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# SKILLCERTPRO

IT CERTIFICATION TRAININGS



Microsoft Azure / By SkillCertPro

## Practice Set 3

Your results are here!! for " Microsoft Azure AZ-305 Practice Test 3 "

33 of 70 questions answered correctly

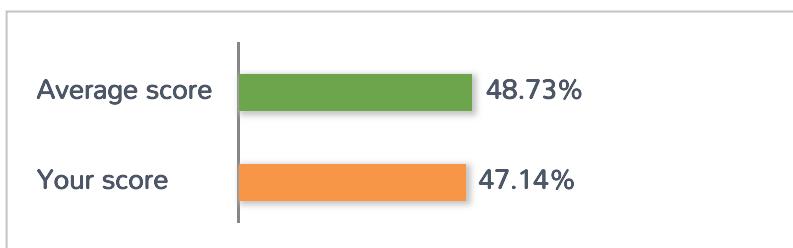
Your time: 08:23:37

Your Final Score is : 33

You have attempted : 70

Number of Correct Questions : 33 and scored 33

Number of Incorrect Questions : 37 and Negative marks 0



You can review your answers by clicking view questions.

**Important Note :** Open Reference Documentation Links in New Tab (Right Click and Open in New Tab).

[Restart Test](#)

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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34

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52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68
69	70															

■ Answered ■ Review

## 1. Question

### Case Study

#### Overview

ADatum Corporation is a financial company that has two main offices in New York and Los Angeles.

ADatum has a subsidiary named Fabrikam, Inc. that shares the Los Angeles office.

ADatum is conducting an initial deployment of Azure services to host new line-of-business applications and is preparing to migrate its existing on-premises workloads to Azure.

ADatum uses Microsoft Exchange Online for email.

#### Existing Environment

#### On-Premises Environment

The on-premises workloads run on virtual machines hosted in a VMware vSphere 6 infrastructure. All the virtual machines are members of an Active Directory forest named adatum.com and run Windows Server 2016.

The New York office uses an IP address space of 10.0.0.0/16. The Los Angeles office uses an IP address space of 10.10.0.0/16.

The offices connect by using a VPN provided by an ISP. Each office has one Azure ExpressRoute circuit that provides access to Azure services and Microsoft Online Services. Routing is implemented by using Microsoft peering.

The New York office has a virtual machine named VM1 that has the vSphere console installed.

#### Azure Environment

You provision the Azure infrastructure by using the Azure portal. The infrastructure contains the resources

shown in the following table.

Name	Type	Azure Region
ASRV1	Azure Site Recovery vault	East US
ASRV2	Azure Site Recovery vault	West US
ASE1	Azure App Service Environment	East US
AG1	Azure Application Gateway (internal)	East US
AG2	Azure Application Gateway (Internet-facing)	West US
ER1	ExpressRoute circuit	East US
ER2	ExpressRoute circuit	West US

AG1 has two backend pools named Pool11 and Pool12. AG2 has two backend pools named Pool21 and Pool22.

#### Requirements

#### Planned Changes

ADatum plans to migrate the virtual machines from the New York office to the East US Azure region by using Azure Site Recovery.

#### Infrastructure Requirements

ADatum identifies the following infrastructure requirements:

- A new web app named App1 that will access third-parties for credit card processing must be deployed.
- A newly developed API must be implemented as an Azure function named App2. App2 will use a blob storage trigger. App2 must process new blobs immediately.
- The Azure infrastructure and the on-premises infrastructure must be prepared for the migration of the VMware virtual machines to Azure.
- The sizes of the Azure virtual machines that will be used to migrate the on-premises workloads must be identified.
- All migrated and newly deployed Azure virtual machines must be joined to the adatum.com domain.
- AG1 must load balance incoming traffic in the following manner:
  - [http://corporate.adatum.com/video/\\*](http://corporate.adatum.com/video/*) will be load balanced across Pool11.
  - [http://corporate.adatum.com/images/\\*](http://corporate.adatum.com/images/*) will be load balanced across Pool12.
- AG2 must load balance incoming traffic in the following manner:
  - <http://www.adatum.com> will be load balanced across Pool21.
  - <http://fabrikam.com> will be load balanced across Pool22.
- ER1 must route traffic between the New York office and platform as a service (PaaS) services in the

East US Azure region, as long as ER1 is available.

- ER2 must route traffic between the Los Angeles office and the PaaS services in the West US region, as long as ER2 is available.
- ER1 and ER2 must be configured to fail over automatically.

#### Application Requirements

App2 must be available to connect directly to the private IP addresses of the Azure virtual machines. App2 will be deployed directly to an Azure virtual network.

Inbound and outbound communications to App1 must be controlled by using NSGs.

#### Pricing Requirements

ADatum identifies the following pricing requirements:

- The cost of App1 and App2 must be minimized
- The transactional charges of Azure Storage accounts must be minimized

You need to prepare the New York office infrastructure for the migration of the on-premises virtual machines to Azure.

Which four actions should you perform in sequence?

- From an Azure portal, download the OVF file.
- From VM1, connect to the collector virtual machine.
- From VM1, deploy a virtual machine.
- From the ASRV1 blade in the Azure portal, select a protection goal.
- From VM1, register the configuration server.

#### Incorrect

You will have to perform actions mentioned in below article in migrating the VM to Azure.

<https://docs.microsoft.com/en-us/azure/site-recovery/vmware-azure-tutorial>

## 2. Question

Kloudviva Azure Subscription has a virtual Network named VNet1 with two subnets Subnet1 & Subnet2 respectively. The subscription has below VM's. You need to deploy an application gateway named AppGW1 to VNet1, what should you do first?

- Create a Network Security Group (NSG1)
- Add a new virtual Network (VNet2)
- Add a subnet

- Add a load balancer in a separate region.

### Correct

For Azure to communicate between the resources that you create, it needs a virtual network. Application Gateway instances are created in separate subnets (One for Application Gateway & other for Backend Servers) In this scenario we only observe subnets for backend servers, but not for Application gateway, so you will need to create a subnet first. <https://docs.microsoft.com/en-us/azure/application-gateway/create-multiple-sites-portal#create-an-application-gateway>

### 3. Question

You are designing a virtual network to support a web application. The web application uses Blob storage to store large images. The web application will be deployed to an Azure App Service Web App. You have the following requirements:

- Secure all communications by using Secured Socket layer (SSL) – SSL encryption and decryption must be processed efficiently to support high traffic load on the web application
- Protect the web application from web vulnerabilities and attacks without modification to backend code
- Optimize web application responsiveness and reliability by routing HTTP request and responses to the endpoint with the lowest network latency for the client. You need to meet SSL Encrypt / Decrypt requirement. What Azure component do you recommend?

- Azure Monitor
- Azure Application gateway
- Azure Traffic Manager
- Azure Security Center

### Correct

Azure Application Gateway supports end-to-end encryption of traffic. Application Gateway terminates the SSL connection at the application gateway. The gateway then applies the routing rules to the traffic, re-encrypts the packet, and forwards the packet to the appropriate back-end server based on the routing rules defined. Any response from the web server goes through the same process back to the end user.  
<https://docs.microsoft.com/en-us/azure/application-gateway/application-gateway-end-to-end-sslpowershell>

### 4. Question

You have an on-premises network that contains a Hyper-V host named Host1. Host1 runs Windows Server 2016 and hosts 10 virtual machines that run Windows Server 2016. You plan to replicate the virtual machines to Azure by using Azure Site Recovery. You create a Recovery Services vault named ASR1 and a Hyper-V site named Site1. You need to add Host1 to ASR1. What should you do?

- Download the installation file for the Azure Site Recovery Provider. Download the storage account key. Install the Azure Site Recovery Provider on each virtual machine and register the virtual machines.
- Download the installation file for the Azure Site Recovery Provider. Download the storage account key. Install the Azure Site Recovery Provider on Host1 and register the server.
- Download the installation file for the Azure Site Recovery Provider. Download the vault registration key. Install the Azure Site Recovery Provider on Host1 and register the server.
- Download the installation file for the Azure Site Recovery Provider. Download the vault registration key. Install the Azure Site Recovery Provider on each virtual machine and register the virtual machines

Correct

<https://docs.microsoft.com/en-us/azure/site-recovery/hyper-v-azure-tutorial> Setup the source environment following steps below to start with replication process <https://docs.microsoft.com/en-us/azure/site-recovery/hyper-v-azure-tutorial#set-up-the-source-environment>

## 5. Question

You have an Azure subscription named Subscription1. Subscription1 contains a resource group named RG1. RG1 contains resources that were deployed by using templates. You need to view the date and time when the resources were created in RG1. You recommend to go From the RG1 blade, you click Deployments. Does this meet the goal?

- No
- Yes

Correct

## 6. Question

Case Study

Overview

LabelMaker app – Coho Winery produces bottles, and distributes a variety of wines globally. You are 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.

**Data –**

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

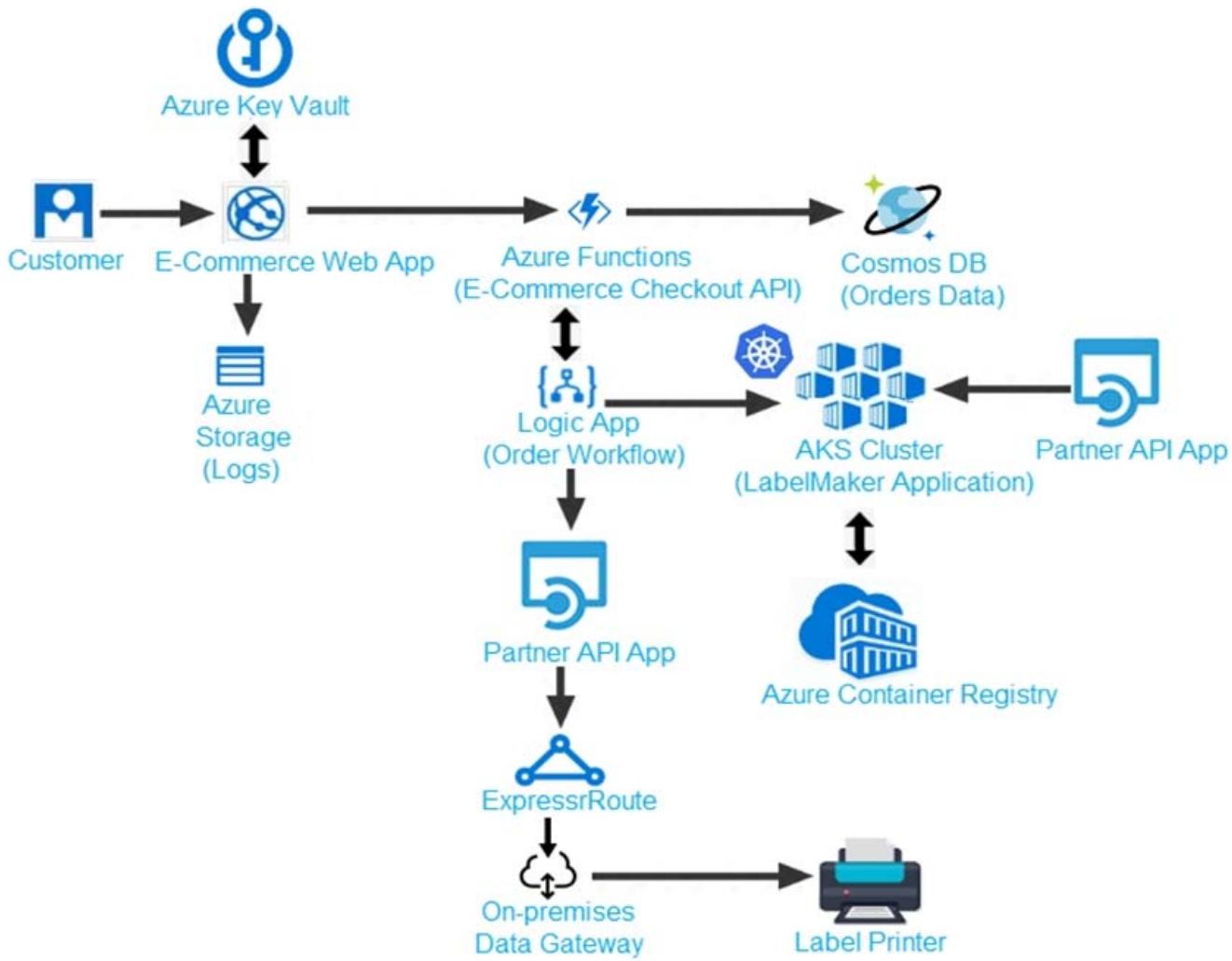
You have the following security requirements:

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

**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.



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

Printer communications 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 –



```
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   "country" : "Manhattan",
42   "city" : "NY"
43 }
44 }
```

You need to meet the LabelMaker application security requirement. You recommend to Create a RoleBinding and assign it to the Azure AD account. Does the solution meet the goal?

No

Yes

**Correct**

Scenario: The LabelMaker applications must be secured by using an AAD account that has full access to all namespaces of the Azure Kubernetes Service (AKS) cluster. Permissions can be granted within a

namespace with a RoleBinding, or cluster-wide with a ClusterRoleBinding.

<https://kubernetes.io/docs/reference/access-authn-authz/rbac/>

## 7. Question

You are designing a solution to secure a company's Azure resources. The environment hosts 10 teams. Each team manages a project and has a project manager, a virtual machine (VM) operator, developers, and contractors. Project managers must be able to manage everything except access and authentication for users. VM operators must be able to manage VMs, but not the virtual network or storage account to which they are connected. Developers and contractors must be able to manage storage accounts. You recommend below roles for based employee type. Project Manager – Owner VM Operators – Contributor Developers – Virtual Machine Contributor Contractors – Virtual Machine Contributor Does this meet the requirement?

No

Yes

Incorrect

## 8. Question

Case Study

Overview

Contoso, Ltd. is a consulting company that has a main office in Montreal and two branch offices in Seattle and New York.

The Montreal office has 2,000 employees. The Seattle office has 1,000 employees. The New York office has 200 employees.

All the resources used by Contoso are hosted on-premises.

Contoso creates a new Azure subscription. The Azure Active Directory (Azure AD) tenant uses a domain named contoso.onmicrosoft.com. The tenant uses the P1 pricing tier.

Existing Environment

The network contains an Active Directory forest named contoso.com. All domain controllers are configured as DNS servers and host the contoso.com DNS zone.

Contoso has finance, human resources, sales, research, and information technology departments. Each department has an organizational unit (OU) that contains all the accounts of that respective department. All the user accounts have the department attribute set to their respective department. New users are added frequently.

Contoso.com contains a user named User1.

All the offices connect by using private links.

Contoso has data centers in the Montreal and Seattle offices. Each data center has a firewall that can be configured as a VPN device.

All infrastructure servers are virtualized. The virtualization environment contains the servers in the following table.

Name	Role	Contains Virtual Machine
Server1	VMWare vCenter Server	VM1
Server2	Hyper-V Host	VM2

Contoso uses two web applications named App1 and App2. Each instance on each web application requires 1GB of memory.

The Azure subscription contains the resources in the following table.

Name	Type
VNet1	Virtual Network
VM3	Virtual Machine
VM4	Virtual Machine

The network security team implements several network security groups (NSGs).

#### Planned Changes

Contoso plans to implement the following changes:

- Deploy Azure ExpressRoute to the Montreal office.
- Migrate the virtual machines hosted on Server1 and Server2 to Azure.
- Synchronize on-premises Active Directory to Azure Active Directory (Azure AD).
- Migrate App1 and App2 to two Azure web apps named WebApp1 and WebApp2.

#### Technical Requirements

Contoso must meet the following technical requirements:

- Ensure that WebApp1 can adjust the number of instances automatically based on the load and can scale up to five instances.
- Ensure that VM3 can establish outbound connections over TCP port 8080 to the applications servers in the Montreal office.
- Ensure that routing information is exchanged automatically between Azure and the routers in the Montreal office.
- Enable Azure Multi-Factor Authentication (MFA) for the users in the finance department only.
- Ensure that webapp2.azurewebsites.net can be accessed by using the name app2.contoso.com
- Connect the New York office to VNet1 over the Internet by using an encrypted connection.
- Create a workflow to send an email message when the settings of VM4 are modified.
- Create a custom Azure role named Role1 that is based on the Reader role.

- Minimize costs whenever possible. You need to configure a host name for WebApp2. What should you do first?

