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Practice Set 7

Your results are here!! for " Microsoft Azure AZ-305 Practice Test 7 "

45 of 70 questions answered correctly

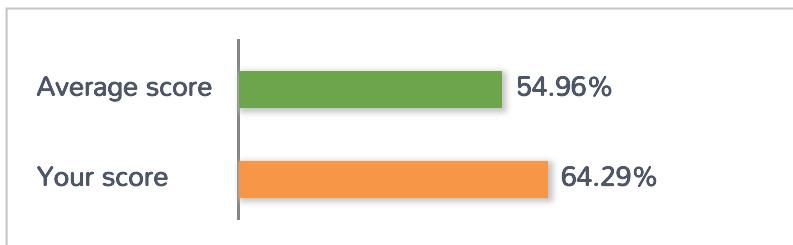
Your time: 01:35:59

Your Final Score is : 45

You have attempted : 70

Number of Correct Questions : 45 and scored 45

Number of Incorrect Questions : 25 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](#)

[View Answers](#)

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

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.

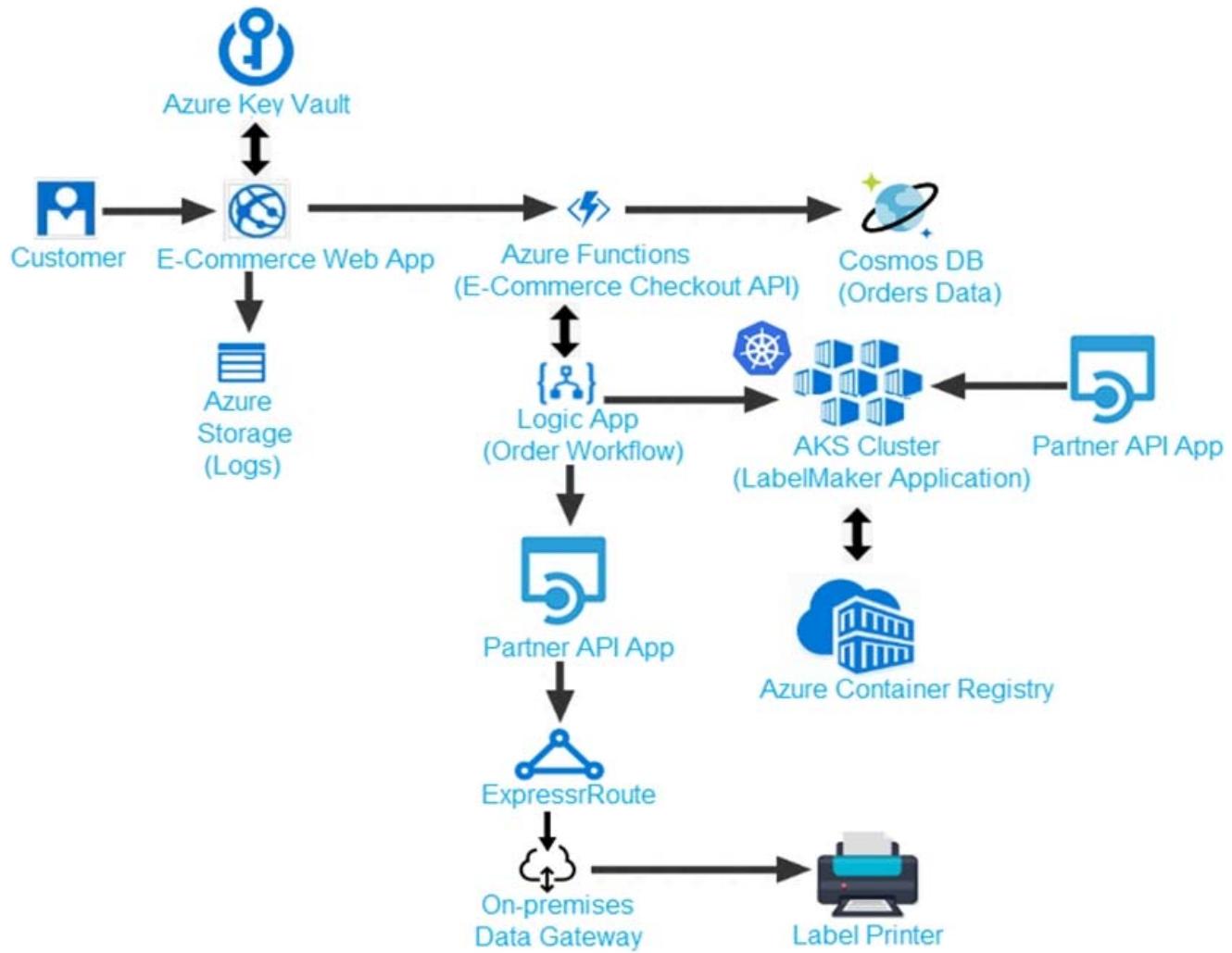
You have the following security requirements:

- 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  
24 }
```

```
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 conditional access policy and assign it to the Azure Kubernetes Service cluster.

Does the solution meet the goal?

Yes

No

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.

Before an Azure Active Directory account can be used with the AKS cluster, a role binding or cluster role binding needs to be created.

<https://docs.microsoft.com/en-us/azure/aks/aad-integration>

2. 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

- 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 meet the authentication requirements.

Which two actions should you perform?

- Install the Active Directory Federation Services (AD FS) role on a domain controller in the Berlin office
- Add <http://autologon.microsoftazuread-sso.com> to the intranet zone of each client computer in the Berlin office.
- Allow inbound TCP port 8080 to the domain controllers in the Berlin office
- Join the client computers in the Berlin office to Azure AD
- Install Azure AD Connect on a server in the Berlin office and enable Pass-through Authentication

Incorrect

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

Planned Azure AD Infrastructure include: The on-premises Active Directory domain will be synchronized to Azure AD.

Seamless SSO works with any method of cloud authentication – Password Hash Synchronization or Pass-through Authentication, and can be enabled via Azure AD Connect.

You can gradually roll out Seamless SSO to your users. You start by adding the following Azure AD URL to all or selected users' Intranet zone settings by using Group Policy in Active Directory:

<https://autologon.microsoftazuread-sso.com>

<https://docs.microsoft.com/en-us/azure/active-directory/connect/active-directory-aadconnect-sso-quick-start>

3. Question

Block/unblock users blade under MFA Server Blade show AlexW as blocked user.

Block/unblock users

A blocked user will not receive Multi-Factor Authentication requests. Authentication attempts for that user will be automatically denied. A user will remain blocked for 90 days from the time they are blocked. To manually unblock a user, click the "Unblock" action.

Blocked users

USER	REASON	DATE	ACTION
AlexW@M365x832514OnMicrosoft.com	Lost phone	06/14/2018, 8:26:38 PM	Unblock

What caused AlexW to be blocked?

- The user reported a fraud alert when prompted for additional authentication.
- The user entered an incorrect PIN four times within 10 minutes.
- The user account password expired.
- An administrator manually blocked the user after user calling ro report phone lost case

Correct

Though there are 2 suitable answers here, the account was locked due to administrators attempt to block the user <https://docs.microsoft.com/en-us/azure/active-directory/authentication/howto-mfa-mfasettings#block-and-unblock-users>

4. 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 protect webapp from vulnerabilities.

What Azure component do you recommend?

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

Incorrect

Azure Security Center is a unified infrastructure security management system that strengthens the security posture of your data centers, and provides advanced threat protection across your hybrid workloads in the cloud – whether they're in Azure or not – as well as on premises.

<https://docs.microsoft.com/en-us/azure/security-center/security-center-intro>

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

Incorrect

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>

6. Question

You have a virtual network named VNet1 as shown below

The screenshot shows the Azure portal interface for managing a virtual network. At the top, there are buttons for Refresh, Move, and Delete. Below that, the resource group is set to 'Production'. The location is 'West US'. The subscription is 'Production subscription' with ID '14d26092-8e42-4ea7-b770-9dcef70fb1ea'. There is a link to 'Click here to add tags'. Under the 'Connected devices' section, there is a search bar and a table with columns for DEVICE, TYPE, IP ADDRESS, and SUBNET. The message 'No results.' is displayed.

No devices are connected to VNet1. You plan to peer VNet1 to another virtual network named VNet2 in the same region. VNet2 has an address space of 10.2.0.0/16. What do you need to do before creating the peering.

- Add a gateway subnet to VNet1.
- Modify the address space of VNet1
- Create a subnet on VNet1 and VNet2
- Configure a service endpoint on VNet2

Correct

The virtual networks you peer must have non-overlapping IP address spaces. VNet1 in the picture shows that it has an address space of 10.2.0.0/16, which is the same as VNet2, and thus it overlaps. We need to change the address space for VNet1. <https://docs.microsoft.com/en-us/azure/virtual-network/virtual-network-peering-overview>

[network-manage-subnet#add-a-subnet](#) <https://docs.microsoft.com/en-us/azure/virtual-network/virtual-networks-faq>

