

AZ-500.62q

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Microsoft Azure Security Technologies

Question Set 1

QUESTION 1

Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.

After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You have a hybrid configuration of Azure Active Directory (Azure AD).

You have an Azure HDInsight cluster on a virtual network.

You plan to allow users to authenticate to the cluster by using their on-premises Active Directory credentials.

You need to configure the environment to support the planned authentication.

Solution: You create a site-to-site VPN between the virtual network and the on-premises network.

Does this meet the goal?



<https://vceplus.com/>

- A. Yes
- B. No

Correct Answer: A

Section: [none]

Explanation

Explanation/Reference:

Explanation:

You can connect HDInsight to your on-premises network by using Azure Virtual Networks and a VPN gateway.

Note: To allow HDInsight and resources in the joined network to communicate by name, you must perform the following actions: ▪

Create Azure Virtual Network.

▪ Create a custom DNS server in the Azure Virtual Network.

▪ Configure the virtual network to use the custom DNS server instead of the default Azure Recursive Resolver.

- Configure forwarding between the custom DNS server and your on-premises DNS server.

References: <https://docs.microsoft.com/en-us/azure/hdinsight/connect-on-premises-network>

QUESTION 2

Your network contains an Active Directory forest named contoso.com. The forest contains a single domain.

You have an Azure subscription named Sub1 that is associated to an Azure Active Directory (Azure AD) tenant named contoso.com.

You plan to deploy Azure AD Connect and to integrate Active Directory and the Azure AD tenant.

You need to recommend an integration solution that meets the following requirements:

- Ensures that password policies and user logon restrictions apply to user accounts that are synced to the tenant
- Minimizes the number of servers required for the solution.

Which authentication method should you include in the recommendation?

- A. federated identity with Active Directory Federation Services (AD FS)
- B. password hash synchronization with seamless single sign-on (SSO)
- C. pass-through authentication with seamless single sign-on (SSO)

Correct Answer: B

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Password hash synchronization requires the least effort regarding deployment, maintenance, and infrastructure. This level of effort typically applies to organizations that only need their users to sign in to Office 365, SaaS apps, and other Azure AD-based resources. When turned on, password hash synchronization is part of the Azure AD Connect sync process and runs every two minutes.

Incorrect Answers:

A: A federated authentication system relies on an external trusted system to authenticate users. Some companies want to reuse their existing federated system investment with their Azure AD hybrid identity solution. The maintenance and management of the federated system falls outside the control of Azure AD. It's up to the organization by using the federated system to make sure it's deployed securely and can handle the authentication load.

C: For pass-through authentication, you need one or more (we recommend three) lightweight agents installed on existing servers. These agents must have access to your on-premises Active Directory Domain Services, including your on-premises AD domain controllers. They need outbound access to the Internet and access to your domain controllers. For this reason, it's not supported to deploy the agents in a perimeter network.

Pass-through Authentication requires unconstrained network access to domain controllers. All network traffic is encrypted and limited to authentication requests.

References: <https://docs.microsoft.com/en-us/azure/active-directory/hybrid/how-to-connect-pta>

QUESTION 3

Your network contains an on-premises Active Directory domain named corp.contoso.com.

You have an Azure subscription named Sub1 that is associated to an Azure Active Directory (Azure AD) tenant named contoso.com.

You sync all on-premises identities to Azure AD.

You need to prevent users who have a `givenName` attribute that starts with `TEST` from being synced to Azure AD. The solution must minimize administrative effort.

What should you use?

- A. Synchronization Rules Editor
- B. Web Service Configuration Tool
- C. Azure Portal
- D. Active Directory Users and Computers



Correct Answer: A

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Use the Synchronization Rules Editor and write attribute-based filtering rule.

References: <https://docs.microsoft.com/en-us/azure/active-directory/hybrid/how-to-connect-sync-change-the-configuration>

QUESTION 4

You have an Azure subscription named Sub1 that is associated to an Azure Active Directory (Azure AD) tenant named contoso.com.

An administrator named Admin1 has access to the following identities:

- An OpenID-enabled user account
- A Hotmail account

- An account in contoso.com
- An account in an Azure AD tenant named fabrikam.com

You plan to use Azure Account Center to transfer the ownership of Sub1 to Admin1.

To which accounts can you transfer the ownership of Sub1?

- A. contoso.com only
- B. contoso.com, fabrikam.com, and Hotmail only
- C. contoso.com and fabrikam.com only
- D. contoso.com, fabrikam.com, Hotmail, and OpenID-enabled user account

Correct Answer: C

Section: [none]

Explanation

Explanation/Reference:

Explanation:

When you transfer billing ownership of your subscription to an account in another Azure AD tenant, you can move the subscription to the new account's tenant. If you do so, all users, groups, or service principals who had role based access (RBAC) to manage subscriptions and its resources lose their access. Only the user in the new account who accepts your transfer request will have access to manage the resources.

Reference: <https://docs.microsoft.com/en-us/azure/billing/billing-subscription-transfer> <https://docs.microsoft.com/en-us/azure/billing/billing-subscription-transfer#transferring-subscription-to-an-account-in-another-azure-ad-tenant>

QUESTION 5

HOTSPOT

Your company has two offices in Seattle and New York. Each office connects to the Internet by using a NAT device. The offices use the IP addresses shown in the following table.

Location	IP address space	Public NAT segment
Seattle	10.10.0.0/16	190.15.1.0/24
New York	172.16.0.0/16	194.25.2.0/24

The company has an Azure Active Directory (Azure AD) tenant named contoso.com. The tenant contains the users shown in the following table.

Name	Multi-factor authentication (MFA) status
User1	Enabled
User2	Enforced

The MFA service settings are configured as shown in the exhibit. (Click the Exhibit tab.)



trusted ips [\(learn more\)](#)

Skip multi-factor authentication for requests from federated users on my intranet

Skip multi-factor authentication for requests from following range of IP address subnets

10.10.0.0/16
194.25.2.0/24



verification options [\(learn more\)](#)

Methods available to users:

- Call to phone
- Text message to phone
- Notification through mobile app
- Verification code from mobile app or hardware token

For each of the following statements, select Yes if the statement is true. Otherwise, select No.

NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

	Yes	No
If User1 signs in to Azure from a device that uses an IP address of 134.18.14.10, User1 must be authenticated by using a phone.	<input type="radio"/>	<input type="radio"/>
If User2 signs in to Azure from a device in the Seattle office, User2 must be authenticated by using the Microsoft Authenticator app.	<input type="radio"/>	<input type="radio"/>
If User2 signs in to Azure from a device in the New York office, User1 must be authenticated by using a phone	<input type="radio"/>	<input type="radio"/>

Correct Answer:

Answer Area

	Yes	No
If User1 signs in to Azure from a device that uses an IP address of 134.18.14.10, User1 must be authenticated by using a phone.	<input checked="" type="radio"/>	<input type="radio"/>
If User2 signs in to Azure from a device in the Seattle office, User2 must be authenticated by using the Microsoft Authenticator app.	<input type="radio"/>	<input checked="" type="radio"/>
If User2 signs in to Azure from a device in the New York office, User1 must be authenticated by using a phone	<input type="radio"/>	<input checked="" type="radio"/>

Section: [none]
Explanation

Explanation/Reference:

Explanation:

Box 2: No

Use of Microsoft Authenticator is not required.

Note: Microsoft Authenticator is a multifactor app for mobile devices that generates time-based codes used during the Two-Step Verification process.

Box 3: No

The New York IP address subnet is included in the "skip multi-factor authentication for request.

References:

<https://www.cayosoft.com/difference-enabling-enforcing-mfa/>

QUESTION 6

Your company plans to create separate subscriptions for each department. Each subscription will be associated to the same Azure Active Directory (Azure AD) tenant.

You need to configure each subscription to have the same role assignments.

What should you use?

