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Vendor:Microsoft

Exam Code:AZ-305

Exam Name:Designing Microsoft Azure Infrastructure
Solutions

Version:Demo

QUESTION 1

You have an Azure subscription that contains an Azure SQL database.

You plan to use Azure reservations on the Azure SQL database.

To which resource type will the reservation discount be applied?

- A. vCore compute
- B. DTU compute
- C. Storage
- D. License

Correct Answer: A

Quantity: The amount of compute resources being purchased within the capacity reservation. The quantity is a number of vCores in the selected Azure region and Performance tier that are being reserved and will get the billing discount. For example, if you run or plan to run multiple databases with the total compute capacity of Gen5 16 vCores in the East US region, then you would specify the quantity as 16 to maximize the benefit for all the databases.

Reference: <https://docs.microsoft.com/en-us/azure/azure-sql/database/reserved-capacity-overview>

QUESTION 2

HOTSPOT

You have an Azure subscription named Subscription1 that is linked to a hybrid Azure Active Directory (Azure AD) tenant.

You have an on-premises datacenter that does NOT have a VPN connection to Subscription1. The datacenter contains a computer named Server1 that has Microsoft SQL Server 2016 installed. Server1 is prevented from accessing the internet.

An Azure logic app named LogicApp1 requires write access to a database on Server1.

You need to recommend a solution to provide LogicApp1 with the ability to access Server1.

What should you recommend deploying on-premises and in Azure? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

On-premises:

	▼
A Web Application Proxy for Windows Server	
An Azure AD Application Proxy connector	
An On-premises data gateway	
Hybrid Connection Manager	

Azure:

	▼
A connection gateway resource	
An Azure Application Gateway	
An Azure Event Grid domain	
An enterprise application	

Correct Answer:

On-premises:

	▼
A Web Application Proxy for Windows Server	
An Azure AD Application Proxy connector	
An On-premises data gateway	
Hybrid Connection Manager	

Azure:

	▼
A connection gateway resource	
An Azure Application Gateway	
An Azure Event Grid domain	
An enterprise application	

Box 1: An on-premises data gateway

For logic apps in global, multi-tenant Azure that connect to on-premises SQL Server, you need to have the on-premises data gateway installed on a local computer and a data gateway resource that's already created in Azure.

Box 2: A connection gateway resource

QUESTION 3

DRAG DROP

You have an on-premises network that uses an IP address space of 172.16.0.0/16. You plan to deploy 25 virtual machines to a new Azure subscription. You identify the following technical requirements:

1.

All Azure virtual machines must be placed on the same subnet named Subnet1.

2.

All the Azure virtual machines must be able to communicate with all on-premises servers.

3.

The servers must be able to communicate between the on-premises network and Azure by using a site-to-site VPN.

You need to recommend a subnet design that meets the technical requirements.

What should you include in the recommendation? To answer, drag the appropriate network addresses to the correct subnets. Each network address may be used once, more than once, or not at all. You may need to drag the split bar

between panes or scroll to view content

NOTE: Each correct selection is worth one point.

Select and Place:

Network Addresses

172.16.0.0/16

172.16.1.0/28

192.168.0.0/24

192.168.1.0/28

Answer Area

Subnet1: Network address

Gateway subnet: Network address

Correct Answer:

Network Addresses

172.16.0.0/16

172.16.1.0/28

Answer Area

Subnet1: 192.168.0.0/24

Gateway subnet: 192.168.1.0/28

QUESTION 4

DRAG DROP

You have an Azure Synapse instance named AS1 and an Azure Cosmos DB SQL API account named CDB1. CDB1 hosts a container that stores continuously updated operational data.

You plan to use AS1 to analyze the operational data daily.

You need to configure CDB1 to support the analysis by AS1. The solution must meet the following requirements:

1.

Ensure that AS1 can analyze the operational data without reducing the performance of operations.

2.

Ensure that the analyzed data is deleted automatically.

