to external, partner, and internal developers to unlock the potential of their data and services.

Reference:

<https://docs.microsoft.com/en-us/graph/azuread-identity-access-management-concept-overview>

Question: 250

You develop a REST API. You implement a user delegation SAS token to communicate with Azure Blob

storage.

The token is compromised.

You need to revoke the token.

What are two possible ways to achieve this goal? Each correct answer presents a complete solution.

NOTE: Each correct selection is worth one point.

- A. Revoke the delegation keys
- B. Delete the stored access policy.
- C. Regenerate the account key.
- D. Remove the role assignment for the security principle.

Answer: AB

Explanation:

A: Revoke a user delegation SAS

To revoke a user delegation SAS from the Azure CLI, call the `az storage account revoke-delegation-keys` command. This command revokes all of the user delegation keys associated with the specified storage account. Any shared access signatures associated with those keys are invalidated.

B: To revoke a stored access policy, you can either delete it, or rename it by changing the signed identifier.

Changing the signed identifier breaks the associations between any existing signatures and the stored access policy. Deleting or renaming the stored access policy immediately effects all of the shared access signatures associated with it.

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Reference:

<https://github.com/MicrosoftDocs/azure-docs/blob/master/articles/storage/blobs/storage-blob->

user-delegationsas-create-cli.md

<https://docs.microsoft.com/en-us/rest/api/storageservices/define-stored-access-policy#modifying-or-revoking-a-stored-access-policy>

Question: 251

You are developing applications for a company. You plan to host the applications on Azure App Services.

The company has the following requirements:

Every five minutes verify that the websites are responsive.

Verify that the websites respond within a specified time threshold. Dependent requests such as images and JavaScript files must load properly.

Generate alerts if a website is experiencing issues.

If a website fails to load, the system must attempt to reload the site three more times.

You need to implement this process with the least amount of effort.

What should you do?

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- A. Create a Selenium web test and configure it to run from your workstation as a scheduled task.
- B. Set up a URL ping test to query the home page.
- C. Create an Azure function to query the home page.
- D. Create a multi-step web test to query the home page.
- E. Create a Custom Track Availability Test to query the home page.

Answer: D

Explanation:

You can monitor a recorded sequence of URLs and interactions with a website via multi-step web tests.

Reference:

<https://docs.microsoft.com/en-us/azure/azure-monitor/app/availability-multistep>

Question: 252

You develop and add several functions to an Azure Function app that uses the latest runtime host. The functions contain several REST API endpoints secured by using SSL. The Azure Function app runs in a Consumption plan.

You must send an alert when any of the function endpoints are unavailable or responding too slowly.

You need to monitor the availability and responsiveness of the functions.

What should you do?

- A. Create a URL ping test.
- B. Create a timer triggered function that calls TrackAvailability() and send the results to Application Insights.
- C. Create a timer triggered function that calls GetMetric("Request Size") and send the results to Application Insights.
- D. Add a new diagnostic setting to the Azure Function app. Enable the FunctionAppLogs and Send to Log Analytics options.

Answer: B

Explanation:

You can create an Azure Function with `TrackAvailability()` that will run periodically according to the configuration given in `TimerTrigger` function with your own business logic. The results of this test will be sent to your Application Insights resource, where you will be able to query for and alert on the availability results data. This allows you to create customized tests similar to what you can do via Availability Monitoring in the portal.

Customized tests will allow you to write more complex availability tests than is possible using the portal UI, monitor an app inside of your Azure VNET, change the endpoint address, or create an availability test even if this feature is not available in your region.

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Reference:

<https://docs.microsoft.com/en-us/azure/azure-monitor/app/availability-azure-functions>

Question: 253

DRAG DROP

You are developing an application to retrieve user profile information. The application will use the Microsoft Graph SDK.

The app must retrieve user profile information by using a Microsoft Graph API call.

You need to call the Microsoft Graph API from the application.

In which order should you perform the actions? To answer, move all actions from the list of actions to the answer area and arrange them in the correct order.

Actions	Answer Area
Create an authentication provider.	
Create a new instance of the GraphServiceClient.	
Invoke the request to the Microsoft Graph API.	
Register the application with the Microsoft identity platform.	
Build a client by using the client app ID.	

Answer:

Explanation:

- Register the application with the Microsoft identity platform.
- Build a client by using the client app ID.
-) Create an authentication provider.
-) Create a new instance of the GraphServiceClient.
- Invoke the request to the Microsoft Graph API.

Step 1: Register the application with the Microsoft identity platform.

To authenticate with the Microsoft identity platform endpoint, you must first register your app at the Azure app registration portal

Step 2: Build a client by using the client app ID

Step 3: Create an authentication provider

Create an authentication provider by passing in a client application and graph scopes.

Code example:

```
DeviceCodeProvider authProvider = new DeviceCodeProvider(publicClientApplication, graphScopes);  
// Create a new instance of GraphServiceClient with the authentication provider.  
GraphServiceClient graphClient = new GraphServiceClient(authProvider);
```

Step 4: Create a new instance of the GraphServiceClient

Step 5: Invoke the request to the Microsoft Graph API

Reference:

<https://docs.microsoft.com/en-us/graph/auth-v2-service>

<https://docs.microsoft.com/en-us/graph/sdks/create-client>

Question: 254

DRAG DROP

You develop and deploy an Azure Logic App that calls an Azure Function app. The Azure Function App includes an OpenAPI (Swagger) definition and uses an Azure Blob storage account. All resources are secured by using Azure Active Directory (Azure AD).

The Logic App must use Azure Monitor logs to record and store information about runtime data and events. The logs must be stored in the Azure Blob storage account.

You need to set up Azure Monitor logs and collect diagnostics data for the Azure Logic App.

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.

Actions	Answer Area
Create action groups and alert rules.	
Create a Log Analytics workspace.	
Install the Logic Apps Management solution.	
Add a diagnostic setting to the Azure Function App.	
Create an Azure storage account.	
Add a diagnostic setting to the Azure Logic App.	

Answer:

Explanation:

Create a Log Analytics workspace.
Install the Logic Apps Management solution.
Add a diagnostic setting to the Azure Logic App.

Step 1: Create a Log Analytics workspace

Before you start, you need a Log Analytics workspace.

Step 2: Install the Logic Apps Management solution

To set up logging for your logic app, you can enable Log Analytics when you create your logic app, or you can install the Logic Apps Management solution in your Log Analytics workspace for existing logic apps.

Step 3: Add a diagnostic setting to the Azure Logic App

Set up Azure Monitor logs

In the Azure portal, find and select your logic app.

On your logic app menu, under Monitoring, select Diagnostic settings > Add diagnostic setting.

Reference:

<https://docs.microsoft.com/en-us/azure/logic-apps/monitor-logic-apps-log-analytics>

Question: 255

DRAG DROP

You are a developer for a Software as a Service (SaaS) company. You develop solutions that provide the ability to send notifications by using Azure Notification Hubs.

You need to create sample code that customers can use as a reference for how to send raw notifications to Windows Push Notification Services (WNS) devices. The sample code must not use external packages.

How should you complete the code segment? To answer, drag the appropriate code segments to the correct locations. Each code segment 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.

Code segments	Answer Area
raw	<pre>var endpoint = "..."; var payload = "..."; var request = new HttpRequestMessage(HttpMethod.Post, endpoint); request.Headers.Add("X-WNS-Type", "wns/raw"); request.Headers.Add("ServiceBusNotification-Format", "Code segment");</pre>
windows	<pre>request.Content = new StringContent(payload, Encoding.UTF8, "Code segment");</pre>
windowsphone	
application/xml	
application/json	
application/octet-stream	

Answer:

Explanation:

```
var endpoint = "...";
var payload = "...";
var request = new HttpRequestMessage(HttpMethod.Post, endpoint);
request.Headers.Add("X-WNS-Type", "wns/raw");
request.Headers.Add("ServiceBusNotification-Format", "windows");
request.Content = new StringContent(payload, Encoding.UTF8, "application/octet-stream");
var client = new HttpClient();
await client.SendAsync(request);
```

Box 1: windows

Example code:

```
var request = new HttpRequestMessage(method, $"{resourceUri}?api-version=2017-04");

request.Headers.Add("Authorization", createToken(resourceUri, KEY_NAME,
KEY_VALUE));

request.Headers.Add("X-WNS-Type", "wns/raw");

request.Headers.Add("ServiceBusNotification-Format", "windows");

return request;
```

Box 2: application/octet-stream

Example code capable of sending a raw notification:

```
string resourceUri =
$"https://{{NH_NAMESPACE}.servicebus.windows.net/{{HUB_NAME}}/messages/";

using (var request = CreateHttpRequest(HttpStatusCode.Post, resourceUri))

{

    request.Content = new StringContent(content, Encoding.UTF8,
    "application/octet-stream");

    request.Content.Headers.ContentType.CharSet = string.Empty;

    var httpClient = new HttpClient();
```

```
var response = await httpClient.SendAsync(request);

Console.WriteLine(response.StatusCode);

}
```

Reference:

<https://stackoverflow.com/questions/31346714/how-to-send-raw-notification-to-azure-notification-hub/31347901>

Question: 256

You develop and deploy an Azure App Service web app named App1. You create a new Azure Key Vault named Vault 1. You import several API keys, passwords, certificates, and cryptographic keys into Vault1.

You need to grant App1 access to Vault1 and automatically rotate credentials. Credentials must not be stored in code.

What should you do?

- A. Enable App Service authentication for App1. Assign a custom RBAC role to Vault1.
- B. Add a TLS/SSL binding to App1.
- C. Assign a managed identity to App1.
- D. Upload a self-signed client certificate to Vault1. Update App1 to use the client certificate.

Answer: D

Explanation:

Question: 257

You deploy an Azure App Service web app. You create an app registration for the app in Azure Active Directory (Azure AD) and Twitter. The app must authenticate users and must use SSL for all

communications. The app must use Twitter as the identity provider. You need to validate the Azure AD request in the app code. What should you validate?

- A. HTTP response code
- B. ID token header
- C. ID token signature
- D. Tenant ID

Answer: B

Explanation:

Question: 258

HOTSPOT

You are developing a web application that makes calls to the Microsoft Graph API. You register the application in the Azure portal and upload a valid X509 certificate.

You create an appsettings.json file containing the certificate name, client identifier for the application, and the tenant identifier of the Azure active Directory (Azure AD). You create a method named ReadCertificate to return the X509 certificate by name.

You need to implement code that acquires a token by using the certificate.

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

NOTE: Each correct selection is worth one point.

```

AuthenticationConfig config = AuthenticationConfig.ReadFromJsonFile("appsettings.json");
X509Certificate2 certificate = ReadCertificate(config.CertificateName);
var app = ConfidentialClientApplicationBuilder
    .Create(config.ClientId)
    .WithCertificate(certificate)
    .WithAuthority(new Uri(config.Authority))
    .Build();
string[] scopes = new string[] { $"{config.ApiUrl}.default" };
AuthenticationResult result = await app.AcquireTokenForClient(
    scopes
    ).ExecuteAsync();

```

Answer:

Explanation:

```

AuthenticationConfig config = AuthenticationConfig.ReadFromJsonFile("appsettings.json");
X509Certificate2 certificate = ReadCertificate(config.CertificateName);
var app = ConfidentialClientApplicationBuilder
    .Create(config.ClientId)
    .WithCertificate(certificate)
    .WithAuthority(new Uri(config.Authority))
    .Build();
string[] scopes = new string[] { $"{config.ApiUrl}.default" };
AuthenticationResult result = await app.AcquireTokenForClient(
    scopes
    ).ExecuteAsync();

```

<https://docs.microsoft.com/en-us/azure/active-directory/develop/scenario-daemon-app-configuration?tabs=dotnet#instantiate-the-confidential-client-application-with-a-client-certificate>

<https://docs.microsoft.com/en-us/azure/active-directory/develop/scenario-daemon-acquire-token?tabs=dotnet#acquiretokenforclient-api>

Question: 259

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 develop a software as a service (SaaS) offering to manage photographs. Users upload photos to a web service which then stores the photos in Azure Storage Blob storage. The storage account type is General-purpose V2.

When photos are uploaded, they must be processed to produce and save a mobile-friendly version of the image. The process to produce a mobile-friendly version of the image must start in less than one minute.

You need to design the process that starts the photo processing.

Solution: Use the Azure Blob Storage change feed to trigger photo processing.

Does the solution meet the goal?

- A. Yes
- B. No

Answer: B

Explanation:

The change feed is a log of changes that are organized into hourly segments but appended to and updated every few minutes. These segments are created only when there are blob change events that occur in that hour.

Instead catch the triggered event, so move the photo processing to an Azure Function triggered from the blob upload.

Reference:

<https://docs.microsoft.com/en-us/azure/storage/blobs/storage-blob-change-feed>

<https://docs.microsoft.com/en-us/azure/storage/blobs/storage-blob-event-overview>

Question: 260

DRAG DROP

You develop an Azure solution that uses Cosmos DB.

The current Cosmos DB container must be replicated and must use a partition key that is optimized for queries.

You need to implement a change feed processor solution.

Which change feed processor components should you use? To answer, drag the appropriate components to the correct requirements. Each component 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 the content.

NOTE: Each correct selection is worth one point.

Components	Answer Area	
	Requirement	Component
Host	Store the data from which the change feed is generated.	Component
Delegate	Coordinate processing of the change feed across multiple workers.	Component
Lease container	Use the change feed processor to listen for changes.	Component
Monitored container	Handle each batch of changes.	Component

Answer:

Explanation:

Requirement	Component
Store the data from which the change feed is generated.	Monitored container
Coordinate processing of the change feed across multiple workers.	Lease container
Use the change feed processor to listen for changes.	Host
Handle each batch of changes.	Delegate

Box 1: The monitored container

The monitored container has the data from which the change feed is generated. Any inserts and updates to the monitored container are reflected in the change feed of the container.

Box 2: The lease container

The lease container acts as a state storage and coordinates processing the change feed across multiple workers. The lease container can be stored in the same account as the monitored container or in a separate account.

Box 3: The host: A host is an application instance that uses the change feed processor to listen for changes. Multiple instances with the same lease configuration can run in parallel, but each instance

should have a different instance name.

Box 4: The delegate

The delegate is the code that defines what you, the developer, want to do with each batch of changes that the change feed processor reads.

Reference:

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

Question: 261

DRAG DROP

You are developing an Azure-hosted application that must use an on-premises hardware security module (HSM) key.

The key must be transferred to your existing Azure Key Vault by using the Bring Your Own Key (BYOK) process.

You need to securely transfer the key to Azure Key Vault.

Which four 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.

Actions

- Generate a key transfer blob file by using the HSM vendor-provided tool.
- Generate a Key Exchange Key (KEK).
- Create a custom policy definition in Azure Policy.
- Run the `az keyvault key import` command.
- Run the `az keyvault key restore` command.
- Retrieve the Key Exchange Key (KEK) public key.

Answer Area

Answer:

Explanation:

Generate a Key Exchange Key (KEK).

Retrieve the Key Exchange Key (KEK) public key.

Generate a key transfer blob file by using the HSM vendor-provided tool.

Run the `az keyvault key import` command.

To perform a key transfer, a user performs following steps:

Generate KEK.

Retrieve the public key of the KEK.

Using HSM vendor provided BYOK tool - Import the KEK into the target HSM and exports the Target Key protected by the KEK.

Import the protected Target Key to Azure Key Vault.

Step 1: Generate a Key Exchange Key (KEK).

Step 2: Retrieve the Key Exchange Key (KEK) public key.

Step 3: Generate a key transfer blob file by using the HSM vendor-provided tool.

Generate key transfer blob using HSM vendor provided BYOK tool

Step 4: Run the `az keyvault key import` command

Upload key transfer blob to import HSM-key.

Customer will transfer the Key Transfer Blob ("byok" file) to an online workstation and then run a az keyvault key import command to import this blob as a new HSM-backed key into Key Vault.

To import an RSA key use this command:

```
az keyvault key import
```

Reference:

<https://docs.microsoft.com/en-us/azure/key-vault/keys/byok-specification>

Question: 262

You are developing a solution that will use a multi-partitioned Azure Cosmos DB database. You plan to use the latest Azure Cosmos DB SDK for development.

The solution must meet the following requirements:

Send insert and update operations to an Azure Blob storage account.

Process changes to all partitions immediately.

Allow parallelization of change processing.

You need to process the Azure Cosmos DB operations.

What are two possible ways to achieve this goal? Each correct answer presents a complete solution.

NOTE: Each correct selection is worth one point.

- A. Create an Azure App Service API and implement the change feed estimator of the SDK. Scale the

API by using multiple Azure App Service instances.

- B. Create a background job in an Azure Kubernetes Service and implement the change feed feature of the SDK.
- C. Create an Azure Function to use a trigger for Azure Cosmos DB. Configure the trigger to connect to the container.
- D. Create an Azure Function that uses a FeedIterator object that processes the change feed by using the pull model on the container. Use a FeedRange object to parallelize the processing of the change feed across multiple functions.