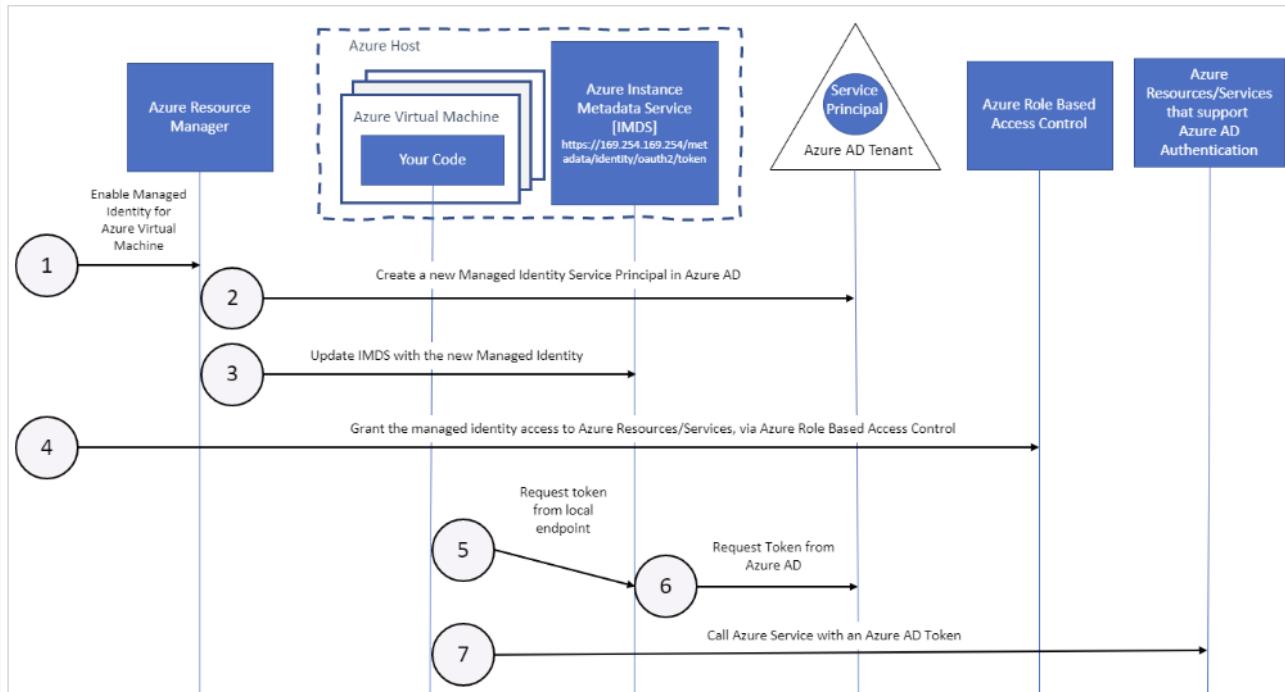
7. Question

You have an Azure subscription named Subscription1 that contains an Azure virtual machine named VM1. VM1 is in a resource group named RG1. VM1 runs services that will be used to deploy resources to RG1. You need to ensure that a service running on VM1 can manage the resources in RG1 by using the identity of VM1. What should you do first?

- From the Azure portal, modify the Access control (IAM) settings of RG1.
- From the Azure portal, modify the Access control (IAM) settings of VM1.
- From the Azure portal, modify the value of the Managed Service Identity option for VM1
- From the Azure portal, modify the Policies settings of RG1.

Incorrect

<https://docs.microsoft.com/en-us/azure/active-directory/managed-identities-azure-resources/overview>



<https://docs.microsoft.com/en-us/azure/active-directory/managed-identities-azure-resources/overview#how-a-system-assigned-managed-identity-works-with-an-azure-vm>

8. Question

From Azure Cosmos DB, you create the containers shown below

Container ID	Partition Key	Unique Key
Container1	/category	None
Container2	/id	/importance

You add the following item to Container1. { "id": "1", "category": "personal", "name": "Name1", "description": "Description1" } You plan to add items to Azure Cosmos DB as shown in the following table.

Name	Content
Item1	{ "id": "1", "category": "personal", "name": "Name1", "description": "Description1" }
Item2	{ "category": "business", "name": "Name2", "description": "Description2", "importance": "High" }
Item3	{ "id": "3", "name": "Name3", "description": "Description3" }
Item4	{ "id": "4", "importance": "Low" }

You need to identify which items can be added successfully to Container2?

Item2 and Item4 Only

Item1, Item2, Item3, and Item4

Item1, Item3, and Item4 Only

Item4 Only

Incorrect

9. Question

From Azure Cosmos DB, you create the containers shown below

Container ID	Partition Key	Unique Key
Container1	/category	None
Container2	/id	/importance

You add the following item to Container1. { "id": "1", "category": "personal", "name": "Name1", "description": "Description1" } You plan to add items to Azure Cosmos DB as shown in the following table.

Name	Content
Item1	{ "id": "1", "category": "personal", "name": "Name1", "description": "Description1" }
Item2	{ "category": "business", "name": "Name2", "description": "Description2", "importance": "High" }
Item3	{ "id": "3", "name": "Name3", "description": "Description3" }
Item4	{ "id": "4", "importance": "Low" }

You need to identify which items can be added successfully to Container1?

- Item2, Item3, and Item4 Only
- Item3 and Item4 Only
- Item1 and Item2 Only
- Item1, Item2, Item3, and Item4
- Item2 Only

Incorrect

10. 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 – Contributor VM Operators – Virtual Machine Contributor Developers – Storage Account Contributor Contractors – Storage Account Contributor Does this meet the requirement?

No

Yes

Correct

11. 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 optimize responsiveness and reliability. What Azure component do you recommend?

Azure Application gateway

Azure Monitor

Azure Security Center

Azure Traffic Manager

Correct

Azure Traffic Manager is a DNS-based traffic load balancer that enables you to distribute traffic optimally to services across global Azure regions, while providing high availability and responsiveness.

<https://docs.microsoft.com/en-us/azure/traffic-manager/traffic-manager-overview>

12. 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/* will be load balanced across Pool11.
 - 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 configure the Azure ExpressRoute circuits. You recommend to configure routing Adatum to Azure and vice versa following below approach.

Routing from ADatum to Azure – Use BGP to append the private AS numbers to the advertised prefixes.

Routing from Microsoft Online services to Azure – Use BGP to append public AS numbers to the advertised prefixes.

Does this meet the requirement?

No

Yes

Correct

Azure compute services, namely virtual machines (IaaS) and cloud services (PaaS), that are deployed within a virtual network can be connected through the private peering domain. The private peering domain is considered to be a trusted extension of your core network into Microsoft Azure. Services such as Azure Storage, SQL databases, and Websites are offered on public IP addresses. You can privately connect to services hosted on public IP addresses, including VIPs of your cloud services, through the public peering routing domain. You can connect the public peering domain to your DMZ and connect to all Azure services on their public IP addresses from your WAN without having to connect through the internet. <https://docs.microsoft.com/en-us/azure/expressroute/expressroute-circuit-peering>

13. 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

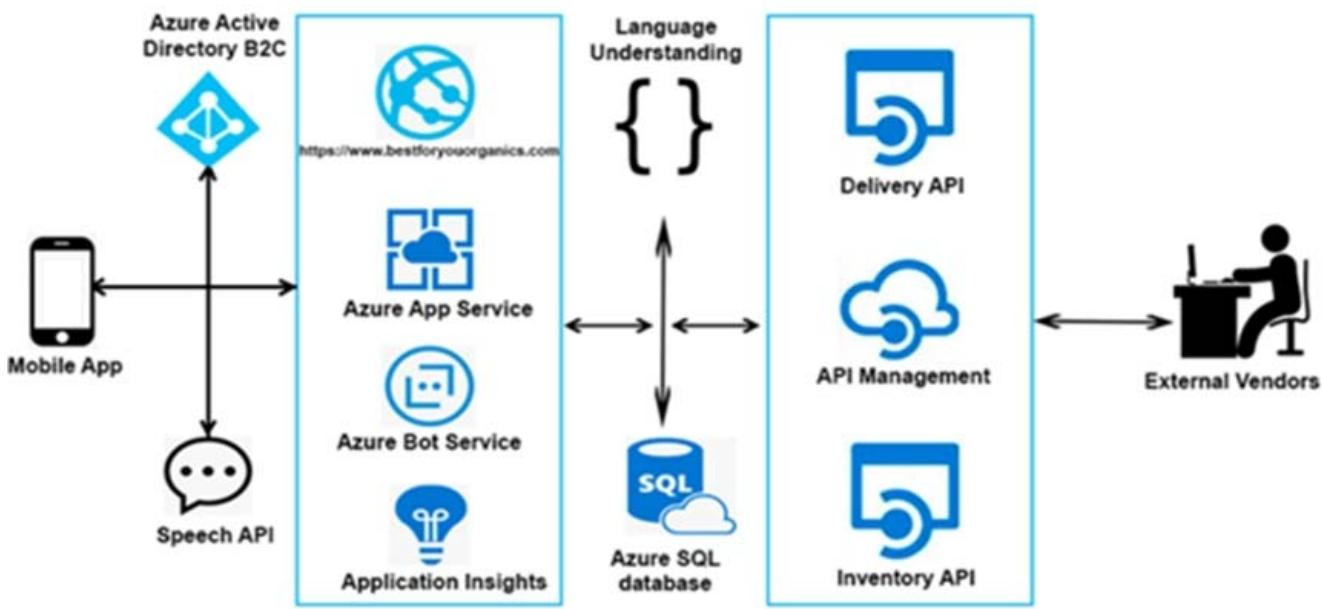
Vendor API

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 resolve the delivery API error. What should you do?

- Implement a Circuit Breaker pattern by using the `EnableRetryOnFailure` feature of Entity Framework.
- Implement exponential backoff by using the `EnableRetryOnFailure` feature of Entity Framework.**
- Implement simple retry by using the `EnableRetryOnFailure` feature of Entity Framework.
- Invoke a custom execution strategy in Entity Framework.

Correct

It is strongly recommended that your client program has retry logic so that it could reestablish a connection after giving the transient fault time to correct itself. <https://docs.microsoft.com/en-us/azure/sql-database/troubleshoot-connectivity-issues-microsoft-azure-sql-database#implementing-retry-logic>

14. Question

You have an Azure subscription that contains 10 virtual machines. You need to ensure that you receive an email message when any virtual machines are powered off, restarted, or deallocated. What is the minimum number of rules and action groups that you require?

- Three rules and three action groups
- one rule and three action groups
- Three rules and one action group
- one rule and one action group

Correct

We need a separate rule for each condition. We also need a separate action group for each action type that we want to fire when the rule is met. In this scenario we have three conditions (when any virtual machines are powered off, restarted, or deallocated) and one action type (you are sent an email message). <https://docs.microsoft.com/en-us/azure/azure-monitor/platform/alerts-action-rules>
<https://docs.microsoft.com/en-us/azure/azure-monitor/platform/alerts-metric-overview>
<https://docs.microsoft.com/en-us/azure/azure-monitor/platform/action-groups>

15. Question

An app uses a virtual network with two subnets. One subnet is used for the application server. The other subnet is used for a database server. A network virtual appliance (NVA) is used as a firewall. Traffic destined for one specific address prefix is routed to the NVA and then to an on-premises database server that stores sensitive data. A Border Gateway Protocol (BGP) route is used for the traffic to the on-premises database server. You need to recommend a method for creating the user-defined route. Which two options should you recommend?