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

Select and Place:

Actions

Answer Area

Enable Synapse link

Modify the TTL parameter of the container

Provision a dedicated gateway

Create a container that has the analytical store enabled

Enable the change feed for the container in CDB1

Correct Answer:

Actions

Answer Area

Create a container that has the analytical store enabled

Enable Synapse Link

Provision a dedicated gateway

Modify the TTL parameter of the container

Enable the change feed for the container in CDB1

Step 1: Create a container that has the analytic store enabled.

Create an analytical store enabled container.

You can turn on analytical store when creating an Azure Cosmos DB container by using one of the following options.

1.

Sign in to the Azure portal or the Azure Cosmos DB Explorer.

2.

Navigate to your Azure Cosmos DB account and open the Data Explorer tab.

3.

Select New Container and enter a name for your database, container, partition key and throughput details. Turn on the Analytical store option.

4.

If you have previously not enabled Synapse Link on this account, it will prompt you to do so because it's a pre-requisite

to create an analytical store enabled container.

Step 2: Enable Synapse link

Azure Synapse Link allows you to directly access Azure Cosmos DB analytical store using Azure Synapse Analytics without complex data movement. Any updates made to the operational data are visible in the analytical store in near real-

time with no ETL or change feed jobs.

Step 3: Modify the TTL parameter of the container

After you enable the analytical store, it creates a container with analytical TTL property set to the default value of -1 (infinite retention). This setting can be changed later.

Reference:

<https://docs.microsoft.com/en-us/azure/cosmos-db/configure-synapse-link>

QUESTION 5

DRAG DROP

A company has an existing web application that runs on virtual machines (VMs) in Azure.

You need to ensure that the application is protected from SQL injection attempts and uses a layer-7 load balancer. The solution must minimize disruption to the code for the existing web application.

What should you recommend? To answer, drag the appropriate values to the correct items. Each value may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content. **NOTE:** Each correct selection is worth one point.

Select and Place:

Values

- Web Application Firewall (WAF)
- Azure Application Gateway
- Azure Load Balancer
- Azure Traffic Manager
- SSL offloading
- URL-based content routing

Answer Area

Item	Value
Azure service	
Feature	

Correct Answer:

Values

-
-
- Azure Load Balancer
- Azure Traffic Manager
- SSL offloading
- URL-based content routing

Answer Area

Item	Value
Azure service	Azure Application Gateway
Feature	Web Application Firewall (WAF)

Box 1: Azure Application Gateway

Azure Application Gateway provides an application delivery controller (ADC) as a service. It offers various layer 7 load-balancing capabilities for your applications.

Box 2: Web Application Firewall (WAF)

Application Gateway web application firewall (WAF) protects web applications from common vulnerabilities and exploits.

This is done through rules that are defined based on the OWASP core rule sets 3.0 or 2.2.9.

There are rules that detects SQL injection attacks.

References:

<https://docs.microsoft.com/en-us/azure/application-gateway/application-gateway-faq>

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

QUESTION 6

You have an Azure subscription.

You plan to deploy a monitoring solution that will include the following:

Azure Monitor Network Insights

Application Insights Microsoft Sentinel VM insights

The monitoring solution will be managed by a single team.

What is the minimum number of Azure Monitor workspaces required?

- A. 1
- B. 2
- C. 3
- D. 4

Correct Answer: C

1:

A Log Analytics workspace is a unique environment for log data from Azure Monitor and other Azure services, such as Microsoft Sentinel and Microsoft Defender for Cloud. Each workspace has its own data repository and configuration but might combine data from multiple services.

1:

With workspace-based resources, Application Insights sends telemetry to a common Log Analytics workspace, providing full access to all the features of Log Analytics while keeping your application, infrastructure, and platform logs in a single consolidated location.

1:

VM insights collects its data from one or more Log Analytics workspaces in Azure Monitor. Prior to onboarding agents, you must create and configure a workspace. The only requirement of the workspace is that it must be located in a supported location and be configured with the VMInsights solution.

Reference: <https://learn.microsoft.com/en-us/azure/azure-monitor/essentials/azure-monitor-workspace-overview>

<https://learn.microsoft.com/en-us/azure/azure-monitor/app/create-workspace-resource> <https://learn.microsoft.com/en-us/azure/azure-monitor/vm/vminsights-configure-workspace>

QUESTION 7

You plan to migrate on-premises MySQL databases to Azure Database for MySQL Flexible Server.