Answer: CD

Explanation:

Azure Functions is the simplest option if you are just getting started using the change feed. Due to its simplicity, it is also the recommended option for most change feed use cases. When you create an Azure Functions trigger for Azure Cosmos DB, you select the container to connect, and the Azure Function gets triggered whenever there is a change in the container. Because Azure Functions uses the change feed processor behind the scenes, it automatically parallelizes change processing across your container's partitions.

Note: You can work with change feed using the following options:

Using change feed with Azure Functions

Using change feed with change feed processor

Reference:

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

<https://docs.microsoft.com/en-us/azure/cosmos-db/change-feed-pull-model>

<https://docs.microsoft.com/en-us/azure/cosmos-db/read-change-feed#azure-functions>

<https://docs.microsoft.com/en-us/azure/cosmos-db/change-feed-pull-model#using-feedrange-for-parallelization>

Question: 263

HOTSPOT

You have an Azure Web app that uses Cosmos DB as a data store. You create a CosmosDB container by running the following PowerShell script:

```
$resourceGroupName = "testResourceGroup"  
$accountName = "testCosmosAccount"  
$databaseName = "testDatabase"  
$containerName = "testContainer"  
$partitionKeyPath = "/EmployeeId"  
$autoscaleMaxThroughput = 5000
```

```
New-AzCosmosDBSqlContainer  
-ResourceGroupName $resourceGroupName  
-AccountName $accountName  
-DatabaseName $databaseName  
-Name $containerName  
-PartitionKeyKind Hash  
-PartitionKeyPath $partitionKeyPath  
-AutoscaleMaxThroughput $autoscaleMaxThroughput
```

You create the following queries that target the container:

```
SELECT * FROM c WHERE c.EmployeeId > '12345'
```

```
SELECT * FROM c WHERE c.UserID = '12345'
```

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

NOTE: Each correct selection is worth one point.

	Yes	No
The minimum throughput for the container is 400 R/Us.	<input type="radio"/>	<input type="radio"/>
The first query statement is an in-partition query.	<input type="radio"/>	<input type="radio"/>
The second query statement is a cross-partition query.	<input type="radio"/>	<input type="radio"/>

Answer:

Explanation:

	Yes	No
The minimum throughput for the container is 400 R/Us.	<input type="radio"/>	<input checked="" type="radio"/>
The first query statement is an in-partition query.	<input type="radio"/>	<input checked="" type="radio"/>
The second query statement is a cross-partition query.	<input checked="" type="radio"/>	<input type="radio"/>

Box 1: No

You set the highest, or maximum RU/s Tmax you don't want the system to exceed. The system automatically scales the throughput T such that $0.1 * \text{Tmax} \leq T \leq \text{Tmax}$.

In this example we have autoscaleMaxThroughput = 5000, so the minimum throughput for the container is 500 R/Us.

Box 2: No

First query: `SELECT * FROM c WHERE c.EmployeeId > '12345'`

Here's a query that has a range filter on the partition key and won't be scoped to a single physical partition. In order to be an in-partition query, the query must have an equality filter that includes the partition key:

```
SELECT * FROM c WHERE c.DeviceId > 'XMS-0001'
```

Box 3: Yes

Example of In-partition query:

Consider the below query with an equality filter on DeviceId. If we run this query on a container partitioned on DeviceId, this query will filter to a single physical partition.

```
SELECT * FROM c WHERE c.DeviceId = 'XMS-0001'
```

Reference:

<https://docs.microsoft.com/en-us/azure/cosmos-db/how-to-choose-offer>

<https://docs.microsoft.com/en-us/azure/cosmos-db/how-to-query-container>

Question: 264

HOTSPOT

You develop a containerized application. You plan to deploy the application to a new Azure Container instance by using a third-party continuous integration and continuous delivery (CI/CD) utility.

The deployment must be unattended and include all application assets. The third-party utility must only be able to push and pull images from the registry. The authentication must be managed by Azure Active Directory (Azure AD). The solution must use the principle of least privilege.

You need to ensure that the third-party utility can access the registry.

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

NOTE: Each correct selection is worth one point.

Authentication	Option
Registry authentication method	<ul style="list-style-type: none">Service principalIndividual identityRepository-scoped access tokenManaged identity for Azure resources
RBAC role	<ul style="list-style-type: none">AcrPullOwnerAcrPushContributor

Explanation:

Answer:

Authentication	Option
Registry authentication method	<div style="border: 1px solid #ccc; padding: 5px; width: fit-content;"> <div style="background-color: #f0f0f0; height: 1em; margin-bottom: 2px;"></div> Service principal <div style="background-color: #f0f0f0; height: 1em; margin-bottom: 2px;"></div> Individual identity <div style="background-color: #f0f0f0; height: 1em; margin-bottom: 2px;"></div> Repository-scoped access token <div style="background-color: #f0f0f0; height: 1em; margin-bottom: 2px;"></div> Managed identity for Azure resources <div style="background-color: #f0f0f0; height: 1em; margin-bottom: 2px;"></div> </div>
RBAC role	<div style="border: 1px solid #ccc; padding: 5px; width: fit-content;"> <div style="background-color: #f0f0f0; height: 1em; margin-bottom: 2px;"></div> AcrPull <div style="background-color: #f0f0f0; height: 1em; margin-bottom: 2px;"></div> Owner <div style="background-color: #f0f0f0; height: 1em; margin-bottom: 2px;"></div> AcrPush <div style="background-color: #f0f0f0; height: 1em; margin-bottom: 2px;"></div> Contributor <div style="background-color: #f0f0f0; height: 1em; margin-bottom: 2px;"></div> </div>

Box 1: Service principal

Applications and container orchestrators can perform unattended, or "headless," authentication by using an Azure Active Directory (Azure AD) service principal.

Box 2: AcrPush

AcrPush provides pull/push permissions only and meets the principle of least privilege.

Reference:

<https://docs.microsoft.com/en-us/azure/container-registry/container-registry-authentication?tabs=azure-cli>

<https://docs.microsoft.com/en-us/azure/container-registry/container-registry-roles?tabs=azure-cli>

Question: 265

DRAG DROP

You develop an application. You plan to host the application on a set of virtual machines (VMs) in Azure.

You need to configure Azure Monitor to collect logs from the application.

Which four 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.

Actions	Answer Area
Create a Log Analytics workspace.	
Install agents on the VM and VM scale set to be monitored.	
Send console logs.	
Add a VMInsights solution.	
Create an Application Insights resource.	

Answer:

Explanation:

Answer Area

Create a Log Analytics workspace.

Add a VMInsights solution.

Install agents on the VM and VM scale set to be monitored.

Create an Application Insights resource.

Step 1: Create a Log Analytics workspace.

First create the workspace.

Step 2: Add a VMInsights solution.

Before a Log Analytics workspace can be used with VM insights, it must have the VMInsights solution installed.

Step 3: Install agents on the VM and VM scale set to be monitored.

Prior to onboarding agents, you must create and configure a workspace. Install or update the Application Insights Agent as an extension for Azure virtual machines and VM scale sets.

Step 4: Create an Application Insights resource

Sign in to the Azure portal, and create an Application Insights resource.

Application Insights

Monitor web app performance and usage

Basics Tags Review + create

Create an Application Insights resource to monitor your live web application. With Application Insights, you have full observability into your application across all components and dependencies of your complex distributed architecture. It includes powerful analytics tools to help you diagnose issues and to understand what users actually do with your app. It's designed to help you continuously improve performance and usability. It works for apps on a wide variety of platforms including .NET, Node.js and Java EE, hosted on-premises, hybrid, or any public cloud. [Learn More](#)

PROJECT DETAILS

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

Subscription *	<input type="text" value="Visual Studio Enterprise"/>
Resource Group *	<input type="text" value="My_Resource_Group"/> Create new

INSTANCE DETAILS

Name *	<input type="text" value="My_AppInsights_Resource"/>
Region *	<input type="text" value="(US) West US 2"/>

Resource Mode \*

Classic **Workspace-based**

WORKSPACE DETAILS

Subscription *	<input type="text" value="Visual Studio Enterprise"/>
Log Analytics Workspace *	<input type="text" value="my-workspace-name [westus2]"/>

Review + create

[« Previous](#)

[Next : Tags >](#)

Once a workspace-based Application Insights resource has been created, configuring monitoring is relatively straightforward.

Reference:

<https://docs.microsoft.com/en-us/azure/azure-monitor/vm/vminsights-configure-workspace>

<https://docs.microsoft.com/en-us/azure/azure-monitor/app/create-workspace-resource>

Question: 266

DRAG DROP

You are developing an Azure solution to collect inventory data from thousands of stores located around the world. Each store location will send the inventory data hourly to an Azure Blob storage account for processing.

The solution must meet the following requirements:

Begin processing when data is saved to Azure Blob storage.

Filter data based on store location information.

Trigger an Azure Logic App to process the data for output to Azure Cosmos DB.

Enable high availability and geographic distribution.

Allow 24-hours for retries.

Implement an exponential back off data processing.

You need to configure the solution.

What should you implement? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Technologies	Answer Area	Object	Technology
Azure Event Hub		Event Source	Technology
Azure Event Grid		Event Receiver	Technology
Azure Service Bus		Event Handler	Technology
Azure Blob Storage			
Azure App Service			
Azure Logic App			

Answer:

Explanation:

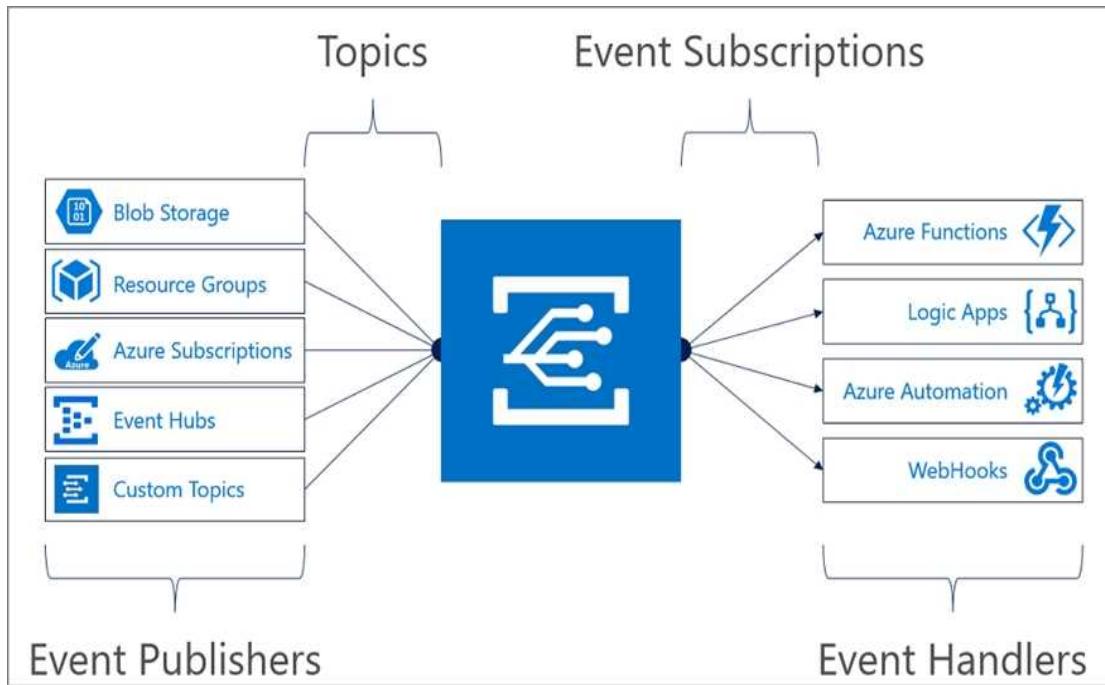
Object	Technology
Event Source	Azure Event Grid
Event Receiver	Azure Logic App
Event Handler	Azure Service Bus

Box 1: Azure Event Grid

Blob storage events are pushed using Azure Event Grid to subscribers such as Azure Functions, Azure Logic Apps, or even to your own http listener. Event Grid provides reliable event delivery to your applications through rich retry policies and dead-lettering.

Box 2: Azure Logic App

Event Grid uses event subscriptions to route event messages to subscribers. This image illustrates the relationship between event publishers, event subscriptions, and event handlers.



Box 3: Azure Service Bus

The Event Grid service doesn't store events. Instead, events are stored in the Event Handlers, including ServiceBus, EventHubs, Storage Queue, WebHook endpoint, or many other supported Azure Services.

Reference:

<https://docs.microsoft.com/en-us/azure/storage/blobs/storage-blob-event-overview>

<https://docs.microsoft.com/en-us/java/api/overview/azure/messaging-eventgrid-readme>

Question: 267

You are creating an app that will use CosmosDB for data storage. The app will process batches of relational data.

You need to select an API for the app.

Which API should you use?

- A. MongoDB API
- B. Table API
- C. SQL API
- D. Cassandra API

Answer: C

Explanation:

For relational data you will need the SQL API

Reference:

<https://docs.microsoft.com/en-us/azure/cosmos-db/choose-api>

Question: 268

You develop and deploy an Azure App Service web app. The app is deployed to multiple regions and uses Azure Traffic Manager. Application Insights is enabled for the app.

You need to analyze app uptime for each month.

Which two solutions will achieve the goal? Each correct answer presents a complete solution

NOTE: Each correct selection is worth one point

- A. Application Insights alerts
- B. Application Insights web tests
- C. Azure Monitor logs

D. Azure Monitor metrics

Answer: A, C

Explanation:

Reference:

<https://azure.microsoft.com/en-us/blog/creating-a-web-test-alert-programmatically-with-application-insights/>

Question: 269

HOTSPOT

You are developing an application to collect the following telemetry data for delivery drivers: first name, last name, package count, item id, and current location coordinates. The app will store the data in Azure Cosmos DB.

You need to configure Azure Cosmos DB to query the data.

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

NOTE: Each correct selection is worth one point.

Configuration Parameter	Value
Azure Cosmos DB API	<div style="border: 1px solid black; padding: 5px; display: inline-block;">▼</div> <div style="border: 1px solid black; padding: 5px; margin-top: 5px; display: inline-block;"><p>Gremlin</p><p>Table API</p><p>Core (SQL)</p></div>
Azure Cosmos DB partition key	<div style="border: 1px solid black; padding: 5px; display: inline-block;">▼</div> <div style="border: 1px solid black; padding: 5px; margin-top: 5px; display: inline-block;"><p>first name</p><p>last name</p><p>package count</p><p>item id</p></div>

Explanation:

Answer:

Configuration Parameter	Value
Azure Cosmos DB API	<div style="border: 1px solid black; padding: 5px; width: fit-content;"> ▼ <div style="background-color: #ccc; height: 15px; margin-bottom: 5px;"></div> <div>Gremlin</div> <div>Table API</div> <div style="background-color: #ccc; height: 15px; margin-top: 5px;"></div> <div>Core (SQL)</div> </div>
Azure Cosmos DB partition key	<div style="border: 1px solid black; padding: 5px; width: fit-content;"> ▼ <div style="background-color: #ccc; height: 15px; margin-bottom: 5px;"></div> <div>first name</div> <div>last name</div> <div>package count</div> <div style="background-color: #ccc; height: 15px; margin-top: 5px;"></div> <div>item id</div> </div>

Box 1: Core (SQL)

Core(SQL) API stores data in document format. It offers the best end-to-end experience as we have full control over the interface, service, and the SDK client libraries. SQL API supports analytics and offers performance isolation between operational and analytical workloads.

Box 2: item id

item id is a unique identifier and is suitable for the partition key.

Reference:

<https://docs.microsoft.com/en-us/azure/cosmos-db/choose-api>

<https://docs.microsoft.com/en-us/azure/cosmos-db/partitioning-overview>

Question: 270

You are developing a web application by using the Azure SDK. The web application accesses data in a zone-redundant BlockBlobStorage storage account.

The application must determine whether the data has changed since the application last read the data.

- a. Update operations must use the latest data changes when writing data to the storage.....

You need to implement the update operations.

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

NOTE Each correct selection is worth one point.

**Answer: See the
Explanation below:**

Explanation:

See the answer in below image.

Answer Area

Code evaluation	Value
HTTP Header value	VersionId
Conditional header	If-Match

Question: 271

DRAG DROP

You develop and deploy an Azure App Service ---- 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 ----- between panes or scroll to view content.

NOTE Each correct selection is worth one point

Features	Answer Area
horizontal partition	
channel	
list	
set	

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

Answer:

Requirement

Create a data structure for storing collections of related items

Feature

set

Create a data structure for the most recently accessed cache items

list

Send messages through a high-performance publisher/subscriber mechanism

channel

Question: 272

An organization hosts web apps in Azure. The organization uses Azure Monitor. You discover that configuration changes were made to some of the web apps. You need to identify the configuration changes. Which Azure Monitor log should you review?

A. AppServiceEnvironmentPlatformLogs

B. AppServiceApplogs

C. AppServiceAuditLogs

D. AppServiceConsoleLogs

Answer: C

Explanation:

Question: 273

DRAG DROP

You provision virtual machines (VMs) as development environments.

One VM does not have host.

The VM is stuck in a Windows update process. You attach the OS disk for the affected VM to a recovery VM.

You need to correct the issue.