- For the virtual network configuration, use Azure ExpressRoute.
- For the next hop type, use virtual network peering.
- For the virtual network configuration, use a VPN
- For the next hop type, use a virtual network gateway.

Incorrect

<https://docs.microsoft.com/en-us/azure/virtual-network/virtual-networks-udr-overview#border-gateway-protocol> <https://docs.microsoft.com/en-us/azure/virtual-network/virtual-networks-udr-overview>

16. Question

You manage a solution in Azure that consists of a single application which runs on a virtual machine (VM). Traffic to the application has increased dramatically. The application must not experience any downtime and scaling must be dynamically defined. You need to define an auto-scale strategy to ensure that the VM can handle the workload. Which three options should you recommend?

Deploy application automatic horizontal scaling.

Create a VM scale set.

Deploy a custom auto-scale implementation.

Create a VM availability set.

Deploy application automatic vertical scaling.

Incorrect

Autoscaling is the process of dynamically allocating resources to match performance requirements. As the volume of work grows, an application may need additional resources to maintain the desired performance levels and satisfy service-level agreements (SLAs). As demand slackens and the additional resources are no longer needed, they can be de-allocated to minimize costs.

<https://docs.microsoft.com/en-us/azure/architecture/best-practices/auto-scaling>

17. 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 sign up for Azure Active Directory (Azure AD) Premium.

You need to add a user named admin1@contoso.com as an administrator on all the computers that will be joined to the Azure AD domain.

What should you configure in Azure AD?

- Providers from the MFA Server blade
- General settings from the Groups blade
- User settings from the Users blade
- Device settings from the Devices blade

Correct

When you connect a Windows device with Azure AD using an Azure AD join, Azure AD adds the following security principles to the local administrators group on the device:

The Azure AD global administrator role

The Azure AD device administrator role

The user performing the Azure AD join

In the Azure portal, you can manage the device administrator role on the Devices page.

To open the Devices page:

1. Sign in to your Azure portal as a global administrator or device administrator.
2. On the left navbar, click Azure Active Directory.
3. In the Manage section, click Devices.
4. On the Devices page, click Device settings.
5. To modify the device administrator role, configure Additional local administrators on Azure AD joined devices.

<https://docs.microsoft.com/en-us/azure/active-directory/devices/assign-local-admin>

18. 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. From the Subscription blade, you select the subscription, and then click Resource providers. Does this meet the goal?

- No

Yes**Correct**

From the RG1 blade, click Deployments <https://docs.microsoft.com/en-us/azure/azure-resource-manager/templates/template-tutorial-create-firsttemplate?tabs=azure-powershell>

19. 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/* will be load balanced across Pool11.
 - 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 the ASRV1 blade in the Azure portal, select a protection goal.

From VM1, connect to the collector virtual machine.

From an Azure portal, download the OVF file.

From VM1, register the configuration server.

From VM1, deploy a virtual machine.

Incorrect

Follow the sequences mentioned in this article.

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

20. Question

You are implementing authentication for applications in your company. You plan to implement self-service password reset (SSPR) and multifactor authentication (MFA) in Azure Active Directory (Azure AD). You need to select authentication mechanisms that can be used for both MFA and SSPR. Which two authentication methods should you use?

Short Message Service (SMS) messages

Security questions

Azure AD passwords

App passwords

Email addresses**Incorrect**

It is recommended that you require users to register multiple authentication methods. When an authentication method is not available for a user, they can choose to authenticate with another method.

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

21. 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 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
- 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.

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>

22. 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?

Yes No**Correct**

23. 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:

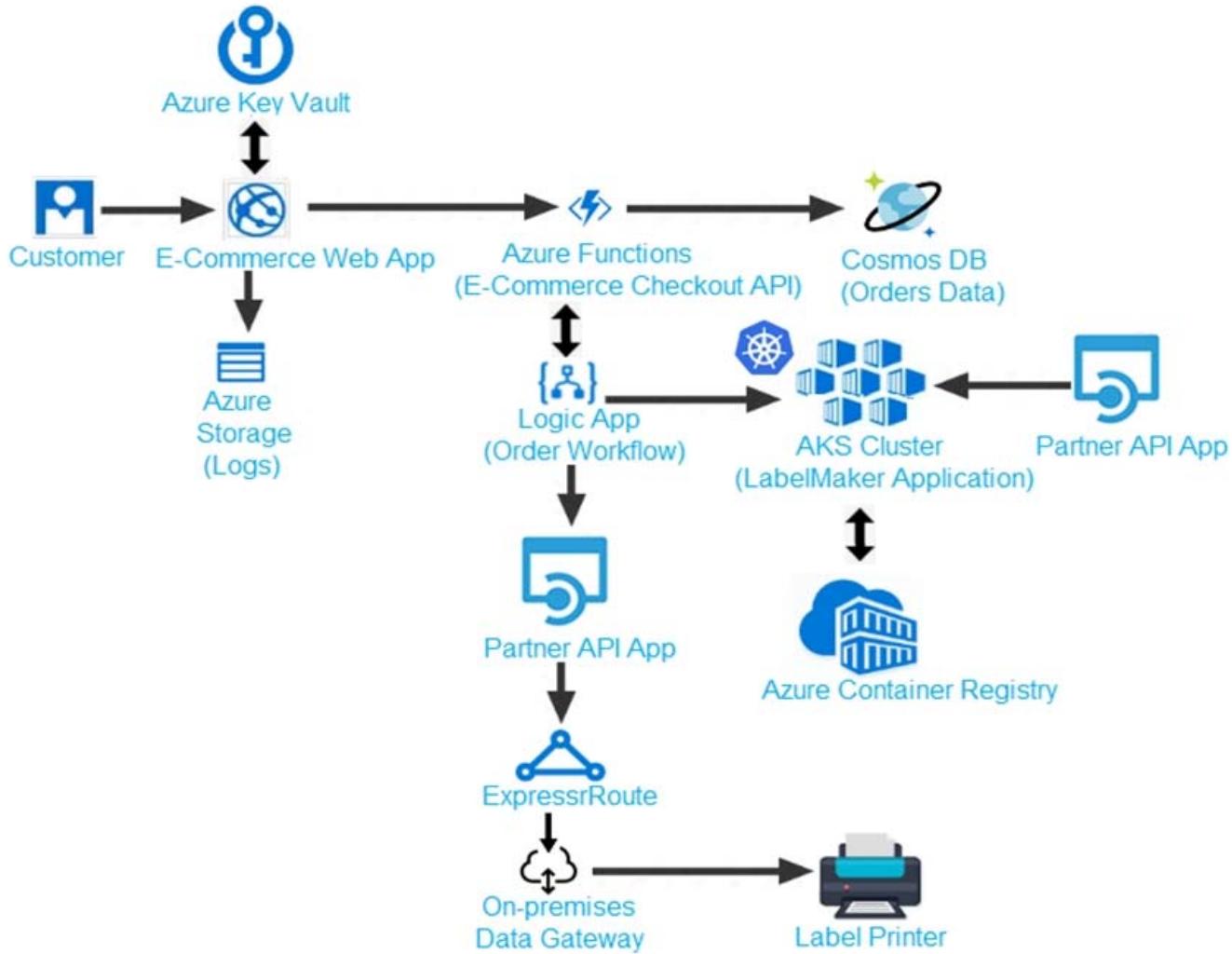
- Users of Coho Winery applications must be able to provide access to documents, resources, and applications to external partners.
- External partners must use their own credentials and authenticate with their organization's identity management solution.
- External partner logins must be audited monthly 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  
24 }
```

```
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 add the Azure Active Directory account into an Azure AD group. Create a ClusterRoleBinding and assign it to the group.

Does the solution meet the goal?

Yes

No

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/>

24. 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             "logcontent", content
EG40         }
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?

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

Set Always On to false Set Always On to true Ensure that the Azure Function is set to use a consumption plan.

Correct

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>

25. Question

You have two subscriptions named Subscription1 and Subscription2. Each subscription is associated to a different Azure AD tenant. Subscription1 contains a virtual network named VNet1. VNet1 contains an Azure virtual machine named VM1 and has an IP address space of 10.0.0.0/16. Subscription2 contains a virtual network named VNet2. Vnet2 contains an Azure virtual machine named VM2 and has an IP address space of 10.10.0.0/24. You need to connect VNet1 to VNet2. What should you do first?

 Modify the IP address space of VNet2 Modify the IP address space of VNet2 Provision virtual network gateways Move VNet1 to Subscription2.

Incorrect

A virtual network gateway is the software VPN device for your Azure virtual network. Use this with a connection to set up a site-to-site VPN connection between an Azure virtual network and your local network, or a VNet-to-VNet VPN connection between two Azure virtual networks. It can also be used to connect a virtual network to an ExpressRoute circuit. <https://docs.microsoft.com/en-us/azure/vpn-gateway/vpn-gateway-vnet-vnet-rm-ps#difs>

26. 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/* will be load balanced across Pool11.
 - 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 configure AG1. What should you create?

An additional public IP address

Basic listeners

URL path-based routing rules

Basic routing rules

Multi-site listeners

Correct

URL Path Based Routing allows you to route traffic to back-end server pools based on URL Paths of the request.

One of the scenarios is to route requests for different content types to different backend server pools.

Refer below articles.

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

<https://docs.microsoft.com/en-us/azure/application-gateway/create-url-route-portal>

27. Question

You have an Azure SQL database named DB1. You plan to create the following four tables in DB1 by using the following code.