You need to recommend a solution for the Azure Database for MySQL Flexible Server configuration. The solution must meet the following requirements:

1.

The databases must be accessible if a datacenter fails.

2.

Costs must be minimized. Which compute tier should you recommend?

A. Burstable

B. General Purpose

C. Memory Optimized

Correct Answer: B

<https://learn.microsoft.com/en-us/azure/mysql/flexible-server/concepts-high-availability#limitations>

QUESTION 8

DRAG DROP

Your company has an Azure subscription that includes a number of Azure virtual machines, which are all part of the same virtual network.

Your company also has an on-premises Hyper-V server that hosts a virtual machine, named VM1, which must be replicated to Azure.

To achieve this, additional objects must be created in the Azure subscription.

Which of the following are the objects that must be created? Answer by dragging the correct option from the list to the answer area.

Select and Place:

Options

Answer

Hyper-V site

Storage account

Azure Recovery
Services Vault

Azure Traffic
Manager instance

Replication policy

Endpoint

Correct Answer:

Options

Answer

	Hyper-V site
Storage account	Azure Recovery Services Vault
	Replication policy
Azure Traffic Manager instance	
Endpoint	

QUESTION 9

HOTSPOT

You have an Azure web app named App1 and an Azure key vault named KV1.

App1 stores database connection strings in KV1.

App1 performs the following types of requests to KV1:

1.

Get

2.

List

3.

Wrap

4.

Delete

5.

Unwrap

6.

Backup

7.

Decrypt

8. Encrypt

You are evaluating the continuity of service for App1.

You need to identify the following if the Azure region that hosts KV1 becomes unavailable:

1.

To where will KV1 fail over?

2.

During the failover, which request type will be unavailable?

What should you identify? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

To where will KV1 fail over?

	▼
A server in the same Availability Set	
A server in the same fault domain	
A server in the same paired region	
A virtual machine in a scale set	

During the failover, which request type will be unavailable?

	▼
Backup	
Decrypt	
Delete	
Encrypt	
Get	
List	
Unwrap	
Wrap	

Correct Answer:

Answer Area

To where will KV1 fail over?

	▼
A server in the same Availability Set	
A server in the same fault domain	
A server in the same paired region	
A virtual machine in a scale set	

During the failover, which request type will be unavailable?

	▼
Backup	
Decrypt	
Delete	
Encrypt	
Get	
List	
Unwrap	
Wrap	

Box 1: A server in the same paired region

The contents of your key vault are replicated within the region and to a secondary region at least 150 miles away, but within the same geography to maintain high durability of your keys and secrets.

Box 2: Delete

During failover, your key vault is in read-only mode. Requests that are supported in this mode are:

List certificates

Get certificates

List secrets

Get secrets

List keys

Get (properties of) keys

Encrypt

Decrypt

Wrap

Unwrap

Verify

Sign

Backup

Reference:

<https://docs.microsoft.com/en-us/azure/key-vault/general/disaster-recovery-guidance>

QUESTION 10

You need to implement the Azure RBAC role assignments for the Network Contributor role. The solution must meet the authentication and authorization requirements. What is the minimum number of assignments that you must use?

A. 1

B. 2

C. 5

D. 10

E. 15

Correct Answer: A

Scenario: The Network Contributor built-in RBAC role must be used to grant permissions to the network administrators for all the virtual networks in all the Azure subscriptions. RBAC roles must be applied at the highest level possible.

QUESTION 11

Your company has offices in North America and Europe.

You plan to migrate to Azure.

You need to recommend a networking solution for the new Azure infrastructure. The solution must meet the following requirements:

The Point-to-Site (P2S) VPN connections of mobile users must connect automatically to the closest Azure region.

The offices in each region must connect to their local Azure region by using an ExpressRoute circuit.

Transitive routing between virtual networks and on-premises networks must be supported.

The network traffic between virtual networks must be filtered by using FQDNs.

What should you include in the recommendation?