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

Actions	Answer area
Open C:\temp\Patch.txt file and locate the update that is in a pending state.	1
Run the following command at an elevated command prompt: dism /Image:Attached Os Disk:\Windows\Packages\ /Reimage-Package /PackagePath: c:\temp\Patch.txt /Delete	2
Run the following command at an elevated command prompt: dism /Image:\Windows\ /Get-Packages > c:\temp\Patch.txt	3
Detach the OS disk and recreate the VM.	4

Answer:

Explanation:

Actions

Answer area

- 1 Run the following command at an elevated command prompt:
`dism /Image:\ /get-packages > C:\temp\Patch.txt`
- 2 Open C:\temp\Patch.txt file and locate the update that is in a pending state.
- 3 Run the following command at an elevated command prompt:
`dism /Image:<Attached OS disk>:\ /Remove-Package /PackageName:<PackageName> /Delete`
- 4 Detach the OS disk and recreate the VM.

Next Step

Previous Step

Remove the update that causes the problem

Take a snapshot of the OS disk of the affected VM as a backup.

Attach the OS disk to a recovery VM.

Once the OS disk is attached on the recovery VM, run diskmgmt.msc to open Disk Management, and ensure the attached disk is ONLINE.

(Step 1) Open an elevated command prompt instance (Run as administrator). Run the following command to get the list of the update packages that are on the attached OS disk:

```
dism /image:<Attached OS disk>:\ /get-packages > c:\temp\Patch_level
```

(Step 2) Open the C:\temp\Patch\_level.txt file, and then read it from the bottom up. Locate the update that's in Install Pending or Uninstall Pending state.

Remove the update that caused the problem:

```
dism /Image:<Attached OS disk>:\ /Remove-Package /PackageName:<PACK
```

(Step 4) Detach the OS disk and recreate the VM. Then check whether the issue is resolved.

Reference:

<https://docs.microsoft.com/en-us/troubleshoot/azure/virtual-machines/troubleshoot-stuck-updating-boot-error>

Question: 274

You are developing an Azure messaging solution.

You need to ensure that the solution that meets the following requirements:

- Provide transactional support
- Provide duplicate detection.

- Store the messages for an unlimited period of time

Which two technologies will meet the requirements? Each correct answer presents a complete solution. NOTE: Each correct selection is worth one point.

A. Azure Service Bus Queue

B. Azure Storage Queue

C. Azure Service Bus Topic

D. Azure Event Hub

Answer: AC

Explanation:

The Azure Service Bus Queue and Topic has duplicate detection.

Enabling duplicate detection helps keep track of the application-controlled MessageId of all messages sent into a queue or topic during a specified time window.

Reference:

<https://docs.microsoft.com/en-us/azure/service-bus-messaging/duplicate-detection>

Question: 275

HOTSPOT

You are developing a web application that will use Azure Storage. Older data will be less frequently used than more recent data.

You need to configure data storage for the application. You have the following requirements:

Retain copies of data for five years.

Minimize costs associated with storing data that is over one year old.

Implement Zone Redundant Storage for application data.

What should you do? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Requirement	Solution
Configure an Azure Storage account	<div style="border: 1px solid black; padding: 5px;"><input type="checkbox"/> Implement Blob Storage <input type="checkbox"/> Implement Azure Cosmos DB <input type="checkbox"/> Implement Storage (general purpose v1) <input type="checkbox"/> Implement StorageV2 (general purpose v2)</div>
Configure data retention	<div style="border: 1px solid black; padding: 5px;"><input type="checkbox"/> Snapshot blobs and move them to the archive tier <input type="checkbox"/> Set a lifecycle management policy to move blobs to the cool tier <input type="checkbox"/> Use AzCopy to copy the data to an on-premises device for backup <input type="checkbox"/> Set a lifecycle management policy to move blobs to the archive tier</div>

Answer:

Explanation:

Requirement	Solution
Configure an Azure Storage account	<div style="border: 1px solid black; padding: 5px;"><input checked="" type="checkbox"/> Implement Blob Storage <input checked="" type="checkbox"/> Implement Azure Cosmos DB <input checked="" type="checkbox"/> Implement Storage (general purpose v1) <input checked="" type="checkbox"/> Implement StorageV2 (general purpose v2)</div>
Configure data retention	<div style="border: 1px solid black; padding: 5px;"><input checked="" type="checkbox"/> Snapshot blobs and move them to the archive tier <input checked="" type="checkbox"/> Set a lifecycle management policy to move blobs to the cool tier <input checked="" type="checkbox"/> Use AzCopy to copy the data to an on-premises device for backup <input checked="" type="checkbox"/> Set a lifecycle management policy to move blobs to the archive tier</div>

Reference:

<https://docs.microsoft.com/en-us/azure/storage/blobs/storage-blob-storage-tiers>

<https://docs.microsoft.com/en-us/azure/storage/common/storage-redundancy?toc=/azure/storage/blobs/toc.json>

Question: 276

You develop and deploy a web application to Azure App Service. The application accesses data stored in an Azure Storage account. The account contains several containers with several blobs with large amounts of data.

- a. You deploy all Azure resources to a single region.

You need to move the Azure Storage account to the new region. You must copy all data to the new region.

What should you do first?

- A. Export the Azure Storage account Azure Resource Manager template
- B. Initiate a storage account failover
- C. Configure object replication for all blobs
- D. Use the AzCopy command line tool
- E. Create a new Azure Storage account in the current region
- F. Create a new subscription in the current region

Answer: A

Explanation:

To move a storage account, create a copy of your storage account in another region. Then, move your data to that account by using AzCopy, or another tool of your choice and finally, delete the resources in the source region.

To get started, export, and then modify a Resource Manager template.

Reference:

<https://docs.microsoft.com/en-us/azure/storage/common/storage-account-move?tabs=azure-portal>

Question: 277

A development team is creating a new REST API. The API will store data in Azure Blob storage. You plan to deploy the API to Azure App Service.

Developers must access the Azure Blob storage account to develop the API for the next two months. The Azure Blob storage account must not be accessible by the developers after the two-month time period.

You need to grant developers access to the Azure Blob storage account.

What should you do?

- A. Generate a shared access signature (SAS) for the Azure Blob storage account and provide the SAS to all developers.
- B. Create and apply a new lifecycle management policy to include a last accessed date value. Apply the policy to the Azure Blob storage account.
- C. Provide all developers with the access key for the Azure Blob storage account. Update the API to include the Coordinated Universal Time (UTC) timestamp for the request header.

- D. Grant all developers access to the Azure Blob storage account by assigning role-based access control (RBAC) roles.

Answer: A

Explanation:

Reference:

<https://docs.microsoft.com/en-us/azure/storage/common/storage-sas-overview>

Question: 278

DRAG DROP

An organization plans to deploy Azure storage services.

You need to configure shared access signature (SAS) for granting access to Azure Storage.

Which SAS types should you use? To answer, drag the appropriate SAS types to the correct requirements. Each SAS type 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.

SAS types	Answer Area	
	Requirement	SAS type
Account-level	Delegate access to resources in one or more of the storage services	
Service-level	Delegate access to a resource in a single storage service	
User delegation	Secure a resource by using Azure AD credentials	

Answer:

Explanation:

Requirement	SAS type
Delegate access to resources in one or more of the storage services	Account-level
Delegate access to a resource in a single storage service	Service-level
Secure a resource by using Azure AD credentials	User delegation

Reference:

<https://docs.microsoft.com/en-us/azure/storage/common/storage-sas-overview>

Question: 279

HOTSPOT

You are developing an ASP.NET Core time sheet application that runs as an Azure Web App. Users of the application enter their time sheet information on the first day of every month.

The application uses a third-party web service to validate data.

The application encounters periodic server errors due to errors that result from calling a third-party web server. Each request to the third-party server has the same chance of failure.

You need to configure an Azure Monitor alert to detect server errors unrelated to the third-party service. You must minimize false-positive alerts.

How should you complete the Azure Resource Manager template? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

```
"type": "Microsoft.Insights/metricAlerts",
"properties": {
  "criteria": {
    "odata.type": "...",
    "allOf": [
      {
        "criterionType": "",
        

|                                      |
|--------------------------------------|
| DynamicThresholdCriterion            |
| SingleResourceMultipleMetricCriteria |


,
        "metricName": "",
        

|         |
|---------|
| Http4xx |
| Http5xx |


        "alertSensitivity": ""
        

|      |
|------|
| Low  |
| High |


    ]
  }
}
```

Explanation:

Answer:

```

"type": "Microsoft.Insights/metricAlerts",
"properties": {
  "criteria": [
    {
      "odata.type": "...",
      "allOf": [
        {
          "criterionType": "DynamicThresholdCriterion"
        },
        "SingleResourceMultipleMetricCriteria"
      ]
    }
  ],
  "metricName": "Http4xx",
  "alertSensitivity": "Low"
}
}
  
```

Box 1: DynamicThresholdCriterion

Box 2: Http5xx

Server errors are in the 5xx range.

Client errors are in the 4xx range

Box 3: Low

Reference:

<https://docs.microsoft.com/en-us/azure/azure-monitor/alerts/alerts-dynamic-thresholds>

Question: 280

You are developing a web application that uses Azure Cache for Redis. You anticipate that the cache will frequently fill and that you will need to evict keys.

You must configure Azure Cache for Redis based on the following predicted usage pattern: A small subset of elements will be accessed much more often than the rest.

You need to configure the Azure Cache for Redis to optimize performance for the predicted usage pattern.

Which two eviction policies will achieve the goal?

NOTE: Each correct selection is worth one point.

- A. noeviction
- B. allkeys-lru
- C. volatile-lru
- D. allkeys-random
- E. volatile-ttl
- F. volatile-random

Answer: B, D

Explanation:

B: The allkeys-lru policy evict keys by trying to remove the less recently used (LRU) keys first, in order to make space for the new data added. Use the allkeys-lru policy when you expect a power-law distribution in the popularity of your requests, that is, you expect that a subset of elements will be accessed far more often than the rest.

C: volatile-lru: evict keys by trying to remove the less recently used (LRU) keys first, but only among keys that have an expire set, in order to make space for the new data added.

Note: The allkeys-lru policy is more memory efficient since there is no need to set an expire for the

key to be evicted under memory pressure.

Reference:

<https://redis.io/topics/lru-cache>

Question: 281

HOTSPOT

A software as a service (SaaS) company provides document management services. The company has a service that consists of several Azure web apps. All Azure web apps run in an Azure App Service Plan named PrimaryASP.

You are developing a new web service by using a web app named ExcelParser. The web app contains a third-party library for processing Microsoft Excel files. The license for the third-party library stipulates that you can only run a single instance of the library.

You need to configure the service.

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

NOTE: Each correct selection is worth one point.

Answer Area

```
Set-AzAppServicePlan `
```

```
    -ResourceGroupName $rg `
```

```
    -Name "PrimaryASP" `
```

```
NumberOfSites 1
```

```
PerSiteScaling $true
```

```
TargetWorkerCount = 1
```

```
MaxNumberOfWorkers = 1
```

```
SiteConfig.NumberOfWorkers = 1
```

```
$app = Get-AzWebApp `
```

```
    -ResourceGroupName $rg `
```

```
    -Name "ExcelParser"
```

```
$app. `
```

```
NumberOfSites 1
```

```
PerSiteScaling $true
```

```
TargetWorkerCount = 1
```

```
MaxNumberOfWorkers = 1
```

```
SiteConfig.NumberOfWorkers = 1
```

```
Set-AzWebApp $app
```

Explanation:

Answer:

```
Set-AzAppServicePlan  
  -ResourceGroupName $rg  
  -Name "PrimaryASP"
```

▼
NumberOfSites 1
PerSiteScaling \$true
TargetWorkerCount = 1
MaxNumberOfWorkers = 1
SiteConfig.NumberOfWorkers = 1

```
$app = Get-AzWebApp  
  -ResourceGroupName $rg  
  -Name "ExcelParser"
```

\$app.	▼
NumberOfSites 1	▼
PerSiteScaling \$true	▼
TargetWorkerCount = 1	▼
MaxNumberOfWorkers = 1	▼
SiteConfig.NumberOfWorkers = 1	▼

Reference:

<https://docs.microsoft.com/en-us/azure/app-service/manage-scale-per-app>

Question: 282

HOTSPOT

You are developing an ASP.NET Core app that includes feature flags which are managed by Azure App Configuration. You create an Azure App Configuration store named AppreiaureflagStore as shown in the exhibit:

Key	Label	State	Description	Last modified	
Export	Export	Off On	Ability to export data.	6/11/2020, 9:13:26 ...	***

You must be able to use the feature in the app by using the following markup:

```
<feature name="Export">
  <li class="nav-item">
    <a class="nav-link text-dark" asp-area="" asp-controller="Home" asp-action="Export">Export Data</a>
  </li>
</feature>
```

You went to update the app to use the feature flag.

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

NOTE: Each correct selection is worth one point.

Answer Area	Code section	Value
	Controller attribute	FeatureGate Route ServiceFilter TypeFilter
	Startup method	AddAzureAppConfiguration AddControllersWithViews AddUserSecrets
	AppConfig endpoint setting	https://appfeatureflagstore.azureconfig.io https://appfeatureflagstore.vault.azure.net https://export.azureconfig.io https://export.vault.azure.net

Answer:

Explanation:

Box 1: FeatureGate

You can use the FeatureGate attribute to control whether a whole controller class or a specific action is enabled.

Box 2: AddAzureAppConfiguration

The extension method AddAzureAppConfiguration is used to add the Azure App Configuration Provider.

Box 3: https://appfeatureflagstore.azureconfig.io

You need to request the access token with resource=https://<yourstorename>.azconfig.io

Reference:

<https://docs.microsoft.com/en-us/azure/azure-app-configuration/use-feature-flags-dotnet-core>

<https://csharp.christiannagel.com/2020/05/19/azureappconfiguration/>

<https://stackoverflow.com/questions/61899063/how-to-use-azure-app-configuration-rest-api>

Question: 283

You are developing a web application that uses the Microsoft identity platform to authenticate users and resources. The web application calls several REST APIs.

The APIs require an access token from the Microsoft identity platform.

You need to request a token.

Which three properties should you use? Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point.

A. Application secret

B. Redirect URI/URL

C. Application name

D. Supported account type

E. Application ID

Answer: A, B, E

Explanation:

Question: 284

HOTSPOT

You are developing an Azure Function App. You develop code by using a language that is not supported by the Azure Function App host. The code language supports HTTP primitives.

You must deploy the code to a production Azure Function App environment.

You need to configure the app for deployment.

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

NOTE: Each correct selection is worth one point.

Configuration parameter	Configuration value
Publish	<div style="border: 1px solid black; padding: 5px; display: inline-block;"> <div style="border-bottom: 1px solid black; padding-bottom: 5px; margin-bottom: 5px;">Code</div> <div>Docker Container</div> </div>
Runtime stack	<div style="border: 1px solid black; padding: 5px; display: inline-block;"> <div style="border-bottom: 1px solid black; padding-bottom: 5px; margin-bottom: 5px;">Node.js</div> <div>Python</div> <div>PowerShell Core</div> <div>Custom Handler</div> </div>
Version	<div style="border: 1px solid black; padding: 5px; display: inline-block;"> <div style="border-bottom: 1px solid black; padding-bottom: 5px; margin-bottom: 5px;">14 LTS</div> <div>7.0</div> <div>custom</div> </div>

Answer:

Explanation:

Box 1: Docker container

A custom handler can be deployed to every Azure Functions hosting option. If your handler requires operating system or platform dependencies (such as a language runtime), you may need to use a custom container. You can create and deploy your code to Azure Functions as a custom Docker container.

Box 2: PowerShell core

When creating a function app in Azure for custom handlers, we recommend you select .NET Core as the stack. A "Custom" stack for custom handlers will be added in the future.

PowerShell Core (PSC) is based on the new .NET Core runtime.

Box 3: 7.0

On Windows: The Azure Az PowerShell module is also supported for use with PowerShell 5.1 on Windows.

On Linux: PowerShell 7.0.6 LTS, PowerShell 7.1.3, or higher is the recommended version of PowerShell for use with the Azure Az PowerShell module on all platforms.

Reference:

<https://docs.microsoft.com/en-us/azure/azure-functions/functions-create-function-linux-custom-image>

<https://docs.microsoft.com/en-us/powershell/azure/install-az-ps?view=azps-7.1.0>

Question: 285

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 develop an HTTP triggered Azure Function app to process Azure Storage blob data.

a. The app is triggered using an output binding on the blob.

The app continues to time out after four minutes. The app must process the blob data.

You need to ensure the app does not time out and processes the blob data.

Solution: Update the functionTimeout property of the host.json project file to 10 minutes.

Does the solution meet the goal?

A. Yes

B. No

Answer: B

Explanation:

Instead pass the HTTP trigger payload into an Azure Service Bus queue to be processed by a queue trigger function and return an immediate HTTP success response.

Note: Large, long-running functions can cause unexpected timeout issues. General best practices include:

Whenever possible, refactor large functions into smaller function sets that work together and return responses fast. For example, a webhook or HTTP trigger function might require an acknowledgment response within a certain time limit; it's common for webhooks to require an immediate response. You can pass the HTTP trigger payload into a queue to be processed by a queue trigger function. This approach lets you defer the actual work and return an immediate response.