Table1.

```
CREATE TABLE Table1
(
    StudentId INT IDENTITY PRIMARY KEY,
    PersonId INT REFERENCES Table4 (PersonId),
    Email NVARCHAR(256)
)
```

Table2.

```
CREATE TABLE Table2
(
    StudentId INT REFERENCES Table1 (StudentId),
    CourseId INT REFERENCES Table3 (CourseId),
    Grade DECIMAL(5,2) CHECK (Grade <= 100.00),
    Attempt TINYINT
)
```

Table3.

```
CREATE TABLE Table3
(
    CourseId INT IDENTITY PRIMARY KEY,
    Name NVARCHAR(50) NOT NULL,
    Teacher NVARCHAR(256) NOT NULL
)
```

Table4.

```
CREATE TABLE Table4
(
    PersonId INT IDENTITY PRIMARY KEY,
    FirstName NVARCHAR(128) NOT NULL,
    MiddleInitial NVARCHAR(10),
    LastName NVARCHAR(128) NOT NULL,
    DateOfBirth DATE NOT NULL
)
```

You need to identify which table must be created last. What should you identify?

- Table1

Table4 Table3 Table2

Correct

Table1 references Table4. Therefore Table4 must be created before Table1. Table2 references Table1 and Table3. Therefore Table1 and Table3 must be created before Table2. Note: FOREIGN KEY REFERENCES is a constraint that provides referential integrity for the data in the column or columns. FOREIGN KEY constraints require that each value in the column exists in the corresponding referenced column or columns in the referenced table. FOREIGN KEY constraints can reference only columns that are PRIMARY KEY or UNIQUE constraints in the referenced table or columns referenced in a UNIQUE INDEX on the referenced table. <https://docs.microsoft.com/en-us/sql/t-sql/statements/create-table-transact-sql?view=sql-server-ver15>

28. Question

Kloudviva subscription has 250 virtual machines. Kloudviva asks you to assist them in reducing their Azure spend by identifying idle and underutilized resources. Which one of these would you use?

 Monitor Customer insights Advisor Metrics

Correct

Advisor helps you optimize and reduce your overall Azure spend by identifying idle and underutilized resources. You can get cost recommendations from the Cost tab on the Advisor dashboard.

<https://docs.microsoft.com/en-us/azure/advisor/advisor-cost-recommendations>

29. Question

You are the global administrator for an Azure Active Directory (Azure AD) tenant named adatum.com. You need to enable time-based and approval-based role activation to mitigate the risks of excessive, unnecessary, or misused access permissions on resources. How can you achieve this?

 Enable RBAC Distribute Secure hard tokens for admins Enable Azure Active Directory (Azure AD) Privileged Identity Management (PIM)

- Define conditional access policy

Correct

Azure Active Directory (Azure AD) Privileged Identity Management (PIM) is a service that enables you to manage, control, and monitor access to important resources in your organization. These resources include resources in Azure AD, Azure, and other Microsoft Online Services like Office 365 or Microsoft Intune. <https://docs.microsoft.com/en-us/azure/active-directory/privileged-identity-management/pim-configure> <https://docs.microsoft.com/en-us/azure/active-directory/privileged-identity-management/pim-configure#what-does-it-do>

30. Question

You have an Azure subscription named Subscription1. Subscription1 contains the virtual machines in the following table:

Name	IPAddress
VM1	10.0.1.4
VM2	10.0.2.4
VM3	10.0.3.4

Subscription1 contains a virtual network named VNet1 that has the subnets in the following table.

Name	IPAddress	Connected VM
Subnet1	10.0.1.0/24	VM1
Subnet2	10.0.2.0/24	VM2
Subnet3	10.0.3.0/24	VM3

VM3 has multiple network adapters, including a network adapter named NIC3. IP forwarding is enabled on NIC3. Routing is enabled on VM3. You create a route table named RT1 that contains the routers in the following table.

Address Prefix	Next Hop Type	Next Hop Adress
10.0.1.0/24	Virtual Appliance	10.0.3.4
10.0.2.0/24	Virtual Appliance	10.0.3.4

You apply RT1 to Subnet1 and Subnet2. Can VM3 establish connection with VM1?

- No, it can not connect
- Yes, it can connect

Correct

IP forwarding enables the virtual machine a network interface is attached to: Receive network traffic not destined for one of the IP addresses assigned to any of the IP configurations assigned to the network interface. Send network traffic with a different source IP address than the one assigned to one of a

network interface's IP configurations. The setting must be enabled for every network interface that is attached to the virtual machine that receives traffic that the virtual machine needs to forward. A virtual machine can forward traffic whether it has multiple network interfaces or a single network interface attached to it. The routing table allows connections from VM3 to VM1 and VM2. And as IP forwarding is enabled on VM3, VM3 can connect to VM1. <https://docs.microsoft.com/en-us/azure/virtual-network/virtual-networks-udr-overview>

31. 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:

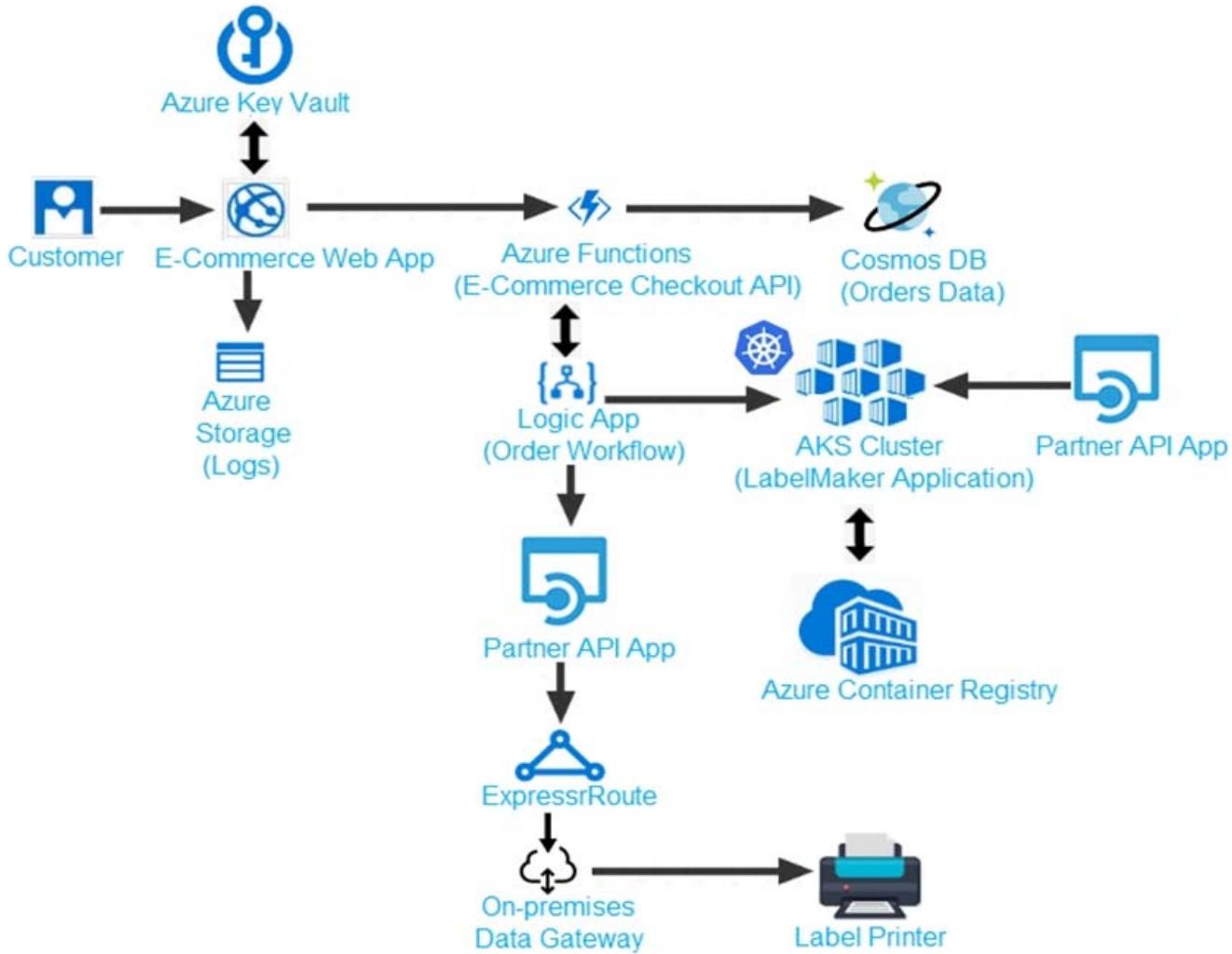
- Users of Coho Winery applications must be able to provide access to documents, resources, and applications to external partners.
- External partners must use their own credentials and authenticate with their organization's identity management solution.
- External partner logins must be audited monthly 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  
24 }
```

```
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 deploy a new version of the Label Maker application.

Which three actions should you perform in sequence?

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

Log in to the registry and push image.

Restart the cluster.

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

Build a new application image by using dockerfile.

Download the image to your local computer.

Incorrect

Azure Container Registry (ACR) is a private registry for container images. A private container registry lets you securely build and deploy your applications and custom code. In this tutorial, part two of seven, you deploy an ACR instance and push a container image to it.

Create an Azure Container Registry (ACR) instance

Tag a container image for ACR

Upload the image to ACR

<https://docs.microsoft.com/en-us/azure/aks/tutorial-kubernetes-prepare-acr>

<https://docs.microsoft.com/en-us/azure/container-registry/container-registry-get-started-docker-cli>

32. 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

- 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 are evaluating the connectivity between the virtual machines after the planned implementation of the Azure networking infrastructure.

Can Virtual Machines on Subnet1 connect to the virtual machines on Subnet3?

No

Yes

Correct

Once the VNets are peered, all resources on one VNet can communicate with resources on the other peered VNets. You plan to enable peering between Paris-VNet and AllOffices-VNet. Therefore VMs on Subnet1, which is on Paris-VNet and VMs on Subnet3, which is on AllOffices-VNet will be able to connect to each other.

All Azure resources connected to a VNet have outbound connectivity to the Internet by default. Therefore VMs on ClientSubnet, which is on ClientResources-VNet will have access to the Internet; and VMs on Subnet3 and Subnet4, which are on AllOffices-VNet will have access to the Internet.