- A. Azure Security Center
- B. Azure Policy
- C. Azure AD Privileged Identity Management (PIM)
- D. Azure Blueprints

Correct Answer: D

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Just as a blueprint allows an engineer or an architect to sketch a project's design parameters, Azure Blueprints enables cloud architects and central information technology groups to define a repeatable set of Azure resources that implements and adheres to an organization's standards, patterns, and requirements.

Blueprints are a declarative way to orchestrate the deployment of various resource templates and other artifacts such as: ▪

Role Assignments

- Policy Assignments
- Azure Resource Manager templates ▪

Resource Groups

Reference: <https://docs.microsoft.com/en-us/azure/governance/blueprints/overview>

QUESTION 7

You have an Azure subscription.

You create an Azure web app named Contoso1812 that uses an S1 App service plan.

You create a DNS record for www.contoso.com that points to the IP address of Contoso1812.

You need to ensure that users can access Contoso1812 by using the <https://www.contoso.com> URL.

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

NOTE: Each correct selection is worth one point.

- A. Turn on the system-assigned managed identity for Contoso1812.
- B. Add a hostname to Contoso1812.
- C. Scale out the App Service plan of Contoso1812.
- D. Add a deployment slot to Contoso1812.
- E. Scale up the App Service plan of Contoso1812.
- F. Upload a PFX file to Contoso1812.

Correct Answer: BF

Section: [none]

Explanation

Explanation/Reference:

Explanation:

B: You can configure Azure DNS to host a custom domain for your web apps. For example, you can create an Azure web app and have your users access it using either www.contoso.com or contoso.com as a fully qualified domain name (FQDN). To do this, you have to create three records:

A root "A" record pointing to contoso.com

A root "TXT" record for verification

A "CNAME" record for the [www](https://www.contoso.com) name that points to the A record

F: To use HTTPS, you need to upload a PFX file to the Azure Web App. The PFX file will contain the SSL certificate required for HTTPS.

References: <https://docs.microsoft.com/en-us/azure/dns/dns-web-sites-custom-domain>

QUESTION 8

Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.

After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You have an Azure subscription named Sub1.

You have an Azure Storage account named Sa1 in a resource group named RG1.

Users and applications access the blob service and the file service in Sa1 by using several shared access signatures (SASs) and stored access policies.

You discover that unauthorized users accessed both the file service and the blob service.

You need to revoke all access to Sa1.

Solution: You create a lock on Sa1.

Does this meet the goal?

- A. Yes
- B. No

Correct Answer: B

Section: [none]

Explanation

Explanation/Reference:

Explanation:

To revoke a stored access policy, you can either delete it, or rename it by changing the signed identifier. Changing the signed identifier breaks the associations between any existing signatures and the stored access policy. Deleting or renaming the stored access policy immediately affects all of the shared access signatures associated with it.

References: <https://docs.microsoft.com/en-us/rest/api/storageservices/Establishing-a-Stored-Access-Policy>

QUESTION 9

Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.

After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You have a hybrid configuration of Azure Active Directory (Azure AD).

You have an Azure HDInsight cluster on a virtual network.

You plan to allow users to authenticate to the cluster by using their on-premises Active Directory credentials.

You need to configure the environment to support the planned authentication.

Solution: You deploy Azure Active Directory Domain Services (Azure AD DS) to the Azure subscription.

Does this meet the goal?

- A. Yes
- B. No

Correct Answer: B

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Instead, you connect HDInsight to your on-premises network by using Azure Virtual Networks and a VPN gateway.

Note: To allow HDInsight and resources in the joined network to communicate by name, you must perform the following actions: ▪

Create Azure Virtual Network.

- Create a custom DNS server in the Azure Virtual Network.
- Configure the virtual network to use the custom DNS server instead of the default Azure Recursive Resolver.
- Configure forwarding between the custom DNS server and your on-premises DNS server.

References: <https://docs.microsoft.com/en-us/azure/hdinsight/connect-on-premises-network>

QUESTION 10

Your network contains an Active Directory forest named contoso.com. You have an Azure Directory (Azure AD) tenant named contoso.com.

You plan to configure synchronization by using the Express Settings installation option in Azure AD Connect.

You need to identify which roles and groups are required to perform the planned configuration. The solution must use the principle of least privilege.

Which two roles and groups should you identify? Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point.

- A. the Domain Admins group in Active Directory
- B. the Security administrator role in Azure AD
- C. the Global administrator role in Azure AD
- D. the User administrator role in Azure AD
- E. the Enterprise Admins group in Active Directory

Correct Answer: CE

Section: [none]
Explanation

Explanation/Reference:

References: <https://docs.microsoft.com/en-us/azure/active-directory/hybrid/reference-connect-accounts-permissions>

QUESTION 11

DRAG DROP

You create an Azure subscription with Azure AD Premium P2.

You need to ensure that you can use Azure Active Directory (Azure AD) Privileged Identity Management (PIM) to secure Azure AD roles.

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
Discover privileged roles.	
Sign up PIM for Azure AD roles.	
Consent to PIM.	
Discover resources.	
Verify your identity by using multi-factor authentication (MFA).	

Correct Answer:

Actions	Answer Area
Discover privileged roles.	Consent to PIM.
	Verify your identity by using multi-factor authentication (MFA).
	Sign up PIM for Azure AD roles.
Discover resources.	

Section: [none]

Explanation

Explanation/Reference:



QUESTION 12

Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.

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You have a hybrid configuration of Azure Active Directory (Azure AD).

You have an Azure HDInsight cluster on a virtual network.

You plan to allow users to authenticate to the cluster by using their on-premises Active Directory credentials.

You need to configure the environment to support the planned authentication.

Solution: You deploy an Azure AD Application Proxy.

Does this meet the goal?

- A. Yes
- B. No

Correct Answer: B

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Instead, you connect HDInsight to your on-premises network by using Azure Virtual Networks and a VPN gateway.

Note: To allow HDInsight and resources in the joined network to communicate by name, you must perform the following actions: ▪

Create Azure Virtual Network.

- Create a custom DNS server in the Azure Virtual Network.
- Configure the virtual network to use the custom DNS server instead of the default Azure Recursive Resolver.
- Configure forwarding between the custom DNS server and your on-premises DNS server.

Reference:

<https://docs.microsoft.com/en-us/azure/hdinsight/connect-on-premises-network>

QUESTION 13

Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.

After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You have an Azure Subscription named Sub1.

You have an Azure Storage account named Sa1 in a resource group named RG1.

Users and applications access the blob service and the file service in Sa1 by using several shared access signatures (SASs) and stored access policies.

You discover that unauthorized users accessed both the file service and the blob service.

You need to revoke all access to Sa1.

Solution: You regenerate the access keys.

Does this meet the goal?

- A. Yes

B. No

Correct Answer: B

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Instead you should create a new stored access policy.

To revoke a stored access policy, you can either delete it, or rename it by changing the signed identifier. Changing the signed identifier breaks the associations between any existing signatures and the stored access policy. Deleting or renaming the stored access policy immediately affects all of the shared access signatures associated with it.

Reference:

<https://docs.microsoft.com/en-us/rest/api/storageservices/Establishing-a-Stored-Access-Policy>

QUESTION 14

You have a hybrid configuration of Azure Active Directory (Azure AD). You have an Azure SQL Database instance that is configured to support Azure AD authentication.

Database developers must connect to the database instance and authenticate by using their on-premises Active Directory account.

You need to ensure that developers can connect to the instance by using Microsoft SQL Server Management Studio. The solution must minimize authentication prompts.

Which authentication method should you recommend?

- A. Active Directory - Password
- B. Active Directory - Universal with MFA support
- C. SQL Server Authentication
- D. Active Directory - Integrated

Correct Answer: A

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Use Active Directory password authentication when connecting with an Azure AD principal name using the Azure AD managed domain.

Use this method to authenticate to SQL DB/DW with Azure AD for native or federated Azure AD users. A native user is one explicitly created in Azure AD and being authenticated using user name and password, while a federated user is a Windows user whose domain is federated with Azure AD. The latter method (using user & password) can be used when a user wants to use their windows credential, but their local machine is not joined with the domain (for example, using a remote access). In this case, a Windows user can indicate their domain account and password and can authenticate to SQL DB/DW using federated credentials.