Reference:

<https://docs.microsoft.com/en-us/azure/azure-functions/functions-best-practices>

Question: 286

You manage a data processing application that receives requests from an Azure Storage queue.

You need to manage access to the queue. You have the following requirements:

Provide other applications access to the Azure queue.

Ensure that you can revoke access to the queue without having to regenerate the storage account keys.

Specify access at the queue level and not at the storage account level.

Which type of shared access signature (SAS) should you use?

- A. Service SAS with a stored access policy
- B. Account SAS
- C. User Delegation SAS
- D. Service SAS with ad hoc SAS

Answer: A

Explanation:

A service SAS is secured with the storage account key. A service SAS delegates access to a resource in only one of the Azure Storage services: Blob storage, Queue storage, Table storage, or Azure Files.

Stored access policies give you the option to revoke permissions for a service SAS without having to regenerate the storage account keys.

Reference:

<https://docs.microsoft.com/en-us/azure/storage/common/storage-sas-overview>

Question: 287

HOTSPOT

You are developing an application to store and retrieve data in Azure Blob storage. The application will be hosted in an on-premises virtual machine (VM). The VM is connected to Azure by using a Site-to-Site VPN gateway connection. The application is secured by using Azure Active Directory (Azure AD) credentials.

The application must be granted access to the Azure Blob storage account with a start time, expiry time, and read permissions. The Azure Blob storage account access must use the Azure AD credentials of the application to secure data access. Data access must be able to be revoked if the client application security is breached.

You need to secure the application access to Azure Blob storage.

Which security features should you use? To answer select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Component	Security Feature
------------------	-------------------------

Application (Client)

▼
Storage Account Access Key
System-assigned Managed Identity
Shared access signature (SAS) token

Azure Storage (Server)

▼
Stored Access Policy
User-assigned Managed Identity
Cross-Origin Resource Sharing (CORS)

Answer:

Explanation:

Component	Security Feature
------------------	-------------------------

Application (Client)

▼
Storage Account Access Key
System-assigned Managed Identity
Shared access signature (SAS) token

Azure Storage (Server)

▼
Stored Access Policy
User-assigned Managed Identity
Cross-Origin Resource Sharing (CORS)

Box 1: Shared access signature (SAS) token

When your application design requires shared access signatures for access to Blob storage, use Azure AD credentials to create a user delegation SAS when possible for superior security.

Box 2: Stored access policy

Stored access policies give you the option to revoke permissions for a service SAS without having to regenerate the storage account keys.

A shared access signature can take one of the following two forms:

Service SAS with stored access policy. A stored access policy is defined on a resource container, which can be a blob container, table, queue, or file share. The stored access policy can be used to manage constraints for one or more service shared access signatures. When you associate a service SAS with a stored access policy, the SAS inherits the constraints – the start time, expiry time, and permissions – defined for the stored access policy.

Ad hoc SAS.

Reference:

<https://docs.microsoft.com/en-us/azure/storage/common/storage-sas-overview>

Question: 288

You are developing an Azure Function App that runs in an App Service Plan. The Azure Function is triggered by a Timer object. You observe that the Azure Function does not reliably trigger when scheduled. Which two actions should you perform?

- A. Verify that Always On is enabled.
- B. Modify the trigger to use a SignalR trigger.
- C. Ensure that the function has a retry configured.
- D. Modify the trigger to use Consumption mode instead of the App Service plan.

Answer: AC

Explanation:

Question: 289

You are developing a complex workflow by using Azure Durable Functions.

During testing you observe that the results of the workflow differ based on how many instances of the Azure Function are running.

You need to resolve the issue.

What should you do?

- A. Ensure that all Orchestrator code is deterministic.
- B. Read all state data from the durable function context
- C. Configure the Azure Orchestration function to run on an App Service Plan with one instance.
- D. Implement the monitor pattern within the workflow.

Answer: A

Explanation:

Question: 290

You are developing an Azure Function App that generates end of day reports (or retail stores). All stores close at 11 PM each day. Reports must be run one hour after closing. You configure the function to use a Timer trigger that runs at midnight. Customers in the Western United States Pacific Time zone (UTC - 8) report that the Azure Function runs before the stores close. You need to ensure that the Azure Function runs at midnight in the Pacific Time zone.

What should you do?

- A. Configure the Azure Function to run in the West US region.
- B. Add an app setting named WEBSITE\_TIME\_ZONE that uses the value Pacific Standard Time

- C. Change the Timer trigger to run at 7 AM
- D. Update the Azure Function to a Premium plan.

Answer: A

Explanation:

Question: 291

You are developing an application to manage shipping information for cargo ships. The application will use Azure Cosmos D8 for storage.

The application must run offline when ships are at sea. The application must be connected to Azure when ships are in port.

Which Azure Cosmos D8 API should you use for the application?

- A. Core
- B. MongoDe
- C. Cassandra
- D. Gremlin

Answer: C

Explanation:

Question: 292

You are developing a SaaS application that stores data as key value pairs.

You must make multiple editions of the application available. In the lowest cost edition, the performance must be best-effort, and there is no regional failover.

In higher cost editions customers must be able to select guaranteed performance and support for multiple regions. Azure costs must be minimized.

Which Azure Cosmos DB API should you use for the application?

- A. Core
- B. MongoDB
- C. Cassandra
- D. Table API

Answer: D

Explanation:

Question: 293

You are developing an application to store information about the organizational structure for a company.

Users must be able to determine which people report to a particular manager, the office where employees work, and the projects that are assigned to an employee.

Which Azure Cosmos DB API should you use for the application?

- A. Core
- B. Cassandra
- C. Table API
- D. Gremlin
- E. MongoDB

Answer: E

Explanation:

Question: 294

You are developing a SaaS application that stores data as key value pairs.

You must make multiple editions of the application available. In the lowest cost edition, the performance must be best-effort, and there is no regional failover.

In higher cost editions customers must be able to select guaranteed performance and support for multiple regions. Azure costs must be minimized.

Which Azure Cosmos DB API should you use for the application?

A. Core

B. MongoDB

C. Cassandra

D. Table API

Answer: C

Explanation:

Question: 295

You are developing a mobile app that uses an API which stores geospatial data in Azure Cosmos DB. The app will be used to find restaurants in a particular area and related information including food types, menu information and the optimal route to a selected restaurant from the user's current location.

Which Azure Cosmos DB API should you use for the API?

A. MongoDB

B. Gremlin

C. Cassandra

D. Core

Answer: A

Explanation:

Question: 296

You are designing a web application to manage user satisfaction surveys. The number of questions that a survey includes is variable.

Application users must be able to display results for a survey as quickly as possible. Users must also be able to quickly compute statistical measures including average values across various groupings of answers.

Which Azure Cosmos DB API should you use for the application?

- A. Core
- B. Mongo DB
- C. Gremlin
- D. Table API

Answer: D

Explanation:

Question: 297

You are developing an application that allows users to find musicians that are looking for work. The application must store information about musicians, the instruments that they play, and other related data.

The application must also allow users to determine which musicians have played together, including groups of three or more musicians that have performed together at a specific location.

Which Azure Cosmos DB API should you use for the application?

- A. Core
- B. MongoDB
- C. Cassandra
- D. Gremlin

Answer: B

Explanation:

Question: 298

You deploy an API to API Management

You must secure all operations on the API by using a client certificate.

You need to secure access to the backend service of the API by using client certificates.

Which two security features can you use?

- A. Azure AD token
- B. Self-signed certificate
- C. Certificate Authority (CA) certificate
- D. Triple DES (3DES) cipher
- E. Subscription key

Answer: BC

Explanation:

Question: 299

You have an Azure Cosmos DB instance that uses the Strong consistency level and 10,000 Request Units (RUs) per container. Geo-replication is enabled.

The instance stores restaurant information including location, menu items, and staff. You currently store information for 1,000 restaurant locations, 500 menu items, and 10,000 staff members. You select the location id as the partition key.

How many logical partitions will be created for the container?

- A. 500
- B. 1,100
- C. 10,000
- D. 10,000,000

Answer: C

Explanation:

Question: 300

You are designing a small app that will receive web requests containing encoded geographic coordinates. Calls to the app will occur infrequently.

Which compute solution should you recommend?

- A. Azure Functions
- B. Azure App Service
- C. Azure Batch
- D. Azure API Management

Answer: B

Explanation:

Question: 301

Your company has several containers based on the following operating systems:

- Windows Server 2019 Nano Server
- Windows Server 2019 Server Core
- Windows Server 2022 Nano Server
- Windows Server 2022 Server Core
- Linux

You plan to migrate the containers to an Azure Kubernetes cluster. What is the minimum number of node pools that the cluster must have?

- A. 1
- B. 2
- C. 3
- D. 6

Answer: C

Explanation:

Question: 302

Your company purchases an Azure subscription and plans to migrate several on-premises virtual machines to Azure. You need to design the infrastructure required (or the Azure virtual machines solution). What should you include in the design?

- A. the number of Azure Storage accounts
- B. the settings of the Azure virtual networks

C. the size of the virtual machines

D. the number of Azure regions

Answer: C

Explanation:

Question: 303

You need to design network connectivity for a subnet in an Azure virtual network. The subnet will contain 30 virtual machines. The virtual machines will establish outbound connections to internet hosts by using the same a pool of four public IP addresses, inbound connections to the virtual machines will be prevented.

What should include in the design?

A. Azure Private Link

B. NAT Gateway

C. User Defined Routes

D. Azure Virtual WAN

Answer:D

Question: 304

Your company is designing an application named App1 that will use data from Azure SQL Database. App1 will be accessed over the internet by many users.

You need to recommend a solution for improving the performance ofApp1.

What should you include in the recommendation?

A. Azure HPC cache

- B. ExpressRoute
- C. a CON profile
- D. Azure Cache for Redis

Answer: D

Explanation:

Question: 305

You are designing a multi-tiered application that will be hosted on Azure virtual machines. The virtual machines will run Windows Server. Front-end servers will be accessible from the Internet over port 443. The other servers will NOT be directly accessible over the internet

You need to recommend a solution to manage the virtual machines that meets the following requirement

- Allows the virtual machine to be administered by using Remote Desktop.
- Minimizes the exposure of the virtual machines on the Internet Which Azure service should you recommend?

- A. Azure Bastion
- B. Service Endpoint
- C. Azure Private Link
- D. Azure Front Door

Answer: C

Explanation:

Question: 306

DRAG DROP

You develop and deploy a web app to Azure App Service in a production environment. You scale out the web app to four instances and configure a staging slot to support changes.

You must monitor the web app in the environment to include the following requirements:

- Increase web app availability by re-routing requests away from instances with error status codes and automatically replace instances if they remain in an error state after one hour.
- Send web server logs, application logs, standard output and standard error messaging to an Azure Storage blob account.

You need to configure Azure App Service.

Which values should you use? To answer, drag the appropriate configuration value to the correct requirements. Each configuration value may be used once, more than....

Configuration values	Answer Area	Requirement	Configuration value
Health check		Increase availability	
Diagnostic setting		Send logs	
Deployment slot			
Autoscale rule			
Zone redundancy			

Answer:

Explanation:

Configuration values	Answer Area	Requirement	Configuration value
Health check		Increase availability	Autoscale rule
Diagnostic setting		Send logs	Zone redundancy
Deployment slot			
Autoscale rule			
Zone redundancy			

Question: 307

You develop and deploy an Azure App Service web app to a production environment. You enable the Always On setting and the Application Insights site extensions. You deploy a code update and receive multiple failed requests and exceptions in the web app. You need to validate the performance and

failure counts of the web app in near real time. Which Application Insights tool should you use?

- A. Snapshot Debugger
- B. Profiler
- C. Smart Detection
- D. Live Metrics Stream
- E. Application Map

Answer: D

Explanation:

Question: 308

You are building a web application that uses the Microsoft identity platform for user authentication. You are implementing user identification for the web application. You need to retrieve a claim to uniquely identify a user. Which claim type should you use?

- A. oid
- B. aud
- C. idp
- D. nonce

Answer: A

Explanation:

Question: 309

HOTSPOT

You are developing an application that runs in several customer Azure Kubernetes Service clusters, within each cluster, a pod runs that collects performance data to be analyzed later, a large amount of data is collected so saving latency must be minimized

The performance data must be stored so that pod restarts do not impact the stored data

a. Write latency should be minimized.

You need to configure blob storage.

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

```
apiVersion: storage.k8s.io/v1
kind: PersistentVolume
metadata:
  name: data-store
  provisioner: kubernetes.io/
parameters:
  skuName: Premium_LRS
  reclaimPolicy:
```

Answer:

Explanation:

```
apiVersion: storage.k8s.io/v1
kind: StorageClass
metadata:
  name: data-store
provisioner: kubernetes.io/poseidon-volume
parameters:
  skuName: Premium_LRS
reclaimPolicy: retain
```

Question: 310

DRAG DROP

You have an application that provides weather forecasting data to external partners. You use Azure API Management to publish APIs.

You must change the behavior of the API to meet the following requirements:

- Support alternative input parameters.
- Remove formatting text from responses.
- Provide additional context to back-end services.

Which types of policies should you implement? To answer, drag the policy types to the correct scenarios. Each policy type 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.

Policy types	Answer Area	Requirement	Policy type
Inbound		Support alternative input parameters.	policy type
Outbound		Remove formatting text from responses.	policy type
Backend		Provide additional context to back-end services.	policy type

Answer:

Explanation:

Requirement	Policy type
Support alternative input parameters.	Inbound
Remove formatting text from responses.	Outbound
Provide additional context to back-end services.	Inbound

Question: 311

HOTSPOT

You are a developer building a web site using a web app. The web site stores configuration data in Azure App Configuration. Access to Azure App Configuration has been configured to use the identity of the web app for authentication. Security requirements specify that no other authentication systems must be used.

You need to load configuration data from Azure App Configuration.

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

```
public static IHostBuilder CreateHostBuilder(string[] args) =>
    Host.CreateDefaultBuilder(args)
        .ConfigureWebHostDefaults(webBuilder =>
    {
        webBuilder.ConfigureAppConfiguration((hostContext, config) =>
        {
            var settings = config.Build();
            config.  (options =>
                AddAzureKeyVault
                DefaultAzureCredential
                ChainedTokenCredential
                ManagedIdentityCredential
                AddAzureAppConfiguration
            );
            options.Connect(new Uri(settings["AppConfig:Endpoint"])),
            new  () );
            AddAzureKeyVault
            DefaultAzureCredential
            ChainedTokenCredential
            ManagedIdentityCredential
            AddAzureAppConfiguration
        });
    });
});
```

Answer:

Explanation:

```
public static IHostBuilder CreateHostBuilder(string[] args) =>
    Host.CreateDefaultBuilder(args)
        .ConfigureWebHostDefaults(webBuilder =>
    {
        webBuilder.ConfigureAppConfiguration((hostContext, config) =>
        {
            var settings = config.Build();
            config.  (options =>
                options.Connect(new Uri(settings["AppConfig:Endpoint"])),
                new  () );
                AddAzureKeyVault
                DefaultAzureCredential
                ChainedTokenCredential
                ManagedIdentityCredential
                AddAzureAppConfiguration
            );
        });
    });
});
```

Question: 312

DRAG DROP

You are implementing an Azure solution that uses Azure Cosmos DB and the latest Azure Cosmos DB

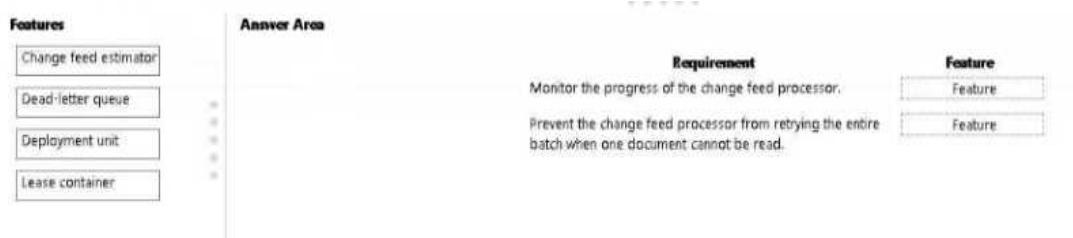
SDK. You add a change feed processor to a new container instance.

You attempt to lead a batch of 100 documents. The process falls when reading one of the documents. The solution must monitor the progress of the change feed processor instance on the new container as the change feed is read. You must prevent the change feed processor from retrying the entire batch when one document cannot be read.

You need to implement the change feed processor to read the documents.

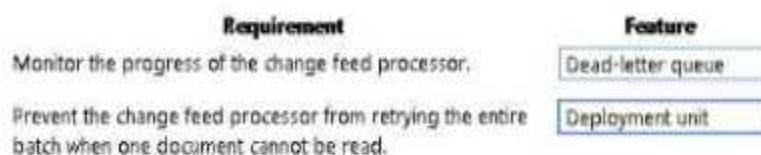
Which features should you use? To answer, drag the appropriate features to the correct requirements. Each feature may be used once, More than once, or not at all. You may need to drag The split bar between panes or scroll to view content

Each correct selection is worth one point



Answer:

Explanation:



Question: 313

You are building a web application that performs image analysis on user photos and returns

metadata containing objects identified. The image is very costly in terms of time and compute resources. You are planning to use Azure Redis Cache so duplicate uploads do not need to be reprocessed.