- A. Azure Virtual WAN with a secured virtual hub
- B. virtual network peering and application security groups
- C. virtual network gateways and network security groups (NSGs)
- D. Azure Route Server and Azure Network Function Manager

Correct Answer: C

Network security groups

A fully qualified domain name (FQDN) represents a domain name of a host or IP address(es). You can use FQDNs in network rules based on DNS resolution in Azure Firewall and Firewall policy. This capability allows you to filter outbound

traffic with any TCP/UDP protocol (including NTP, SSH, RDP, and more).

Use FQDN filtering in network rules

A fully qualified domain name (FQDN) represents a domain name of a host or IP address(es). You can use FQDNs in network rules based on DNS resolution in Azure Firewall and Firewall policy. This capability allows you to filter outbound

traffic with any TCP/UDP protocol (including NTP, SSH, RDP, and more).

Virtual network gateways

VPN gateways. A VPN gateway is a specific type of virtual network gateway that is used to send traffic between an Azure virtual network and an on-premises location over the public internet. You can also use a VPN gateway to send traffic

between Azure virtual networks. Each virtual network can have at most one VPN gateway.

Virtual network gateways support Point-to-Site (P2S) VPN connections.

Gateway transit

Virtual network peering and VPN Gateways can also coexist via gateway transit

Gateway transit enables you to use a peered virtual network's gateway for connecting to on-premises, instead of creating a new gateway for connectivity. As you increase your workloads in Azure, you need to scale your networks across

regions and virtual networks to keep up with the growth. Gateway transit allows you to share an ExpressRoute or VPN gateway with all peered virtual networks and lets you manage the connectivity in one place. Sharing enables cost-savings

and reduction in management overhead.

Incorrect:

Not D: Azure Route Server and Azure Network Function Manager do not support FQDNs filtering.

Note:

Azure Route Server

Azure Route Server simplifies dynamic routing between your network virtual appliance (NVA) and your virtual network. It allows you to exchange routing information directly through Border Gateway Protocol (BGP) routing protocol between any NVA that supports the BGP routing protocol and the Azure Software Defined Network (SDN) in the Azure Virtual Network (VNet) without the need to manually configure or maintain route tables. Azure Route Server is a fully managed service and is configured with high availability.

Note:

Number of routes that Azure Route Server can advertise to ExpressRoute or VPN gateway: 200

Azure Network Function Manager

Azure Network Function Manager offers an Azure Marketplace experience for deploying network functions such as mobile packet core, SD-WAN edge, and VPN services to your Azure Stack Edge device running in your on-premises environment. You can now rapidly deploy a private mobile network service or SD-WAN solution on your edge device directly from the Azure management portal

Reference: <https://learn.microsoft.com/en-us/azure/virtual-network/network-security-groups-overview>

<https://learn.microsoft.com/en-us/azure/firewall/fqdn-filtering-network-rules>

<https://learn.microsoft.com/en-us/azure/architecture/reference-architectures/hybrid-networking/vnet-peering>

<https://learn.microsoft.com/en-us/azure/route-server/overview>

<https://learn.microsoft.com/en-us/azure/network-function-manager/overview>

QUESTION 12

HOTSPOT

You have five .NET Core applications that run on 10 Azure virtual machines in the same subscription.

You need to recommend a solution to ensure that the applications can authenticate by using the same Azure Active Directory (Azure AD) identity. The solution must meet the following requirements:

Ensure that the applications can authenticate only when running on the 10 virtual machines.

Minimize administrative effort.

What should you include in the recommendation? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

To provision the Azure AD identity:

	▼
Create a system-assigned Managed Service Identity	
Create a user-assigned Managed Service Identity	
Register each application in Azure AD	

To authenticate request a token by using:

	▼
An Azure AD v1.0 endpoint	
An Azure AD v2.0 endpoint	
An Azure Instance Metadata Service Identity	
OAuth2 endpoint	

Correct Answer:

To provision the Azure AD identity:

	▼
Create a system-assigned Managed Service Identity	
Create a user-assigned Managed Service Identity	
Register each application in Azure AD	

To authenticate request a token by using:

	▼
An Azure AD v1.0 endpoint	
An Azure AD v2.0 endpoint	
An Azure Instance Metadata Service Identity	
OAuth2 endpoint	