Incorrect Answers:

D: Use Active Directory integrated authentication if you are logged in to Windows using your Azure Active Directory credentials from a federated domain.

References: <https://docs.microsoft.com/en-us/azure/sql-database/sql-database-aad-authentication-configure>

QUESTION 15

You plan to use Azure Resource Manager templates to perform multiple deployments of identically configured Azure virtual machines. The password for the administrator account of each deployment is stored as a secret in different Azure key vaults.

You need to identify a method to dynamically construct a resource ID that will designate the key vault containing the appropriate secret during each deployment. The name of the key vault and the name of the secret will be provided as inline parameters.

What should you use to construct the resource ID?

- A. a key vault access policy
- B. a linked template
- C. a parameters file
- D. an automation account



Correct Answer: C

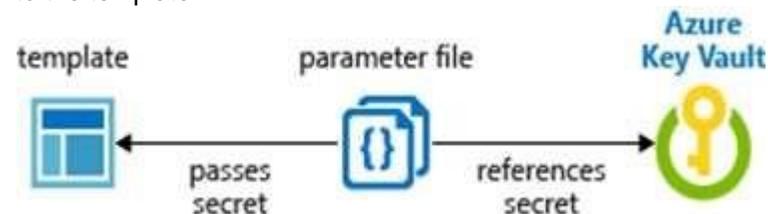
Section: [none]

Explanation

Explanation/Reference:

Explanation:

You reference the key vault in the parameter file, not the template. The following image shows how the parameter file references the secret and passes that value to the template.



Reference:

<https://docs.microsoft.com/en-us/azure/azure-resource-manager/resource-manager-keyvault-parameter>



Question Set 1

QUESTION 1

You have an Azure subscription named Sub1. Sub1 contains a virtual network named VNet1 that contains one subnet named Subnet1.

Subnet1 contains an Azure virtual machine named VM1 that runs Ubuntu Server 18.04.

You create a service endpoint for MicrosoftStorage in Subnet1.

You need to ensure that when you deploy Docker containers to VM1, the containers can access Azure Storage resources by using the service endpoint.

What should you do on VM1 before you deploy the container?

- A. Create an application security group and a network security group (NSG).
- B. Edit the docker-compose.yml file.
- C. Install the container network interface (CNI) plug-in.

Correct Answer: C

Section: [none]

Explanation

Explanation/Reference:

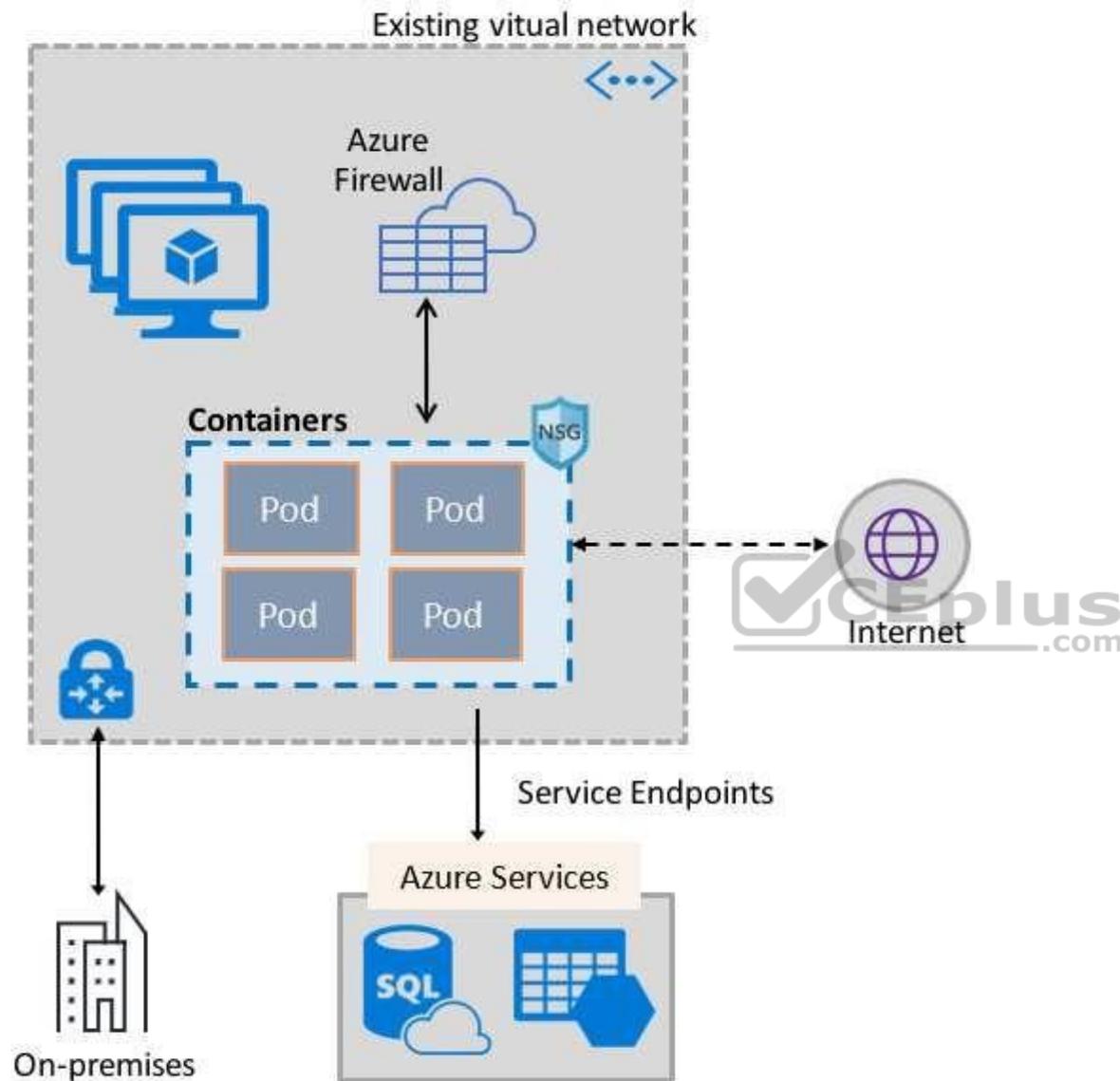
Explanation:

The Azure Virtual Network container network interface (CNI) plug-in installs in an Azure Virtual Machine. The plug-in supports both Linux and Windows platform.

The plug-in assigns IP addresses from a virtual network to containers brought up in the virtual machine, attaching them to the virtual network, and connecting them directly to other containers and virtual network resources. The plug-in doesn't rely on overlay networks, or routes, for connectivity, and provides the same performance as virtual machines.

The following picture shows how the plug-in provides Azure Virtual Network capabilities to Pods:





References:

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

QUESTION 2

You have Azure Resource Manager templates that you use to deploy Azure virtual machines.

You need to disable unused Windows features automatically as instances of the virtual machines are provisioned.

What should you use?

- A. device configuration policies in Microsoft Intune
- B. an Azure Desired State Configuration (DSC) virtual machine extension
- C. application security groups
- D. device compliance policies in Microsoft Intune

Correct Answer: B

Section: [none]

Explanation

Explanation/Reference:

Explanation:

You can use Azure Automation State Configuration to manage Azure VMs (both Classic and Resource Manager), on-premises VMs, Linux machines, AWS VMs, and on-premises physical machines.

Note: Azure Automation State Configuration provides a DSC pull server similar to the Windows Feature DSC-Service so that target nodes automatically receive configurations, conform to the desired state, and report back on their compliance. The built-in pull server in Azure Automation eliminates the need to set up and maintain your own pull server. Azure Automation can target virtual or physical Windows or Linux machines, in the cloud or on-premises.

Reference: <https://docs.microsoft.com/en-us/azure/automation/automation-dsc-getting-started>

QUESTION 3

You are configuring an Azure Kubernetes Service (AKS) cluster that will connect to an Azure Container Registry.