In case of an Azure data center outage, metadata loss must be kept to a minimum. You need to configure the Azure Redis cache instance.

Which two actions should you perform?

- A. Configure Azure Redis with rob persistence
- B. Configure second storage account far persistence.
- C. Set backup frequency to the minimum value.
- D. Configure Azure Redis with AOF persistence

Answer: B , C

Explanation:

Question: 314

HOTSPOT

You develop and deploy the following staticwebapp.config.json file to the app\_location value specified in the workflow file of an Azure Static Web app.

```
{
  "routes": [
    {
      "route": "/api/**",
      "methods": ["GET"],
      "allowedRoles": ["registeredusers"]
    },
    {
      "route": "/api/**",
      "methods": ["PUT", "POST", "PATCH", "DELETE"]
    }
  ]
}
```

Statements	Yes	No
Unauthenticated users are challenged to authenticate with GitHub.	<input type="radio"/>	<input checked="" type="radio"/>
A non-existent file in the /Images/ folder will generate a 404 response code.	<input type="radio"/>	<input checked="" type="radio"/>
HTTP GET method requests from authenticated users in the role named registeredusers are sent to the API folder.	<input type="radio"/>	<input checked="" type="radio"/>
Authenticated users that are not in the role named registeredusers and unauthenticated users are served a 401 HTTP error when accessing the API folder.	<input checked="" type="radio"/>	<input type="radio"/>

Answer:

Explanation:

Statements	Yes	No
Unauthenticated users are challenged to authenticate with GitHub.	<input checked="" type="radio"/>	<input type="radio"/>
A non-existent file in the /Images/ folder will generate a 404 response code.	<input checked="" type="radio"/>	<input type="radio"/>
HTTP GET method requests from authenticated users in the role named registeredusers are sent to the API folder.	<input checked="" type="radio"/>	<input type="radio"/>
Authenticated users that are not in the role named registeredusers and unauthenticated users are served a 401 HTTP error when accessing the API folder.	<input type="radio"/>	<input checked="" type="radio"/>

Question: 315

HOTSPOT

You develop and deploy a web app to Azure App service. The web app allows users to authenticate by using social identity providers through the Azure B2C service. All user profile information is stored in Azure B2C.

You must update the web app to display common user properties from Azure B2C to include the following information:

Email address

Job title

First name

Last name

Office Location

You need to implement the user properties in the web app.

Requirement	Value
API to access user properties	<input type="button" value="▼"/> Microsoft Graph Azure AD Graph Azure Key Vault Azure AD entitlement management
Code library to interface to Azure AD B2C	<input type="button" value="▼"/> Microsoft Authentication Library (MSAL) Microsoft Azure Key Vault SDK Azure Identity library

Answer:

Explanation:

Requirement	Value
API to access user properties	Azure AD Graph
Code library to interface to Azure AD B2C	Azure Identity library

Question: 316

You are building a web application that performs image analysis on user photos and returns metadata containing objects identified. The image analysis is very costly in terms of time and compute resources. You are planning to use Azure Redis Cache so Cache uploads do not need to be reprocessed.

In case of an Azure data center outage metadata loss must be kept to a minimum.

You need to configure the Azure Redis cache instance.

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

NOTE: Each correct selection is worth one point.

- A. Configure Azure Redis with persistence
- B. Configure second storage account for persistence
- C. Set backup frequency to the minimum value
- D. Configure Azure Redis with RDS persistence

Answer: A, C

Explanation:

Question: 317

HOTSPOT

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

You are implementing various authentication and authorization flows for the web application.

You need to validate the claims in the authentication token.

Which token type should use? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Answer Area

Requirement	Token type
Identify users for the application by using a JWT token that contains claims.	<input type="button" value="Access"/> <input type="button" value="ID"/> <input type="button" value="Refresh"/> <input type="button" value="SAML"/>
Provide XML representations of claims that can be consumed by applications that use WS-Federation.	<input type="button" value="Access"/> <input type="button" value="ID"/> <input type="button" value="Refresh"/> <input type="button" value="SAML"/>
Provide the web application with long-term access to resources on behalf of users without requiring interaction with those users.	<input type="button" value="Access"/> <input type="button" value="ID"/> <input type="button" value="Refresh"/> <input type="button" value="SAML"/>
Provide XML representations of claims that can be consumed by applications that use WS-Federation.	<input type="button" value="Access"/> <input type="button" value="ID"/> <input type="button" value="Refresh"/> <input type="button" value="SAML"/>

Answer:

Explanation:

Answer Area

Requirement	Token type
Identify users for the application by using a JWT token that contains claims.	<input type="button" value="ID"/>
Identify the permissions granted to APIs by using a JWT token that contains claims.	<input type="button" value="Access"/>
Provide the web application with long-term access to resources on behalf of users without requiring interaction with those users.	<input type="button" value="Refresh"/>
Provide XML representations of claims that can be consumed by applications that use WS-Federation.	<input type="button" value="SAML"/>

Question: 318

You develop and deploy an ASP.NET Core application that connects to an Azure Database for MySQL instance.

Connections to the database appear to drop intermittently and the application code does not handle the connection failure.

You need to handle the transient connection errors in code by implementing retries.

What are three possible ways to achieve this goal? Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point.

A. Increase connection repeat attempts exponentially up to 120 seconds.

B. Close the database connection and immediately report an error.

C. Wait five seconds before repeating the connection attempt to the database.

D. Disable connection pooling and configure a second Azure Database for MySQL instance.

E. Set a maximum number of connection attempts to 10 and report an error on subsequent connections.

Answer: B, C, D

Explanation:

Question: 319

HOTSPOT

You are building an application that stores sensitive customer data in Azure Blob storage. The data must be encrypted with a key that is unique for each customer.

If the encryption key has been corrupted it must not be used for encryption.

You need to ensure that the blob is encrypted.

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

NOTE: Each correct selection is worth one point.

Answer Area

```
from azure.storage.blob import BlobServiceClient
from azure.storage.blob.aio import BlobType x = BlobType(key, verify)
from azure.storage.blob import BlobSasPermissions x = BlobSasPermissions.from_string(key + verify)
from azure.storage.blob import CustomerProvidedEncryptionKey x = CustomerProvidedEncryptionKey(key, verify)
from azure.core.configuration import Configuration x = Configuration(key, verify)

if x.tag == verify:
    if x.maketrans == verify:
        if x.EncryptionKeyHash == verify:
            if x.proxy_policy == verify:

bsc = BlobServiceClient("", credential = creds)
c = bsc.get_blob_client("con", blob)

c.upload_blob(data, pa=x)
c.upload_blob(data, bt=x)
c.upload_blob(data, bsp=x)
c.upload_blob(data, cpk=x)
```

Answer:

Explanation:

Answer Area

```
from azure.storage.blob import BlobServiceClient
from azure.storage.blob import CustomerProvidedEncryptionKey x = CustomerProvidedEncryptionKey(key, verify)
if x.maketrans == verify:
    bsc = BlobServiceClient("", credential = creds)
    c = bsc.get_blob_client("con", blob)
    c.upload_blob(data, pass)
```

Question: 320

You are developing a user portal for a company.

You need to create a report for the portal that lists information about employees who are subject matter experts for a specific topic. You must ensure that administrators have full control and consent over the data.

Which technology should you use?

- A. Microsoft Graph connectors
- B. Microsoft graph API
- C. Microsoft Graph data connect

Answer: C

Explanation:

Question: 321

HOTSPOT

You are developing a solution to store documents in Azure Blob storage. Customers upload documents to multiple containers. Documents consist of PDF, CSV, Microsoft Office format, and plain text files.

The solution must process millions of documents across hundreds of containers. The solution must meet the following requirements:

- \* Document must be categorized by a customer identifier as they are uploaded to the storage account.

- \* Allow filtering by the customer identifier.
- \* Allow searching of information contained within a document.
- \* Minimize costs.

You created and configure a standard general-purpose v2 storage account to support the solution.

You need to implement the solution.

NOTE: Each correct selection is worth one point.

Answer Area

Requirement	Solution
Search and filter by customer identifier.	Azure Cognitive Search Azure Blob index tags Azure Blob inventory policy Azure Blob metadata
Search information inside documents.	Azure Cognitive Search Azure Blob index tags Azure Blob inventory policy Azure Blob metadata

Answer:

Explanation:

Azure Blob Index tags: <https://docs.microsoft.com/en-us/azure/storage/blobs/storage-blob-index-how-to?tabs=azure-portal>

Azure Cognitive Search: Search inside documents

Question: 322

HOTSPOT

An organization deploys a Mob storage account. Users take multiple snapshots of the blob storage account over time.

You need to delete all snapshots or the blob storage account. You must not delete the blob storage account itself.

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

NOTE: Each correct selection is worth one point.

Answer Area

delete\_blob { delete\_container delete\_snapshots snapshot\_blob snapshots\_present } False Include Only

Answer:

Explanation:

Answer Area

delete\_blob { delete\_snapshots } Include

Question: 323

HOTSPOT

You are developing a service where customers can report news events from a browser using Azure Web PubSub. The service is implemented as an Azure App that uses the JSON WebSocket supoprotocol to receive news events.

You need to implement the bindings for the Azure Function App.

How should you configure the binding? To answer, select the appropriate options in the answer area.

Note: Each Correct Selection is worth one point.

```
{  
  "bindings": [  
    {  
      "type": "user",  
      "direction": "in",  
      "name": "data",  
      "eventName": "message",  
      "eventType": "user"  
    },  
    {  
      "type": "system",  
      "direction": "in",  
      "name": "data",  
      "eventName": "message",  
      "eventType": "system"  
    }  
  ]  
}
```

Answer:

Explanation:

```
{  
  "bindings": [  
    {  
      "type": "system",  
      "direction": "in",  
      "name": "data",  
      "eventName": "message",  
      "eventType": "message"  
    }  
  ]  
}
```

Question: 324

HOTSPOT

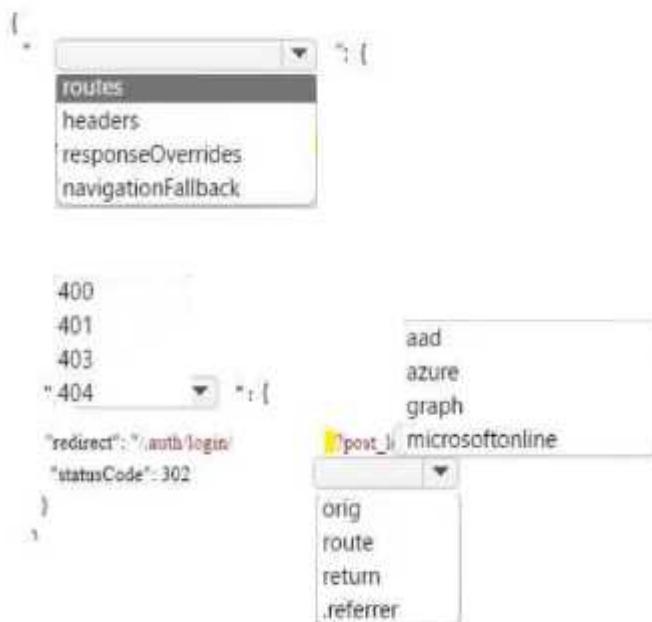
You are developing an Azure Static Web app that contains training materials for a tool company. Each tool's training material is contained in a static web page that is linked from the tool's publicly available description page.

A user must be authenticated using Azure AD prior to viewing training.

You need to ensure that the user can view training material pages after authentication.

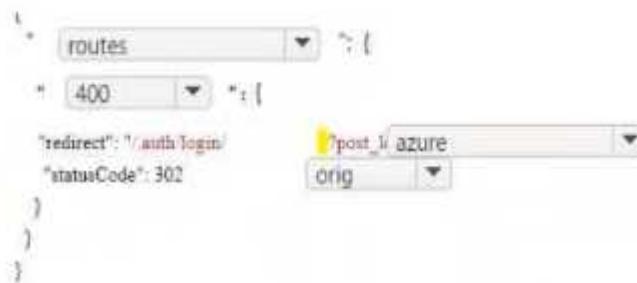
How should you complete the configuration file? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.



Answer:

Explanation:



Question: 325

HOTSPOT

You are developing an application that includes two Docker containers.

The application must meet the following requirements

The containers must not run as root.

The containers must be deployed to Azure Container Instances by using a YAML file.

The containers must share a lifecycle, resources, local network and storage volume.

The storage volume must persist through container crashes.

The storage volume must be destroyed on stop or restart of the containers.

You need to configure Azure Container Instances for the application.

Configuration setting	Configuration value
Shared lifecycle	<input type="button" value="Container group"/> <input type="button" value="Container image"/> <input type="button" value="Service endpoint"/> <input type="button" value="Resource group"/>
Storage volume	<input type="button" value="Azure file share"/> <input type="button" value="Secret"/> <input type="button" value="Empty directory"/> <input type="button" value="Cloned Git repo"/>

Answer:

Explanation:

Configuration setting	Configuration value
Shared lifecycle	<div style="border: 1px solid #ccc; padding: 5px; width: fit-content;"><p>Container group</p><p>Container image</p><p>Service endpoint</p><p>Resource group</p></div>
Storage volume	<div style="border: 1px solid #ccc; padding: 5px; width: fit-content;"><p>Azure file share</p><p>Secret</p><p>Empty directory</p><p>Cloned Git repo</p></div>

Question: 326

You are developing a .Net web application that stores data in Azure Cosmos DB. The application must use the Core API and allow millions of reads and writes. The Azure Cosmos DIL 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.

Answer: CD

Explanation:

Question: 327

HOTSPOT

You need to implement the Azure Function for delivery driver profile information.

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

NOTE: Each correct selection is worth one point.

Answer Area

Configuration Value

Code library

- | |
|---|
| Microsoft Authentication Library (MSAL) |
| Microsoft Azure Key Vault SDK |
| Azure Identity library |

API

- | |
|------------------------------|
| Microsoft Graph |
| Azure Active Directory Graph |
| Azure Key Vault |

Answer:

Explanation:

Code Library: MSAL

API: Microsoft Graph

<https://docs.microsoft.com/en-us/azure/active-directory/develop/msal-overview>

Question: 328

DRAG DROP

You are authoring a set of nested Azure Resource Manager templates to deploy multiple Azure resources.

The templates must be tested before deployment and must follow recommended practices.

You need to validate and test the templates before deployment.

Which tools should you use? To answer, drag the appropriate tools to the correct requirements. Each tool 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.

Tools	Answer Area	Requirement	Tool
Parameter file		Determine whether the templates follow recommended practices.	Tool
Template function			Tool
Azure Resource Manager test toolkit			
User-defined function		Test and validate changes that templates will make to the environment.	Tool
What-if operation			
Azure Deployment Manager			

Answer:

Explanation:

Tools	Answer Area	Requirement	Tool
Parameter file		Determine whether the templates follow recommended practices.	Azure Resource Manager test toolkit
Template function			
Azure Resource Manager test toolkit			
User-defined function		Test and validate changes that templates will make to the environment.	What-if operation
What-if operation			
Azure Deployment Manager			

<https://docs.microsoft.com/en-us/azure/azure-resource-manager/templates/test-toolkit>

<https://docs.microsoft.com/en-us/azure/azure-resource-manager/templates/deploy-what-if?tabs=azure-powershell>

Question: 329

You have a web application that provides access to legal documents that are stored on Azure Blob Storage with version level immutability policies. Documents are protected with both time-based policies and legal hold policies. All time-based retention policies have AllowProtectedAppendWrites property enabled.

You have a requirement to prevent the user from attempting to perform operations that would fail only if a legal hold is in effect and when all other are expired

You need to meet the requirement.

Which two operations you prevent?

A. overwriting existing

B. adding data to documents

C. deleting documents

D. creating document

Answer: BD

Explanation:

Question: 330

You are developing an Azure Durable Function to manage an online ordering process.

The process must call an external API to gather product discount information.

You need to implement Azure Durable Function.

Which Azure Durable Function types should you use? Each correct answer presents part of the solution

NOTE: Each correct selection is worth one point

A. Orchestrator

B. Entity

C. Activity

D. Client

Answer: AB

Explanation:

<https://learn.microsoft.com/en-us/azure/azure-functions/durable/durable-functions-types-features-overview>

Question: 331

You develop a Python application for image rendering that uses GPU resources to optimize rendering processes. You deploy the application to an Azure Container Instances (ACI) Linux container.

The application requires a secret value to be passed when the container is started. The value must only be accessed from within the container.

You need to pass the secret value.

What are two possible ways to achieve this goal? Each correct answer presents a complete solution.

NOTE: Each correct selection is worth one point.

- A. Create an environment variable Set the secureValue property to the secret value.
- B. Add the secret value to the container image. Use a managed identity.
- C. Add the secret value to the application code Set the container startup command.
- D. Add the secret value to an Azure Blob storage account. Generate a SAS token.
- E. Mount a secret volume containing the secret value in a secrets file.