- In the public DNS zone of contoso.onmicrosoft.com, add an NS record
- In Azure AD, add contoso.com as a custom domain name
- In Azure AD, add webapp2.azurewebsites.net as a custom domain name
- In the public DNS zone of contoso.com, add a CNAME record

#### Incorrect

Technical Requirements : Ensure that webapp2.azurewebsites.net can be accessed by using the name app2.contoso.com

When you create a Cloud Service, Azure assigns it to a subdomain of cloudapp.net. For example, if your Cloud Service is named “contoso”, your users will be able to access your application on a URL like <http://contoso.cloudapp.net>. Azure also assigns a virtual IP address.

However, you can also expose your application on your own domain name, such as contoso.com.  
<https://docs.microsoft.com/en-us/azure/cloud-services/cloud-services-custom-domain-name-portal>

## 9. Question

You have the Azure virtual machines shown below.

Name	Azure Region
VM1	West Europe
VM2	West Europe
VM3	North Europe
VM4	North Europe

You have a Recovery Services vault that protects VM1 and VM2. You need to protect VM3 and VM4 by using Recovery Services. What should you do first?

- Configure the extensions for VM3 and VM4
- Create a new Recovery Services vault
- Create a new backup policy
- Create a storage account

#### Correct

A Recovery Services vault is a storage entity in Azure that houses data. The data is typically copies of data, or configuration information for virtual machines (VMs), workloads, servers, or workstations. You

can use Recovery Services vaults to hold backup data for various Azure services References

<https://docs.microsoft.com/en-us/azure/site-recovery/azure-to-azure-tutorial-enable-replication#create-a-recovery-services-vault>

## 10. Question

You have an Azure subscription. You plan to deploy an app that has a web front end and an application tier.

You need to recommend a load balancing solution that meets the following requirements: Web tier to application tier:

- Provides port forwarding
- Supports HTTPS health probes
- Supports an availability set as a backend pool

Which load balancing solution should you recommend for Web tier to application tier?

- An internal Azure Standard Load Balancer
- A public Azure Basic Load Balancer
- A private Azure Basic Load Balancer
- An Azure Application Gateway that has a web application firewall (WAF)

### Incorrect

The internet to web tier is the public interface, while the web tier to application tier should be internal.

Note: When using load-balancing rules with Azure Load Balancer, you need to specify a health probes to allow Load Balancer to detect the backend endpoint status. Health probes support the TCP, HTTP, HTTPS protocols. <https://docs.microsoft.com/en-us/azure/load-balancer/load-balancer-custom-probe-overview>

## 11. Question

You have a resource group named RG1 that contains the following:

- A virtual network that contains two subnets named Subnet1 and Subnet2
- An Azure Storage account named contososa1
- An Azure firewall deployed to Subnet2

You need to ensure that contososa1 is accessible from Subnet1 over the Azure backbone network. What should you do?

- Remove the Azure firewall
- Implement a virtual network service endpoint
- Create a stored access policy for contososa1
- Deploy an Azure firewall to Subnet1

### Correct

Virtual Network (VNet) service endpoints extend your virtual network private address space and the identity of your VNet to the Azure services, over a direct connection. Endpoints allow you to secure your

critical Azure service resources to only your virtual networks. Traffic from your VNet to the Azure service always remains on the Microsoft Azure backbone network. <https://docs.microsoft.com/en-us/azure/virtual-network/virtual-network-service-endpoints-overview#key-benefits>

## 12. Question

You plan to back up an Azure virtual machine named VM1. You discover that the Backup Pre-Check status displays a status of Warning. What is a possible cause of the Warning status?

- VM1 has an unmanaged disk
- VM1 does not have the latest version of WaAppAgent.exe installed
- VM1 is stopped
- A Recovery Services vault is unavailable

### Incorrect

The Warning state indicates one or more issues in VM's configuration that might lead to backup failures and provides recommended steps to ensure successful backups. Not having the latest VM Agent installed, for example, can cause backups to fail intermittently and falls in this class of issues.

<https://azure.microsoft.com/en-us/blog/azure-vm-backup-pre-checks/>

## 13. Question

You have an Azure virtual machine named VM1 that you use for testing. VM1 is protected by Azure Backup. You delete VM1. You need to remove the backup data stored for VM1. What should you do first?

- Delete the Recovery Services vault
- Stop the backup
- Delete the storage account
- Modify the backup policy

### Incorrect

Azure Backup provides backup for virtual machines — created through both the classic deployment model and the Azure Resource Manager deployment model — by using custom-defined backup policies in a Recovery Services vault. With the release of backup policy management, customers can manage backup policies and model them to meet their changing requirements from a single window. Customers can edit a policy, associate more virtual machines to a policy, and delete unnecessary policies to meet their compliance requirements. <https://azure.microsoft.com/en-in/updates/azure-vm-backup-policy-management/>

## 14. Question

You have an Azure tenant that contains two subscriptions named Subscription1 and Subscription2.

In Subscription1, you deploy a virtual machine named Server1 that runs Windows Server 2016. Server1 uses managed disks.

You need to move Server1 to Subscription2. The solution must minimize administration effort.

What should you do first?

- In Subscription2, create a copy of the virtual disk
- Create a snapshot of the virtual disk
- Run the `Move-AzureResource` cmdlet from Azure PowerShell
- Create a new virtual machine in Subscription2

### Correct

To move existing resources to another resource group or subscription, use the `Move-AzureResource` cmdlet.

<https://docs.microsoft.com/en-us/azure/azure-resource-manager/management/move-resource-group-and-subscription#use-azure-powershell>

You can even do this via portal, but it is easy over PowerShell

<https://docs.microsoft.com/en-us/azure/azure-resource-manager/management/move-resource-group-and-subscription#use-the-portal>

## 15. Question

You are developing a SMS-based testing solution. The solution sends users a question by using SMS. Early responders may qualify for prizes. Users must respond with an answer choice within 90 seconds. You must be able to track how long it takes each user to respond. You create a durable Azure Function named `SendSmsQuizQuestion` that uses Twilio to send messages. You need to write the code for `MessageQuiz`.

How should you complete the code? [FunctionName("MessageQuiz")] public static async Task Run([OrchestrationTrigger]DurableOrchestrationContext context) { string phoneNumber = context.GetInput(); int correctAnswerCode = await context.CallActivityAsync challengeResponseTask = context.WaitForExternalEvent("SmsQuizResponse"); Task winner = await Task.WhenAny(challengeResponseTask, timeoutTask); if (winner == challengeResponseTask) { if(challengeResponseTask.Result == correctAnswerCode) { isWinner = true; break; } } else { break; } if (!cts.IsCancellationRequested) { cts.Cancel(); } return isWinner; }

- var timeoutTask = context.CallSubOrchestratorAsync("timeout", expiration);
- var timeoutTask = context.CreateTimer(expiration, cts.Token);

- var timeoutTask = context.WaitForExternalEvent("timeout", 90000);
- var timeoutTask = context.CallActivityAsync("timeout", expiration);

### Incorrect

Serverless architectures allow developers to write code that runs in the cloud without managing servers. “Serverless” applications can be very efficient with compute resources (significantly reducing associated costs) by only running in response to events like API requests. Microsoft Azure’s offering for serverless code is called Azure Functions. <https://www.twilio.com/docs/usage/tutorials/serverless-webhooks-azure-functions-and-csharp> <https://docs.microsoft.com/en-us/azure/azure-functions/functions-bindings-twilio?tabs=csharp>

## 16. Question

You have an Azure Service Bus. You need to implement a Service Bus queue that guarantees first-in-first-out (FIFO) delivery of messages. How can you achieve this?

- Enable partitioning
- Enable duplicate detection
- Set the Max Size setting of the queue to 5 GB
- Set the Lock Duration setting to 10 seconds
- Enable sessions

### Incorrect

To create a first-in, first-out (FIFO) guarantee in Service Bus, use sessions. Message sessions enable joint and ordered handling of unbounded sequences of related messages. <https://docs.microsoft.com/en-us/azure/service-bus-messaging/service-bus-messaging-overview#message-sessions>

## 17. Question

### Case Study

#### Overview

Best For You Organics Company is a global restaurant franchise that has multiple locations. The company wants to enhance user experiences and vendor integrations. The company plans to implement automated mobile ordering and delivery services.

Best For You Organics hosts an Azure web app at the URL <https://www.bestforyouorganics.com>. Users can use the web app to browse restaurant location, menu items, nutritional information, and company information. The company developed and deployed a cross-platform mobile app.

## Requirements

### Chatbot

You must develop a chatbot by using the Bot Builder SDK and Language Understanding Intelligence Service (LUIS). The chatbot must allow users to order food for pickup or delivery.

The chatbot must meet the following requirements:

- Ensure that chatbot is secure by using the Bot Framework connector.
- Use natural language processing and speech recognition so that users can interact with the chatbot by using text and voice. Processing must be server-based.
- Alert users about promotions at local restaurants.
- Enable users to place an order for delivery or pickup by using their voice.
- Greet the user upon sign-in by displaying a graphical interface that contains action buttons.
- The chatbot greeting interface must match the formatting of the following example:

## Welcome to the Restaurant



**John Doe**  
**Sun, Aug 26, 2018**

**Welcome to Best For You Organics Company!**  
**How can we help you today?**

**Specials: Chicken Masala**

**Order Pickup      Order Delivery**

### Vendor API

Vendors receive and provide updates for the restaurant inventory and delivery services by using Azure API Management hosted APIs. Each vendor uses their own subscription to access each of the APIs.

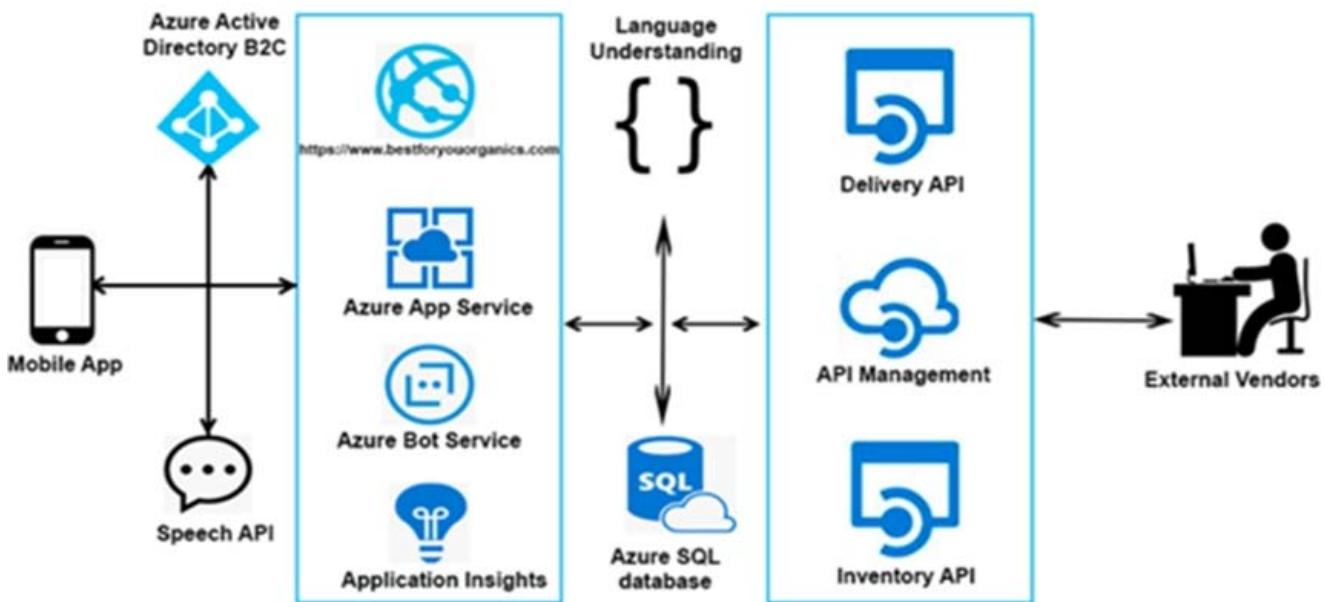
APIs must meet the following conditions:

- API usage must not exceed 5,000 calls and 50,000 kilobytes of bandwidth per hour per vendor.
- If a vendor is nearing the number of calls or bandwidth limit, the API must trigger email notifications

to the vendor.

- API must prevent API usage spikes on a per-subscription basis by limiting the call rate to 100 calls per minute.
- The Inventory API must be written by using ASP.NET Core and Node.js.
- The API must be updated to provide an interface to Azure SQL Database objects must be managed by using code.
- The Delivery API must be protected by using the OAuth 2.0 protocol with Azure Active Directory (Azure AD) when called from the Azure web app. You register the Delivery API and web app in Azure AD. You enable OAuth 2.0 in the web app.
- The delivery API must update the Products table, the Vendor transactions table, and the Billing table in a single transaction.

The Best For You Organics Company architecture team has created the following diagram depicting the expected deployments into Azure:



Architecture

Issues

Delivery API

The Delivery API intermittently throws the following exception:

"System.Data.Entity.Core.EntityCommandExecutionException: An error occurred while executing the command definition. See the inner exception for details. –>System.Data.SqlClient.SqlException: A transport-level error has occurred when receiving results from the server. (provider: Session Provider, error: 19 –Physical connection is not usable)"

Chatbot greeting

The chatbot's greeting does not show the user's name. You need to debug the chatbot locally.

### Language processing

Users report that the bot fails to understand when a customer attempts to order dishes that use Italian names.

### App code

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.

#### Startup.cs

```
SU01 namespace DeliveryApi
SU02 {
SU03     public class Startup
SU04     {
SU05         public Startup(IConfiguration configuration)
SU06         {
SU07             Configuration = configuration;
SU08         }
SU09         public IConfiguration Configuration { get; }
SU10         public void ConfigureServices(IServiceCollection services)
SU11         {
SU12             services.AddDbContext<RestaurantsContext>(opt =>
SU13                 opt.UseSqlServer(Configuration.GetSection("ConnectionStrings")
["RestaurantDatabase"]),
SU14                 sqlServerOptionsAction: sqlOptions =>
SU15                 {
SU16                     . .
SU17                 }));
SU18             services.AddMvc()
SU19                 .SetCompatibilityVersion(CompatibilityVersion.Version_2_1);
SU20         }
SU21         public void Configure(IApplicationBuilder app)
SU22         {
SU23             app.UseMvc();
SU24         }
SU25     }
SU26 }
```

You need to meet the vendor notification requirement. You recommend to Configure notifications in the Azure API Management instance. Does the solution meet the goal?

Yes

No

Incorrect

<https://docs.microsoft.com/en-us/azure/api-management/api-management-howto-configure-notifications>

## 18. Question

You are developing a solution that requires serverless code execution in Azure. The solution has two functions that must run in a specific order. You need to ensure that the second function can use the output from the first function. How should you complete the code?

```
public static async TaskRun( Context) { try { var f1Result = await context.CallActivityAsync("AzureFunction01", null); return await context. ("AzureFunction02", f1Result); } catch(Exception context) { ... } }
```

DurableActivityContext

DurableOrchestrationStatus

DurableOrchestrationContext

WaitForExternalEvent

CallSubOrchestratorAsync

CallActivityAsync

### Incorrect

In the function chaining pattern, a sequence of functions executes in a specific order. In this pattern, the output of one function is applied to the input of another function.

```
[FunctionName("Chaining")]
public static async TaskRun([OrchestrationTrigger] IDurableOrchestrationContext context) { try { var x = await context.CallActivityAsync("F1", null); var y = await context.CallActivityAsync("F2", x); var z = await context.CallActivityAsync("F3", y); return await context.CallActivityAsync("F4", z); } catch (Exception) { // Error handling or compensation goes here. } }
```

<https://docs.microsoft.com/en-us/azure/azure-functions/durable/durable-functions-overview?tabs=csharp#chaining>

## 19. Question

You are building a custom Azure function app to connect to Azure Event Grid. You need to ensure that resources are allocated dynamically to the function app. Billing must be based on the executions of the app. What should you configure when you create the function app?

The Docker container and an App Service plan that uses the B1 pricing tier

the Windows operating system and the Consumption plan hosting plan

The Windows operating system and the App Service plan hosting plan

The Docker container and an App Service plan that uses the S1 pricing tier

### Correct

Instances of the Azure Functions host are dynamically added and removed based on the number of incoming events in consumption plan <https://docs.microsoft.com/en-us/azure/azure-functions/functions-scale#consumption-plan>

## 20. Question

You have an Azure subscription that contains an Azure Service Bus named Bus1. Your company plans to deploy Azure web app named App1. The web app will create messages that have the following requirements: Each message created by App1 must be consumed by only a single consumer. Which resource should you create for app1?