You need to use the auto-generated service principal to authenticate to the Azure Container Registry.



<https://vceplus.com/>

What should you create?

- A. an Azure Active Directory (Azure AD) group
- B. an Azure Active Directory (Azure AD) role assignment
- C. an Azure Active Directory (Azure AD) user
- D. a secret in Azure Key Vault

Correct Answer: B

Section: [none]

Explanation

Explanation/Reference:

Explanation:

When you create an AKS cluster, Azure also creates a service principal to support cluster operability with other Azure resources. You can use this auto-generated service principal for authentication with an ACR registry. To do so, you need to create an Azure AD role assignment that grants the cluster's service principal access to the container registry.

References: <https://docs.microsoft.com/bs-latn-ba/azure/container-registry/container-registry-auth-aks>

QUESTION 4 HOTSPOT

You have an Azure subscription named Sub1.

You create a virtual network that contains one subnet. On the subnet, you provision the virtual machines shown in the following table.

Name	Network interface	Application security group assignment	IP address
VM1	NIC1	AppGroup12	10.0.0.10
VM2	NIC2	AppGroup12	10.0.0.11
VM3	NIC3	AppGroup3	10.0.0.100
VM4	NIC4	AppGroup4	10.0.0.200

Currently, you have not provisioned any network security groups (NSGs).

You need to implement network security to meet the following requirements:

- Allow traffic to VM4 from VM3 only.

- Allow traffic from the Internet to VM1 and VM2 only.
- Minimize the number of NSGs and network security rules.

How many NSGs and network security rules should you create? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

NSGs:

	▼
1	
2	
3	
4	

Network security rules:

	▼
1	
2	
3	
4	

Correct Answer:

Answer Area

NSGs:

	▼
1	
2	
3	
4	

Network security rules:

	▼
1	
2	
3	
4	

Section: [none]

Explanation

Explanation/Reference:

Explanation:

NSGs: 2

Network security rules: 3

Not 2: You cannot specify multiple service tags or application groups) in a security rule.

References:

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

QUESTION 5

You have the Azure virtual machines shown in the following table.

Name	Operating system	Region	Resource group
VM1	Windows Server 2012	East US	RG1
VM2	Windows Server 2012 R2	West Europe	RG1
VM3	Windows Server 2016	West Europe	RG2
VM4	Red Hat Enterprise Linux 7.4	East US	RG2

You create an Azure Log Analytics workspace named Analytics1 in RG1 in the East US region.

Which virtual machines can be enrolled in Analytics1?

- A. VM1 only
- B. VM1, VM2, and VM3 only
- C. VM1, VM2, VM3, and VM4
- D. VM1 and VM4 only



Correct Answer: A

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Note: Create a workspace

- In the Azure portal, click All services. In the list of resources, type Log Analytics. As you begin typing, the list filters based on your input. Select Log Analytics. ▪ Click Create, and then select choices for the following items:

Provide a name for the new Log Analytics workspace, such as DefaultLAWorkspace. OMS workspaces are now referred to as Log Analytics workspaces.

Select a Subscription to link to by selecting from the drop-down list if the default selected is not appropriate.

For Resource Group, select an existing resource group that contains one or more Azure virtual machines.

Select the Location your VMs are deployed to. For additional information, see which regions Log Analytics is available in.

Incorrect Answers:

B, C: A Log Analytics workspace provides a geographic location for data storage. VM2 and VM3 are at a different location.

D: VM4 is a different resource group.

References: <https://docs.microsoft.com/en-us/azure/azure-monitor/platform/manage-access>

QUESTION 6

You are testing an Azure Kubernetes Service (AKS) cluster. The cluster is configured as shown in the exhibit. (Click the **Exhibit** tab.)



Basics

Subscription	Azure Pass - Sponsorship
Resource group	RG1
Region	(US) East US
Kubernetes cluster name	AKScluster
Kubernetes version	1.12.8
DNS name prefix	AKScluster
Node count	3
Node size	Standard_DS_v2

Scale

Virtual nodes	Disabled
VM scale sets (preview)	Disabled



Authentication

Enable RBAC	No
-------------	----

Networking

HTTP application routing	No
Network configuration	Basic

Monitoring

Enable container monitoring	No
-----------------------------	----

Tags

(none)

You plan to deploy the cluster to production. You disable HTTP application routing.

You need to implement application routing that will provide reverse proxy and TLS termination for AKS services by using a single IP address.

What should you do?

- A. Create an AKS Ingress controller.
- B. Install the container network interface (CNI) plug-in.
- C. Create an Azure Standard Load Balancer.
- D. Create an Azure Basic Load Balancer.

Correct Answer: A

Section: [none]

Explanation

Explanation/Reference:

Explanation:

An ingress controller is a piece of software that provides reverse proxy, configurable traffic routing, and TLS termination for Kubernetes services.

References: <https://docs.microsoft.com/en-us/azure/aks/ingress-tls>



QUESTION 7

Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.

After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You use Azure Security Center for the centralized policy management of three Azure subscriptions.

You use several policy definitions to manage the security of the subscriptions.

You need to deploy the policy definitions as a group to all three subscriptions.

Solution: You create a policy definition and assignments that are scoped to resource groups.

Does this meet the goal?

- A. Yes
- B. No

Correct Answer: B

Section: [none]

Explanation

Explanation/Reference:

References: <https://4sysops.com/archives/apply-governance-policy-to-multiple-azure-subscriptions-with-management-groups/>

QUESTION 8

Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.

After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You use Azure Security Center for the centralized policy management of three Azure subscriptions.

You use several policy definitions to manage the security of the subscriptions.

You need to deploy the policy definitions as a group to all three subscriptions.

Solution: You create a resource graph and an assignment that is scoped to a management group.

Does this meet the goal?

A. Yes

B. No

Correct Answer: B

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Management groups in Microsoft Azure solve the problem of needing to impose governance policy on more than one Azure subscription simultaneously. However, you need to use an initiative, not a resource graph to bundle the policy definitions into a group that can be applied to the management group.

References: <https://4sysops.com/archives/apply-governance-policy-to-multiple-azure-subscriptions-with-management-groups/> **QUESTION 9**

Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.

After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You have an Azure Subscription. The subscription contains 50 virtual machines that run Windows Server 2012 R2 or Windows Server 2016.

You need to deploy Microsoft Antimalware to the virtual machines.

Solution: You add an extension to each virtual machine.

Does this meet the goal?

- A. Yes
- B. No

Correct Answer: A

Section: [none]

Explanation

Explanation/Reference:

Explanation:

You can use Visual Studio to enable and configure the Microsoft Antimalware service. This entails selecting Microsoft Antimalware extension from the dropdown list under Installed Extensions and click Add to configure with default antimalware configuration.

References: <https://docs.microsoft.com/en-us/azure/security/fundamentals/antimalware>

QUESTION 10

Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.

After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You have an Azure Subscription. The subscription contains 50 virtual machines that run Windows Server 2012 R2 or Windows Server 2016.

You need to deploy Microsoft Antimalware to the virtual machines.

Solution: You connect to each virtual machine and add a Windows feature.

Does this meet the goal?

- A. Yes
- B. No

Correct Answer: B

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Microsoft Antimalware is deployed as an extension and not a feature.

References: <https://docs.microsoft.com/en-us/azure/security/fundamentals/antimalware>

QUESTION 11

From Azure Security Center, you create a custom alert rule.

You need to configure which users will receive an email message when the alert is triggered.

What should you do?

- A. From Azure Monitor, create an action group.
- B. From Security Center, modify the Security policy settings of the Azure subscription.
- C. From Azure Active Directory (Azure AD), modify the members of the Security Reader role group.
- D. From Security Center, modify the alert rule.

Correct Answer: A

Section: [none]

Explanation

Explanation/Reference:

Reference: <https://docs.microsoft.com/en-us/azure/azure-monitor/platform/action-groups>

QUESTION 12

You are configuring and securing a network environment.

You deploy an Azure virtual machine named VM1 that is configured to analyze network traffic.