Answer: AE

Explanation:

Objects with secure values are intended to hold sensitive information like passwords or keys for your application. Using secure values for environment variables is both safer and more flexible than including it in your container's image. Another option is to use secret volumes, described in Mount a secret volume in Azure Container Instances..... <https://docs.microsoft.com/en-us/azure/container-instances/container-instances-environment-variables>

Question: 332

HOTSPOT

You develop and deploy an Azure App Service web app that connects to Azure Cache for Redis as a

content cache. All resources have been deployed to East US 2 region.

The security team requires the following from Azure Cache for Redis:

The number of Redis client connections from an associated IP address.

Redis operations completed on the content cache.

The location (region) in which the Azure Cache for Redis instance was accessed.

The audit information must be captured and analyzed by a security team application deployed to Central US region

You need to log information on all client corrections to the cache.

Which configuration values should you use?

Requirement

Store log information.

Configuration value

- Log Analytics workspace
- Blob Storage account
- Data Lake Storage Gen2 Storage account
- Event hub

Requirement

Enable client connection logging.

- Diagnostic setting
- Managed identity
- App registration
- Environment variable

Explanation:

Answer:

Answer:

Requirement	Configuration value
Store log information.	<div style="border: 1px solid #ccc; padding: 5px; width: fit-content;"><p>Log Analytics workspace</p><p>Blob Storage account</p><p>Data Lake Storage Gen2 Storage account</p><p>Event hub</p></div>
Enable client connection logging.	<div style="border: 1px solid #ccc; padding: 5px; width: fit-content;"><p>Diagnostic setting</p><p>Managed identity</p><p>App registration</p><p>Environment variable</p></div>

Question: 333

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

Users report that the web app is responding must capture the complete call stack to help performance issues in 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 answer presents part Of the solution

NOTE: Each correct selection is worth point

A. Enable Application Insights site extensions.

B. Enable Profiler.

- C. Restart all apps in the App Service plan.
- D. Enable Snapshot debugger.
- E. Enable remote debugging.
- F. Enable the Always On setting for the app service.
- G. Upgrade the Azure App Service plan to Premium

Answer: CDF

Explanation:

Question: 334

HOTSPOT

You are developing a solution that uses several Azure Service Bus queues. You create an Azure Event Grid subscription for the Azure Service Bus namespace. You use Azure Functions as subscribers to process the messages.

You need to emit events to Azure Event Grid from the queues. You must use principal of least privilege and minimize costs.

Which Azure Service Bus values should you use? To answer, select the appropriate options in the answer area

Each correct selection is worth one point

Configuration	Value
Tier	<input type="button" value="Basic"/> <input type="button" value="Standard"/> <input type="button" value="Premium"/>
Access control (IAM) level	<input type="button" value="Contributor"/> <input type="button" value="Data Receiver"/> <input type="button" value="Data Sender"/> <input type="button" value="Data Owner"/>

Answer:

Explanation:

Configuration	Value
Tier	<input type="button" value="Basic"/> <input type="button" value="Standard"/> <input checked="" type="button" value="Premium"/>
Access control (IAM) level	<input checked="" type="button" value="Contributor"/> <input type="button" value="Data Receiver"/> <input type="button" value="Data Sender"/> <input type="button" value="Data Owner"/>

Question: 335

You are developing several microservices to deploy to a Azure Service cluster. The microservices manage data stored in Azure Cosmos DB and Azure Blob storage. The data is secured by using customer-managed keys stored in Aue Key Vault.

You must automate key rotation for all Key Vault keys and allow for manual key rotation. Keys must rotate every three months. Notifications Of expiring keys must be sent before key expiry.

You need to configure key rotation and enable key expiry notifications.

Which two actions should you perform? Each correct answer presents part Of solution.

NOTE: Each correct selection is worth

- A. Create and configure a new Azure Event Grid instance.
- B. Create configure a key rotation policy during key creation
- C. Create and assign an Azure Key Vault access
- D. Configure Azure Key Vault

Answer: BD

Explanation:

<https://learn.microsoft.com/en-us/azure/key-vault/keys/how-to-configure-key-rotation>

Question: 336

HOTSPOT

You are developing an application that uses Azure Storage to store customer dat

- a. The data must only be decrypted by the customer and the customer must be provided a script to rotate keys.

You need to provide a script to rotate keys to the customer.

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

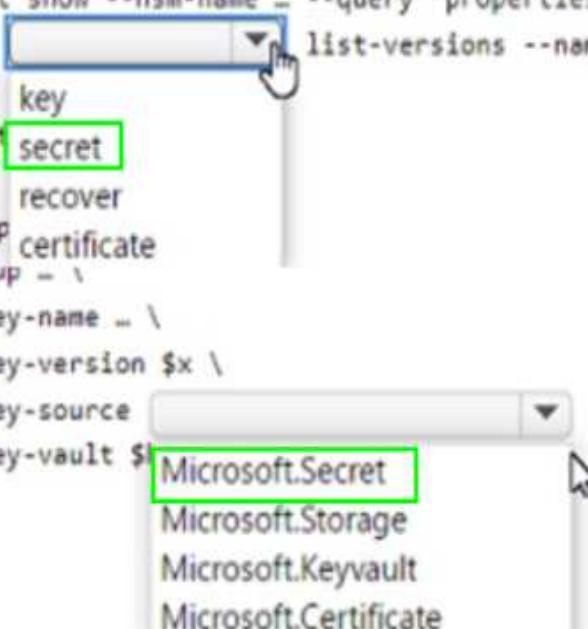
NOTE: Each correct selection is worth one point.

```
$h = $(az keyvault show --hsm-name ... --query "properties.hsmUri"  
$x = az keyvault  list-versions --name ""  
    --vault-name ""   
az storage account secret  
    --name ... \  
    --resource-group certificate  
    --resource-group - \  
    --encryption-key-name ... \  
    --encryption-key-version $x \  
    --encryption-key-source   
    --encryption-key-vault $! Microsoft.Secret  
                                Microsoft.Storage  
                                Microsoft.Keyvault  
                                Microsoft.Certificate
```

Answer:

Explanation:

```
$h = $(az keyvault show --hsm-name ... --query "properties.hsmUri"
$x = az keyvault list-versions --name ""
--vault-name "" key
az storage account secret
--name ... \
recover
--resource-group certificate
--resource-group - \
--encryption-key-name ... \
--encryption-key-version $x \
--encryption-key-source \
--encryption-key-vault $h
```



Question: 337

HOTSPOT

You are developing an application that monitors data added to an Azure Blob storage account.

You need to process each change made to the storage account.

How should you complete the code segment? To answer, select the appropriate options in the answer are

a.

NOTE: Each correct selection is worth one point.

```
cf = ChangeFeedClient("", "")  
x = None  
while True:  
    change_feed = cf.  
        ↴  
    for c in change_feed:  
        ↴  
        cf.list(x)  
        ProcessChanges(c)  
        ↴  
        by_page(x)  
        ItemPaged(cf.list(x))  
        list_changes(x).by_page()
```

```
x = change_feed.  
    ↴  
    ↴  
    get_next  
    extract_data  
    _page_iterator  
    continuation_token
```

Answer:

Explanation:

Answer:

```
cf = ChangeFeedClient("", "")  
x = None  
while True:  
    change_feed = cf.  
    for c in change_feed:  
        ProcessChanges(c) by_page(x)  
        ItemPaged(cf.list(x))  
        list_changes(x).by_page()
```

```
x = change_feed.  
get_next  
extract_data  
_page_iterator  
continuation_token
```

Question: 338

HOTSPOT

You are developing a solution by using the Azure Event Hubs SDK. You create a standard Azure Event Hub with 16 partitions. You implement eight event processor clients.

You must balance the load dynamically when an event processor client fails. When an event processor client fails, another event processor must continue processing from the

exact point at which the failure occurred. All events must be aggregate and upload to an Azure Blob storage account

You need to implement event processing recovery for the solution.

Which SDK features should you use? To answer, select the appropriate options in the answer are

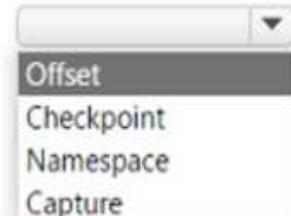
a.

Each correct selection is worth one point.

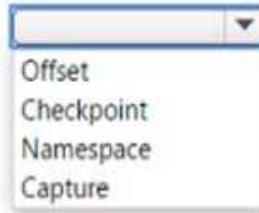
Requirement

Ensure that event process clients mark the position within an event sequence.

Feature



Mark the event processor client position within a partition event sequence.

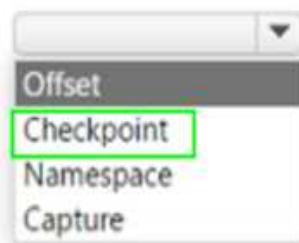


Answer:

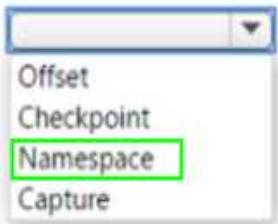
Explanation:

Requirement

Ensure that event process clients mark the position within an event sequence.

Feature

Mark the event processor client position within a partition event sequence.



Question: 339

You develop Azure Web Apps for a commercial diving company. Regulations require that all divers fill out a health questionnaire every 15 days after each diving job starts.

You need to configure the Azure Web Apps so that the instance count scales up when divers are filling out the questionnaire and scales down after they are complete.

You need to configure autoscaling.

What are two possible autoscaling configurations to achieve this goal? Each correct answer presents a complete solution.

NOTE: Each correct selection is worth one point.

- A. Predictive autoscaling
- B. CPU usage-based autoscaling
- C. Recurrence profile
- D. Fixed date profile

Answer: A, D

Explanation:

Question: 340

HOTSPOT

You are developing a C++ application that compiles to a native application named process.exe. The application accepts images as input and returns images in one of the following image formats: GIF, PNG, or JPEG.

You must deploy the application as an Azure Function.

You need to configure the function and host json files.

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

NOTE: Each correct selection is worth one point.

```
function.json
{
    "type": "http",
    "platform": "gcm",
    "datatype": "stream",
    "path": "process.exe"

    "direction": "out",
    "name" : "result"
}
```

host.json

```

"customHandler": { "description": {
    "languageWorker": { "path": {
        "extensions": { "worker": {
            "extensionBundle": {

                "defaultExecutablePath": "process.exe"
            },
            "enableForwardingHttpRequest": true
            "enableForwardingHttpRequest": false
        }
    }
}}
```

Explanation:

Answer:

```
    "type": "http"
    "platform": "gcm"
    "datatype": "stream"
    "path": "process.exe"

    "direction": "out",
    "name" : "result"
}
host.json
{
    "customHandler": { "description": {
        "languageWorker": { "path": {
            "extensions": {"worker": {
                "extensionBundle": {

                    "defaultExecutablePath": "process.exe"
                },
                "enableForwardingHttpRequest": true
                "enableForwardingHttpRequest": false
            }
        }
    }
}
}

```

Question: 341

You are developing a web application that uses the Microsoft identity platform to authenticate users and resources. The web application calls several REST APIs.

The APIs require an access token from the Microsoft identity platform.

You need to request a token.

Which three properties should you use? Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point.

A. Application name

B. Application secret

C. Application ID

D. Supported account type

E. Redirect URI/URL

Answer: ABC

Explanation:

Question: 342

You are developing an Azure App Service web app.

The web app must securely store session information in Azure Redis Cache.

You need to connect the web app to Azure Redis Cache.

Which three Azure Redis Cache properties should you use? Each correct answer presents part of the solution.

Each correct selection is worth one point.

- A. SSL port
- B. Subscription name
- C. Location
- D. Host name
- E. Access key
- F. Subscription id

Answer: ACD

Explanation:

<https://learn.microsoft.com/en-us/azure/azure-cache-for-redis/cache-web-app-howto>

Question: 343

You are creating an Azure key vault using PowerShell. Objects deleted from the key vault must be kept for a set period of 90 days.

Which two of the following parameters must be used in conjunction to meet the requirement?
(Choose two.)

- A. EnabledForDeployment
- B. EnablePurgeProtection

C. EnabledForTemplateDeployment

D. EnableSoftDelete

Answer: BD

Explanation:

Question: 344

A company maintains multiple web and mobile applications. Each application uses custom in-house identity providers as well as social identity providers.

You need to implement single sign-on (SSO) for all the applications.

What should you do?

A. Use Azure Active Directory B2C (Azure AD B2C) with custom policies. Most Voted

B. Use Azure Active Directory B2B (Azure AD B2B) and enable external collaboration.

C. Use Azure Active Directory B2C (Azure AD B2C) with user flows.

D. Use Azure Active Directory B2B (Azure AD B2B).

Answer: A

Explanation:

<https://docs.microsoft.com/en-us/azure/active-directory-b2c/custom-policy-reference-sso>

Question: 345

You are developing an application to store business-critical data in Azure Blob storage. The application must meet the following requirements:

- Data must not be modified or deleted for a user-specified interval.

- Data must be protected from overwrites and deletes.
- Data must be written once and allowed to be read many times.

You need to protect the data for the Azure Blob storage account.

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

NOTE: Each correct selection is worth one point.

- A. Enable version-level immutability support for the storage account.
- B. Create an account shared-access signature (SAS).
- C. Enable point-in-time restore for containers in the storage account.
- D. Create a service shared-access signature (SAS).
- E. Enable the blob change feed for the storage account.

Answer: D, E

Explanation:

Question: 346

You develop Azure Durable Functions to manage vehicle loans.

The loan process includes multiple actions that must be run in a specified order. One of the actions includes a customer credit check process, which may require multiple days to process.

You need to implement Azure Durable Functions for the loan process.

Which Azure Durable Functions type should you use?

- A. orchestrator
- B. client
- C. activity
- D. entity

Answer: A

Explanation:

Question: 347

DRAG DROP

You develop and deploy a Java application to Azure. The application has been instrumented by using the Application Insights SDK.

The telemetry data must be enriched and processed before it is sent to the Application Insights service.

You need to modify the telemetry data.

Which Application Insights SDK features should you use? To answer, drag the appropriate features 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.

Features	Answer Area	Requirement	Feature
Sampling		Reduce the volume of telemetry without affecting statistics.	<input type="text"/>
Telemetry initializer		Enrich telemetry with additional properties or override an existing one.	<input type="text"/>
Telemetry processor		Completely replace or discard a telemetry item.	<input type="text"/>
Telemetry channel			

Answer:

Explanation:

Features	Answer Area	Requirement	Feature
Sampling		Reduce the volume of telemetry without affecting statistics.	<input type="text"/> Sampling
Telemetry initializer		Enrich telemetry with additional properties or override an existing one.	<input type="text"/> Telemetry initializer
Telemetry processor		Completely replace or discard a telemetry item.	<input type="text"/> Telemetry processor
Telemetry channel			

Question: 348

HOTSPOT

You develop an image upload service that is exposed using Azure API Management. Images are analyzed after upload for automatic tagging.

Images over 500 KB are processed by a different backend that offers a lower tier of service that costs less money. The lower tier of service is denoted by a header named x-lsrSe-requst. Images over 500 KB must never be processed by backends for smaller images and must always be charged the lower price.

You need to implement API Management policies to ensure that images are processed correctly.

How should you complete the API Management inbound policy? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Answer Area

```
<inbound>
  <base/>
  <set-variable name="imageSize" value="@{context.Request.Headers["Content-Length"][@]}"/>
  <choose>
    <when condition="@{int.Parse(context.Variables.GetValueOrDefault<string>("imageSize"))<512000}">
      <set-header name="x-large-request" exists-action="delete">
        <value>true</value>
      </set-header>
    </when>
    <otherwise>
      <set-backend-service base-url="{{large-image-host}}"/>
    </otherwise>
  </choose>
</inbound>
```

A screenshot of the Azure API Management Policy Editor showing a dropdown menu for the 'exists-action' attribute of a 'set-header' element. The menu is open, displaying four options: 'skip', 'append', 'delete', and 'override'. The 'delete' option is highlighted with a dark gray background, indicating it is selected. The 'set-backend-service' and 'base-url' fields are also visible in the editor interface.

Answer:

Explanation:

Answer Area

```
<inbound>
  <base/>
  <set-variable name="imageSize" value="@{context.Request.Headers["Content-Length"][@]}"/>
  <choose>
    <when condition="@{int.Parse(context.Variables.GetValueOrDefault<string>("imageSize"))<512000}">
      <set-header name="x-large-request" exists-action="delete">
        <value>true</value>
      </set-header>
    </when>
    <otherwise>
      <set-backend-service base-url="{{large-image-host}}"/>
    </otherwise>
  </choose>
</inbound>
```

Question: 349

HOTSPOT

You develop several Azure Grid to include hundreds of event types, such as billing, inventory, and shipping updates.

Events must be sent to a single endpoint for the Azure Functions app to process. The events must be filtered by event type before processing. You must have authorization and authentication control to partition your tenants to receive the event data.

You need to configure Azure Event Grid.

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

NOTE: Each correct selection is worth one point.