A Service Bus Queue

- An Azure Event Grid topic
- A Service Bus topic
- Azure Blob Storage

### Correct

Queues offer First In, First Out (FIFO) message delivery to one or more competing consumers. That is, receivers typically receive and process messages in the order in which they were added to the queue, and only one message consumer receives and processes each message. A key benefit of using queues is to achieve “temporal decoupling” of application components. In other words, the producers (senders) and consumers (receivers) do not have to be sending and receiving messages at the same time, because messages are stored durably in the queue. Furthermore, the producer does not have to wait for a reply from the consumer in order to continue to process and send messages. <https://docs.microsoft.com/en-us/azure/service-bus-messaging/service-bus-queues-topics-subscriptions#queues>

## 21. Question

### Case Study

#### Overview

Contoso, Ltd. is a consulting company that has a main office in Montreal and two branch offices in Seattle and New York.

The Montreal office has 2,000 employees. The Seattle office has 1,000 employees. The New York office has 200 employees.

All the resources used by Contoso are hosted on-premises.

Contoso creates a new Azure subscription. The Azure Active Directory (Azure AD) tenant uses a domain named contoso.onmicrosoft.com. The tenant uses the P1 pricing tier.

#### Existing Environment

The network contains an Active Directory forest named contoso.com. All domain controllers are configured

as DNS servers and host the contoso.com DNS zone.

Contoso has finance, human resources, sales, research, and information technology departments. Each department has an organizational unit (OU) that contains all the accounts of that respective department. All the user accounts have the department attribute set to their respective department. New users are added frequently.

Contoso.com contains a user named User1.

All the offices connect by using private links.

Contoso has data centers in the Montreal and Seattle offices. Each data center has a firewall that can be configured as a VPN device.

All infrastructure servers are virtualized. The virtualization environment contains the servers in the following table.

Name	Role	Contains Virtual Machine
Server1	VMWare vCenter Server	VM1
Server2	Hyper-V Host	VM2

Contoso uses two web applications named App1 and App2. Each instance on each web application requires 1GB of memory.

The Azure subscription contains the resources in the following table.

Name	Type
VNet1	Virtual Network
VM3	Virtual Machine
VM4	Virtual Machine

The network security team implements several network security groups (NSGs).

Planned Changes

Contoso plans to implement the following changes:

- Deploy Azure ExpressRoute to the Montreal office.
- Migrate the virtual machines hosted on Server1 and Server2 to Azure.
- Synchronize on-premises Active Directory to Azure Active Directory (Azure AD).
- Migrate App1 and App2 to two Azure web apps named WebApp1 and WebApp2.

Technical Requirements

Contoso must meet the following technical requirements:

- Ensure that WebApp1 can adjust the number of instances automatically based on the load and can

scale up to five instances.

- Ensure that VM3 can establish outbound connections over TCP port 8080 to the applications servers in the Montreal office.
- Ensure that routing information is exchanged automatically between Azure and the routers in the Montreal office.
- Enable Azure Multi-Factor Authentication (MFA) for the users in the finance department only.
- Ensure that webapp2.azurewebsites.net can be accessed by using the name app2.contoso.com
- Connect the New York office to VNet1 over the Internet by using an encrypted connection.
- Create a workflow to send an email message when the settings of VM4 are modified.
- Create a custom Azure role named Role1 that is based on the Reader role.
- Minimize costs whenever possible.

You need to meet the technical requirement for VM4. What should you create and configure?

- an Azure Event Hub
- an Azure Logic App
- an Azure Notification Hub
- an Azure Service Bus

### Correct

To monitor and respond to specific events that happen in Azure resources or third-party resources, you can automate and run tasks as a workflow by creating a logic app that uses minimal code. These resources can publish events to an Azure event grid. In turn, the event grid pushes those events to subscribers that have queues, webhooks, or event hubs as endpoints. As a subscriber, your logic app can wait for those events from the event grid before running automated workflows to perform tasks.

<https://docs.microsoft.com/en-us/azure/event-grid/monitor-virtual-machine-changes-event-grid-logic-app#send-email-notifications>

## 22. Question

You are developing a SMS-based testing solution. The solution sends users a question by using SMS. Early responders may qualify for prizes. Users must respond with an answer choice within 90 seconds. You must be able to track how long it takes each user to respond. You create a durable Azure Function named SendSmsQuizQuestion that uses Twilio to send messages. You need to write the code for MessageQuiz. How should you complete the code? [FunctionName("MessageQuiz")] public static async Task Run([OrchestrationTrigger]DurableOrchestrationContext context) { string phoneNumber = context.GetInput(); int correctAnswerCode = await context.CallActivityAsync challengeResponseTask = context.WaitForExternalEvent("SmsQuizResponse"); Task winner = await Task.WhenAny(challengeResponseTask, timeoutTask); if (winner == challengeResponseTask) {

```
if(challengeResponseTask.Result == correctAnswerCode) { isWinner = true; break; } } else { break; } }  
_____ { cts.Cancel(); } return isWinner; }
```

- if (!cts.IsCancellationRequested)
- if (!timeoutTask.IsCancelled)
- if (!timeoutTask.IsCompleted)
- if (!context.IsReplaying)

### Correct

Serverless architectures allow developers to write code that runs in the cloud without managing servers. “Serverless” applications can be very efficient with compute resources (significantly reducing associated costs) by only running in response to events like API requests. Microsoft Azure’s offering for serverless code is called Azure Functions. <https://www.twilio.com/docs/usage/tutorials/serverless-webhooks-azure-functions-and-csharp> <https://docs.microsoft.com/en-us/azure/azure-functions/functions-bindings-twilio?tabs=csharp>

## 23. Question

Case Study

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

#### 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.

#### 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.

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
EG36                      new List<Dictionary<string, string>>()
EG37                      {
EG38                          new Dictionary<string, string>()
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 }
```

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 }
```

You need to resolve a notification latency issue. Which two actions should you perform?

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

**Correct**

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

**24. Question**

You are developing an Azure Durable Function instance. You need to add a delay by using a durable timer. What type of function should you use?

Activity

- Orchstrator
- Web hook
- Client

**Correct**

Activity functions aren't restricted in the type of work you can do in them. Activity functions are frequently used to make network calls or run CPU intensive operations. An activity function can also return data back to the orchestrator function. The Durable Task Framework guarantees that each called activity function will be executed at least once during an orchestration's execution.

<https://docs.microsoft.com/en-us/azure/azure-functions/durable/durable-functions-types-features-overview#activity-functions>

## 25. Question

Case Study

Overview

ADatum Corporation is a financial company that has two main offices in New York and Los Angeles.

ADatum has a subsidiary named Fabrikam, Inc. that shares the Los Angeles office.

ADatum is conducting an initial deployment of Azure services to host new line-of-business applications and is preparing to migrate its existing on-premises workloads to Azure.

ADatum uses Microsoft Exchange Online for email.

Existing Environment

On-Premises Environment

The on-premises workloads run on virtual machines hosted in a VMware vSphere 6 infrastructure. All the virtual machines are members of an Active Directory forest named adatum.com and run Windows Server 2016.

The New York office uses an IP address space of 10.0.0.0/16. The Los Angeles office uses an IP address space of 10.10.0.0/16.

The offices connect by using a VPN provided by an ISP. Each office has one Azure ExpressRoute circuit that provides access to Azure services and Microsoft Online Services. Routing is implemented by using Microsoft peering.

The New York office has a virtual machine named VM1 that has the vSphere console installed.

Azure Environment

You provision the Azure infrastructure by using the Azure portal. The infrastructure contains the resources

shown in the following table.

Name	Type	Azure Region
ASRV1	Azure Site Recovery vault	East US
ASRV2	Azure Site Recovery vault	West US
ASE1	Azure App Service Environment	East US
AG1	Azure Application Gateway (internal)	East US
AG2	Azure Application Gateway (Internet-facing)	West US
ER1	ExpressRoute circuit	East US
ER2	ExpressRoute circuit	West US

AG1 has two backend pools named Pool11 and Pool12. AG2 has two backend pools named Pool21 and Pool22.

#### Requirements

#### Planned Changes

ADatum plans to migrate the virtual machines from the New York office to the East US Azure region by using Azure Site Recovery.

#### Infrastructure Requirements

ADatum identifies the following infrastructure requirements:

- A new web app named App1 that will access third-parties for credit card processing must be deployed.
- A newly developed API must be implemented as an Azure function named App2. App2 will use a blob storage trigger. App2 must process new blobs immediately.
- The Azure infrastructure and the on-premises infrastructure must be prepared for the migration of the VMware virtual machines to Azure.
- The sizes of the Azure virtual machines that will be used to migrate the on-premises workloads must be identified.
- All migrated and newly deployed Azure virtual machines must be joined to the adatum.com domain.
- AG1 must load balance incoming traffic in the following manner:
  - [http://corporate.adatum.com/video/\\*](http://corporate.adatum.com/video/*) will be load balanced across Pool11.
  - [http://corporate.adatum.com/images/\\*](http://corporate.adatum.com/images/*) will be load balanced across Pool12.
- AG2 must load balance incoming traffic in the following manner:
  - <http://www.adatum.com> will be load balanced across Pool21.
  - <http://fabrikam.com> will be load balanced across Pool22.
- ER1 must route traffic between the New York office and platform as a service (PaaS) services in the

East US Azure region, as long as ER1 is available.

- ER2 must route traffic between the Los Angeles office and the PaaS services in the West US region, as long as ER2 is available.
- ER1 and ER2 must be configured to fail over automatically.

#### Application Requirements

App2 must be available to connect directly to the private IP addresses of the Azure virtual machines. App2 will be deployed directly to an Azure virtual network.

Inbound and outbound communications to App1 must be controlled by using NSGs.

#### Pricing Requirements

ADatum identifies the following pricing requirements:

- The cost of App1 and App2 must be minimized
- The transactional charges of Azure Storage accounts must be minimized

You need to implement App2 to meet the application requirements. What feature must be enabled in the App Service plan?

Auto Swap

Web Sockets

Always On

#### Incorrect

If you run on an App Service plan, you should enable the Always on setting so that your function app runs correctly. On an App Service plan, the functions runtime goes idle after a few minutes of inactivity, so only HTTP triggers will “wake up” your functions. Always on is available only on an App Service plan. On a Consumption plan, the platform activates function apps automatically.

<https://docs.microsoft.com/en-us/azure/azure-functions/functions-scale#always-on>

## 26. Question

Your company is developing an e-commerce Azure App Service Web App to support hundreds of restaurant locations around the world. You are designing the messaging solution architecture to support the e-commerce transactions and messages. The e-commerce application has the following features and

requirements:

Feature	Requirement
Shopping Cart	<ul style="list-style-type: none"> <li>Items in a shopping cart must be processed by an Azure Function within a specified number of minutes. Failure to process should move the items to a failed state for processing by a separate Azure Function</li> <li>Shopping cart transactions must not be lost and fault conditions must be processed separately</li> <li>Shopping cart transactions must be read by the inventory and sales systems for further processing</li> </ul>
Inventory Distribution	<ul style="list-style-type: none"> <li>Items sent to the inventory system must run a separate workflow for each item that includes warehouse, shipping, and order processing updates</li> <li>Inventory uses Azure Blob storage to store inventory items and related information</li> <li>Inventory is processed by using an Azure Logic App</li> </ul>
Restaurant Telemetry	<ul style="list-style-type: none"> <li>Restaurants stream millions of daily events from all locations</li> <li>Restaurant data should be captured in Azure Blob storage for conditional processing</li> <li>Restaurant event data should expire after 24 hours</li> </ul>

You need to choose the Azure messaging solution to support the Shopping Cart feature. Which Azure service should you use?

- Azure Relay
- Azure Event Grid
- Azure Event Hub
- Azure Service Bus

#### Incorrect

Microsoft Azure Service Bus is a fully managed enterprise integration message broker. Service Bus is most commonly used to decouple applications and services from each other, and is a reliable and secure platform for asynchronous data and state transfer. One common messaging scenario is Messaging: transfer business data, such as sales or purchase orders, journals, or inventory movements.

<https://docs.microsoft.com/en-us/azure/service-bus-messaging/service-bus-messaging-overview>

## 27. Question

You are creating an IoT solution using Azure Time Series Insights. You configure the environment to ensure that all data for the current year is available. What should you do?

- Add a disaster recovery (DR) strategy.
- Set a value for the Data retention time setting.

- Change the pricing tier.
- Create a reference data set.

### Incorrect

Create a reference data set, following examples mentioned over docs below

<https://docs.microsoft.com/en-us/azure/time-series-insights/time-series-insights-add-reference-data-set#add-a-reference-data-set>

## 28. Question

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 setupScript.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 four commands should you use to develop the solution?

- WORKDIR /aps/ContosoApp
- FROM Microsoft/aspnetcore:2.0
- COPY ./
- EXPOSE ./ContosoApp/ /apps/ContosoApp
- RUN powershell ./setupScript.ps1 CMD ["dotnet","ContosoApp.dll"]
- CMD powershell ./setupScript.ps1 ENTRYPOINT ["dotnet","ContosoApp.dll"]

### Incorrect

## 29. Question

You have an Azure App Service API that allows users to upload documents to the cloud with a mobile device. A mobile app connects to the service by using REST API calls. When a new document is uploaded to the service, the service extracts the document metadata. Usage statistics for the app show significant increases in app usage. The extraction process is CPU-intensive. You plan to modify the API to use a queue. You need to ensure that the solution scales, handles request spikes, and reduces costs between request spikes. What should you do?

- Configure a series of CPU Optimized virtual machine (VM) instances and install extraction logic to process a queue.

Move the extraction logic into an Azure Function. Create a queue triggered function to process the queue.

Configure Azure Container Service to retrieve items from a queue and run across a pool of virtual machine (VM) nodes using the extraction logic.

Configure a CPU Optimized virtual machine (VM) and install the Web App service on the new instance.

Correct

### 30. Question

A web developer creates a web application that you plan to deploy as an Azure web app. Users must enter credentials to access the web application. You create a new web app named WebApp1 and deploy the web application to WebApp1. You need to disable anonymous access to WebApp1. What should you configure?

Authentication/Authorization

Access control (IAM)

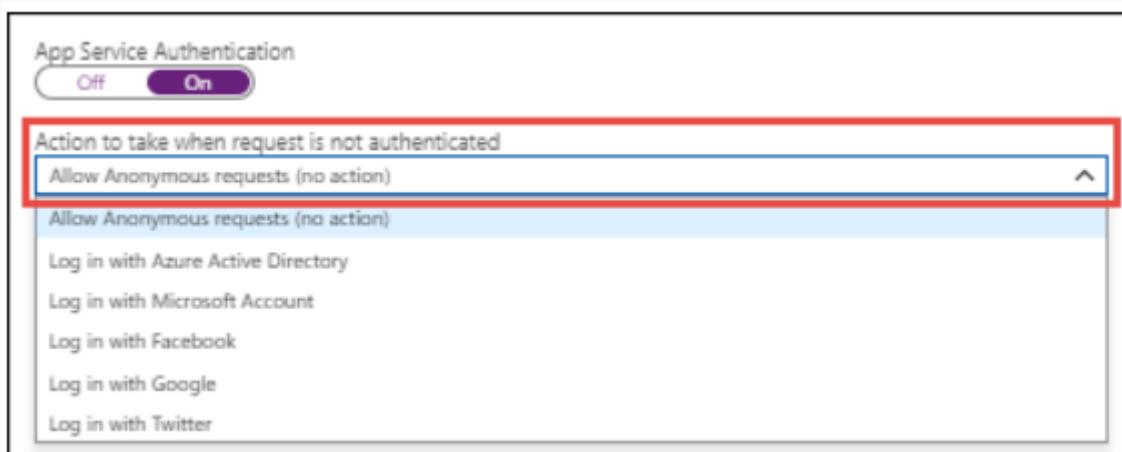
Deployment credentials

Advanced Tools

Correct

Anonymous access is an authentication method. It allows users to establish an anonymous connection.

In the Azure portal, you can configure App Service authorization with a number of behaviors when incoming request is not authenticated.



<https://docs.microsoft.com/en-us/azure/app-service/overview-authentication-authorization#authorization-behavior>

### 31. Question

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. From which location do you verify client certificate?

- URL Query String
- HTTP Request Header
- Client Cookie
- HTTP message body

### Correct

The client certificate is available through the `HttpRequest.ClientCertificate` property.