<https://docs.microsoft.com/en-us/azure/virtual-network/virtual-network-peering-overview>

<https://docs.microsoft.com/en-us/azure/networking/networking-overview#internet-connectivity>

33. Question

You have an Azure subscription named Subscription1. You create several Azure virtual machines in Subscription1. All of the virtual machines belong to the same virtual network. You have an on-premises Hyper-V server named Server1. Server1 hosts a virtual machine named VM1. You plan to replicate VM1 to Azure. You need to create additional objects in Subscription1 to support the planned deployment. Which three objects should you create?

Hyper-V site

Azure Traffic Manager instance

endpoint

replication policy

storage account

Azure Recovery Services Vault

Incorrect

<https://docs.microsoft.com/en-us/azure/backup/backup-azure-manage-windows-server>

34. Question

Azure Subscription has below storage accounts

Name	Kind	Performance Tier	Replication	Location
Storage 1	StorageV2	Premium	Locally-redundant Storage (LRS)	East US
Storage 2	Storage	Standard	Geo-Redundant Storage (GRS)	UK West
Storage 3	BlobStorage	Standard	Locally-redundant Storage (LRS)	North Europe

How many copies of data is in Storage 2?

- 8
- 1
- 6
- 2
- 4

Correct

Geo-redundant storage (GRS) brings additional redundancy to the data storage over both LRS or ZRS. Along with the three copies of your data stored within a single region, a further three copies are stored in the twinned Azure region. So using GRS means you get all the features of the LRS storage within your primary zone, but you also get a second LRS data storage in a neighbouring Azure region. This data is updated asynchronously, so there is a small lag between the 2 data sets, but for most cases this is acceptable. <https://docs.microsoft.com/en-us/azure/storage/common/storage-redundancy#geo-redundant-storage> <https://www.skylinесacademy.com/blog/2019/7/31/azure-storage-replication>

35. Question

A company plans to use third-party application software to perform complex data analysis processes. The software will use up to 500 identical virtual machines (VMs) based on an Azure Marketplace VM image. You need to design the infrastructure for the third-party application server. The solution must meet the following requirements: – The number of VMs that are running at any given point in time must change when the user workload changes. – When a new version of the application is available in Azure Marketplace it must be deployed without causing application downtime. – Use VM scale sets. – Minimize the need for ongoing maintenance. Which two technologies should you recommend?

- Autoscale

- single storage account

Managed Disks single placement group**Incorrect**

scale sets are useful for deploying highly available infrastructure where a set of machines has similar configuration. <https://docs.microsoft.com/en-us/azure/virtual-machine-scale-sets/virtual-machine-scale-sets-design-overview#when-to-use-scale-sets-instead-of-virtual-machines> Managed disks are like a physical disk in an on-premises server but virtualized. With managed disks, all you have to do is specify the disk size, the disk type, and provision the disk. Once you provision the disk, Azure handles the rest. <https://docs.microsoft.com/en-us/azure/virtual-machines/windows/managed-disks-overview#benefits-of-managed-disks>

36. Question

You have an Azure subscription that contains the resources shown below

Name	Type	Size
ILB1	Internal Load Balancer	Basic
ELB1	External Load Balancer	Standard
AGW1	Azure Application Gateway that has Web Application Firewall (WAF) enabled	Standard
AGW2	Azure Application Gateway	Standard_v2

You need to deploy a load-balancing solution for Azure web app named App2 to meet the following requirements: App2 must be able to use a static public IP address. Which resource should you use as the load-balancing solution for App2?

- AGW2
- ILB1
- AGW1
- ELB1

Correct

Public IP addresses allow Internet resources to communicate inbound to Azure resources. Public IP addresses also enable Azure resources to communicate outbound to Internet and public-facing Azure services with an IP address assigned to the resource. Note: In Azure Resource Manager, a public IP address is a resource that has its own properties. Some of the resources you can associate a public IP address resource with are: Virtual machine network interfaces Internet-facing load balancers VPN

gateways Application gateways <https://docs.microsoft.com/en-us/azure/virtual-network/virtual-network-ip-addresses-overview-arm>

37. 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

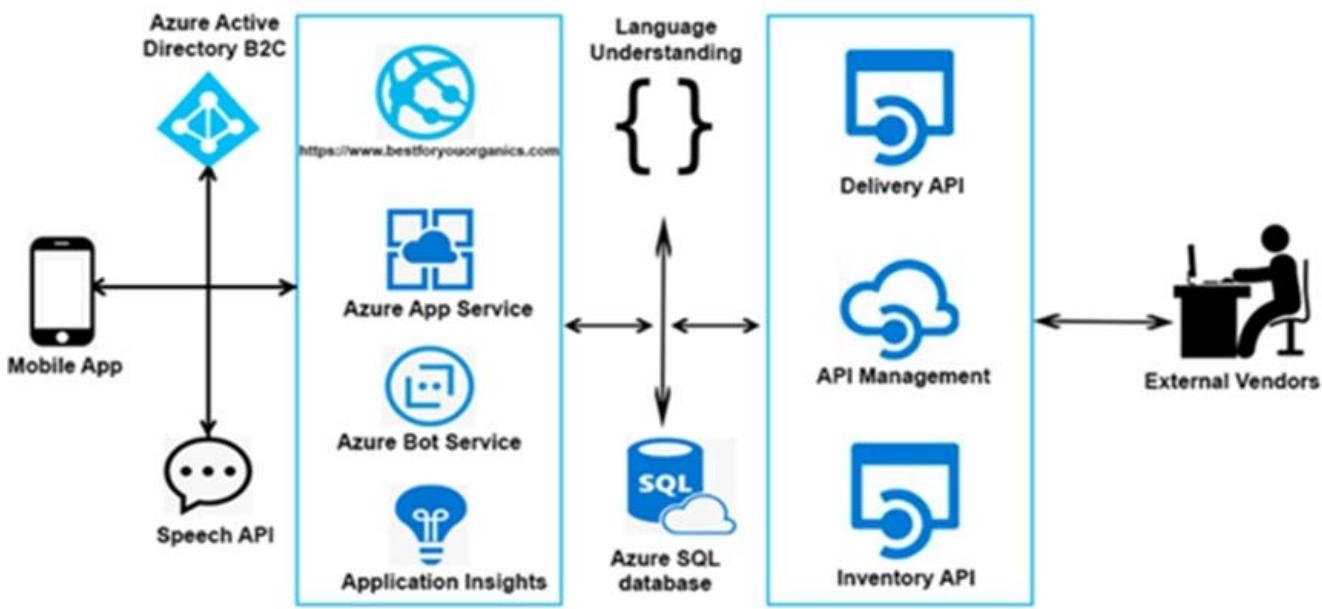
Vendor API

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 security requirements. What should you use?

- HTTP Strict Transport Security (HSTS)
- Multi-Factor Authentication (MFA)
- Bot Framework authentication
- Direct Line API
- Bot Framework Portal

Correct

The Azure Bot Service v4 SDK facilitates the development of bots that can access online resources that require authentication. Your bot does not need to manage authentication tokens. Azure does it for you using OAuth2 to generate a token, based on each user's credentials. Your bot uses the token generated by Azure to access those resources. In this way, the user does not have to provide ID and password to the bot to access a secured resource but only to a trusted identity provider.

The Bot Framework Token Service is responsible for:

Facilitating the use of the OAuth protocol with a wide variety of external services.

Securely storing tokens for a particular bot, channel, conversation, and user.

Acquiring user tokens.

<https://docs.microsoft.com/en-us/azure/bot-service/bot-builder-authentication?view=azure-bot-service-4.0&tabs=aadv1%2Csharp>

<https://docs.microsoft.com/en-us/azure/bot-service/bot-builder-concept-authentication?view=azure-bot-service-4.0>

38. Question

Azure Subscription has below storage accounts

Name	Kind	Performance Tier	Replication	Location
Storage 1	StorageV2	Premium	Locally-redundant Storage (LRS)	East US
Storage 2	Storage	Standard	Geo-Redundant Storage (GRS)	UK West
Storage 3	BlobStorage	Standard	Locally-redundant Storage (LRS)	North Europe

Can Storage 1 host file shares?

No, it can not host

Yes, it can host

Incorrect

You cannot create Azure file shares from Blob storage accounts or premium general purpose (GPv1 or GPv2) storage accounts. Standard Azure file shares must be created in standard general purpose accounts only and premium Azure file shares must be created in FileStorage storage accounts only. Premium general purpose (GPv1 and GPv2) storage accounts are for premium page blobs only. Azure Files supports two storage tiers: premium and standard. Standard file shares are created in general purpose (GPv1 or GPv2) storage accounts and premium file shares are created in FileStorage storage accounts.

<https://docs.microsoft.com/en-us/azure/storage/files/storage-files-faq#general>

39. Question

You create an Azure virtual machine named VM1 in a resource group named RG1. You discover that VM1 performs slower than expected. You need to capture a network trace on VM1. What should you do?

From the VM1 blade, install performance diagnostics and run advanced performance analysis

From the VM1 blade, configure Connection troubleshoot.

From Diagnostic settings for VM1, configure the log level of the diagnostic agent.

- From Diagnostic settings for VM1, configure the performance counters to include network counters.

Incorrect

The performance diagnostics tool helps you troubleshoot performance issues that can affect a Windows or Linux virtual machine (VM). Supported troubleshooting scenarios include quick checks on known issues and best practices, and complex problems that involve slow VM performance or high usage of CPU, disk space, or memory. Advanced performance analysis, included in the performance diagnostics tool, includes all checks in the performance analysis, and collects one or more of the traces, as listed in the following sections. Use this scenario to troubleshoot complex issues that require additional traces. Running this scenario for longer periods will increase the overall size of diagnostics output, depending on the size of the VM and the trace options that are selected. <https://docs.microsoft.com/en-us/azure/virtual-machines/troubleshooting/performance-diagnostics>

40. Question

Your company hosts multiple website by using Azure virtual machine scale sets (VMSS) that run Internet Information Server (IIS). All network communications must be secured by using end to end Secure Socket Layer (SSL) encryption. User sessions must be routed to the same server by using cookie-based session affinity. The image shown depicts the network traffic flow for the web sites to the VMSS.

[Larger image](#)

What should you configure to make sure web traffic arrives at the appropriate server in the VMSS?