Answer Area

Requirement	Configuration Value
Third-party system endpoint to send events	<input type="text" value="system topic"/> <input type="button" value="▼"/>
Azure Functions app endpoint to handle filtered events	<input type="text" value="event domain"/> <input type="button" value="▼"/>

Answer:

Explanation:

Answer Area

Requirement	Configuration Value
Third-party system endpoint to send events	<input type="text" value="system topic"/> <input type="button" value="▼"/>
Azure Functions app endpoint to handle filtered events	<input type="text" value="event domain"/> <input type="button" value="▼"/>

Question: 350

HOTSPOT

You are authoring a set of nested Azure Resource Manager templates to deploy Azure resources. You author an Azure Resource Manager template named mainTemplate.json that contains the following linked templates: linkedTemplate1.json, linkedTemplate2.json.

You add parameters to a parameters template file named mainTemplate.parameters.json. You save

all templates on a local device in the C:\templates\ folder.

You have the following requirements:

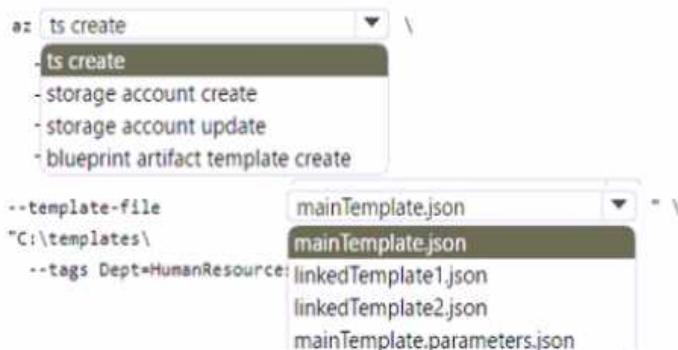
- Store the templates in Azure for later deployment.
- Enable versioning of the templates.
- Manage access to the templates by using Azure RBAC

You need to store the templates in Azure.

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

NOTE: Each correct selection is worth one point.

Answer Area



Answer:

Explanation:

Answer Area



Question: 351

HOTSPOT

You implement an Azure solution to include Azure Cosmos DB. the latest Azure Cosmos DB SDK, and the Azure Cosmos DB for NoSQL API. You also implement a change feed processor on a new container instance by using the Azure Functions trigger for Azure Cosmos DB.

A large batch of documents continues to fail when reading one of the documents in the batch. The same batch of documents is continuously retried by the triggered function and a new batch of documents must be read.

You need to implement the change feed processor to read the documents.

Which feature should you implement? To answer, select the appropriate features in the answer area.

NOTE: Each correct selection is worth one point.

Answer Area

Requirement	Feature
Read a new batch of documents while keeping track of the failing batch of documents.	<input checked="" type="checkbox"/> Change feed estimator <input type="checkbox"/> Lease container <input type="checkbox"/> Dead-letter queue <input type="checkbox"/> Life-cycle notifications <input checked="" type="checkbox"/> Change feed estimator
Handle errors in the change feed processor.	<input type="checkbox"/> Dead-letter queue <input checked="" type="checkbox"/> Lease container <input checked="" type="checkbox"/> Dead-letter queue <input type="checkbox"/> Life-cycle notifications <input type="checkbox"/> Change feed estimator

Answer:

Explanation:

Answer Area

Requirement	Feature
Read a new batch of documents while keeping track of the failing batch of documents.	<input checked="" type="checkbox"/> Change feed estimator
Handle errors in the change feed processor.	<input checked="" type="checkbox"/> Dead-letter queue

Question: 352

HOTSPOT

You are developing a content management application for technical manuals. The application is deployed as an Azure Static Web app.

Authenticated users can view pages under /manuals but only contributors can access the page /manuals/new.html.

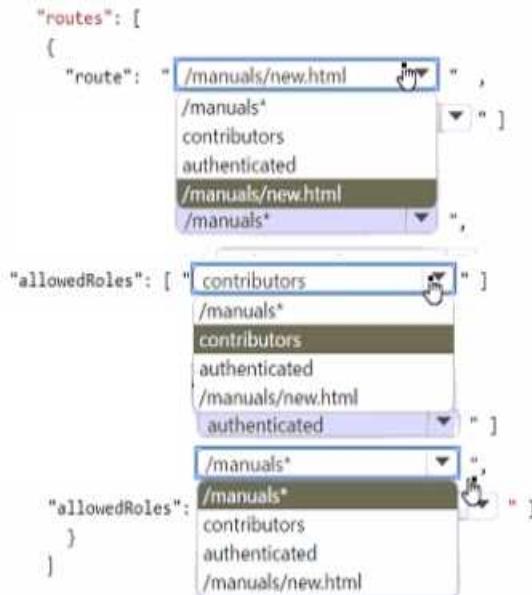
You need to configure the routing for the web app.

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

NOTE: Each correct selection is worth one point.

Answer Area

```
"routes": [
  {
    "route": "/manuals/new.html",
    "allowedRoles": ["contributors"]
  },
  {
    "route": "/manuals*",
    "allowedRoles": ["authenticated"]
  }
]
```



Answer:

Explanation:

Answer Area

```
"routes": [
  {
    "route": "/manuals/new.html",
    "allowedRoles": ["contributors"]
  },
  {
    "route": "/manuals*",
    "allowedRoles": ["authenticated"]
  }
]
```

Question: 353

The solution must receive and store messages until they can be processed. You create an Azure Service Bus instance by providing a name, pricing tier, subscription, resource group, and location.

You need to complete the configuration.

Which Azure CLI or PowerShell command should you run?

A)

```
New-AzureRmResourceGroup  
-Name fridge-rg  
-Location fridge-loc
```

B)

```
connectionString=$(az servicebus namespace authorization-rule keys list  
--resource-group fridge-rg  
--namespace-name fridge-ns  
--name RootManageSharedAccessKey  
--query primaryConnectionString --output tsv)
```

C)

```
New-AzureRmServiceBusQueue  
-ResourceGroupName fridge-rg  
-NamespaceName fridge-ns  
-Name fridge-q  
-EnablePartitioning $False
```

D)

```
New-AzureRmServiceBusNamespace  
-ResourceGroupName fridge-rg  
-NamespaceName fridge-ns  
-Location fridge-loc
```

A. Option A

B. Option B

C. Option C

D. Option D

Answer: C

Explanation:

Question: 354

DRAG DROP

You are developing an application to store millions of images in Azure blob storage. The images are uploaded to an Azure blob storage container named companyimages contained in an Azure blob storage account named companymedi

- a. The stored images are uploaded with multiple blob index tags across multiple blobs in the container.

You must find all blobs whose tags match a search expression in the container. The search expression must evaluate an index tag named status with a value of final.

You need to construct the GET method request URL

How should you complete the URI? To answer, drag the appropriate parameters to the correct request URI targets. Each parameter 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.

Parameters	Answer Area
Status='Final'	https:// [redacted].blob.core.windows.net/ [redacted] ?restype=container&comp=blobs&where=[redacted]
Status <='Final'	
companymedia	
companyimages	

Answer:

Explanation:

Parameters	Answer Area
Status='Final'	https:// companymedia.blob.core.windows.net/ companyimages ?restype=container&comp=blobs&where=[redacted] Status='Final'
Status <='Final'	
companymedia	
companyimages	

Question: 355

HOTSPOT

You are building a software-as-a-service (SaaS) application that analyzes DNA data that will run on Azure virtual machines (VMs) in an availability zone. The data is stored on managed disks attached to the VM. The performance of the analysis is determined by the speed of the disk attached to the VM.

You have the following requirements:

- The application must be able to quickly revert to the previous day's data if a systemic error is detected.
- The application must minimize downtime in the case of an Azure datacenter outage.

You need to provision the managed disk for the VM to maximize performance while meeting the requirements. Which type of Azure Managed Disk should you use? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Answer Area

Requirement	Solution
Disk type	Premium SSD Premium SSD Standard SSD Standard HDD
Redundancy	Geo-redundant storage (GRS) Geo-redundant storage (GRS) Zone-redundant storage (ZRS) Locally-redundant storage (LRS)

Answer:

Explanation:

Answer Area

Requirement	Solution
Disk type	Premium SSD
Redundancy	Geo-redundant storage (GRS)

Question: 356

HOTSPOT

You are developing an online game that allows players to vote for their favorite photo that illustrates a word. The game is built by using Azure Functions and uses durable entities to track the vote count

The voting window is 30 seconds. You must minimize latency.

You need to implement the Azure Function for voting.

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

Answer Area

```
[FunctionName("Vote")]
public static async Task<HttpResponseMessage> Run(
    [HttpTrigger("POST", Route = "pic/{id}")] HttpRequestMessage req,
    SignalEntityAsync c,
    CallEntityAsync
{
    SignalEntityAsync
    [DurableClient] IDurableEntityClient
    [DurableClient] IDurableOrchestrationClient

    return req.CreateResponse(HttpStatusCode.OK);
}

{
    var eid = new EntityId("pic", id);
    await c. [DurableClient] IDurableEntityClient (eid, "vote");
    return req.C
    CallEntityAsync
    SignalEntityAsync
    [DurableClient] IDurableEntityClient
    [DurableClient] IDurableOrchestrationClient
```

Answer:

Explanation:

Answer Area

```
[FunctionName("Vote")]
public static async Task<HttpResponseMessage> Run(
    [HttpTrigger("POST", Route = "pic/{id}")] HttpRequestMessage req,
    SignalEntityAsync c,
    string id)
{
    var eid = new EntityId("pic", id);
    await c. [DurableClient] IDurableEntityClient (eid, "vote");
    return req.CreateResponse(HttpStatusCode.OK);
}
```

Question: 357

HOTSPOT

All functions in the app meet the following requirements:

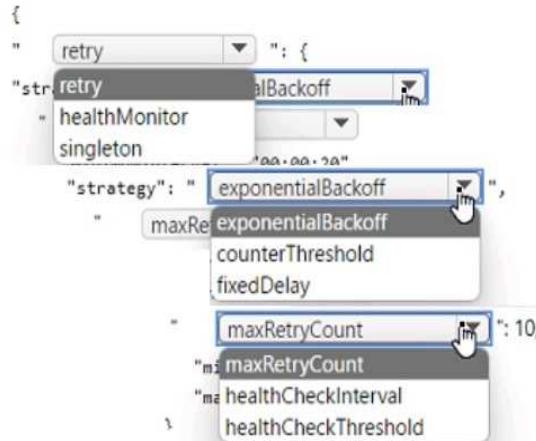
- Run until either a successful run or until 10 run attempts occur.
- Ensure that there are at least 20 seconds between attempts for up to 15 minutes.

You need to configure the host.json file.

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

NOTE: Each correct selection is worth one point.

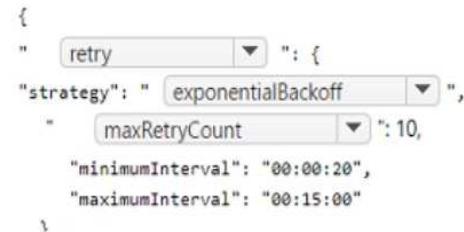
Answer Area



Answer:

Explanation:

Answer Area



Question: 358

HOTSPOT

You are developing an Azure Durable Function based application that processes a list of input values. The application is monitored using a console application that retrieves JSON data from an Azure Function diagnostic endpoint.

During processing a single instance of invalid input does not cause the function to fail. Invalid input must be available to the monitoring application.

You need to implement the Azure Durable Function and the monitoring console application.

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

NOTE: Each correct selection is worth one point.

Answer Area

```
[FunctionName("App")]
public static async Task<List<string>> RunOrchestrator(
    [OrchestrationTrigger] IDurableOrchestrationContext context) {
    EntityId[] input = . . .
    int errIndex = . . .
    await context.CallEntityAsync(input[errIndex], "error");
}
context.SetOutput(input[errIndex])
context.SetCustomStatus(input[errIndex])
context.SignalEntity(input[errIndex], "error")
await context.CallEntityAsync(input[errIndex], "error")
```

}

```
using (var client = new HttpClient())
{
    while (true)
    {
        var response = await client.GetAsync(". . .");
        response.EnsureSuccessStatusCode();
        var json = await response.Content.ReadAsStringAsync();
        dynamic result = JsonConvert.DeserializeObject(json);
        if (result.runtimeStatus == "Failed")
            Failed
        Awaited
        Listening
        Completed
```

Explanation:

Answer:

Answer Area

```
[FunctionName("App")]
public static async Task<List<string>> RunOrchestrator(
    [OrchestrationTrigger] IDurableOrchestrationContext context) {
    EntityId[] input = . . .
    int errIndex = . . .
    await context.CallEntityAsync(input[errIndex], "error") ▾ ;
}
using (var client = new HttpClient())
{
    while (true)
    {
        var response = await client.GetAsync(". . .");
        response.EnsureSuccessStatusCode();
        var json = await response.Content.ReadAsStringAsync();
        dynamic result = JsonConvert.DeserializeObject(json);
        if (result.runtimeStatus == " Failed ▾ ")
        {
```

Question: 359

You are developing an Azure-based web application. The application goes offline periodically to perform offline data processing. While the application is offline, numerous Azure Monitor alerts fire which result in the on-call developer being paged.

The application must always log when the application is offline for any reason.

You need to ensure that the on-call developer is not paged during offline processing.

What should you do?

- A. Add Azure Monitor alert processing rules to suppress notifications.
- B. Create an Azure Monitor Metric Alert.
- C. Build an Azure Monitor action group that suppresses the alerts.
- D. Disable Azure Monitor Service Health Alerts during offline processing.

Answer: C

Explanation:

Question: 360

HOTSPOT

You develop new functionality in a web application for a company that provides access to seismic data from around the world. The seismic data is stored in Redis Streams within an Azure Cache for Redis instance.

The new functionality includes a real-time display of seismic events as they occur.

You need to implement the Azure Cache for Redis command to receive seismic data.

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

NOTE: Each correct selection is worth one point.

Answer Area



Answer:

Explanation:

Answer Area

XREAD ▾ BLOCK 0 ▾ STREAMS seismicData \$ ▾

Question: 361

You develop an ASP.NET Core app that uses Azure App Configuration. You also create an App Configuration containing 100 settings. The app must meet the following requirements:

- Ensure the consistency of all configuration data when changes to individual settings occur.
- Handle configuration data changes dynamically without causing the application to restart.
- Reduce the overall number of requests made to App Configuration APIs.

You must implement dynamic configuration updates in the app.

What are two ways to achieve this goal? Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point.

- A. Increase the App Configuration cache expiration from the default value.
- B. Create and implement environment variables for each App Configuration store setting.
- C. Decrease the App Configuration cache expiration from the default value.
- D. Register all keys in the App Configuration store. Set the refreshAll parameter of the Register method to false.
- E. Create and register a sentinel key in the App Configuration store. Set the refreshAll parameter of the Register method to true.
- F. Create and configure Azure Key Vault. Implement the Azure Key Vault configuration provider.

Answer: A, E

Explanation:

Question: 362

HOTSPOT

You develop a web app that interacts with Azure Active Directory (Azure AD) groups by using Microsoft Graph.

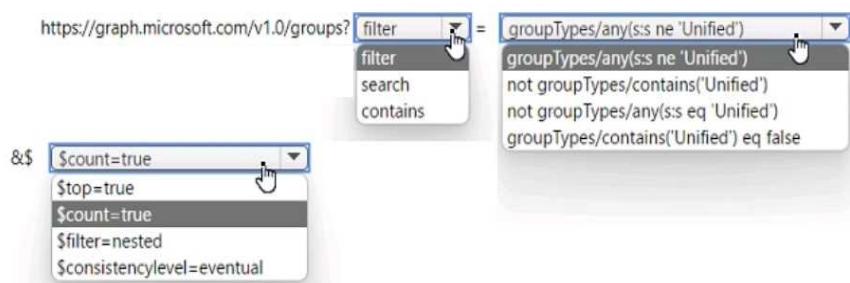
You build a web page that shows all Azure AD groups that are not of the type 'Unified'.

You need to build the Microsoft Graph query for the page.

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

NOTE: Each correct selection is worth one point.

Answer Area



Answer:

Explanation:

Answer Area

https://graph.microsoft.com/v1.0/groups? = & \$

Question: 363

You are updating an application that stores data on Azure and uses Azure Cosmos DB for storage. The application stores data in multiple documents associated with a single username.

The application requires the ability to update multiple documents for a username in a single ACID operation.

You need to configure Azure Cosmos DB.

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

NOTE: Each correct selection is worth one point.

- A. Configure Azure Cosmos DB to use the Azure Cosmos DB for Apache Gremlin API.
- B. Configure Azure Cosmos DB to use the Azure Cosmos DB for MongoDB API.
- C. Create a collection sharded on username to store documents.
- D. Create an unsharded collection to store documents.

Answer: B, D

Explanation:

Question: 364

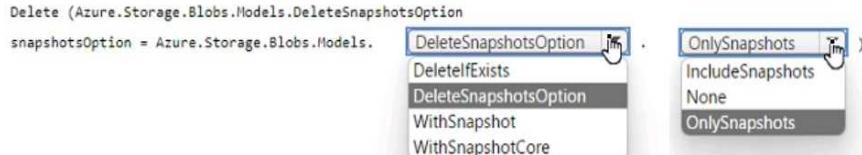
HOTSPOT

An organization deploys a blob storage account. Users take multiple snapshots of the blob storage

account over time. You need to delete all snapshots of the blob storage account. You must not delete the blob storage account itself. How should you complete the code segment? To answer, select the appropriate options in the answer area

- a. NOTE: Each correct selection is worth one point.