<https://docs.microsoft.com/en-us/azure/app-service/app-service-web-configure-tls-mutual-auth#access-client-certificate>

## 32. Question

You are developing Azure WebJobs. You need to recommend a WebJob type with below scenario. – Runs on all instances that the web app runs on. Optionally restrict the WebJob to a single instance. – Supports remote debugging Which WebJob type should you recommend?

- Triggered
- Asynchronous
- Continuous
- Synchronous

### Incorrect

<https://docs.microsoft.com/en-us/azure/azure-functions/functions-compare-logic-apps-ms-flow-webjobs>

<https://docs.microsoft.com/en-us/azure/app-service/webjobs-create>

## 33. Question

You are developing an Azure Function that will be triggered using a webhook from an external application. The Azure Function will receive JSON data in the body of the request. Calling applications send an account ID as part of the URL. The number at the end of the URL is an integer. The format for the URL resembles the following: /api/account/1 The Azure Function must accept all incoming requests without requiring keys or tokens. You need to complete the attributes for the Azure Function. [\_\_\_\_\_("ProcessingItem")]  
public static async Task Run([\_\_\_\_\_] (AuthorizationLevel.Anonymous , "POST", Route = "/account/\_\_\_\_\_)HttpRequestMessage req int accountId, TraceWriter log) { Item itemToProcess = await  
req.Content.ReadAsAsync(); log.Info(\$"Processing item {itemToProcess.Id} for account {accountId}"); var

processedItem = DoItemProcessing(itemToProcess); return req.CreateResponse(HttpStatusCode.OK, data); } How should you complete the below code? Select the appropriate options.

<input checked="" type="checkbox"/> <b>HttpTrigger</b>
<input type="checkbox"/> FileTrigger
<input checked="" type="checkbox"/> <b>RouteAttribute</b>
<input type="checkbox"/> QueueTrigger
<input type="checkbox"/> BlobTrigger
<input checked="" type="checkbox"/> <b>FunctionName</b>

#### Incorrect

Below is example to follow [FunctionName("ReadingRequestBody")] public static async Task Run([HttpTrigger(AuthorizationLevel.Anonymous, "POST", Route = null)]HttpRequestMessage req, TraceWriter log) { log.Info("101 Azure Function Demo – Reading the request body in HTTP Triggers"); // Read body Customer data = await req.Content.ReadAsAsync(); // Echo request data back in the response return req.CreateResponse(HttpStatusCode.OK, data); } public class Customer { public string FirstName { get; set; } public bool IsDisabled { get; set; } } <https://docs.microsoft.com/en-us/sandbox/functions-recipes/http-and-webhooks#accessing-the-request-body-in-http-triggers>

### 34. Question

#### Case Study

#### Overview

Contoso, Ltd. is a consulting company that has a main office in Montreal and two branch offices in Seattle and New York.

The Montreal office has 2,000 employees. The Seattle office has 1,000 employees. The New York office has 200 employees.

All the resources used by Contoso are hosted on-premises.

Contoso creates a new Azure subscription. The Azure Active Directory (Azure AD) tenant uses a domain named contoso.onmicrosoft.com. The tenant uses the P1 pricing tier.

#### Existing Environment

The network contains an Active Directory forest named contoso.com. All domain controllers are configured as DNS servers and host the contoso.com DNS zone.

Contoso has finance, human resources, sales, research, and information technology departments. Each department has an organizational unit (OU) that contains all the accounts of that respective department. All the user accounts have the department attribute set to their respective department. New users are added frequently.

Contoso.com contains a user named User1.

All the offices connect by using private links.

Contoso has data centers in the Montreal and Seattle offices. Each data center has a firewall that can be configured as a VPN device.

All infrastructure servers are virtualized. The virtualization environment contains the servers in the following table.

Name	Role	Contains Virtual Machine
Server1	VMWare vCenter Server	VM1
Server2	Hyper-V Host	VM2

Contoso uses two web applications named App1 and App2. Each instance on each web application requires 1GB of memory.

The Azure subscription contains the resources in the following table.

Name	Type
VNet1	Virtual Network
VM3	Virtual Machine
VM4	Virtual Machine

The network security team implements several network security groups (NSGs).

#### Planned Changes

Contoso plans to implement the following changes:

- Deploy Azure ExpressRoute to the Montreal office.
- Migrate the virtual machines hosted on Server1 and Server2 to Azure.
- Synchronize on-premises Active Directory to Azure Active Directory (Azure AD).
- Migrate App1 and App2 to two Azure web apps named WebApp1 and WebApp2.

#### Technical Requirements

Contoso must meet the following technical requirements:

- Ensure that WebApp1 can adjust the number of instances automatically based on the load and can scale up to five instances.
- Ensure that VM3 can establish outbound connections over TCP port 8080 to the applications servers in the Montreal office.
- Ensure that routing information is exchanged automatically between Azure and the routers in the Montreal office.
- Enable Azure Multi-Factor Authentication (MFA) for the users in the finance department only.

- Ensure that webapp2.azurewebsites.net can be accessed by using the name app2.contoso.com
- Connect the New York office to VNet1 over the Internet by using an encrypted connection.
- Create a workflow to send an email message when the settings of VM4 are modified.
- Create a custom Azure role named Role1 that is based on the Reader role.
- Minimize costs whenever possible. Basic tier (B1) is recommended as pricing tier for WebApp1. Does this meet the scenario in technical requirement section?

Yes

No

### Incorrect

Technical Requirements : Ensure that WebApp1 can adjust the number of instances automatically based on the load and can scale up to five instances Basic tier supports up to 3 instances.

Selecting Standard tier suites the requirement. It supports up to 10 instances, and would be enough as the Standard plan includes auto scale that can automatically adjust the number of virtual machine instances running to match your traffic needs.

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

### 35. Question

You have an Azure Service Bus and a queue named Queue1. Queue1 is configured as shown below.

**\* Name**  Queue1 

**Max queue size**  
1 GB 

**Message time to live**   
Days Hours Minutes Seconds  
0 2 0 0

**Lock duration**   
Days Hours Minutes Seconds  
0 0 5 0

Enable duplicate detection 

Enable dead lettering on message expiration 

Enable sessions 

Enable partitioning 

What happens if a message is written to Queue1 and then read after one hour?

- The message will be deleted after one Hour
- The message will be deleted after five minutes
- The message will be retained until it is deleted manually
- The message will be deleted immediately

Incorrect

<https://docs.microsoft.com/en-us/azure/service-bus-messaging/message-transfers-locks-settlement>

[https://docs.microsoft.com/en-us/azure/service-bus-messaging/service-bus-dotnet-get-started-with-](https://docs.microsoft.com/en-us/azure/service-bus-messaging/service-bus-dotnet-get-started-with)

queues <https://docs.microsoft.com/en-us/azure/service-bus-messaging/service-bus-queues-topics-subscriptions#queues>

### 36. Question

You develop an entertainment application where users can buy and trade virtual real estate. The application must scale to support thousands of users. The current architecture includes five Azure virtual machines (VM) that connect to an Azure SQL Database for account information and Azure Table Storage for backend services. A user interacts with these components in the cloud at any given time. Routing Service – Routes a request to the appropriate service and must not persist data across sessions. Account Service – Stores and manages all account information and authentication and requires data to persist across sessions User Service – Stores and manages all user information and requires data to persist across sessions. Housing Network Service – Stores and manages the current real-estate economy and requires data to persist across sessions. Trade Service – Stores and manages virtual trade between accounts and requires data to persist across sessions. Due to volatile user traffic, a microservices solution is selected for scale agility. You need to migrate to a distributed microservices solution on Azure Service Fabric. Which solution meets the goal?

- Create a Service Fabric Cluster with a stateful Reliable Service for Routing Service. Deploy a Guest Executable to Service Fabric for each component.
- Create a Service Fabric Cluster with a stateless Reliable Service for Routing Service. Create stateful Reliable Services for all other components.
- Create a Service Fabric Cluster with a stateful Reliable Service for each component.
- Create a Service Fabric Cluster with a stateless Reliable Service for Routing Service. Deploy a Guest Executable to Service Fabric for each component.

#### Correct

Below are quick references <https://docs.microsoft.com/en-us/azure/service-fabric/service-fabric-application-scenarios#designing-applications-composed-of-stateless-and-stateful-microservices>  
<https://docs.microsoft.com/en-us/azure/service-fabric/service-fabric-reliable-services-introduction#stateful-reliable-services>

### 37. Question

You have an Azure Kubernetes Service (AKS) cluster named Clus1 in a resource group named RG1. An administrator plans to manage Clus1 from an Azure AD-joined device. You need to ensure that the administrator can deploy the YAML application manifest file for a container application. You install the Azure CLI on the device. Which command should you run next?

- az aks get-credentials --resource-group RG1 --name Clus1

`kubectl get nodes` `az aks install-cli` `kubectl apply -f appl.yaml`

### Incorrect

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

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

## 38. Question

### Case Study

#### Overview

Best For You Organics Company is a global restaurant franchise that has multiple locations. The company wants to enhance user experiences and vendor integrations. The company plans to implement automated mobile ordering and delivery services.

Best For You Organics hosts an Azure web app at the URL <https://www.bestforyouorganics.com>. Users can use the web app to browse restaurant location, menu items, nutritional information, and company information. The company developed and deployed a cross-platform mobile app.

#### Requirements

##### Chatbot

You must develop a chatbot by using the Bot Builder SDK and Language Understanding Intelligence Service (LUIS). The chatbot must allow users to order food for pickup or delivery.

The chatbot must meet the following requirements:

- Ensure that chatbot is secure by using the Bot Framework connector.
- Use natural language processing and speech recognition so that users can interact with the chatbot by using text and voice. Processing must be server-based.
- Alert users about promotions at local restaurants.
- Enable users to place an order for delivery or pickup by using their voice.
- Greet the user upon sign-in by displaying a graphical interface that contains action buttons.
- The chatbot greeting interface must match the formatting of the following example:

# Welcome to the Restaurant



**John Doe**  
**Sun, Aug 26, 2018**

**Welcome to Best For You Organics Company!**  
**How can we help you today?**

## **Specials: Chicken Masala**

## **Order Pickup    Order Delivery**

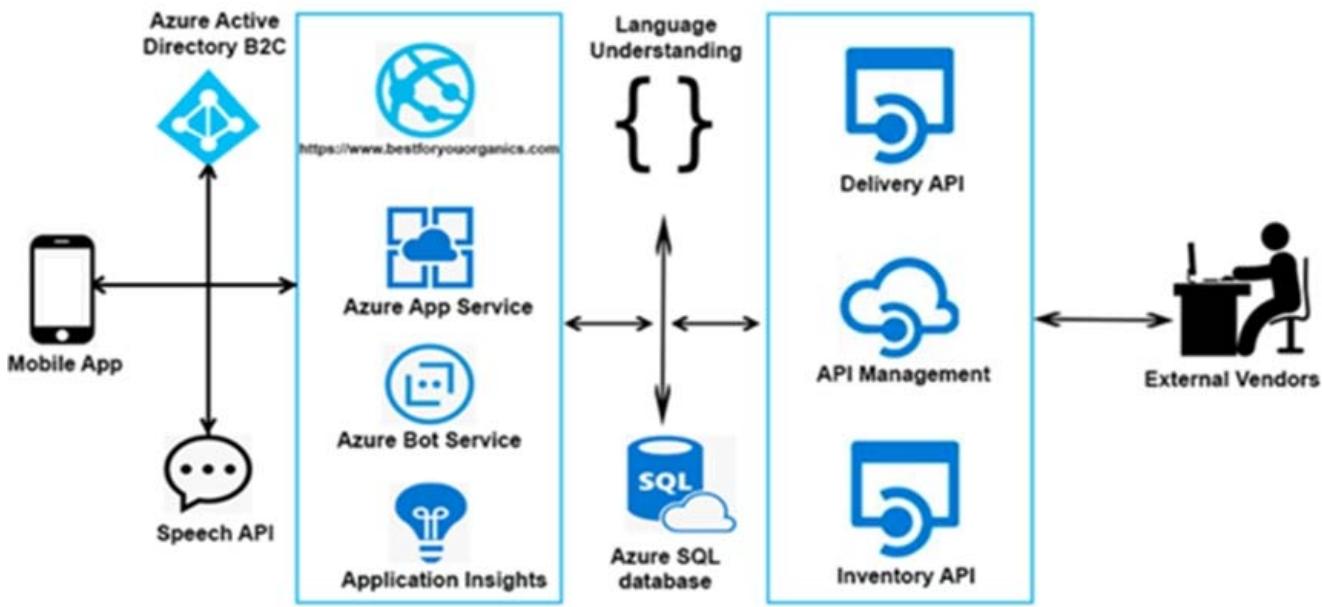
### Vendor API

Vendors receive and provide updates for the restaurant inventory and delivery services by using Azure API Management hosted APIs. Each vendor uses their own subscription to access each of the APIs.

APIs must meet the following conditions:

- API usage must not exceed 5,000 calls and 50,000 kilobytes of bandwidth per hour per vendor.
- If a vendor is nearing the number of calls or bandwidth limit, the API must trigger email notifications to the vendor.
- API must prevent API usage spikes on a per-subscription basis by limiting the call rate to 100 calls per minute.
- The Inventory API must be written by using ASP.NET Core and Node.js.
- The API must be updated to provide an interface to Azure SQL Database objects must be managed by using code.
- The Delivery API must be protected by using the OAuth 2.0 protocol with Azure Active Directory (Azure AD) when called from the Azure web app. You register the Delivery API and web app in Azure AD. You enable OAuth 2.0 in the web app.
- The delivery API must update the Products table, the Vendor transactions table, and the Billing table in a single transaction.

The Best For You Organics Company architecture team has created the following diagram depicting the expected deployments into Azure:



Architecture

Issues

Delivery API

The Delivery API intermittently throws the following exception:

“System.Data.Entity.Core.EntityCommandExecutionException: An error occurred while executing the command definition. See the inner exception for details. –>System.Data.SqlClient.SqlException: A transport-level error has occurred when receiving results from the server. (provider: Session Provider, error: 19 –Physical connection is not usable)”

Chatbot greeting

The chatbot’s greeting does not show the user’s name. You need to debug the chatbot locally.

Language processing

Users report that the bot fails to understand when a customer attempts to order dishes that use Italian names.

App code

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.

### Startup.cs

```
SU01 namespace DeliveryApi
SU02 {
SU03     public class Startup
SU04     {
SU05         public Startup(IConfiguration configuration)
SU06         {
SU07             Configuration = configuration;
SU08         }
SU09         public IConfiguration Configuration { get; }
SU10         public void ConfigureServices(IServiceCollection services)
SU11         {
SU12             services.AddDbContext<RestaurantsContext>(opt =>
SU13                 opt.UseSqlServer(Configuration.GetSection("ConnectionStrings")
["RestaurantDatabase"]),
SU14                 sqlServerOptionsAction: sqlOptions =>
SU15                 {
SU16                     . .
SU17                 }));
SU18             services.AddMvc()
SU19                 .SetCompatibilityVersion(CompatibilityVersion.Version_2_1);
SU20         }
SU21         public void Configure(IApplicationBuilder app)
SU22         {
SU23             app.UseMvc();
SU24         }
SU25     }
SU26 }
```

You need to implement the purchase requirement. What should you do?

- Use the Bot Framework REST API attachment operations to send the user's voice and the Speech Service API to recognize intents.
- Use the Direct Line REST API to send the user's voice and the Speech Service API to recognize intents.
- Use the Bot Framework REST API conversation operations to send the user's voice and the Speech Service API to recognize intents.
- Use the Speech Service API to send the user's voice and the Bot Framework REST API conversation operations to recognize intents.

Correct

<https://docs.microsoft.com/en-us/azure/api-management/api-management-howto-configure-notifications>

## 39. Question

Case Study

Overview

ADatum Corporation is a financial company that has two main offices in New York and Los Angeles.

ADatum has a subsidiary named Fabrikam, Inc. that shares the Los Angeles office.

ADatum is conducting an initial deployment of Azure services to host new line-of-business applications and is preparing to migrate its existing on-premises workloads to Azure.

ADatum uses Microsoft Exchange Online for email.

Existing Environment

On-Premises Environment

The on-premises workloads run on virtual machines hosted in a VMware vSphere 6 infrastructure. All the virtual machines are members of an Active Directory forest named adatum.com and run Windows Server 2016.