You need to ensure that all network traffic is routed through VM1.

What should you configure?

- A. a system route
- B. a network security group (NSG)
- C. a user-defined route

Correct Answer: C

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Although the use of system routes facilitates traffic automatically for your deployment, there are cases in which you want to control the routing of packets through a virtual appliance. You can do so by creating user defined routes that specify the next hop for packets flowing to a specific subnet to go to your virtual appliance instead, and enabling IP forwarding for the VM running as the virtual appliance.

Note: User Defined Routes

For most environments you will only need the system routes already defined by Azure. However, you may need to create a route table and add one or more routes in specific cases, such as:

- Force tunneling to the Internet via your on-premises network.
- Use of virtual appliances in your Azure environment.
- In the scenarios above, you will have to create a route table and add user defined routes to it.

Reference:

<https://github.com/uglide/azure-content/blob/master/articles/virtual-network/virtual-networks-udr-overview.md>

QUESTION 13

You have an Azure subscription that contains the virtual networks shown in the following table.

Name	Region	Subnet
VNET1	West US	Subnet11 and Subnet12
VNET2	West US 2	Subnet21
VNET3	East US	Subnet31

The subscription contains the virtual machines shown in the following table.

Name	Network interface	Connected to
VM1	NIC1	Subnet11
VM2	NIC2	Subnet11
VM3	NIC3	Subnet12
VM4	NIC4	Subnet21
VM5	NIC5	Subnet31

On NIC1, you configure an application security group named ASG1.

On which other network interfaces can you configure ASG1?

- A. NIC2 only
- B. NIC2, NIC3, NIC4, and NIC5
- C. NIC2 and NIC3 only
- D. NIC2, NIC3, and NIC4 only

Correct Answer: C

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Only network interfaces in NVET1, which consists of Subnet11 and Subnet12, can be configured in ASG1, as all network interfaces assigned to an application security group have to exist in the same virtual network that the first network interface assigned to the application security group is in.

Reference:

<https://azure.microsoft.com/es-es/blog/applicationsecuritygroups/>

QUESTION 14

You have 15 Azure virtual machines in a resource group named RG1.

All virtual machines run identical applications.

You need to prevent unauthorized applications and malware from running on the virtual machines.

What should you do?

- A. Apply an Azure policy to RG1.
- B. From Azure Security Center, configure adaptive application controls.
- C. Configure Azure Active Directory (Azure AD) Identity Protection.
- D. Apply a resource lock to RG1.

Correct Answer: B

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Adaptive application control is an intelligent, automated end-to-end application whitelisting solution from Azure Security Center. It helps you control which applications can run on your Azure and non-Azure VMs (Windows and Linux), which, among other benefits, helps harden your VMs against malware. Security Center uses machine learning to analyze the applications running on your VMs and helps you apply the specific whitelisting rules using this intelligence.

Reference:

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

QUESTION 15

You plan to deploy Azure container instances.

You have a containerized application that validates credit cards. The application is comprised of two containers: an application container and a validation container.

The application container is monitored by the validation container. The validation container performs security checks by making requests to the application container and waiting for responses after every transaction.

You need to ensure that the application container and the validation container are scheduled to be deployed together. The containers must communicate to each other only on ports that are not externally exposed.

What should you include in the deployment?

- A. application security groups
- B. network security groups (NSGs)
- C. management groups
- D. container groups

Correct Answer: D

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Azure Container Instances supports the deployment of multiple containers onto a single host using a container group. A container group is useful when building an application sidecar for logging, monitoring, or any other configuration where a service needs a second attached process.

Reference:

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

QUESTION 16

DRAG DROP

You are configuring network connectivity for two Azure virtual networks named VNET1 and VNET2.

You need to implement VPN gateways for the virtual networks to meet the following requirements:

- VNET1 must have six site-to-site connections that use BGP.
- VNET2 must have 12 site-to-site connections that use BGP. ▪

Costs must be minimized.

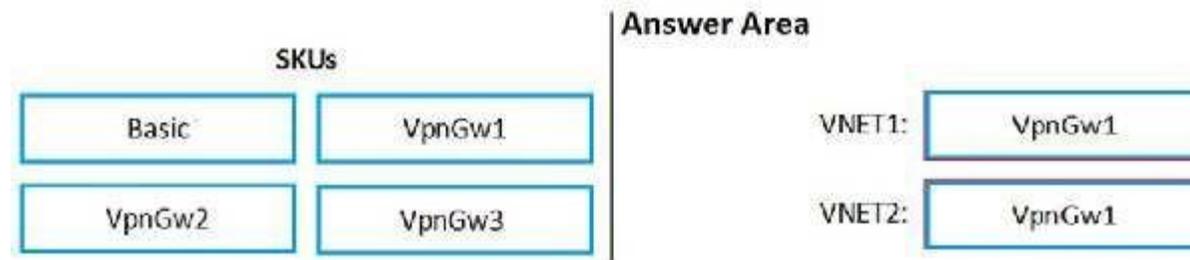
Which VPN gateway SKU should you use for each virtual network? To answer, drag the appropriate SKUs to the correct networks. Each SKU may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.

NOTE: Each correct selection is worth one point.

Select and Place:

SKUs		Answer Area
Basic	VpnGw1	VNET1: <input type="text"/>
VpnGw2	VpnGw3	VNET2: <input type="text"/>

Correct Answer:



Section: [none]

Explanation

Explanation/Reference:

References: <https://docs.microsoft.com/en-us/azure/vpn-gateway/vpn-gateway-about-vpngateways#gwsku>

QUESTION 17

You are securing access to the resources in an Azure subscription.

A new company policy states that all the Azure virtual machines in the subscription must use managed disks.

You need to prevent users from creating virtual machines that use unmanaged disks.

What should you do?

- A. Azure Monitor
- B. Azure Policy
- C. Azure Security Center
- D. Azure Service Health

Correct Answer: B

Section: [none]

Explanation

Explanation/Reference:

QUESTION 18

You have an Azure Kubernetes Service (AKS) cluster that will connect to an Azure Container Registry.

You need to use automatically generated service principal for the AKS cluster to authenticate to the Azure Container Registry.

What should you create?

- A. a secret in Azure Key Vault
- B. a role assignment
- C. an Azure Active Directory (Azure AD) user
- D. an Azure Active Directory (Azure AD) group

Correct Answer: B

Section: [none]

Explanation

Explanation/Reference:

References: <https://docs.microsoft.com/en-us/azure/aks/kubernetes-service-principal>

QUESTION 19

Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.

After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You use Azure Security Center for the centralized policy management of three Azure subscriptions.

You use several policy definitions to manage the security of the subscriptions.

You need to deploy the policy definitions as a group to all three subscriptions.

Solution: You create an initiative and an assignment that is scoped to a management group.

Does this meet the goal?

- A. Yes
- B. No

Correct Answer: A

Section: [none]

Explanation

Explanation/Reference:

References: <https://docs.microsoft.com/en-us/azure/governance/policy/overview>

QUESTION 20

You have the Azure virtual machines shown in the following table.

Name	Operating system	State
VM1	Windows Server 2008 R2 Service Pack 1 (SP1)	Running
VM2	Windows Server 2012R2	Running
VM3	Windows Server 2016	Stopped
VM4	Ubuntu Server 18.04 LTS	Running

For which virtual machine can you enable Update Management?

- A. VM2 and VM3 only
- B. VM2, VM3, and VM4 only
- C. VM1, VM2, and VM4 only
- D. VM1, VM2, VM3, and VM4
- E. VM1, VM2, and VM3 only



Correct Answer: C

Section: [none]

Explanation

Explanation/Reference:

References: <https://docs.microsoft.com/en-us/azure/automation/automation-update-management?toc=%2Fazure%2Fautomation%2Ftoc.json> **Testlet 1**

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

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

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

To start the case study

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

Litware, Inc. is a digital media company that has 500 employees in the Chicago area and 20 employees in the San Francisco area.