Answer Area



Answer:

Explanation:

Answer Area



Question: 365

You are developing a Java application to be deployed in Azure. The application stores sensitive data in Azure Cosmos DB. You need to configure Always Encrypted to encrypt the sensitive data inside the application. What should you do first?

- A. Create a customer-managed key (CMK) and store the key in a new Azure Key Vault instance.
- B. Create an Azure AD managed identity and assign the identity to a new Azure Key Vault instance.
- C. Create a data encryption key (DEK) by using the Azure Cosmos DB SDK and store the key in Azure Cosmos DB.
- D. Create a new container to include an encryption policy with the JSON properties to be encrypted.

Answer: C

Explanation:

Question: 366

An organization deploys Azure Cosmos DB.

You need to ensure that the index is updated as items are created, updated, or deleted.

What should you do?

- A. Set the value of the EnableScanInQuery option to True.
- B. Set the indexing mode to Consistent.
- C. Set the indexing mode to Lazy.
- D. Set the value of the automatic property of the indexing policy to False.

Answer: B

Explanation:

Question: 367

HOTSPOT

You have an App Service plan named aspl based on the Free pricing tier.

You plan to use aspl to implement an Azure Function app with a queue trigger. Your solution must minimize cost.

You need to identify the configuration options that will meet the requirements.

Which value should you configure? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Answer Area

Configuration option	Value
Azure App Service feature	Managed identity
Azure App Service pricing tier	Basic

Answer:

Explanation:

Answer Area

Configuration option	Value
Azure App Service feature	Managed identity
Azure App Service pricing tier	Basic

You are developing several Azure API Management (APIM) hosted APIs.

The APIs have the following requirements:

Require a subscription key to access all APIs.

- Include terms of use that subscribers must accept to use the APIs.
- Administrators must review and accept or reject subscription attempts.
- Limit the count of multiple simultaneous subscriptions.

You need to implement the APIs.

What should you do?

OB.

Create and publish a product.

Configure and apply query string-based versioning.

Configure and apply header-based versioning.

Add a new revision to all APIs. Make the revisions current and add a change log entry.

Question: 368

HOTSPOT

You develop an application that sells AI generated images based on user input. You recently started a marketing campaign that displays unique ads every second day.

Sales data is stored in Azure Cosmos DB with the date of each sale being stored in a property named 'whenFinished'.

The marketing department requires a view that shows the number of sales for each unique ad.

You need to implement the query for the view.

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

NOTE: Each correct selection is worth one point.

Answer Area

The screenshot shows a query builder interface with the following SQL code:

```
SELECT
    count(c.whenFinished),
    max(c.whenFinished),
    sum(c.whenFinished),
    count(c.whenFinished)
FROM c
group by
    DateTimeBin(c.whenFinished, 'day', 2),
    DateTimeBin(c.whenFinished, 'day', 2),
    DateTimePart(c.whenFinished, 'day', 2),
    DateTimeBin(c.whenFinished, 'hour', 12),
    DateTimePart(c.whenFinished, 'hour', 12)
```

The dropdown menus for the SELECT clause and the GROUP BY clause both have a list of options. In the SELECT clause, 'count(c.whenFinished)' is highlighted. In the GROUP BY clause, 'DateTimeBin(c.whenFinished, 'day', 2)' is highlighted.

Answer:

Explanation:

The screenshot shows a query builder interface with the following SQL code:

```
SELECT
    count(c.whenFinished),
    DateTimeBin(c.whenFinished, 'day', 2)
FROM c
group by
    DateTimeBin(c.whenFinished, 'day', 2)
```

Question: 369

HOTSPOT

You plan to implement an Azure Functions app.

The Azure Functions app has the following requirements:

- Must be triggered by a message placed in an Azure Storage queue.
- Must use the queue name set by an app setting named input-queue.

- Must create an Azure Blob Storage named the same as the content of the message.

You need to identify how to reference the queue and blob name in the function. Just file of the Azure Functions app.

How should you reference the names? To answer, select the appropriate values in the answer area.

a. NOTE: Each correct selection is worth one point.

Answer Area

Reference type	Value
Queue name	%input_queue% input_queue (input_queue) %input_queue%
Blob name	(input_queue)/(id) (queueTrigger) (input_queue)/(id) %input_queue%/(filename)

Answer:

Explanation:

Answer Area

Reference type	Value
Queue name	%input_queue%
Blob name	(input_queue)/(id)

Question: 370

DRAG DROP

You have an Azure Cosmos DB for NoSQL account.

You plan to develop two apps named App1 and App2 that will use the change feed functionality to track changes to containers.

App1 will use the pull model and App2 will use the push model.

You need to choose the method to track the most recently processed change in App1 and App2.

Which component should you use? To answer, drag the appropriate components to the correct apps. Each component 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.

Components

- Lease container
- Integrated cache
- Continuation token

Answer Area

App	Component
App1	
App2	

Answer:

Explanation:

Components

- Lease container
- Integrated cache
- Continuation token

Answer Area

App	Component
App1	Continuation token
App2	Lease container

Question: 371

You are developing several Azure API Management (APIM) hosted APIs.

You must transform the APIs to hide private backend information and obscure the technology stack used to implement the backend processing.

You need to protect all APIs.

What should you do?

A. Configure and apply a new inbound policy scoped to a product.

B. Configure and apply a new outbound policy scoped to the operation.

C. Configure and apply a new outbound policy scoped to global.

D. Configure and apply a new backend policy scoped to global.

Answer: A

Explanation:

Question: 372

HOTSPOT

You provisioned an Azure Cosmos DB for NoSQL account named account1 with the default consistency level.

You plan to configure the consistency level on a per request basis. The level needs to be set for consistent prefix for read and write operations to account1.

You need to identify the resulting consistency level for read and write operations.

Which levels should you configure? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Answer Area

Operation type	Resulting consistency level
Read operations	<input type="button" value="▼"/> strong session consistent prefix
Write operations	<input type="button" value="▼"/> strong session consistent prefix

Answer:

Explanation:

Consistent Prefix

Strong

Question: 373

You are developing several Azure API Management (APIM) hosted APIs.

You must inspect request processing of the APIs in APIM. Requests to APIM by using a REST client must also be included. The request inspection must include the following information:

- requests APIM sent to the API backend and the response it received
- policies applied to the response before sending back to the caller
- errors that occurred during the processing of the request and the policies applied to the errors
- original request APIM received from the caller and the policies applied to the request

You need to inspect the APIs.

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

NOTE: Each correct selection is worth one point.

- A. Enable the Allow tracing setting for the subscription used to inspect the API.
- B. Add the Ocp-Apim-Trace header value to the API call with a value set to true
- C. Add the Ocp-Apim-Subscription-Key header value to the key for a subscription that allows access to the API.
- D. Create and configure a custom policy. Apply the policy to the outbound policy section with an API scope.
- E. Create and configure a custom policy. Apply the policy to the inbound policy section with a global scope.

Answer: ABC

Explanation:

The correct answer is A, B, and C. To inspect request processing of the APIs in APIM, you need to do the following three actions:

Enable the Allow tracing setting for the subscription used to inspect the API. This setting allows you to trace request processing in APIM using the test console, a REST client, or a client app. [You can enable this setting in the portal by selecting Subscriptions and then selecting the subscription you want to use for debugging1.](#)

Add the Ocp-Apim-Trace header value to the API call with a value set to true. This header triggers tracing when making requests to APIM using a REST client or a client app. [You also need to add the Ocp-Apim-Subscription-Key header value to the key for a subscription that allows access to the API1.](#)

Add the Ocp-Apim-Subscription-Key header value to the key for a subscription that allows access to the API. This header authenticates your request and grants you access to the API. [You can find the key for your subscription in the portal by selecting Subscriptions and then selecting Show/hide keys1.](#)

You do not need to create and configure a custom policy for tracing request processing. [The trace policy is used to add a custom trace into the request tracing output, Application Insights telemetries, and/or resource logs2.](#) It is not required for inspecting the APIs.

Question: 374

DRAG DROP

You are developing several microservices named service

A. serviceB, and serviceC. You deploy the microservices to a new Azure Container Apps environment.
You have the following requirements.

- The microservices must persist data to storage.
- serviceA must persist data only visible to the current container and the storage must be restricted to the amount of disk space available in the container
- serviceB must persist data for the lifetime of the replica and allow multiple containers in the replica to mount the same storage location.
- serviceC must persist data beyond the lifetime of the replica while allowing multiple containers to access the storage and enable per object permissions.

You need to configure storage for each microservice.

Storage types	Answer Area	Microservice	Storage type
Azure Blob Storage		serviceA	
Azure Files storage		serviceB	
Ephemeral volume		serviceC	
Container file system			

Answer:

Explanation:

Storage types	Answer Area	Microservice	Storage type
Azure Blob Storage		serviceA	Ephemeral volume
Azure Files storage		serviceB	Container file system
Ephemeral volume		serviceC	Azure Files storage
Container file system			

Question: 375

You are building a B2B web application that uses Azure B2B collaboration for authentication. Paying customers authenticate to Azure B2B using federation.

The application allows users to sign up for trial accounts using any email address.

When a user converts to a paying customer, the data associated with the trial should be kept, but the user must authenticate using federation.

You need to update the user in Azure Active Directory (Azure AD) when they convert to a paying customer.

Which Graph API parameter is used to change authentication from one-time password to federation?

- A. uscrFlowType
- B. Status
- C. invittdUstr
- D. resetRedemption

Answer: B

Explanation:

Question: 376

HOTSPOT

You develop two Python scripts to process data.

The Python scripts must be deployed to two, separate Linux containers running in an Azure Container Instance container group. The containers must access external data by using the Server Message

Block (SMB) protocol. Containers in the container group must run only once

You need to configure the Azure Container Instance.

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

NOTE: Each correct selection is worth one point.

Answer Area

Configuration Setting	Configuration Value
-----------------------	---------------------

External data volume	<div style="border: 1px solid #ccc; padding: 5px; width: 200px;"><div style="border-bottom: 1px solid #ccc; padding-bottom: 5px; margin-bottom: 5px;"></div><div style="margin-bottom: 5px;">Secret</div><div style="margin-bottom: 5px;">Empty directory</div><div style="margin-bottom: 5px;">Cloned git repo</div><div style="margin-bottom: 5px;">Azure file share</div></div>
----------------------	--

<div style="border: 1px solid #ccc; padding: 5px; width: 200px;"><div style="border-bottom: 1px solid #ccc; padding-bottom: 5px; margin-bottom: 5px;"></div><div style="margin-bottom: 5px;">Secret</div><div style="margin-bottom: 5px;">Empty directory</div><div style="margin-bottom: 5px;">Cloned git repo</div><div style="margin-bottom: 5px;">Azure file share</div></div>
--

Container restart policy	<div style="border: 1px solid #ccc; padding: 5px; width: 200px;"><div style="border-bottom: 1px solid #ccc; padding-bottom: 5px; margin-bottom: 5px;"></div><div style="margin-bottom: 5px;">Never</div><div style="margin-bottom: 5px;">Always</div><div style="margin-bottom: 5px;">OnFailure</div></div>
--------------------------	---

<div style="border: 1px solid #ccc; padding: 5px; width: 200px;"><div style="border-bottom: 1px solid #ccc; padding-bottom: 5px; margin-bottom: 5px;"></div><div style="margin-bottom: 5px;">Never</div><div style="margin-bottom: 5px;">Always</div><div style="margin-bottom: 5px;">OnFailure</div></div>

Answer:

Explanation:

Answer Area

Configuration Setting Configuration Value

External data volume

Secret
Empty directory
Cloned git repo
Azure file share

Container restart policy

Never
Always
OnFailure

Question: 377

You are developing an Azure Function that calls external APIs by providing an access token for the API. The access token is stored in a secret named token in an Azure Key Vault named mykeyvault.

You need to ensure the Azure Function can access to the token. Which value should you store in the Azure Function App configuration?

A.

```
KeyVault:mykeyvault;Secret:token
```

B.

```
App:Settings:Secret:mykeyvault:token
```

C.

```
AZUREKVCNNSTR_ https://mykeyvault.vault.azure.net/secrets/token/
```

D.

```
@Microsoft.KeyVault(SecretUri=https://mykeyvault.vault.azure.net/secrets/token/)
```

Answer: D

Explanation:

Question: 378

HOTSPOT

You are developing an Azure Function app.

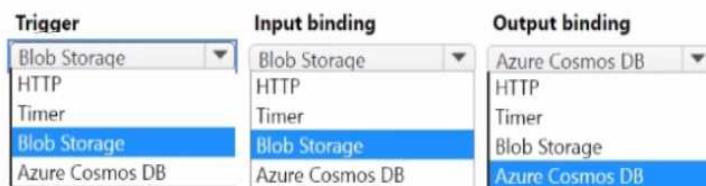
The Azure Function app must enable a WebHook to read an image from Azure Blob Storage and create a new Azure Cosmos DB document.

You need to implement the Azure Function app.

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

NOTE: Each correct selection is worth one point.

Answer Area



Answer:

Explanation:

Answer Area



Question: 379

DRAG DROP

You develop and deploy several APIs to Azure API Management.

You create the following policy fragment named APICounts:

```

<fragment>
  <emit-metric value="1" namespace="custom-metrics">
    <dimension name="User ID" />
    <dimension name="Operation ID" />
    <dimension name="API ID" />
    <dimension name="Client IP" value="@{context.RequestIpAddress}" />
  </emit-metric>
</fragment>

```

The policy fragment must be reused across various scopes and APIs. The policy fragment must be applied to all APIs and run when a calling system invokes any API.

You need to implement the policy fragment.

How should you complete the policy segment? To answer, drag the appropriate XML elements to the correct targets. Each XML element 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.

XML elements	Answer Area
<input type="checkbox"/> name	
<input type="checkbox"/> inbound	
<input type="checkbox"/> outbound	
<input type="checkbox"/> set-variable	
<input type="checkbox"/> fragment-id	
<input type="checkbox"/> include-fragment	


```

<policies>
  <[ ]>
  <[ ] [ ] = "APICounts" />
  <base />
  </[ ]>
  ...
</policies>

```

Answer:

Explanation:

Answer Area

```
<policies>
  < inbound >
    < include-fragment fragment-id = "APICounts" />
    <base />
  </ inbound >
  . . .
</policies>
```

<https://learn.microsoft.com/en-us/azure/api-management/include-fragment-policy>

Question: 380

You are developing a road tollway tracking application that sends tracking events by using Azure Event Hubs using premium tier.

Each road must have a throttling policy uniquely assigned.

You need to configure the event hub to allow for per-road throttling.

What should you do?

- A. Ensure each road has a unique connection string.
- B. Use a unique consumer group for each road
- C. Use a unique application group for each road
- D. Ensure each road stores events in a different partition.

Answer: D

Explanation:

Question: 381

DRAG DROP

An organization has web apps hosted in Azure.

The organization wants to track events and telemetry data in the web apps by using Application Insights.

You need to configure the web apps for Application Insights.

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.

Actions	Answer area
Create an Azure Machine Learning workspace.	
Configure the Azure App Service SDK for the app.	
Create an Application Insights resource.	
Copy the connection string.	
Configure the Application Insights SDK in the app.	

Answer:

Explanation:

Actions	Answer area
Create an Azure Machine Learning workspace.	1 Create an Application Insights resource. 2 Copy the connection string. 3 Configure the Application Insights SDK in the app.
Configure the Azure App Service SDK for the app.	
Create an Application Insights resource.	
Copy the connection string.	
Configure the Application Insights SDK in the app.	

1. Create an Application Insights resource

2. Copy the instrumentation key

3. Install the SDK in your app

<https://learn.microsoft.com/en-us/azure/azure-monitor/app/create-new-resource>

Question: 382

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 on the review screen.

You are implementing an application by using Azure Event Grid to push near-real-time information to customers.

You have the following requirements:

- You must send events to thousands of customers that include hundreds of various event types.
- The events must be filtered by event type before processing.
- Authentication and authorization must be handled by using Microsoft Entra ID.
- The events must be published to a single endpoint.

You need to implement Azure Event Grid.

Solution: Publish events to a partner topic. Create an event subscription for each customer.

Does the solution meet the goal?

A. Yes

B. No

Answer: B

Explanation:

Question: 383

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.

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- Authentication and authorization must be handled by using Microsoft Entra ID.
- The events must be published to a single endpoint

You need to implement Azure Event Grid.

Solution: Publish events to a system topic. Create an event subscription for each customer.

Does the solution meet the goal?

A. Yes

B. No

Answer: A

Explanation:

Question: 384

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.

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- The events must be filtered by event type before processing.
- Authentication and authorization must be handled by using Microsoft Entra ID.
- The events must be published to a single endpoint.

You need to implement Azure Event Grid.

Solution: Publish events to a custom topic. Create an event subscription for each customer.

Does the solution meet the goal?

A. Yes

B. No

Answer: A

Explanation:

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