The New York office uses an IP address space of 10.0.0.0/16. The Los Angeles office uses an IP address space of 10.10.0.0/16.

The offices connect by using a VPN provided by an ISP. Each office has one Azure ExpressRoute circuit that provides access to Azure services and Microsoft Online Services. Routing is implemented by using Microsoft peering.

The New York office has a virtual machine named VM1 that has the vSphere console installed.

Azure Environment

You provision the Azure infrastructure by using the Azure portal. The infrastructure contains the resources shown in the following table.

Name	Type	Azure Region
ASRV1	Azure Site Recovery vault	East US
ASRV2	Azure Site Recovery vault	West US
ASE1	Azure App Service Environment	East US
AG1	Azure Application Gateway (internal)	East US
AG2	Azure Application Gateway (Internet-facing)	West US
ER1	ExpressRoute circuit	East US
ER2	ExpressRoute circuit	West US

AG1 has two backend pools named Pool11 and Pool12. AG2 has two backend pools named Pool21 and Pool22.

## Requirements

### Planned Changes

ADatum plans to migrate the virtual machines from the New York office to the East US Azure region by using Azure Site Recovery.

### Infrastructure Requirements

ADatum identifies the following infrastructure requirements:

- A new web app named App1 that will access third-parties for credit card processing must be deployed.
- A newly developed API must be implemented as an Azure function named App2. App2 will use a blob storage trigger. App2 must process new blobs immediately.
- The Azure infrastructure and the on-premises infrastructure must be prepared for the migration of the VMware virtual machines to Azure.
- The sizes of the Azure virtual machines that will be used to migrate the on-premises workloads must be identified.
- All migrated and newly deployed Azure virtual machines must be joined to the adatum.com domain.
- AG1 must load balance incoming traffic in the following manner:
  - [http://corporate.adatum.com/video/\\*](http://corporate.adatum.com/video/*) will be load balanced across Pool11.
  - [http://corporate.adatum.com/images/\\*](http://corporate.adatum.com/images/*) will be load balanced across Pool12.
- AG2 must load balance incoming traffic in the following manner:
  - <http://www.adatum.com> will be load balanced across Pool21.
  - <http://fabrikam.com> will be load balanced across Pool22.
- ER1 must route traffic between the New York office and platform as a service (PaaS) services in the East US Azure region, as long as ER1 is available.
- ER2 must route traffic between the Los Angeles office and the PaaS services in the West US region, as long as ER2 is available.
- ER1 and ER2 must be configured to fail over automatically.

### Application Requirements

App2 must be available to connect directly to the private IP addresses of the Azure virtual machines. App2 will be deployed directly to an Azure virtual network.

Inbound and outbound communications to App1 must be controlled by using NSGs.

### Pricing Requirements

ADatum identifies the following pricing requirements:

- The cost of App1 and App2 must be minimized
- The transactional charges of Azure Storage accounts must be minimized      You need to implement App2 to meet the application requirements. What must be the App Service plan pricing tier?

Coupled

Standard Shared Isolated**Correct**

Capabilities and limits available within App Service Plans is below for your reference.

<https://azure.microsoft.com/en-us/pricing/details/app-service/plans/> <https://docs.microsoft.com/en-us/azure/app-service/overview-hosting-plans#how-does-my-app-run-and-scale>

**40. Question**

You have an Azure subscription that contains an Azure Service Bus named Bus1. Your company plans to deploy Azure web app named App2. The web app will create messages that have the following requirements: Each message created by App2 will be consumed by multiple consumers. Which resource should you create for app2?

 An Azure Event Grid topic A Service Bus Queue Azure Blob Storage A Service Bus topic**Correct**

Topics and subscriptions provide a one-to-many form of communication, in a publish/subscribe pattern. Useful for scaling to large numbers of recipients, each published message is made available to each subscription registered with the topic. Messages are sent to a topic and delivered to one or more associated subscriptions, depending on filter rules that can be set on a per-subscription basis. The subscriptions can use additional filters to restrict the messages that they want to receive. Messages are sent to a topic in the same way they are sent to a queue, but messages are not received from the topic directly. Instead, they are received from subscriptions. A topic subscription resembles a virtual queue that receives copies of the messages that are sent to the topic. Messages are received from a subscription identically to the way they are received from a queue. <https://docs.microsoft.com/en-us/azure/service-bus-messaging/service-bus-queues-topics-subscriptions#topics-and-subscriptions>

**41. Question**

Case Study

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

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.

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.

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 }

```

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 }

```

You need to ensure that authentication events are triggered and processed according to the policy. you recommend to Create a new Azure Event Grid topic and add a subscription for the events. Does the solution meet the goal?

No

Yes**Incorrect**

Use a separate Azure Event Grid topics and subscriptions for sign-in and sign-out events. 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.

**42. Question**

You have an Azure Active Directory (Azure AD) tenant named Adatum and an Azure Subscription named Subscription1. Adatum contains a group named Developers. Subscription1 contains a resource group named Dev. You need to provide the Developers group with the ability to create Azure logic apps in the Dev resource group. How can you achieve this?

- On Dev resource assign the Logic App Reader role to the Developers group.
- On Dev resource assign the Logic App Contributor role to the Developers group.**
- On Dev resource assign the Logic App Operator role to the Developers group.
- On Dev resource assign the Logic App Manager role to the Developers group.

**Correct**

Logic App Contributor lets you manage logic apps, (Create) but not change access to them.

<https://docs.microsoft.com/en-us/azure/role-based-access-control/built-in-roles#logic-app-contributor>

**43. Question**

You have an Azure subscription that contains an Azure Service Fabric cluster and a Service Fabric application named FabricApp. You develop and package a Service Fabric application named AppPackage. AppPackage is saved in a compressed folder named AppPackage.zip. You upload AppPackage.zip to an external store. You need to register AppPackage in the Azure subscription. What should you do first?

- Run the "New-ServiceFabricApplication" cmdlet.
- Copy AppPackage.zip to a blob storage account.
- Repackage the application in a file named App.sfpkg.**
- Create a new Service Fabric cluster

**Correct**

Starting with version 6.1, Service Fabric allows provisioning from an external store. With this option, the application package doesn't have to be copied to the image store. Instead, you can create an sfpkg and

upload it to an external store, then provide the download URI to Service Fabric when provisioning. The same package can be provisioned to multiple clusters. Provisioning from the external store saves the time needed to copy the package to each cluster. <https://docs.microsoft.com/en-us/azure/service-fabric/service-fabric-package-apps#create-an-sfpkg>

## 44. Question

### Case Study

#### Overview

Best For You Organics Company is a global restaurant franchise that has multiple locations. The company wants to enhance user experiences and vendor integrations. The company plans to implement automated mobile ordering and delivery services.

Best For You Organics hosts an Azure web app at the URL <https://www.bestforyouorganics.com>. Users can use the web app to browse restaurant location, menu items, nutritional information, and company information. The company developed and deployed a cross-platform mobile app.

#### Requirements

##### Chatbot

You must develop a chatbot by using the Bot Builder SDK and Language Understanding Intelligence Service (LUIS). The chatbot must allow users to order food for pickup or delivery.

The chatbot must meet the following requirements:

- Ensure that chatbot is secure by using the Bot Framework connector.
- Use natural language processing and speech recognition so that users can interact with the chatbot by using text and voice. Processing must be server-based.
- Alert users about promotions at local restaurants.
- Enable users to place an order for delivery or pickup by using their voice.
- Greet the user upon sign-in by displaying a graphical interface that contains action buttons.
- The chatbot greeting interface must match the formatting of the following example:

# Welcome to the Restaurant



**John Doe**  
**Sun, Aug 26, 2018**

**Welcome to Best For You Organics Company!**  
**How can we help you today?**

## **Specials: Chicken Masala**

## **Order Pickup    Order Delivery**

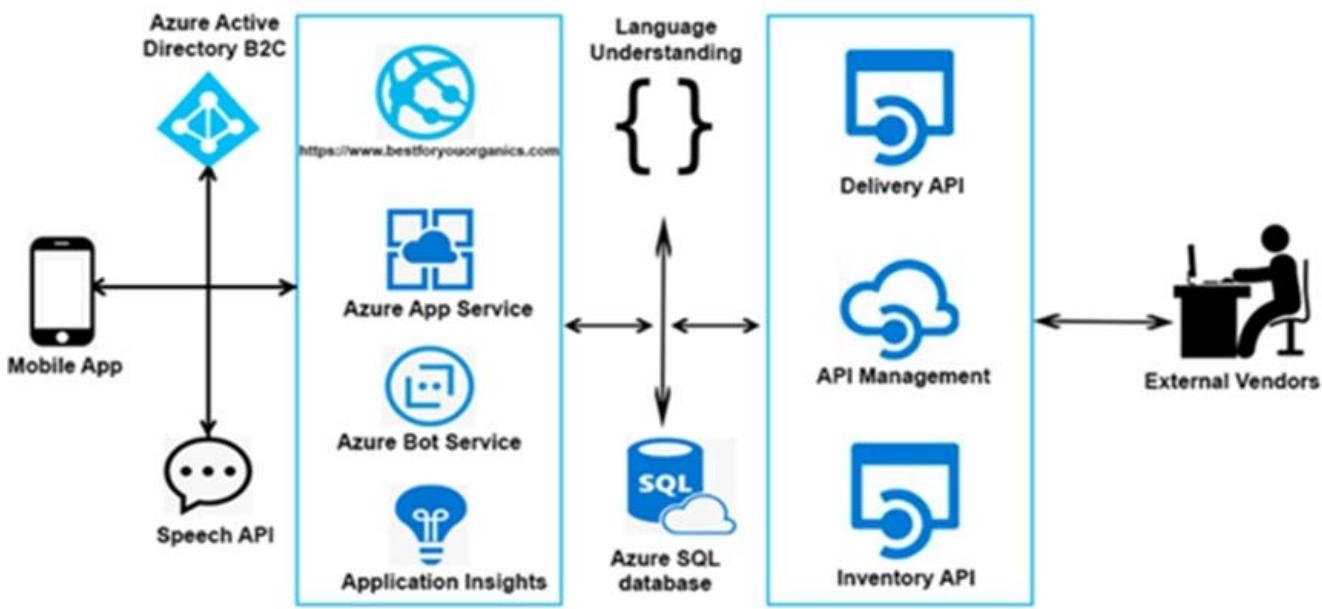
### Vendor API

Vendors receive and provide updates for the restaurant inventory and delivery services by using Azure API Management hosted APIs. Each vendor uses their own subscription to access each of the APIs.

APIs must meet the following conditions:

- API usage must not exceed 5,000 calls and 50,000 kilobytes of bandwidth per hour per vendor.
- If a vendor is nearing the number of calls or bandwidth limit, the API must trigger email notifications to the vendor.
- API must prevent API usage spikes on a per-subscription basis by limiting the call rate to 100 calls per minute.
- The Inventory API must be written by using ASP.NET Core and Node.js.
- The API must be updated to provide an interface to Azure SQL Database objects must be managed by using code.
- The Delivery API must be protected by using the OAuth 2.0 protocol with Azure Active Directory (Azure AD) when called from the Azure web app. You register the Delivery API and web app in Azure AD. You enable OAuth 2.0 in the web app.
- The delivery API must update the Products table, the Vendor transactions table, and the Billing table in a single transaction.

The Best For You Organics Company architecture team has created the following diagram depicting the expected deployments into Azure:



Architecture

Issues

Delivery API

The Delivery API intermittently throws the following exception:

“System.Data.Entity.Core.EntityCommandExecutionException: An error occurred while executing the command definition. See the inner exception for details. –>System.Data.SqlClient.SqlException: A transport-level error has occurred when receiving results from the server. (provider: Session Provider, error: 19 –Physical connection is not usable)”

Chatbot greeting

The chatbot’s greeting does not show the user’s name. You need to debug the chatbot locally.

Language processing

Users report that the bot fails to understand when a customer attempts to order dishes that use Italian names.

App code

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.

Larger image

You need to debug the user greeting issue. What should you use?

Bot Connector service

Bot Framework Channel Inspector

Azure Compute Emulator

Azure Application Insights

Bot Framework Emulator

### Incorrect

The Bot Framework Emulator is a desktop application that allows bot developers to test and debug their bots, either locally or remotely. Using the emulator, you can chat with your bot and inspect the messages that your bot sends and receives.

The emulator displays messages as they would appear in a web chat UI and logs JSON requests and responses as you exchange messages with your bot. Before you deploy your bot to the cloud, run it locally and test it using the emulator.

You can test your bot using the emulator even if you have not yet created it with Azure Bot Service or configured it to run on any channels.

<https://docs.microsoft.com/bs-latn-ba/azure/bot-service/bot-service-debug-emulator?view=azure-bot-service-4.0&tabs=csharp>

### 45. Question

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 in the code whenever any new data is received in a queue. You need to configure the services that supports below scenarios. – Process a queue data item – Manage all code segments from the same DevOps environment Which service should you opt?

Webjobs

AppFlow

Flow

Logic Apps

### Incorrect

<https://docs.microsoft.com/en-us/azure/azure-functions/functions-compare-logic-apps-ms-flow-webjobs>  
<https://docs.microsoft.com/en-us/azure/app-service/webjobs-create>

### 46. Question

Case Study

Overview

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wants to enhance user experiences and vendor integrations. The company plans to implement automated mobile ordering and delivery services.

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**Specials: Chicken Masala**

**Order Pickup   Order Delivery**

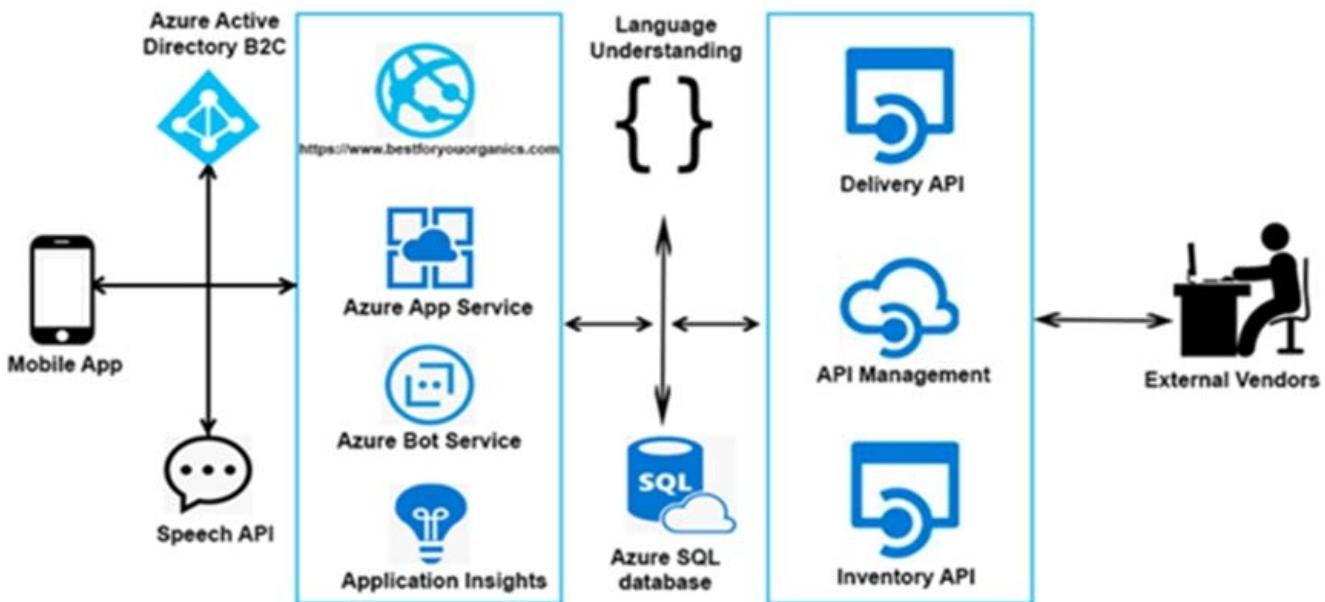
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#### Chatbot greeting

The chatbot's greeting does not show the user's name. You need to debug the chatbot locally.

#### Language processing

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#### App code

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.