Existing Environment

Litware has an Azure subscription named Sub1 that has a subscription ID of 43894a43-17c2-4a39-8cfc-3540c2653ef4.

Sub1 is associated to an Azure Active Directory (Azure AD) tenant named litwareinc.com. The tenant contains the user objects and the device objects of all the Litware employees and their devices. Each user is assigned an Azure AD Premium P2 license. Azure AD Privileged Identity Management (PIM) is activated.

The tenant contains the groups shown in the following table.

Name	Type	Description
Group1	Security group	A group that has the Dynamic User membership type, contains all the San Francisco users, and provides access to many Azure AD applications and Azure resources.
Group2	Security group	A group that has the Dynamic User membership type and contains the Chicago IT team

The Azure subscription contains the objects shown in the following table.

Name	Type	Description
VNet1	Virtual network	VNet1 is a virtual network that contains security-sensitive IT resources. VNet1 contains three subnets named Subnet0, Subnet1, and AzureFirewallSubnet.
VM0	Virtual machine	VM0 is an Azure virtual machine that runs Windows Server 2016, connects to Subnet0, and has just in time (JIT) VM access configured.
VM1	Virtual machine	VM1 is an Azure virtual machine that runs Windows Server 2016 and connects to Subent0.
SQLDB1	Azure SQL Database	SQLDB1 is an Azure SQL database on a SQL Database server named LitwareSQLServer1.
WebApp1	Web app	WebApp1 is an Azure web app that is accessible by using https://litwareinc.com and http://www.litwareinc.com.
Resource Group1	Resource group	Resource Group1 is a resource group that contains VNet1, VM0, and VM1.
Resource Group2	Resource group	Resource Group2 is a resource group that contains shared IT resources.

Azure Security Center is set to the Free tier.

Planned changes

Litware plans to deploy the Azure resources shown in the following table.

Name	Type	Description
Firewall1	Azure Firewall	An Azure firewall on VNet1.
RT1	Route table	A route table that will contain a route pointing to Firewall1 as the default gateway and will be assigned to Subnet0.
AKS1	Azure Kubernetes Service (AKS)	A managed AKS cluster

Identity and Access Requirements

Litware identifies the following identity and access requirements:

- All San Francisco users and their devices must be members of Group1.
- The members of Group2 must be assigned the Contributor role to Resource Group2 by using a permanent eligible assignment.
- Users must be prevented from registering applications in Azure AD and from consenting to applications that access company information on the users' behalf.

Platform Protection Requirements

Litware identifies the following platform protection requirements:

- Microsoft Antimalware must be installed on the virtual machines in Resource Group1.
- The members of Group2 must be assigned the Azure Kubernetes Service Cluster Admin Role.
- Azure AD users must be able to authenticate to AKS1 by using their Azure AD credentials.
- Following the implementation of the planned changes, the IT team must be able to connect to VM0 by using JIT VM access.
- A new custom RBAC role named Role1 must be used to delegate the administration of the managed disks in Resource Group1. Role1 must be available only for Resource Group1.

Security Operations Requirements

Litware must be able to customize the operating system security configurations in Azure Security Center.

Data and Application Requirements

Litware identifies the following data and applications requirements:

- The users in Group2 must be able to authenticate to SQLDB1 by using their Azure AD credentials. ▪
- WebApp1 must enforce mutual authentication.

General Requirements

Litware identifies the following general requirements:

- Whenever possible, administrative effort must be minimized.

- Whenever possible, use of automation must be minimized.

QUESTION 1

You need to ensure that you can meet the security operations requirements.

What should you do first?

- A. Turn on Auto Provisioning in Security Center.
- B. Integrate Security Center and Microsoft Cloud App Security.
- C. Upgrade the pricing tier of Security Center to Standard.



<https://vceplus.com/> D. Modify

the Security Center workspace configuration.

Correct Answer: C

Section: [none]

Explanation

Explanation/Reference:

Explanation:

The Standard tier extends the capabilities of the Free tier to workloads running in private and other public clouds, providing unified security management and threat protection across your hybrid cloud workloads. The Standard tier also adds advanced threat detection capabilities, which uses built-in behavioral analytics and machine learning to identify attacks and zero-day exploits, access and application controls to reduce exposure to network attacks and malware, and more.

Scenario: Security Operations Requirements

Litware must be able to customize the operating system security configurations in Azure Security Center.

References:

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

Question Set 2

QUESTION 1

You have an Azure subscription that contains the virtual machines shown in the following table.

Name	Operating system
VM1	Windows Server 2016
VM2	Ubuntu Server 18.04 LTS

From Azure Security Center, you turn on Auto Provisioning.

You deploy the virtual machines shown in the following table.

Name	Operating system
VM3	Windows Server 2016
VM4	Ubuntu Server 18.04 LTS

On which virtual machines is the Log Analytics agent installed?

- A. VM3 only
- B. VM1 and VM3 only
- C. VM3 and VM4 only
- D. VM1, VM2, VM3, and VM4

Correct Answer: D

Section: [none]

Explanation

Explanation/Reference:

Explanation:

When automatic provisioning is On, Security Center provisions the Log Analytics Agent on all supported Azure VMs and any new ones that are created.

Supported Operating systems include: Ubuntu 14.04 LTS (x86/x64), 16.04 LTS (x86/x64), and 18.04 LTS (x64) and Windows Server 2008 R2, 2012, 2012 R2, 2016, version 1709 and 1803

Reference: <https://docs.microsoft.com/en-us/azure/security-center/security-center-enable-data-collection>

QUESTION 2

You have an Azure subscription named Sub1 that is associated to an Azure Active Directory (Azure AD) tenant named contoso.com.

You are assigned the Global administrator role for the tenant. You are responsible for managing Azure Security Center settings.

You need to create a custom sensitivity label.

What should you do?

- A. Create a custom sensitive information type.
- B. Elevate access for global administrators in Azure AD.
- C. Change Azure Security Center to use Standard-tier pricing.
- D. Enable integration with Microsoft Cloud App Security.

Correct Answer: A

Section: [none]

Explanation

Explanation/Reference:

Explanation:

First, you need to create a new sensitive information type because you can't directly modify the default rules.

References: <https://docs.microsoft.com/en-us/office365/securitycompliance/customize-a-built-in-sensitive-information-type>

QUESTION 3 HOTSPOT

You suspect that users are attempting to sign in to resources to which they have no access.

You need to create an Azure Log Analytics query to identify failed user sign-in attempts from the last three days. The results must only show users who had more than five failed sign-in attempts.

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

NOTE: Each correct selection is worth one point.

Hot Area:



Answer Area

```

let timeframe = 3d;
SecurityEvent
| where TimeGenerated > ago(3d)
| where AccountType == 'User' and  == 4625

| summarize failed_login_attempts= 

latest_failed_login=arg_max(TimeGenerated, Account) by Account
| where failed_login_attempts > 5

```

Correct Answer:

Answer Area

```

let timeframe = 3d;
SecurityEvent
| where TimeGenerated > ago(3d)
| where AccountType == 'User' and

```

▼
== 4625

ActivityID
DataType
EventID
QuantityUnit

```

| summarize failed_login_attempts=

```

▼

Count(),
Countif(),
Makeset(),
Split(),

```

latest_failed_login=arg_max(TimeGenerated, Account) by Account
| where failed_login_attempts > 5

```

Section: [none]

Explanation

Explanation/Reference:

Explanation:

The following example identifies user accounts that failed to log in more than five times in the last day, and when they last attempted to log in.

```

let timeframe = 1d;
SecurityEvent
| where TimeGenerated > ago(1d)
| where AccountType == 'User' and EventID == 4625 // 4625 - failed log in
| summarize failed_login_attempts=count(), latest_failed_login=arg_max(TimeGenerated, Account) by Account
| where failed_login_attempts > 5
| project-away Account1

```

References: <https://docs.microsoft.com/en-us/azure/azure-monitor/log-query/examples>

QUESTION 4

You have an Azure subscription named Sub1.

In Azure Security Center, you have a security playbook named Play1. Play1 is configured to send an email message to a user named User1.