- Path-based redirection and WebSockets

- Routing rules and backend listeners

- Routing method and DNS time to live (TTL)

- CNAME and A records

Incorrect

Path-based redirection and Websockets <https://docs.microsoft.com/bs-latn-ba/azure//application-gateway/tutorial-url-redirect-powershell>

41. Question

You have an Azure subscription that contains the storage accounts shown below

Name	Account kind	Size
contosostorage1	General Purpose v1	15 TB
contosostorage2	General Purpose v1	1 TB
contosostorage3	General Purpose v2	15 TB
contosostorage4	General Purpose v2	1 TB
contosostorage5	blobstorage	5 TB

All storage accounts contain blobs only. You need to implement several lifecycle management rules for all storage accounts. What should you do first?

- Move 5 TB of blob data from contosostorage1 to contosostorage2.
- Upgrade contosostorage1 and contosostorage2 to General Purpose V2 accounts.
- Move 5 TB of blob data from contosostorage3 to contosostorage4.
- Recreate contosostorage5 as General Purpose V2 account.

Incorrect

Microsoft recommends that you use a general-purpose v2 storage account for most scenarios. You can easily upgrade a general-purpose v1 or an Azure Blob storage account to a general-purpose v2 account with no downtime and without the need to copy data.

42. Question

You have an Azure subscription. You have an on-premises file server named Server1 that runs Windows Server 2019. You manage Server1 by using Windows Admin Center. You need to ensure that if Server1 fails, you can recover the data from Azure.

- You create a Recovery Services vault and configure a backup by using Windows Server Backup.
- From the Azure portal, you create a Recovery Services vault. On VM1, you install the Azure Backup agent and you schedule a backup.
- You register Windows Admin Center in Azure and configure Azure Backup.
- You create an Azure Storage account and an Azure Storage Sync service. You configure Azure File Sync for Server1.

Correct

Use Azure File Sync to centralize your organization's file shares in Azure Files, while keeping the flexibility, performance, and compatibility of an on-premises file server. Azure File Sync transforms Windows Server into a quick cache of your Azure file share. [https://docs.microsoft.com/en-](https://docs.microsoft.com/en-us/azure/storage/files/storage-sync-files-overview)

<https://docs.microsoft.com/en-us/azure/storage/files/storage-files-introduction#why-azure-files-is-useful> <https://docs.microsoft.com/en-us/azure/storage/files/storage-sync-files-deployment-guide?tabs=azure-portal>

43. 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?

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

Correct

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>

44. 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
- Modify the backup policy
- Delete the storage account

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/>

45. Question

You have an Azure Cosmos DB database that contains a container named Container1. The partition key for Container1 is set to /day. Container1 contains the items shown below

Name	Content
Item1	{ "id": "1", "day": "Mon", "value" : "10" }
Item2	{ "id": "2", "day": "Mon", "value" : "15" }
Item3	{ "id": "3", "day": "Tue", "value" : "10" }
Item4	{ "id": "4", "day": "Wed", "value" : "15" }

You need to programmatically query Azure Cosmos DB and retrieve Item1 and Item2 only. You run the following query `SELECT day WHERE value = "10"`. You set the `EnableCrossPartitionQuery` property to False. Does this meet the goal?

No

Yes

Correct

Query Returns Item1 only as `EnableCrossPartitionQuery` property to False. If `EnableCrossPartitionQuery` property is set to true, it will return Item1 and Item3. <https://docs.microsoft.com/en-us/azure/cosmos-db/sql-query-where> <https://docs.microsoft.com/en-us/dotnet/api/microsoft.azure.documents.client.feedoptions.enablecrosspartitionquery?view=azure-dotnet>

46. Question

You are developing an app that references data which is sharded across multiple Azure SQL databases.

The app must guarantee transactional consistency for changes across several different sharding key values.

You need to manage the transactions. What should you implement?

Elastic database transactions with horizontal partitioning.

Distributed transactions coordinated by Microsoft Distributed Transaction Coordinator (MSDTC).

Elastic database transactions with vertical partitioning.

Server-coordinated transactions from .NET application.

Incorrect

Elastic database transactions for Azure SQL Database (SQL DB) allow you to run transactions that span several databases in SQL DB. Elastic database transactions for SQL DB are available for .NET applications using ADO .NET and integrate with the familiar programming experience using the System.Transaction classes. <https://docs.microsoft.com/mt-mt/azure/sql-database/sql-database-elastic-transactions-overview?view=azurermps-6.13.0>

47. Question

Your organization has developed and deployed several Azure App Service Web and API applications. The applications use Azure SQL Database to store and retrieve data. Development Team has requested to enable the applications to retrieve x.509 certificates, stored in an Azure AD-protected resource, by using an access token. You need to recommend the appropriate Azure service to meet team's request. What Azure Service should you recommend?

Azure AD Privileged Identity Management

Azure AD Managed Service Identity

Azure Security Center

Azure Key Vault

Correct

<https://docs.microsoft.com/en-us/azure/sql-database/transparent-data-encryption-azure-sql>

48. 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 connection requirements for the New York office. What should you do from Azure portal?

- Create a virtual network gateway only
- Create an ExpressRoute circuit only
- Create a virtual network gateway and a local network gateway
- Create a virtual network gateway and an on-premises data gateway
- Create an ExpressRoute circuit and an on-premises data gateway

Correct

Azure VPN gateway. The VPN gateway service enables you to connect the VNet to the on-premises network through a VPN appliance. For more information, see Connect an on-premises network to a Microsoft Azure virtual network. The VPN gateway includes the following elements:

Virtual network gateway. A resource that provides a virtual VPN appliance for the VNet. It is responsible for routing traffic from the on-premises network to the VNet.

Local network gateway. An abstraction of the on-premises VPN appliance. Network traffic from the cloud

application to the on-premises network is routed through this gateway.

Connection: The connection has properties that specify the connection type (IPSec) and the key shared with the on-premises VPN appliance to encrypt traffic.

Gateway subnet. The virtual network gateway is held in its own subnet, which is subject to various requirements, described in the Recommendations section below.

49. 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

- 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 resolve the licensing issue before you attempt to assign the license again.

What should you do?

From the Profile blade, modify the usage location

From the Groups blade, invite the user accounts to a new group

From the Directory role blade, modify the directory role

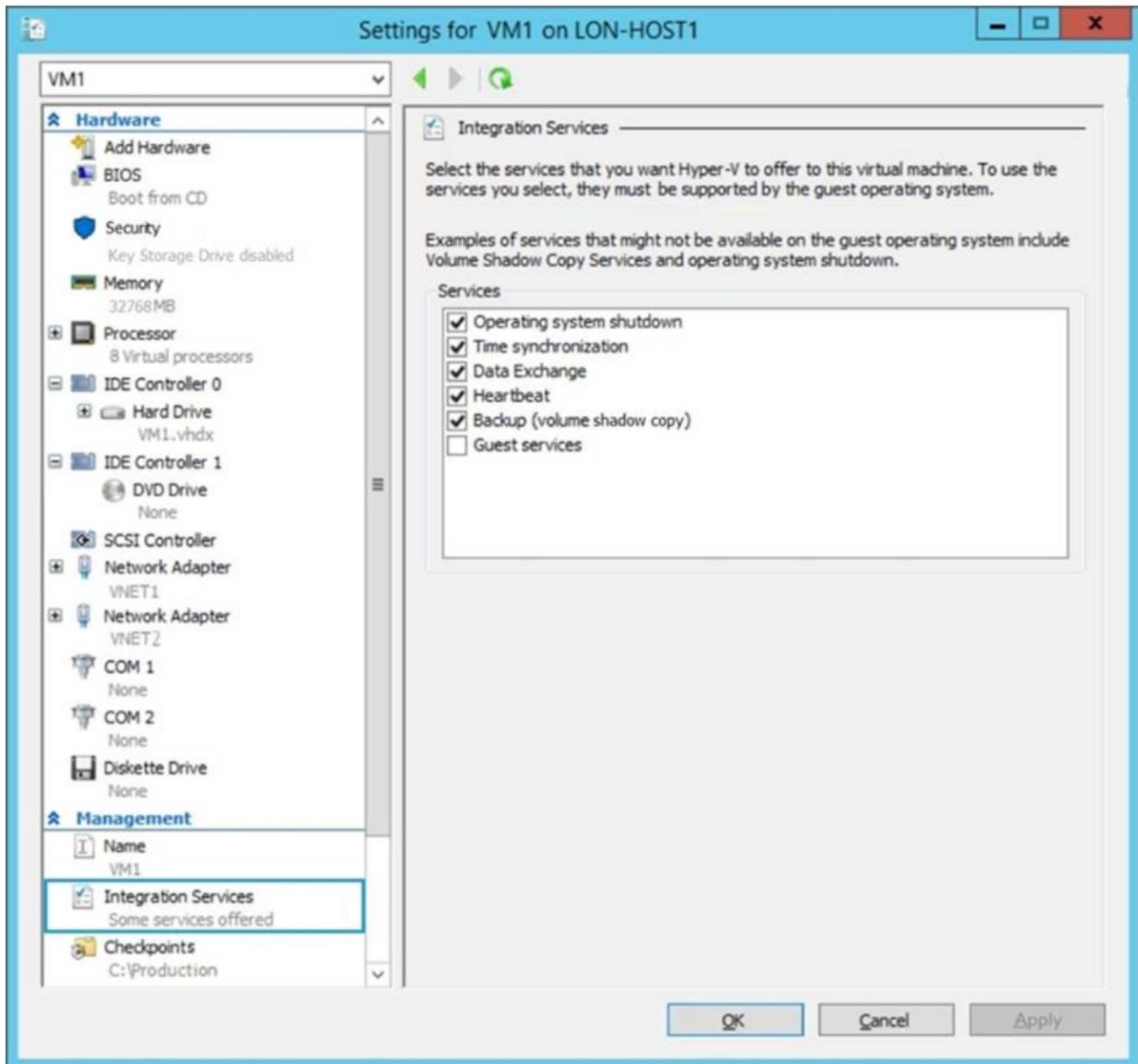
From the Groups blade, invite the admin accounts to a new group

Correct

License cannot be assigned to a user without a usage location specified. Scenario: 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.