##### **Startup.cs**

```
SU01 namespace DeliveryApi
SU02 {
SU03     public class Startup
SU04     {
SU05         public Startup(IConfiguration configuration)
SU06         {
SU07             Configuration = configuration;
SU08         }
SU09         public IConfiguration Configuration { get; }
SU10         public void ConfigureServices(IServiceCollection services)
SU11         {
SU12             services.AddDbContext<RestaurantsContext>(opt =>
SU13                 opt.UseSqlServer(Configuration.GetSection("ConnectionStrings")
["RestaurantDatabase"]),
SU14                 sqlServerOptionsAction: sqlOptions =>
SU15                 {
SU16                     . .
SU17                 });
SU18             services.AddMvc()
SU19                 .SetCompatibilityVersion(CompatibilityVersion.Version_2_1);
SU20         }
SU21         public void Configure(IApplicationBuilder app)
SU22         {
SU23             app.UseMvc();
SU24         }
SU25     }
SU26 }
```

You need to meet the vendor notification requirement. You recommend to Create and apply a custom outbound Azure API Management policy. Does the solution meet the goal?

Yes

No**Incorrect**<https://docs.microsoft.com/en-us/azure/api-management/api-management-howto-configure-notifications>

## 47. Question

Your company is developing an e-commerce Azure App Service Web App to support hundreds of restaurant locations around the world. You are designing the messaging solution architecture to support the e-commerce transactions and messages. The e-commerce application has the following features and requirements:

Larger image

You need to choose the Azure messaging solution to support the Restaurant Telemetry feature. Which Azure service should you use?

 Azure Event Hub Azure Service Bus Azure Event Grid Azure Relay**Incorrect**

Azure Event Hubs is a big data pipeline. It facilitates the capture, retention, and replay of telemetry and event stream data. The data can come from many concurrent sources. Event Hubs allows telemetry and event data to be made available to a variety of stream-processing infrastructures and analytics services. It is available either as data streams or bundled event batches. 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

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

## 48. Question

Case Study

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

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.

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.

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 }
```

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 }
```

You need to meet the scaling requirements for Policy Service. What should you store in Azure Redis Cache?

HttpContext.Items

- View State
- Temp Data
- Session state

### Incorrect

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. <https://docs.microsoft.com/en-us/azure/azure-cache-for-redis/cache-aspnet-session-state-provider> <https://docs.microsoft.com/en-us/azure/azure-cache-for-redis/cache-aspnet-session-state-provider#store-aspnet-session-state-in-the-cache>

## 49. Question

Case Study

Overview

Best For You Organics Company is a global restaurant franchise that has multiple locations. The company wants to enhance user experiences and vendor integrations. The company plans to implement automated mobile ordering and delivery services.

Best For You Organics hosts an Azure web app at the URL <https://www.bestforyouorganics.com>. Users can use the web app to browse restaurant location, menu items, nutritional information, and company information. The company developed and deployed a cross-platform mobile app.

Requirements

Chatbot

You must develop a chatbot by using the Bot Builder SDK and Language Understanding Intelligence Service (LUIS). The chatbot must allow users to order food for pickup or delivery.

The chatbot must meet the following requirements:

- Ensure that chatbot is secure by using the Bot Framework connector.
- Use natural language processing and speech recognition so that users can interact with the chatbot by using text and voice. Processing must be server-based.
- Alert users about promotions at local restaurants.
- Enable users to place an order for delivery or pickup by using their voice.
- Greet the user upon sign-in by displaying a graphical interface that contains action buttons.
- The chatbot greeting interface must match the formatting of the following example:

# Welcome to the Restaurant



**John Doe**  
**Sun, Aug 26, 2018**

**Welcome to Best For You Organics Company!**  
**How can we help you today?**

## **Specials: Chicken Masala**

## **Order Pickup    Order Delivery**

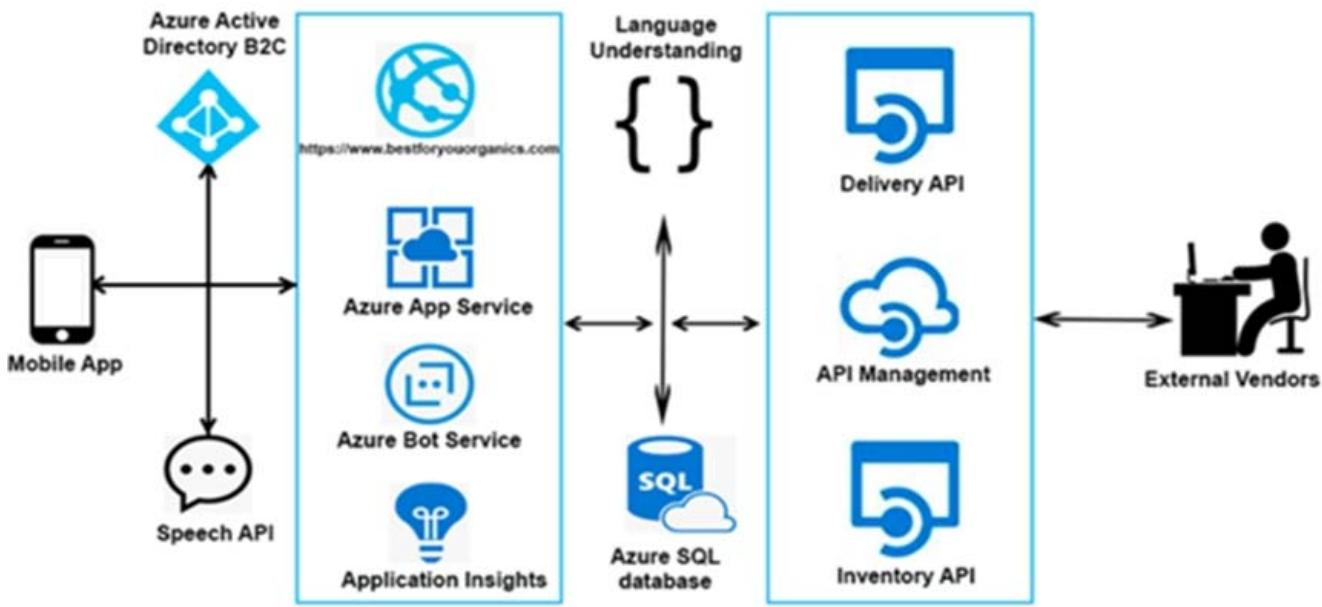
### Vendor API

Vendors receive and provide updates for the restaurant inventory and delivery services by using Azure API Management hosted APIs. Each vendor uses their own subscription to access each of the APIs.

APIs must meet the following conditions:

- API usage must not exceed 5,000 calls and 50,000 kilobytes of bandwidth per hour per vendor.
- If a vendor is nearing the number of calls or bandwidth limit, the API must trigger email notifications to the vendor.
- API must prevent API usage spikes on a per-subscription basis by limiting the call rate to 100 calls per minute.
- The Inventory API must be written by using ASP.NET Core and Node.js.
- The API must be updated to provide an interface to Azure SQL Database objects must be managed by using code.
- The Delivery API must be protected by using the OAuth 2.0 protocol with Azure Active Directory (Azure AD) when called from the Azure web app. You register the Delivery API and web app in Azure AD. You enable OAuth 2.0 in the web app.
- The delivery API must update the Products table, the Vendor transactions table, and the Billing table in a single transaction.

The Best For You Organics Company architecture team has created the following diagram depicting the expected deployments into Azure:



Architecture

Issues

Delivery API

The Delivery API intermittently throws the following exception:

“System.Data.Entity.Core.EntityCommandExecutionException: An error occurred while executing the command definition. See the inner exception for details. –>System.Data.SqlClient.SqlException: A transport-level error has occurred when receiving results from the server. (provider: Session Provider, error: 19 –Physical connection is not usable)”

Chatbot greeting

The chatbot's greeting does not show the user's name. You need to debug the chatbot locally.

Language processing

Users report that the bot fails to understand when a customer attempts to order dishes that use Italian names.

App code

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.

**Startup.cs**

```
SU01 namespace DeliveryApi
SU02 {
SU03     public class Startup
SU04     {
SU05         public Startup(IConfiguration configuration)
SU06         {
SU07             Configuration = configuration;
SU08         }
SU09         public IConfiguration Configuration { get; }
SU10         public void ConfigureServices(IServiceCollection services)
SU11         {
SU12             services.AddDbContext<RestaurantsContext>(opt =>
SU13                 opt.UseSqlServer(Configuration.GetSection("ConnectionStrings")
["RestaurantDatabase"]),
SU14                 sqlServerOptionsAction: sqlOptions =>
SU15                 {
SU16                     . .
SU17                 }));
SU18             services.AddMvc()
SU19                 .SetCompatibilityVersion(CompatibilityVersion.Version_2_1);
SU20         }
SU21         public void Configure(IApplicationBuilder app)
SU22         {
SU23             app.UseMvc();
SU24         }
SU25     }
SU26 }
```

You need to meet the vendor notification requirement. You recommend to Update the Delivery API to send emails by using a Microsoft Office 365 SMTP server. Does the solution meet the goal?

**Correct**

<https://docs.microsoft.com/en-us/azure/api-management/api-management-howto-configure-notifications>

**50. Question**

You have a task that includes a WebJob that should run continuously. The WebJob Log exhibit shows the text that is displayed when the WebJob runs.

## Continuous WebJob Details WebJob1

Pending restart  
Run command: WebJob1.exe

[Toggle Output](#)

Refreshed a moment ago, [refresh](#) or download

```
[08/18/2018 17:28:24 > e013ed:SYS INFO] Run script 'WebJob1.exe' with script host - 'WindowsScriptHost'  
[08/18/2018 17:28:24 > e013ed:SYS INFO] Status changed to Running  
[08/18/2018 17:28:25 > e013ed:INFO] WebJob Started  
[08/18/2018 17:28:25 > e013ed:SYS INFO] Status changed to Success  
[08/18/2018 17:28:25 > e013ed:SYS INFO] Process went down waiting for 60 seconds  
[08/18/2018 17:28:25 > e013ed:SYS INFO] Status changed to PendingRestart
```

The WebJob is configured as shown below

**WebApp0909 - WebJobs**  
App Service

Search (Ctrl+ /)

**SETTINGS**

- Authentication / Authorization
- Application Insights
- Managed service identity
- Backups
- Custom domains
- SSL certificates
- Networking
- Scale up (App Service plan)
- Scale out (App Service plan)
- WebJobs**

**WebJobs**  
WebJobs provide an easy way to run scripts or programs as background processes in the context of your app.

NAME	TYPE	STATUS	SCHEDULE
WebJob1	Continuous	Pending Restart	n/a

The WebJob is not functioning as expected. The WebJob Code exhibit has a comment that shows where code should be added.

```
0 references
8 class Program
9 {
10 private static Timer workTimer = new Timer();
11
12 static void Main()
13 {
14     Trace.WriteLine("WebJob Setup Starting");
15     var config = new JobHostConfiguration();
16
17     if (config.IsDevelopment)
18     {
19         config.UseDevelopmentSettings();
20     }
21
22     workTimer.Interval = TimeSpan.FromSeconds(10).TotalMilliseconds;
23     workTimer.Elapsed += WorkTimer_Elapsed;
24     workTimer.AutoReset = true;
25     workTimer.Enabled = true;
26
27     Console.WriteLine("WebJob Started");
28 }
29
30
31
32
33
34
35
36
37
```

Which of these statement is false in reference to WebJob?

The text WebJob Setup restarting will output to the WebJob Logs

The WebJob will run continuously as the code is written

The timer-elapsed code will be invoked and run atleast once.

The WebJob settings are properly configured in the Azure portal.

Incorrect

## 51. Question

You are developing a SMS-based testing solution. The solution sends users a question by using SMS. Early responders may qualify for prizes. Users must respond with an answer choice within 90 seconds. You must be able to track how long it takes each user to respond. You create a durable Azure Function named SendSmsQuizQuestion that uses Twilio to send messages. You need to write the code for MessageQuiz.

How should you complete the code? [FunctionName("MessageQuiz")] public static async Task Run([OrchestrationTrigger]DurableOrchestrationContext context) { string phoneNumber = context.GetInput(); int correctAnswerCode = await context.CallActivityAsync challengeResponseTask = context.WaitForExternalEvent("SmsQuizResponse"); Task winner = await Task.WhenAny(challengeResponseTask,timeoutTask); if (winner == challengeResponseTask) { if(challengeResponseTask.Result == correctAnswerCode) { isWinner = true; break; } } else { break; } if (!cts.IsCancellationRequested) { cts.Cancel(); } return isWinner; }

- DateTime expiration = DateTime.UtcNow;
- DateTime expiration = DateTime.Now;
- DateTime expiration = context.CurrentUtcDateTime.AddSeconds(90);**
- DateTime expiration = DateTime.UtcNow.AddSeconds(90);

### Correct

Serverless architectures allow developers to write code that runs in the cloud without managing servers. “Serverless” applications can be very efficient with compute resources (significantly reducing associated costs) by only running in response to events like API requests. Microsoft Azure’s offering for serverless code is called Azure Functions. <https://www.twilio.com/docs/usage/tutorials/serverless-webhooks-azure-functions-and-csharp> <https://docs.microsoft.com/en-us/azure/azure-functions/functions-bindings-twilio?tabs=csharp>

## 52. Question

You have a task that includes a WebJob that should run continuously. The WebJob Log exhibit shows the text that is displayed when the WebJob runs.

## Continuous WebJob Details WebJob1

Pending restart  
Run command: WebJob1.exe

[Toggle Output](#)

Refreshed a moment ago, [refresh](#) or download

```
[08/18/2018 17:28:24 > e013ed:SYS INFO] Run script 'WebJob1.exe' with script host - 'WindowsScriptHost'  
[08/18/2018 17:28:24 > e013ed:SYS INFO] Status changed to Running  
[08/18/2018 17:28:25 > e013ed:INFO] WebJob Started  
[08/18/2018 17:28:25 > e013ed:SYS INFO] Status changed to Success  
[08/18/2018 17:28:25 > e013ed:SYS INFO] Process went down waiting for 60 seconds  
[08/18/2018 17:28:25 > e013ed:SYS INFO] Status changed to PendingRestart
```

The WebJob is configured as shown below

WebApp0909 - WebJobs

App Service

Search (Ctrl+ /)

Add Refresh Logs Delete Properties

SETTINGS

- Authentication / Authorization
- Application Insights
- Managed service identity
- Backups
- Custom domains
- SSL certificates
- Networking
- Scale up (App Service plan)
- Scale out (App Service plan)
- WebJobs**

**WebJobs**

WebJobs provide an easy way to run scripts or programs as background processes in the context of your app.

NAME	TYPE	STATUS	SCHEDULE
WebJob1	Continuous	Pending Restart	n/a

The WebJob is not functioning as expected. The WebJob Code exhibit has a comment that shows where code should be added.

```
0 references
8 class Program
9 {
10 private static Timer workTimer = new Timer();
11
12 static void Main()
13 {
14     Trace.WriteLine("WebJob Setup Starting");
15     var config = new JobHostConfiguration();
16
17     if (config.IsDevelopment)
18     {
19         config.UseDevelopmentSettings();
20     }
21
22     workTimer.Interval = TimeSpan.FromSeconds(10).TotalMilliseconds;
23     workTimer.Elapsed += WorkTimer_Elapsed;
24     workTimer.AutoReset = true;
25     workTimer.Enabled = true;
26
27     Console.WriteLine("WebJob Started");
28 }
29
30
31
32
33
34
35
36
37
```

Which of these statement is true in reference to WebJob?

- The timer-elapsed code will be invoked and run atleast once.
- The WebJob will run continuously as the code is written
- The WebJob settings are properly configured in the Azure portal.
- The text WebJob Setup restarting will output to the WebJob Logs

Incorrect

### 53. Question

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. What must be the Encoding type of client certificate?

- URL

Base64 HTML Unicode

### Incorrect

The client cert is available in your app through a base64 encoded value in the X-ARR-ClientCert request header. <https://docs.microsoft.com/en-us/azure/app-service/app-service-web-configure-tls-mutual-auth#access-client-certificate>

## 54. Question

### Case Study

#### Overview

LabelMaker app – Coho Winery produces bottles, and distributes a variety of wines globally. You are 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.