You need to modify Play1 to send email messages to a distribution group named Alerts.

What should you use to modify Play1?

- A. Azure DevOps
- B. Azure Application Insights
- C. Azure Monitor
- D. Azure Logic Apps Designer

Correct Answer: D

Section: [none]

Explanation

Explanation/Reference:

Explanation:

You can change an existing playbook in Security Center to add an action, or conditions. To do that you just need to click on the name of the playbook that you want to change, in the Playbooks tab, and Logic App Designer opens up.

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

QUESTION 5

You create a new Azure subscription.

You need to ensure that you can create custom alert rules in Azure Security Center.

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

NOTE: Each correct selection is worth one point.

- A. Onboard Azure Active Directory (Azure AD) Identity Protection.
- B. Create an Azure Storage account.



- C. Implement Azure Advisor recommendations.
- D. Create an Azure Log Analytics workspace.
- E. Upgrade the pricing tier of Security Center to Standard.

Correct Answer: BD

Section: [none]

Explanation

Explanation/Reference:

Explanation:

D: You need write permission in the workspace that you select to store your custom alert.

References: <https://docs.microsoft.com/en-us/azure/security-center/security-center-custom-alert>

QUESTION 6

You have an Azure subscription named Sub1 that contains an Azure Log Analytics workspace named LAW1.

You have 100 on-premises servers that run Windows Server 2012 R2 and Windows Server 2016. The servers connect to LAW1. LAW1 is configured to collect security-related performance counters from the connected servers.

You need to configure alerts based on the data collected by LAW1. The solution must meet the following requirements:

- Alert rules must support dimensions.
- The time it takes to generate an alert must be minimized.
- Alert notifications must be generated only once when the alert is generated and once when the alert is resolved.

Which signal type should you use when you create the alert rules?

- A. Log
- B. Log (Saved Query)
- C. Metric
- D. Activity Log

Correct Answer: C

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Metric alerts in Azure Monitor provide a way to get notified when one of your metrics cross a threshold. Metric alerts work on a range of multi-dimensional platform metrics, custom metrics, Application Insights standard and custom metrics.

Note: Signals are emitted by the target resource and can be of several types. Metric, Activity log, Application Insights, and Log.

References: <https://docs.microsoft.com/en-us/azure/azure-monitor/platform/alerts-metric>

QUESTION 7

You have an Azure subscription named Sub1 that contains the virtual machines shown in the following table.

Name	Resource group
VM1	RG1
VM2	RG2
VM3	RG1
VM4	RG2

You need to ensure that the virtual machines in RG1 have the Remote Desktop port closed until an authorized user requests access.

What should you configure?

- A. Azure Active Directory (Azure AD) Privileged Identity Management (PIM)
- B. an application security group
- C. Azure Active Directory (Azure AD) conditional access
- D. just in time (JIT) VM access

Correct Answer: D

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Just-in-time (JIT) virtual machine (VM) access can be used to lock down inbound traffic to your Azure VMs, reducing exposure to attacks while providing easy access to connect to VMs when needed.

Note: When just-in-time is enabled, Security Center locks down inbound traffic to your Azure VMs by creating an NSG rule. You select the ports on the VM to which inbound traffic will be locked down. These ports are controlled by the just-in-time solution.

When a user requests access to a VM, Security Center checks that the user has Role-Based Access Control (RBAC) permissions that permit them to successfully request access to a VM. If the request is approved, Security Center automatically configures the Network Security Groups (NSGs) and Azure Firewall to allow inbound traffic to the selected ports and requested source IP addresses or ranges, for the amount of time that was specified. After the time has expired, Security Center restores the NSGs to their previous states. Those connections that are already established are not being interrupted, however.

Reference:

<https://docs.microsoft.com/en-us/azure/security-center/security-center-just-in-time>

QUESTION 8

You are troubleshooting a security issue for an Azure Storage account.

You enable the diagnostic logs for the storage account.

What should you use to retrieve the diagnostics logs?

- A. the Security & Compliance admin center
- B. SQL query editor in Azure
- C. File Explorer in Windows
- D. AzCopy

Correct Answer: D

Section: [none]

Explanation

Explanation/Reference:

References: <https://docs.microsoft.com/en-us/azure/storage/common/storage-analytics-logging?toc=%2fazure%2fstorage%2fblobs%2ftoc.json>

QUESTION 9 HOTSPOT

You are configuring just in time (JIT) VM access to a set of Azure virtual machines.

You need to grant users PowerShell access to the virtual machine by using JIT VM access.

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

NOTE: Each correct selection is worth one point.

Hot Area:



Answer Area

Permission that must be granted to users on VM:

	▼
Read	
Update	
View	
Write	

TCP port that must be allowed:

	▼
22	
25	
3389	
5986	

Correct Answer:



Answer Area

Permission that must be granted to users on VM:

	▼
Read	
Update	
View	
Write	

TCP port that must be allowed:

	▼
22	
25	
3389	
5986	



Section: [none]

Explanation

Explanation/Reference:

QUESTION 10

You have an Azure Storage account named storage1 that has a container named container1.

You need to prevent the blobs in container1 from being modified.

What should you do?

- A. From container1, change the access level.
- B. From container1, add an access policy.
- C. From container1, modify the Access Control (IAM) settings.
- D. From storage1, enable soft delete for blobs.

Correct Answer: B

Section: [none]

Explanation

Explanation/Reference:

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

QUESTION 11

You company has an Azure Active Directory (Azure AD) tenant named contoso.com.

You plan to create several security alerts by using Azure Monitor.

You need to prepare the Azure subscription for the alerts.

What should you create first?

- A. An Azure Storage account
- B. an Azure Log Analytics workspace
- C. an Azure event hub
- D. an Azure Automation account



Correct Answer: B

Section: [none]

Explanation

Explanation/Reference:

QUESTION 12

You company has an Azure subscription named Sub1. Sub1 contains an Azure web app named WebApp1 that uses Azure Application Insights. WebApp1 requires users to authenticate by using OAuth 2.0 client secrets.

Developers at the company plan to create a multi-step web test app that performs synthetic transactions emulating user traffic to Web App1.

You need to ensure that web tests can run unattended.

What should you do first?

- A. In Microsoft Visual Studio, modify the .webtest file.
- B. Upload the .webtest file to Application Insights.

- C. Register the web test app in Azure AD.
- D. Add a plug-in to the web test app.

Correct Answer: B

Section: [none]

Explanation

Explanation/Reference:



Testlet 1

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

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

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

To start the case study

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

Litware, Inc. is a digital media company that has 500 employees in the Chicago area and 20 employees in the San Francisco area.

Existing Environment

Litware has an Azure subscription named Sub1 that has a subscription ID of 43894a43-17c2-4a39-8cfc-3540c2653ef4.

Sub1 is associated to an Azure Active Directory (Azure AD) tenant named litwareinc.com. The tenant contains the user objects and the device objects of all the Litware employees and their devices. Each user is assigned an Azure AD Premium P2 license. Azure AD Privileged Identity Management (PIM) is activated.

The tenant contains the groups shown in the following table.

Name	Type	Description
Group1	Security group	A group that has the Dynamic User membership type, contains all the San Francisco users, and provides access to many Azure AD applications and Azure resources.
Group2	Security group	A group that has the Dynamic User membership type and contains the Chicago IT team

The Azure subscription contains the objects shown in the following table.

Name	Type	Description
VNet1	Virtual network	VNet1 is a virtual network that contains security-sensitive IT resources. VNet1 contains three subnets named Subnet0, Subnet1, and AzureFirewallSubnet.
VM0	Virtual machine	VM0 is an Azure virtual machine that runs Windows Server 2016, connects to Subnet0, and has just in time (JIT) VM access configured.
VM1	Virtual machine	VM1 is an Azure virtual machine that runs Windows Server 2016 and connects to Subnet0.
SQLDB1	Azure SQL Database	SQLDB1 is an Azure SQL database on a SQL Database server named LitwareSQLServer1.
WebApp1	Web app	WebApp1 is an Azure web app that is accessible by using https://litwareinc.com and http://www.litwareinc.com.
Resource Group1	Resource group	Resource Group1 is a resource group that contains VNet1, VM0, and VM1.
Resource Group2	Resource group	Resource Group2 is a resource group that contains shared IT resources.