50. Question

You have an on-premises virtual machine named VM1 configured as shown below



VM is started. You need to create a new virtual machine image in Azure from VM1. Which three actions should you perform before you create the new image?

- Generalize VM1
- Remove the Backup (volume shadow copy) integration service
- Run Add-AzureRmVhd and specify a file share as the destination

Run Add-AzureRmVhd and specify a blob service container as the destination Reduce the amount of memory to 16 GB**Correct**

Sysprep removes all your personal account and security information, and then prepares the machine to be used as an image. <https://docs.microsoft.com/en-us/azure/virtual-machines/windows/capture-image-resource> The Add-AzureRmVhd cmdlet uploads on-premises virtual hard disks, in .vhd file format, to a blob storage account as fixed virtual hard disks. <https://docs.microsoft.com/en-us/powershell/module/azurerm.compute/add-azurermvhd?view=azurermps-6.13.0>

51. Question

You create an Azure Storage account named contosostorage. You plan to create a file share named data. Users need to map a drive to the data file share from home computers that run Windows 10. Which outbound port should you open between the home computers and the data file share?

 80 443 8443 445**Incorrect**

Ensure port 445 is open: The SMB protocol requires TCP port 445 to be open; connections will fail if port 445 is blocked. <https://docs.microsoft.com/en-us/azure/storage/files/storage-how-to-use-files-windows#prerequisites>

52. Question

You are developing an ASP.NET web application that you will deploy to Azure. The solution must meet the following requirements:

- Store user session state by using only serializable data types.
- Provide customizable caching of session data.
- Support scaling out the number of web hosts.
- Maximize performance.

 SQL Server session state provider ASP.NET Output Cache provider for Azure Redis Cache in-memory session state provider Clustered Azure Redis Cache

Correct

<https://azure.microsoft.com/en-au/services/cache/#documentation> <https://azure.microsoft.com/en-us/services/cache/#features>

53. Question

Your organization has developed and deployed several Azure App Service Web and API applications. The applications use Azure SQL Database to store and retrieve data. Security Team has requested to protect Azure SQL Database connection strings and only allow access to the connection strings during the application runtime. You need to recommend the appropriate Azure service to meet team's request. What Azure Service should you recommend?

- Azure Key Vault
- Azure AD Privileged Identity Management
- Azure Security Center
- Azure AD Managed Service Identity

Incorrect

<https://docs.microsoft.com/en-us/azure/sql-database/transparent-data-encryption-azure-sql>

54. 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
- A virtual machine
- Azure Mobile App Service
- Azure Notification Hubs
- Azure Web App

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>

55. Question

You plan to deploy an Azure virtual machine named VM1 by using an Azure Resource Manager template.

You need to complete the template. Fill in the missing spaces of template? { “type”:

```
“Microsoft.Compute/virtualMachines”, “apiVersion”: “2018-10-01”, “name”: “VM1”, “location”: “[parameters(‘location’)]”, “dependsOn”: [ “[resourceId(‘Microsoft.Storage/storageAccounts/’, variables(‘Name3’)) ]”, “[resourceId( , variables(‘Name4’))]” ], { “type”: “Microsoft.Network/networkInterfaces”, “apiVersion”: “2018-11-01”, “name”: “[variables(‘nicName’)]”, “location”: “[parameters(‘location’)]”, “dependsOn”: [ “[resourceId(‘Microsoft.Network/publicIPAddresses/’, variables(‘Name1’)) ]”, “[resourceId( , variables(‘Name2’))]” ]},
```

<input checked="" type="checkbox"/> Microsoft.Network/virtualNetworks/’
<input type="checkbox"/> Microsoft.Network/networkInterfaces/’
<input checked="" type="checkbox"/> Microsoft.Network/publicIPAddresses/’
<input checked="" type="checkbox"/> Microsoft.Storage/storageAccounts/’

Incorrect

Refer below ARM template to deploy a virtual machine <https://docs.microsoft.com/en-us/azure/virtual-machines/windows/ps-template#create-a-virtual-machine> Virtual Machine depends on two resources

Microsoft.Storage/storageAccounts Microsoft.Network/networkInterfaces { “type”:

```
“Microsoft.Compute/virtualMachines”, “apiVersion”: “2018-10-01”, “name”: “VM1”, “location”: “[parameters(‘location’)]”, “dependsOn”: [ “[resourceId(‘Microsoft.Storage/storageAccounts/’, variables(‘Name3’)) ]”, “[resourceId(‘Microsoft.Network/networkInterfaces/’ , variables(‘Name4’))]” ], The dependsOn element enables you to define one resource as a dependent on one or more resources. The resource depends on two other resources: Microsoft.Network/publicIPAddresses Microsoft.Network/virtualNetworks { “type”: “Microsoft.Network/networkInterfaces”, “apiVersion”: “2018-11-01”, “name”: “[variables(‘nicName’)]”, “location”: “[parameters(‘location’)]”, “dependsOn”: [ “[resourceId(‘Microsoft.Network/publicIPAddresses/’, variables(‘Name1’)) ]”, “[resourceId(‘Microsoft.Network/virtualNetworks/’, variables(‘Name2’))]” ]}, https://docs.microsoft.com/en-us/azure/azure-resource-manager/templates/template-tutorial-create-templates-with-dependent-resources
```

56. Question

You have an Azure subscription that contains two storage accounts named storagecontoso1 and storagecontoso2. Each storage account contains a queue service, a table service and a blob service. You develop two apps named App1 and App2. You need to configure the apps to store different types of data to all the storage services on both the storage accounts. How many endpoints should you configure for each app?

6 2 3 12**Correct**

Each app needs a unique service endpoint in each Storage Account, hence you would need 2 endpoints for each app. <https://docs.microsoft.com/en-us/azure/storage/common/storage-network-security>

57. 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?

 Orchstrator Activity Client Web hook**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>

58. Question

Your company hosts multiple website by using Azure virtual machine scale sets (VMSS) that run Internet Information Server (IIS). All network communications must be secured by using end to end Secure Socket Layer (SSL) encryption. User sessions must be routed to the same server by using cookie-based session affinity. The image shown depicts the network traffic flow for the web sites to the VMSS.

Larger image

Which Internet Protocol (IP) address type should you use?

 Private

Hybrid Public**Correct**

59. Question

You have two Azure virtual machines named VM1 and VM2. You have two Recovery Services vaults named RSV1 and RSV2. VM2 is protected by RSV1. You need to use RSV2 to protect VM2. What should you do first?

- From the RSV2 blade, click Backup. From the Backup blade, select the backup for the virtual machine, and then click Backup
- From the VM2 blade, click Disaster recovery, click Replication settings, and then select RSV2 as the Recovery Services vault
- From the RSV1 blade, click Backup Jobs and export the VM2 job
- From the RSV1 blade, click Backup items and stop the VM2 backup

Correct

In order to back up Azure VMs, Azure Backup installs an extension on the VM agent running on the machine. If your VM was created from an Azure marketplace image, the agent will be running.

<https://docs.microsoft.com/en-us/azure/backup/backup-azure-vms-first-look-arm#back-up-from-azure-vm-settings>

60. Question

You have an Azure subscription that contains a resource group named RG1. RG1 contains 150 virtual machines. Your company has three cost centers named Manufacturing, Sales, and Finance. You need to associate each virtual machine to a specific cost center. How can you achieve this?

- Add an extension to the virtual machines
- Assign tags to the virtual machines
- Modify the inventory settings of the virtual machine
- Configure locks for the virtual machine

Correct

Applying tags to Azure resources will help in logically organizing them into a taxonomy. Each tag consists of a name and a value pair. After you apply tags, you can retrieve all the resources in your subscription.

with that tag name and value. Tags enable you to retrieve related resources from different resource groups. This approach is helpful when you need to organize resources for billing or management.

<https://docs.microsoft.com/en-us/azure/azure-resource-manager/management/tag-resources>

61. Question

kloudviva hosts virtual machines (VMs) in an on-premises datacenter and in Azure. The on-premises and Azure-based VMs communicate using ExpressRoute. kloudviva wants to be able to continue regular operations if the ExpressRoute connection fails. Failover connections must use the Internet and must not require Multiprotocol Label Switching (MPLS) support. You need to recommend a solution that provides continued operations.

- Set up a VPN connection.
- Increase the bandwidth of the existing ExpressRoute connection.
- Set up a second ExpressRoute connection.
- Increase the bandwidth for the on-premises internet connection.

Correct

Connecting an on-premises network to an Azure virtual network (VNet) using ExpressRoute, with a site-to-site virtual private network (VPN) as a failover connection is an agreed solution in this case. Traffic flows between the on-premises network and the Azure VNet through an ExpressRoute connection. If there is a loss of connectivity in the ExpressRoute circuit, traffic is routed through an IPSec VPN tunnel.

<https://docs.microsoft.com/en-us/azure/architecture/reference-architectures/hybrid-networking/expressroute-vpn-failover>

62. Question

Your company hosts multiple website by using Azure virtual machine scale sets (VMSS) that run Internet Information Server (IIS). All network communications must be secured by using end to end Secure Socket Layer (SSL) encryption. User sessions must be routed to the same server by using cookie-based session affinity. The image shown depicts the network traffic flow for the web sites to the VMSS.

Larger image

Which Azure Solution should you create to route the web application traffic to the VMSS?

- Azure VPN Gateway
- Azure ExpressRoute
- Azure Application Gateway
- Azure Network Watcher

Correct

You can create an application gateway with URL path-based redirection using Azure PowerShell.

<https://docs.microsoft.com/bs-latn-ba/azure//application-gateway/tutorial-url-redirect-powershell>

63. Question

Azure Subscription has below storage accounts

Name	Kind	Performance Tier	Replication	Location
Storage 1	StorageV2	Premium	Locally-redundant Storage (LRS)	East US
Storage 2	Storage	Standard	Geo-Redundant Storage (GRS)	UK West
Storage 3	BlobStorage	Standard	Locally-redundant Storage (LRS)	North Europe

Can Storage 3 be converted as Geo-Redundant Storage?