#### Data –

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

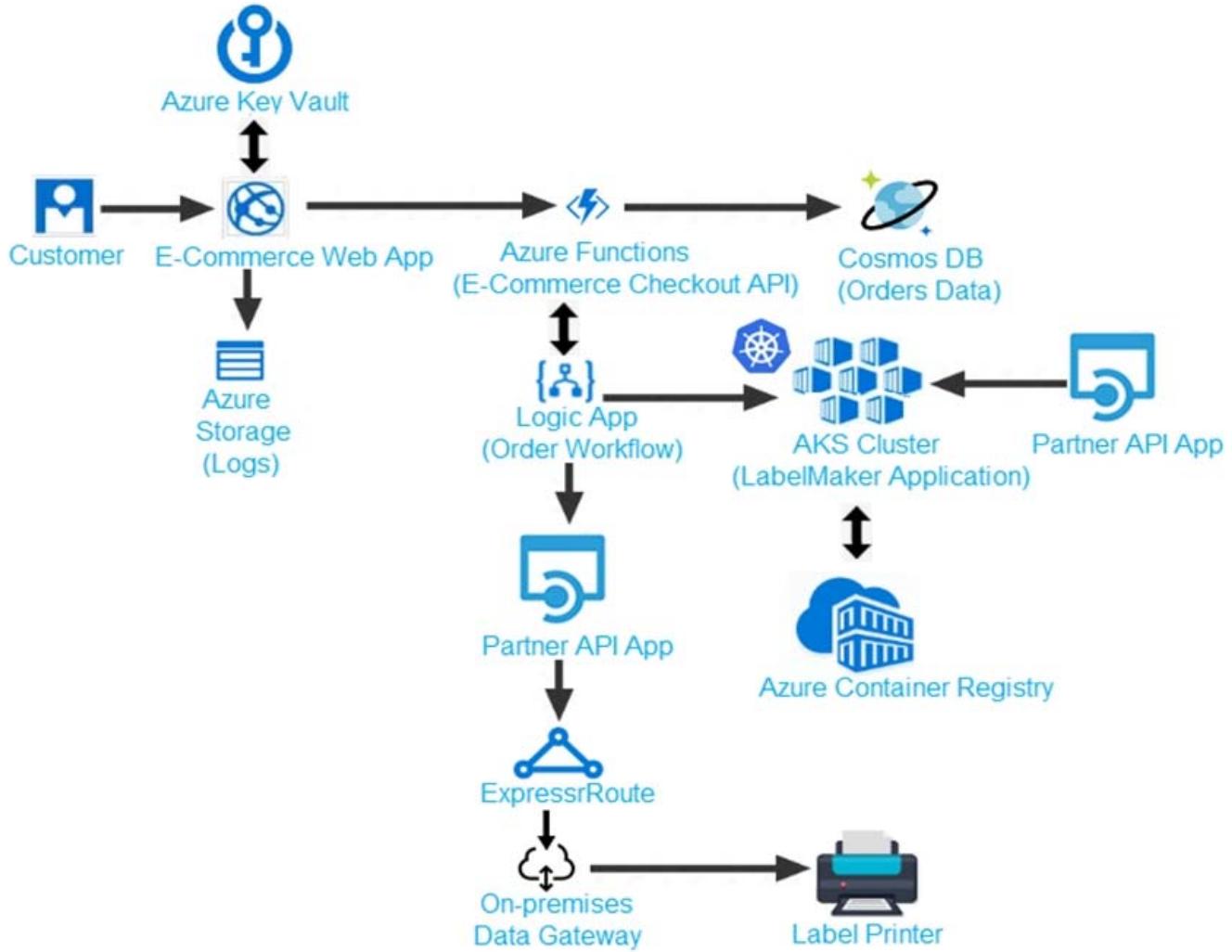
You have the following security requirements:

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

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.



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

Printer communications 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     }  
21   ]  
22 }  
23 
```

```
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   "country" : "Manhattan",
42   "city" : "NY"
43 }
44 }
```

You need to ensure that you can deploy the LabelMaker application.

Which set of CLI commands would accomplish the task?

- az acr create --name LabelMakerCluster --location eastus az aks create --resource-group CohoWineryLabelMaker --name LabelMakerCluster --node-count 5 --enable-addons http\_application\_routing
- az group create --name LabelMakerCluster --location eastus az aks create --resource-group CohoWineryLabelMaker --name CohoWineryLabelMaker --node-count 5 --enable-addons monitoring

- az group create --name CohoWineryLabelMaker --location eastus az aks create --resource-group CohoWineryLabelMaker --name LabelMakerCluster --node-count 5 --enable-addons monitoring
- az aks create --name CohoWineryLabelMaker --location eastus az aks create --resource-group CohoWineryLabelMaker --name LabelMakerCluster --node-count 5 --enable-addons monitoring

### Correct

Scenario: 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.

## 55. Question

You have an Azure App Service named WebApp1. You plan to add a WebJob named WebJob1 to WebApp1. You need to ensure that WebJob1 is triggered every 15 minutes. What should you do?

- Add a file named Settings.job to the ZIP file that contains the WebJob script. Add the CRON expression to the JOB file 1-31 1-12 1-7 0\*/15\*
- Change the Web.config file to include the 1-31 1-12 1-7 0\*/15\* CRON expression
- Create an Azure Automation account and add a schedule to the account. Set the recurrence for the schedule
- From the properties of WebJob1, change the CRON expression to 0\*/15\*\*\*\*

### Correct

You can enter a CRON expression in the portal or include a settings.job file at the root of your WebJob .zip file, as in the following example: { "schedule": "0 \*/15 \* \* \*" } <https://docs.microsoft.com/en-us/azure/app-service/webjobs-create#ncrontab-expressions>

## 56. Question

You create an Azure Time Series Insights event handler. You need to send data over the network as efficiently as possible and optimize query performance. What should you do considering the best practices?

- Use reference data
- Use a Tag ID
- Send all properties
- Use deep array nesting

**Correct**

Considering the best practices in below article will help you achieve best possible query performance.

<https://docs.microsoft.com/en-us/azure/time-series-insights/how-to-shape-query-json#best-practices>

<https://docs.microsoft.com/en-us/azure/time-series-insights/time-series-insights-add-reference-data-set#add-a-reference-data-set>

**57. Question**

You are developing Azure WebJobs. You need to recommend a WebJob type with below scenario. – Runs on a single instance that Azure selects for load balancing. – Starts only when triggered manually or on a schedule. – Does not Support remote debugging Which WebJob type should you recommend?

 Continuous Synchronous Triggered Asynchronous**Incorrect**

<https://docs.microsoft.com/en-us/azure/azure-functions/functions-compare-logic-apps-ms-flow-webjobs>

<https://docs.microsoft.com/en-us/azure/app-service/webjobs-create>

**58. Question**

You are developing a stateful service to deploy to Azure Service Fabric. You plan to implement the RunAsync method. You need to implement the methods to interface with an instance of the Reliable dictionary interface to increment a count each time the service is called- The first time the service is called, you must initialize the count to 1 if it does not yet exist and then update it by one each time it is called. Which three methods should you run in sequence?

 TryAddAsync, AddOrUpdateAsync, TryGetValueAsync GetOrAddAsync, TryAddAsync, AddOrUpdateAsync GetOrAddAsync, AddOrUpdateAsync, TryGetValueAsync TryGetValueAsync, TryAddAsync, AddOrUpdateAsync**Correct**

<https://docs.microsoft.com/en-us/azure/service-fabric/service-fabric-reliable-services-quick-start#create-a-stateless-service>

## 59. Question

You create a social media application that users can use to upload images and other content. Users report that adult content is being posted in an area of the site that is accessible to and intended for young children. You need to automatically detect and flag potentially offensive content. The solution must not require any custom coding other than code to scan and evaluate images. What should you implement?

Computer Vision API

Bing Image Search

Custom Vision Search

Bing Visual Search

**Incorrect**

## 60. Question

You need to use an Azure logic app to receive a notification when an administrator modifies the settings of a virtual machine in a resource group named RG1. Which three components should you create next in the Logic Apps Designer?

An Azure Service Bus Trigger

An Azure Event Grid Trigger

A condition control

An Action

A Variable

**Incorrect**

Step 1: an Azure Event Grid trigger First add an Event grid trigger that monitors the resource group for your virtual machine. <https://docs.microsoft.com/en-us/azure/event-grid/monitor-virtual-machine-changes-event-grid-logic-app#add-an-event-grid-trigger> Step 2: a conditional control To run your logic app workflow only when a specific event happens, add a condition that checks for virtual machine “write” operations. <https://docs.microsoft.com/en-us/azure/event-grid/monitor-virtual-machine-changes-event-grid-logic-app#add-a-condition> Step 3: an action Now add an action so that you get an email when the specified condition is true. <https://docs.microsoft.com/en-us/azure/event-grid/monitor-virtual-machine-changes-event-grid-logic-app#send-email-notifications>

## 61. Question

## Case Study

### 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

#### 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.

#### 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.

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 }
```

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 }
```

You need to resolve a notification latency issue. Which two actions should you perform?

Set Always On to true

Set Always On to false

Ensure that the Azure Function is set to use a consumption plan.

Ensure that the Azure Function is using an App Service plan.

### Incorrect

If you run on an App Service plan, you should enable the Always on setting so that your function app runs correctly. On an App Service plan, the functions runtime goes idle after a few minutes of inactivity, so only HTTP triggers will “wake up” your functions. Always on is available only on an App Service plan. On a Consumption plan, the platform activates function apps automatically.

<https://docs.microsoft.com/lb-lu/azure/azure-functions/functions-scale#always-on>

## 62. Question

You have an Azure subscription named Subscription1. Subscription1 contains the following resource groups

Larger image

RG1 has a web app named WebApp1. WebApp1 is located in West Europe. You move WebApp1 to RG2. What is the effect of the move?

- The App Service plan for WebApp1 moves to North Europe. Policy1 applies to WebApp1.
- The App Service plan for WebApp1 moves to North Europe. Policy2 applies to WebApp1.
- The App Service plan for WebApp1 remains in West Europe. Policy1 applies to WebApp1.
- The App Service plan for WebApp1 remains in West Europe. Policy2 applies to WebApp1.

### Correct

You can move an app to another App Service plan, as long as the source plan and the target plan are in the same resource group and geographical region. The region in which your app runs is the region of the App Service plan it's in. However, you cannot change an App Service plan's region.

<https://docs.microsoft.com/en-us/azure/app-service/app-service-plan-manage#move-an-app-to-another-app-service-plan>

## 63. Question

Case Study

Overview

ProtectLives Insurance is an insurance company that has three offices in Berlin, Tokyo and Bangkok. Each office has 5.000 users.

Existing Environment

Active Directory Environment

ProtectLives Insurance has a single-domain Active Directory forest named ProtectLivesinsurance.com. The functional level of the forest is Windows Server 2012.

You recently provisioned an Azure Active Directory (Azure AD) tenant.

#### Network Infrastructure

Each office has a local data center that contains all the servers for that office. Each office has a dedicated connection to the Internet.

Each office has several link load balancers that provide access to the servers.

#### Active Directory Issue

Several users in ProtectLivesinsurance.com have UPNs that contain special characters.

You suspect that some of the characters are unsupported in Azure AD.

#### Licensing Issue

You attempt to assign a license in Azure to several users and receive the following error message: "Licenses not assigned. License agreement failed for one user."

You verify that the Azure subscription has the available licenses.

#### Requirements

##### Planned Changes

ProtectLives Insurance plans to open a new office in Paris. The Paris office will contain 1,000 users who will be hired during the next 12 months. All the resources used by the Paris office users will be hosted in Azure.

#### Planned Azure AD Infrastructure

The on-premises Active Directory domain will be synchronized to Azure AD.

All client computers in the Paris office will be joined to an Azure AD domain.

#### Planned Azure Networking Infrastructure

You plan to create the following networking resources in a resource group named All\_Resources:

- Default Azure system routes that will be the only routes used to route traffic
- A virtual network named Paris-VNet that will contain two subnets named Subnet1 and Subnet2
- A virtual network named ClientResources-VNet that will contain one subnet named ClientSubnet

##### ClientSubnet

- A virtual network named AllOffices-VNet that will contain two subnets named Subnet3 and Subnet4

You plan to enable peering between Paris-VNet and AllOffices-VNet. You will enable the Use remote gateways setting for the Paris-VNet peerings.

You plan to create a private DNS zone named ProtectLivesinsurance.local and set the registration network to the ClientResources-VNet virtual network.

## Planned Azure Computer Infrastructure

Each subnet will contain several virtual machines that will run either Windows Server 2012 R2, Windows Server 2016, or Red Hat Linux.

## Department Requirements

ProtectLives Insurance identifies the following requirements for the company's departments:

- Web administrators will deploy Azure web apps for the marketing department. Each web app will be added to a separate resource group. The initial configuration of the web apps will be identical. The web administrators have permission to deploy web apps to resource groups.
- During the testing phase, auditors in the finance department must be able to review all Azure costs from the past week.

## Authentication Requirements

Users in the Berlin office must use Azure Active Directory Seamless Single Sign-on (Azure AD Seamless SSO) when accessing resources in Azure.

You need to prepare the environment to ensure that the web administrators can deploy the web apps as quickly as possible.

Which three actions should you perform in sequence?

- |   |
|---|
| <input checked="" type="checkbox"/> From the Automation script blade of the resource group, click Deploy.                                   |
| <input type="checkbox"/> From the Automation Accounts service, add an automation account.   |
| <input checked="" type="checkbox"/> From the Automation Script blade of the resource group, click the Parameters tab.                       |
| <input checked="" type="checkbox"/> From the Templates service, select the template, and then share the template to the web administrators. |
| <input type="checkbox"/> From the Automation Script blade of the resource group, Click Add to library                                       |
| <input type="checkbox"/> Create a resource group, and then deploy a web app to the resource group.  |

## Incorrect

Step 1: First you create a storage account using the Azure portal. Step 2: Select Automation options at the bottom of the screen. The portal shows the template on the Template tab. Add the storage account to the library. Step 3: Share the template. Scenario: Web administrators will deploy Azure web apps for the marketing department. Each web app will be added to a separate resource group. The initial configuration of the web apps will be identical. The web administrators have permission to deploy web apps to resource groups. <https://docs.microsoft.com/en-us/azure/azure-resource-manager/resource-manager-quickstart-create-templates-use-the-portal>

## 64. Question

You are developing a .NET Core on-premises application that updates multiple Azure SQL Database instances. The application must log all update commands attempted to a separate Azure SQL Database instance named AuditDb. You define an outer Transaction Scope with a loop enumerate and run the SQL commands on each customer database connection and an inner Transaction Scope to record all transactions attempted within the outer Transaction Scope to the AuditDb database. You need to develop a method to perform the updates to the databases. The solution must meet the following requirements.

- All rows written to the AuditDb database must be committed even if the outer transaction fails.
- If an error occurs writing to the AuditDb database, the outer transaction must be rolled back.
- If an error occurs writing to the Customer databases, only the outer transaction must be rolled back.
- Values for TransactionScopeOption must be specified for the customer databases.
- Values for TransactionScopeOption must be specified for the AuditDb database.

Which Transaction Scope Option values should you use?

- Requires New for the Customer Tran Scope Option and Requires New for the Audit Tran Scope Option
- Requires New for Customer Tran Scope Option and Suppress for Audit Tran Scope Option
- Suppress for Customer Tran Scope Option and Suppress for Audit Tran Scope Option
- Required for Customer Tran Scope Option and Required for Audit Tran Scope Option

Incorrect

## 65. Question

You are developing an Azure Function that will be triggered using a webhook from an external application. The Azure Function will receive JSON data in the body of the request. Calling applications send an account ID as part of the URL. The number at the end of the URL is an integer. The format for the URL resembles the following: /api/account/1 The Azure Function must accept all incoming requests without requiring keys or tokens. You need to complete the attributes for the Azure Function.

```
[FunctionName("ProcessingItem")]
public static async Task Run([HttpTrigger(AuthorizationLevel._____ int accountId , "POST", Route =
"____")]
HttpRequestMessage req int accountId, TraceWriter log) { Item itemToProcess = await
req.Content.ReadAsAsync(); log.Info($"Processing item {itemToProcess.Id} for account {accountId}"); var
processedItem = DoItemProcessing(itemToProcess); return req.CreateResponse(HttpStatusCode.OK,
data); }
```

How should you complete the below code? Select the appropriate options.

- ProcessItem/{accountId:int}

- User

- /account/

account/{accountId:int} Function Anonymous

### Incorrect

Below is example to follow [FunctionName("ReadingRequestBody")] public static async Task

```
Run([HttpTrigger(AuthorizationLevel.Anonymous, "POST", Route = null)]HttpRequestMessage req,
```

```
TraceWriter log) { log.Info("101 Azure Function Demo – Reading the request body in HTTP Triggers"); //
```

```
Read body Customer data = await req.Content.ReadAsAsync(); // Echo request data back in the response
```

```
return req.CreateResponse(HttpStatusCode.OK, data); } public class Customer { public string FirstName {
```

```
get; set; } public bool IsDisabled { get; set; } } https://docs.microsoft.com/en-us/sandbox/functions-recipes/http-and-webhooks#accessing-the-request-body-in-http-triggers
```

## 66. Question

### Case Study

#### Overview

Best For You Organics Company is a global restaurant franchise that has multiple locations. The company wants to enhance user experiences and vendor integrations. The company plans to implement automated mobile ordering and delivery services.

Best For You Organics hosts an Azure web app at the URL <https://www.bestforyouorganics.com>. Users can use the web app to browse restaurant location, menu items, nutritional information, and company information. The company developed and deployed a cross-platform mobile app.

#### Requirements

##### Chatbot

You must develop a chatbot by using the Bot Builder SDK and Language Understanding Intelligence Service (LUIS). The chatbot must allow users to order food for pickup or delivery.

The chatbot must meet the following requirements:

- Ensure that chatbot is secure by using the Bot Framework connector.
- Use natural language processing and speech recognition so that users can interact with the chatbot by using text and voice. Processing must be server-based.
- Alert users about promotions at local restaurants.
- Enable users to place an order for delivery or pickup by using their voice.
- Greet the user upon sign-in by displaying a graphical interface that contains action buttons.
- The chatbot greeting interface must match the formatting of the following example:

# Welcome to the Restaurant



**John Doe**  
**Sun, Aug 26, 2018**

**Welcome to Best For You Organics Company!**  
**How can we help you today?**

## **Specials: Chicken Masala**

## **Order Pickup    Order Delivery**

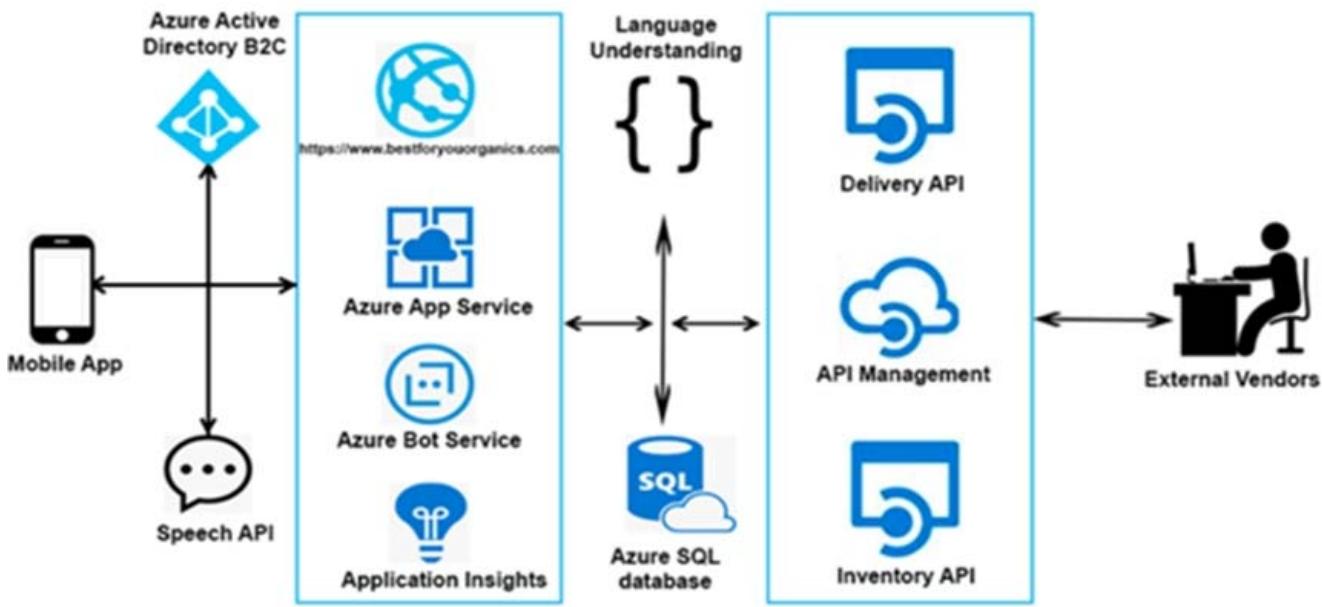
### Vendor API

Vendors receive and provide updates for the restaurant inventory and delivery services by using Azure API Management hosted APIs. Each vendor uses their own subscription to access each of the APIs.

APIs must meet the following conditions:

- API usage must not exceed 5,000 calls and 50,000 kilobytes of bandwidth per hour per vendor.
- If a vendor is nearing the number of calls or bandwidth limit, the API must trigger email notifications to the vendor.
- API must prevent API usage spikes on a per-subscription basis by limiting the call rate to 100 calls per minute.
- The Inventory API must be written by using ASP.NET Core and Node.js.
- The API must be updated to provide an interface to Azure SQL Database objects must be managed by using code.
- The Delivery API must be protected by using the OAuth 2.0 protocol with Azure Active Directory (Azure AD) when called from the Azure web app. You register the Delivery API and web app in Azure AD. You enable OAuth 2.0 in the web app.
- The delivery API must update the Products table, the Vendor transactions table, and the Billing table in a single transaction.

The Best For You Organics Company architecture team has created the following diagram depicting the expected deployments into Azure:



Architecture

Issues

Delivery API

The Delivery API intermittently throws the following exception:

“System.Data.Entity.Core.EntityCommandExecutionException: An error occurred while executing the command definition. See the inner exception for details. –>System.Data.SqlClient.SqlException: A transport-level error has occurred when receiving results from the server. (provider: Session Provider, error: 19 –Physical connection is not usable)”

Chatbot greeting

The chatbot's greeting does not show the user's name. You need to debug the chatbot locally.

Language processing

Users report that the bot fails to understand when a customer attempts to order dishes that use Italian names.

App code

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.

**Startup.cs**

```
SU01 namespace DeliveryApi
SU02 {
SU03     public class Startup
SU04     {
SU05         public Startup(IConfiguration configuration)
SU06         {
SU07             Configuration = configuration;
SU08         }
SU09         public IConfiguration Configuration { get; }
SU10         public void ConfigureServices(IServiceCollection services)
SU11         {
SU12             services.AddDbContext<RestaurantsContext>(opt =>
SU13                 opt.UseSqlServer(Configuration.GetSection("ConnectionStrings")
["RestaurantDatabase"]),
SU14                 sqlServerOptionsAction: sqlOptions =>
SU15                 {
SU16                     . .
SU17                 }));
SU18             services.AddMvc()
SU19                 .SetCompatibilityVersion(CompatibilityVersion.Version_2_1);
SU20         }
SU21         public void Configure(IApplicationBuilder app)
SU22         {
SU23             app.UseMvc();
SU24         }
SU25     }
SU26 }
```

You need to meet the vendor notification requirement. You recommend to Update the Delivery API to send emails by using a cloud-based email service. Does the solution meet the goal?

 No Yes**Incorrect**

<https://docs.microsoft.com/en-us/azure/api-management/api-management-howto-configure-notifications>

**67. Question**

You have an Azure Service Bus and a queue named Queue1. Queue1 is configured as shown below.

**Name** ✓  
Queue1

**Max queue size**  
1 GB

**Message time to live** i  
Days Hours Minutes Seconds  
0 2 0 0

**Lock duration** i  
Days Hours Minutes Seconds  
0 0 5 0

Enable duplicate detection i

Enable dead lettering on message expiration i

Enable sessions i

Enable partitioning i

What happens if a message is written to Queue1 and is never read?

- The message will be deleted after 24 Hours
- The message will be retained until it is deleted manually
- The message will be deleted after 2 hours and 5 Minutes
- The message will be deleted after 2 Hours

Correct

<https://docs.microsoft.com/en-us/azure/service-bus-messaging/message-transfers-locks-settlement>  
<https://docs.microsoft.com/en-us/azure/service-bus-messaging/service-bus-dotnet-get-started-with-queues> <https://docs.microsoft.com/en-us/azure/service-bus-messaging/service-bus-queues-topics-subscriptions#queues>

## 68. Question

You are responsible for mobile app development for a company. The company develops apps on Windows Mobile, IOS, and Android. You plan to integrate push notifications into every app. You need to be able to send users alerts from a backend server. Which two options can you use to achieve this goal?

Azure SQL Database

Azure Mobile App Service

Azure Notification Hubs

Azure Web App

A virtual machine

### Correct

Below options can be used to achieve the goal <https://azure.microsoft.com/en-us/services/app-service/mobile/> <https://docs.microsoft.com/en-us/azure/notification-hubs/notification-hubs-push-notification-overview#why-use-azure-notification-hubs>

## 69. Question

Case Study

Overview

LabelMaker app – Coho Winery produces bottles, and distributes a variety of wines globally. You are 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.

Data –

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

You have the following security requirements:

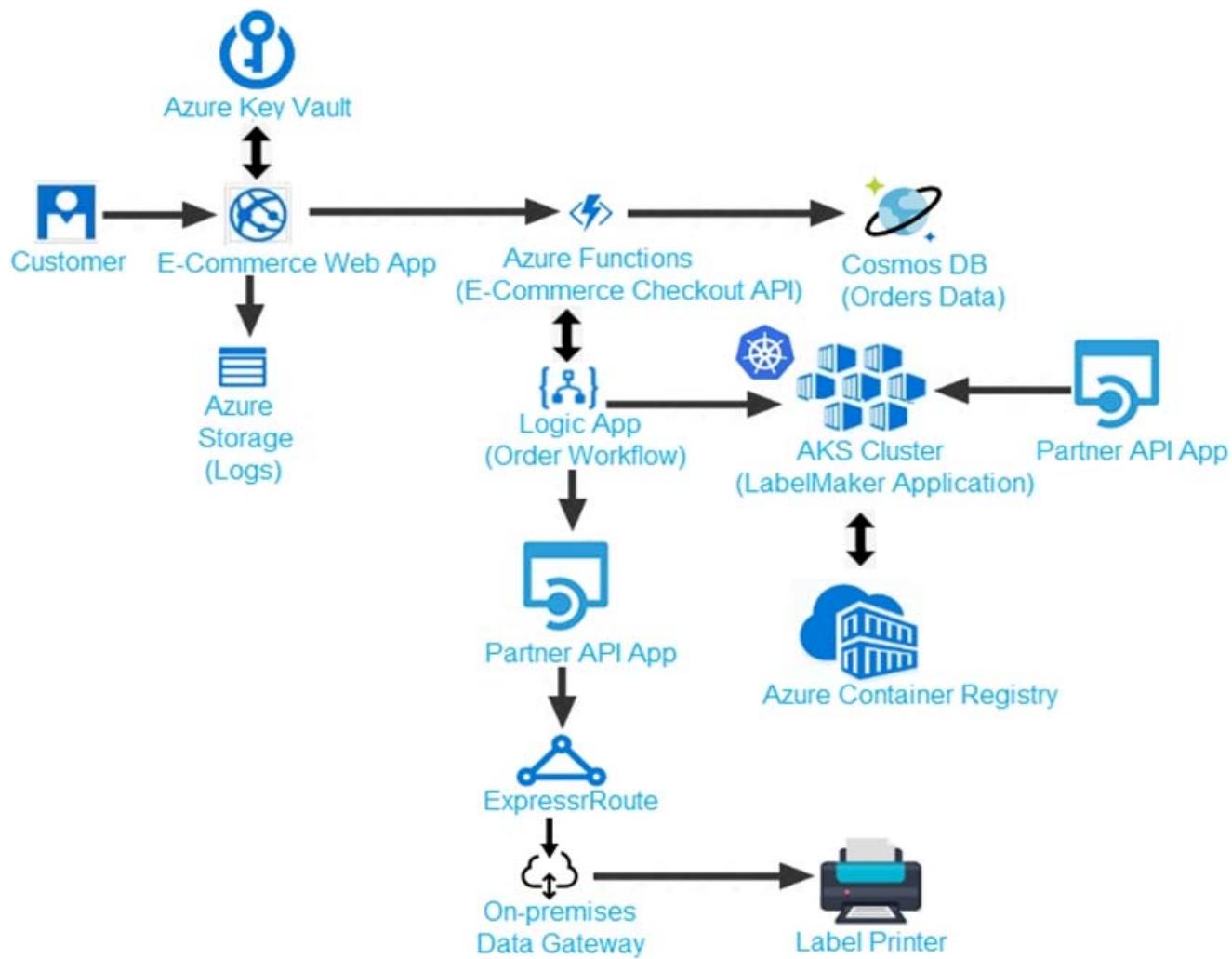
- Users of Coho Winery applications must be able to provide access to documents, resources, and applications to external partners.
- External partners must use their own credentials and authenticate with their organization's identity management solution.

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

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.



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

Printer communications 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",
```

```
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   "country" : "Manhattan",
42   "city" : "NY"
43 }
44 }
```

You need to access user claims in the e-commerce web app. What should you do first?

Write custom code to make a Microsoft Graph API call from the e-commerce web app.

- Assign the Contributor RBAC role to the e-commerce web app by using the Resource Manager create role assignment API
- Update the e-commerce web app to read the HTTP request header values.
- Using the Azure CU, enable Cross-origin resource sharing (CORS) from the e-commerce checkout API to the e-commerce web.

**Correct**

Microsoft Graph is a RESTful web API that enables you to access Microsoft Cloud service resources.

After you register your app and get authentication tokens for a user or service, you can make requests to the Microsoft Graph API.

<https://docs.microsoft.com/en-us/graph/use-the-api>

<https://docs.microsoft.com/en-us/graph/tutorials/flow>

## 70. Question

Case Study

Overview

Contoso, Ltd. is a consulting company that has a main office in Montreal and two branch offices in Seattle and New York.

The Montreal office has 2,000 employees. The Seattle office has 1,000 employees. The New York office has 200 employees.

All the resources used by Contoso are hosted on-premises.

Contoso creates a new Azure subscription. The Azure Active Directory (Azure AD) tenant uses a domain named contoso.onmicrosoft.com. The tenant uses the P1 pricing tier.

Existing Environment

The network contains an Active Directory forest named contoso.com. All domain controllers are configured as DNS servers and host the contoso.com DNS zone.

Contoso has finance, human resources, sales, research, and information technology departments. Each department has an organizational unit (OU) that contains all the accounts of that respective department. All the user accounts have the department attribute set to their respective department. New users are added frequently.

Contoso.com contains a user named User1.

All the offices connect by using private links.

Contoso has data centers in the Montreal and Seattle offices. Each data center has a firewall that can be configured as a VPN device.

All infrastructure servers are virtualized. The virtualization environment contains the servers in the following table.

Name	Role	Contains Virtual Machine
Server1	VMWare vCenter Server	VM1
Server2	Hyper-V Host	VM2

Contoso uses two web applications named App1 and App2. Each instance on each web application requires 1GB of memory.

The Azure subscription contains the resources in the following table.

Name	Type
VNet1	Virtual Network
VM3	Virtual Machine
VM4	Virtual Machine

The network security team implements several network security groups (NSGs).

#### Planned Changes

Contoso plans to implement the following changes:

- Deploy Azure ExpressRoute to the Montreal office.
- Migrate the virtual machines hosted on Server1 and Server2 to Azure.
- Synchronize on-premises Active Directory to Azure Active Directory (Azure AD).
- Migrate App1 and App2 to two Azure web apps named WebApp1 and WebApp2.

#### Technical Requirements

Contoso must meet the following technical requirements:

- Ensure that WebApp1 can adjust the number of instances automatically based on the load and can scale up to five instances.
- Ensure that VM3 can establish outbound connections over TCP port 8080 to the applications servers in the Montreal office.
- Ensure that routing information is exchanged automatically between Azure and the routers in the Montreal office.
- Enable Azure Multi-Factor Authentication (MFA) for the users in the finance department only.
- Ensure that webapp2.azurewebsites.net can be accessed by using the name app2.contoso.com
- Connect the New York office to VNet1 over the Internet by using an encrypted connection.
- Create a workflow to send an email message when the settings of VM4 are modified.
- Create a custom Azure role named Role1 that is based on the Reader role.
- Minimize costs whenever possible. Which pricing tier should you recommend for WebApp1?

P1V2

S1

B1

D1

Incorrect

Technical Requirements : Ensure that WebApp1 can adjust the number of instances automatically based on the load and can scale up to five instances

Standard supports up to 10 instances, and would be enough as the Standard plan includes auto scale that can automatically adjust the number of virtual machine instances running to match your traffic needs.

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

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