Yes

No

Correct

Blob Storage type can have both LRS and GRS replications. <https://docs.microsoft.com/en-us/azure/storage/common/storage-introduction#types-of-storage-accounts> <https://docs.microsoft.com/en-us/azure/storage/blobs/storage-blobs-introduction>

64. Question

You have an Azure Active Directory (Azure AD) tenant named kloudviva.com. A user named Admin1 attempts to create an access review from the Azure Active Directory admin center and discovers that the Access reviews settings are unavailable. Admin1 discovers that all the other Identity Governance settings are available. Admin1 is assigned the User administrator, Compliance administrator, and Security administrator roles. You need to ensure that the Admin1 can create access reviews in kloudviva.com.

- Purchase an Azure Directory Premium P2 license
- Remove unnecessary access privileges for Admin1
- Use Azure AD Privileged Identity Management (PIM)
- Assign Global Administrator role to Admin1

Correct

Azure Active Directory (Azure AD) Privileged Identity Management (PIM) is a service that enables you to manage, control, and monitor access to important resources in your organization. These resources include resources in Azure AD, Azure, and other Microsoft Online Services like Office 365 or Microsoft Intune. Some of the key features of Privileged Identity Management:

- Provide just-in-time privileged access to Azure AD and Azure resources
- Assign time-bound access to resources using start and end dates
- Require approval to activate privileged roles
- Enforce multi-factor authentication to activate any role
- Use justification to understand why users activate
- Get notifications when privileged roles are activated
- Conduct access reviews to ensure users still need roles
- Download audit history for internal or external audit <https://docs.microsoft.com/en-us/azure/active-directory/privileged-identity-management/pim-configure>

65. 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:

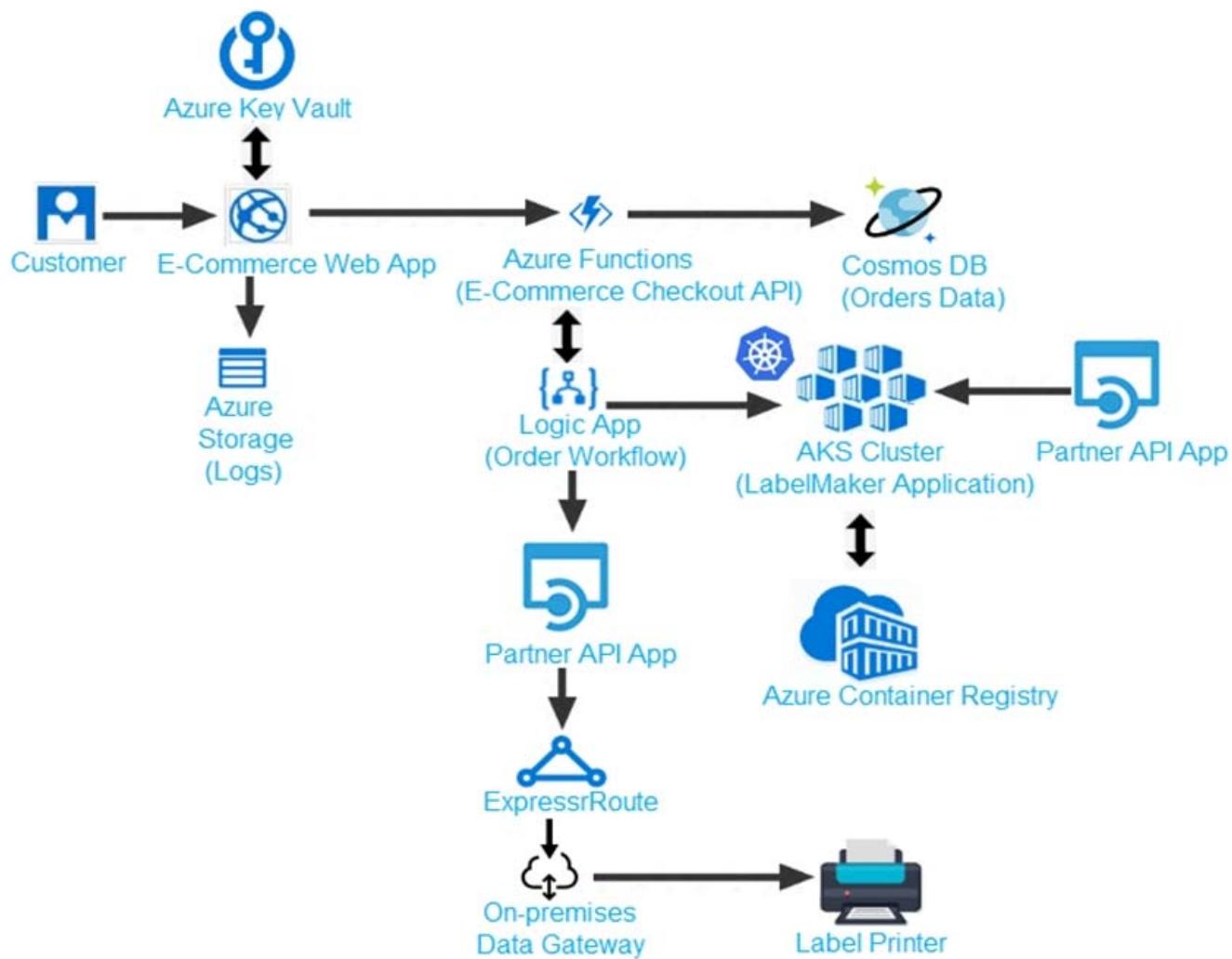
- Users of Coho Winery applications must be able to provide access to documents, resources, and applications to external partners.
- External partners must use their own credentials and authenticate with their organization's identity management solution.
- External partner logins must be audited monthly 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  
24 }
```

```
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.

- 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.
- Assign the Contributor RBAC role to the e-commerce web app by using the Resource Manager create role assignment API

Correct

Microsoft Graph is a RESTful web API 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>

66. Question

You are the global administrator for an Azure Active Directory (Azure AD) tenant named adatum.com. You need to enable two-step verification for Azure users. What should you do?

- Install an MFA Server.
- Configure a playbook in Azure Security Center.
- Create an Azure AD conditional access policy.
- Enable Azure AD Privileged Identity Management.

Incorrect

Azure Multi-factor Authentication is deployed by enforcing policies with Conditional Access. A Conditional Access policy can require users to perform multi-factor authentication when certain criteria are met.
<https://docs.microsoft.com/en-us/azure/active-directory/authentication/howto-mfa-getstarted#enable-multi-factor-authentication-with-conditional-access>

67. Question

You download an Azure Resource Manager template based on an existing virtual machine. The template will be used to deploy 100 virtual machines. You need to modify the template to reference an administrative password. You must prevent the password from being stored in plain text. What should you create to store the password?

- Azure Active Directory (AD) Identity Protection and an Azure policy.
- an Azure Storage account and an access policy.
- An Azure Key Vault and an access policy
- a Recovery Services vault and a backup policy.

Correct

Azure Key Vault is a cloud service that safeguards encryption keys and secrets like certificates, connection strings, and passwords. Because this data is sensitive and business critical, you need to

secure access to your key vaults by allowing only authorized applications and users. Define access policies to secure it further. Below link gives you a quick glimpse of how you must start to handle secrets <https://docs.microsoft.com/en-us/azure/azure-resource-manager/templates/template-best-practices#security-recommendations-for-parameters>

68. Question

Case Study

Overview

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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

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

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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
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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 are evaluating the connectivity between the virtual machines after the planned implementation of the Azure networking infrastructure.

Will Virtual Machines on Subnet3 and Subnet4 be able to connect to the internet?

No

Yes

Correct

Once the VNets are peered, all resources on one VNet can communicate with resources on the other peered VNets. You plan to enable peering between Paris-VNet and AllOffices-VNet. Therefore VMs on

Subnet1, which is on Paris-VNet and VMs on Subnet3, which is on AllOffices-VNet will be able to connect to each other.

All Azure resources connected to a VNet have outbound connectivity to the Internet by default. Therefore VMs on ClientSubnet, which is on ClientResources-VNet will have access to the Internet; and VMs on Subnet3 and Subnet4, which are on AllOffices-VNet will have access to the Internet.

<https://docs.microsoft.com/en-us/azure/virtual-network/virtual-network-peering-overview>

<https://docs.microsoft.com/en-us/azure/networking/networking-overview#internet-connectivity>

69. Question

You have a Recovery Service vault that you use to test backups. The test backups contain two protected virtual machines. You need to delete the Recovery Services vault. What should you do first?

From the Recovery Service vault, stop the backup of each backup item

- Modify the locks of each virtual machine
- From the Recovery Service vault, delete the backup data
- Modify the disaster recovery properties of each virtual machines

Correct

You can't delete a Recovery Services vault if it is registered to a server and holds backup data. If you try to delete a vault, but can't, the vault is still configured to receive backup data. Remove vault dependencies and delete vault In the vault dashboard menu, scroll down to the Protected Items section, and click Backup Items. In this menu, you can stop and delete Azure File Servers, SQL Servers in Azure VM, and Azure virtual machines. <https://docs.microsoft.com/en-us/azure/backup/backup-azure-delete-vault#before-you-start>

70. Question

You have an Azure subscription that contains three virtual networks named VNet1, VNet2, and VNet3. VNet2 contains a virtual appliance named VM2 that operates as a router. You are configuring the virtual networks in a hub and spoke topology that uses VNet2 as the hub network. You plan to configure peering between VNet1 and VNet2 and between VNet2 and VNet3. You need to provide connectivity between VNet1 and VNet3 through VNet2. Which two configurations should you perform?

On the peering connections, use remote gateways

On the peering connections, allow forwarded traffic

Create route tables and assign the table to subnets On the peering connections, allow gateway transit Create a route filter**Incorrect**

Allow gateway transit: Check this box if you have a virtual network gateway attached to this virtual network and want to allow traffic from the peered virtual network to flow through the gateway. The peered virtual network must have the Use remote gateways checkbox checked when setting up the peering from the other virtual network to this virtual network. <https://docs.microsoft.com/en-us/azure/virtual-network/virtual-network-manage-peering#requirements-and-constraints>

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