Azure Security Center is set to the Free tier.

Planned changes

Litware plans to deploy the Azure resources shown in the following table.

Name	Type	Description
Firewall1	Azure Firewall	An Azure firewall on VNet1.
RT1	Route table	A route table that will contain a route pointing to Firewall1 as the default gateway and will be assigned to Subnet0.
AKS1	Azure Kubernetes Service (AKS)	A managed AKS cluster

Identity and Access Requirements

Litware identifies the following identity and access requirements:

- All San Francisco users and their devices must be members of Group1.
- The members of Group2 must be assigned the Contributor role to Resource Group2 by using a permanent eligible assignment.
- Users must be prevented from registering applications in Azure AD and from consenting to applications that access company information on the users' behalf.

Platform Protection Requirements

Litware identifies the following platform protection requirements:



- Microsoft Antimalware must be installed on the virtual machines in Resource Group1.
- The members of Group2 must be assigned the Azure Kubernetes Service Cluster Admin Role.
- Azure AD users must be able to authenticate to AKS1 by using their Azure AD credentials.
- Following the implementation of the planned changes, the IT team must be able to connect to VM0 by using JIT VM access.
- A new custom RBAC role named Role1 must be used to delegate the administration of the managed disks in Resource Group1. Role1 must be available only for Resource Group1.

Security Operations Requirements

Litware must be able to customize the operating system security configurations in Azure Security Center.

Data and Application Requirements

Litware identifies the following data and applications requirements:

- The users in Group2 must be able to authenticate to SQLDB1 by using their Azure AD credentials. ▪
- WebApp1 must enforce mutual authentication.

General Requirements

Litware identifies the following general requirements:

- Whenever possible, administrative effort must be minimized.

- Whenever possible, use of automation must be minimized.

QUESTION 1

You need to configure WebApp1 to meet the data and application requirements.

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

NOTE: Each correct selection is worth one point.

- A. Upload a public certificate.
- B. Turn on the HTTPS Only protocol setting.
- C. Set the Minimum TLS Version protocol setting to 1.2.
- D. Change the pricing tier of the App Service plan.
- E. Turn on the Incoming client certificates protocol setting.

Correct Answer: AC

Section: [none]

Explanation

Explanation/Reference:

Explanation:

A: To configure Certificates for use in Azure Websites Applications you need to upload a public Certificate.

C: Over time, multiple versions of TLS have been released to mitigate different vulnerabilities. TLS 1.2 is the most current version available for apps running on Azure App Service.

Incorrect Answers:

B: We need support the http url as well.

Note:

WebApp1 is an Azure web app that is accessible by using <https://litwareinc.com> and <http://www.litwareinc.com>.

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

[https://azure.microsoft.com/en-us/updates/app-service-and-functions-hosted-apps-can-now-update-tls-](https://azure.microsoft.com/en-us/updates/app-service-and-functions-hosted-apps-can-now-update-tls-versions/)

[versions/](#) **Question Set 2**

QUESTION 1

You have an Azure web app named webapp1.

You need to configure continuous deployment for webapp1 by using an Azure Repo.

What should you create first?

- A. an Azure Application Insights service
- B. an Azure DevOps organization
- C. an Azure Storage account
- D. an Azure DevTest Labs lab

Correct Answer: B

Section: [none]

Explanation

Explanation/Reference:

Explanation:

To use Azure Repos, make sure your Azure DevOps organization is linked to your Azure subscription.

Reference: <https://docs.microsoft.com/en-us/azure/app-service/deploy-continuous-deployment>

QUESTION 2

Your company has an Azure subscription named Sub1 that is associated to an Azure Active Directory (Azure AD) tenant named contoso.com.

The company develops an application named App1. App1 is registered in Azure AD.

You need to ensure that App1 can access secrets in Azure Key Vault on behalf of the application users.

What should you configure?

- A. an application permission without admin consent
- B. a delegated permission without admin consent
- C. a delegated permission that requires admin consent
- D. an application permission that requires admin consent

Correct Answer: B

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Delegated permissions - Your client application needs to access the web API as the signed-in user, but with access limited by the selected permission. This type of permission can be granted by a user unless the permission requires administrator consent.

Incorrect Answers:

A, D: Application permissions - Your client application needs to access the web API directly as itself (no user context). This type of permission requires administrator consent and is also not available for public (desktop and mobile) client applications.

References: <https://docs.microsoft.com/en-us/azure/active-directory/develop/quickstart-configure-app-access-web-apis>

QUESTION 3

Your company has an Azure subscription named Sub1 that is associated to an Azure Active Directory Azure (Azure AD) tenant named contoso.com.

The company develops a mobile application named App1. App1 uses the OAuth 2 implicit grant type to acquire Azure AD access tokens.

You need to register App1 in Azure AD.

What information should you obtain from the developer to register the application?

- A. a redirect URI
- B. a reply URL
- C. a key
- D. an application ID

Correct Answer: A

Section: [none]

Explanation

Explanation/Reference:

Explanation:

For Native Applications you need to provide a Redirect URI, which Azure AD will use to return token responses.

References: <https://docs.microsoft.com/en-us/azure/active-directory/develop/v1-protocols-oauth-code>

QUESTION 4

From the Azure portal, you are configuring an Azure policy.

You plan to assign policies that use the `DeployIfNotExist`, `AuditIfNotExist`, `Append`, and `Deny` effects.

Which effect requires a managed identity for the assignment?

- A. `AuditIfNotExist`
- B. `Append`
- C. `DeployIfNotExist`
- D. `Deny`

Correct Answer: C

Section: [none]

Explanation

Explanation/Reference:

Explanation:

When Azure Policy runs the template in the `deployIfNotExists` policy definition, it does so using a managed identity.

References: <https://docs.microsoft.com/bs-latn-ba/azure/governance/policy/how-to/remediate-resources>



QUESTION 5 HOTSPOT

You have an Azure subscription named Sub1 that is associated to an Azure Active Directory (Azure AD) tenant named contoso.com.

You plan to implement an application that will consist of the resources shown in the following table.

Name	Type	Description
CosmosDBAccount1	Azure Cosmos DB account	A Cosmos DB account containing a database named CosmosDB1 that serves as a back-end tier of the application
WebApp1	Azure web app	A web app configured to serve as the middle tier of the application

Users will authenticate by using their Azure AD user account and access the Cosmos DB account by using resource tokens.

You need to identify which tasks will be implemented in CosmosDB1 and WebApp1.

Which task should you identify for each resource? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

CosmosDB1:	<div style="border: 1px solid black; padding: 2px;"><div style="background-color: #f0f0f0; padding: 2px; display: flex; justify-content: space-between; align-items: center;">▼</div><div style="padding: 2px;"><p>Authenticate Azure AD users and generate resource tokens.</p><p>Authenticate Azure AD users and relay resource tokens.</p><p>Create database users and generate resource tokens.</p></div></div>
WebApp1:	<div style="border: 1px solid black; padding: 2px;"><div style="background-color: #f0f0f0; padding: 2px; display: flex; justify-content: space-between; align-items: center;">▼</div><div style="padding: 2px;"><p>Authenticate Azure AD users and generate resource tokens.</p><p>Authenticate Azure AD users and relay resource tokens.</p><p>Create database users and generate resource tokens.</p></div></div>

Correct Answer:

Answer Area

CosmosDB1: ▼

- Authenticate Azure AD users and generate resource tokens.
- Authenticate Azure AD users and relay resource tokens.
- Create database users and generate resource tokens.

WebApp1: ▼

- Authenticate Azure AD users and generate resource tokens.
- Authenticate Azure AD users and relay resource tokens.
- Create database users and generate resource tokens.

Section: [none]

Explanation

Explanation/Reference:

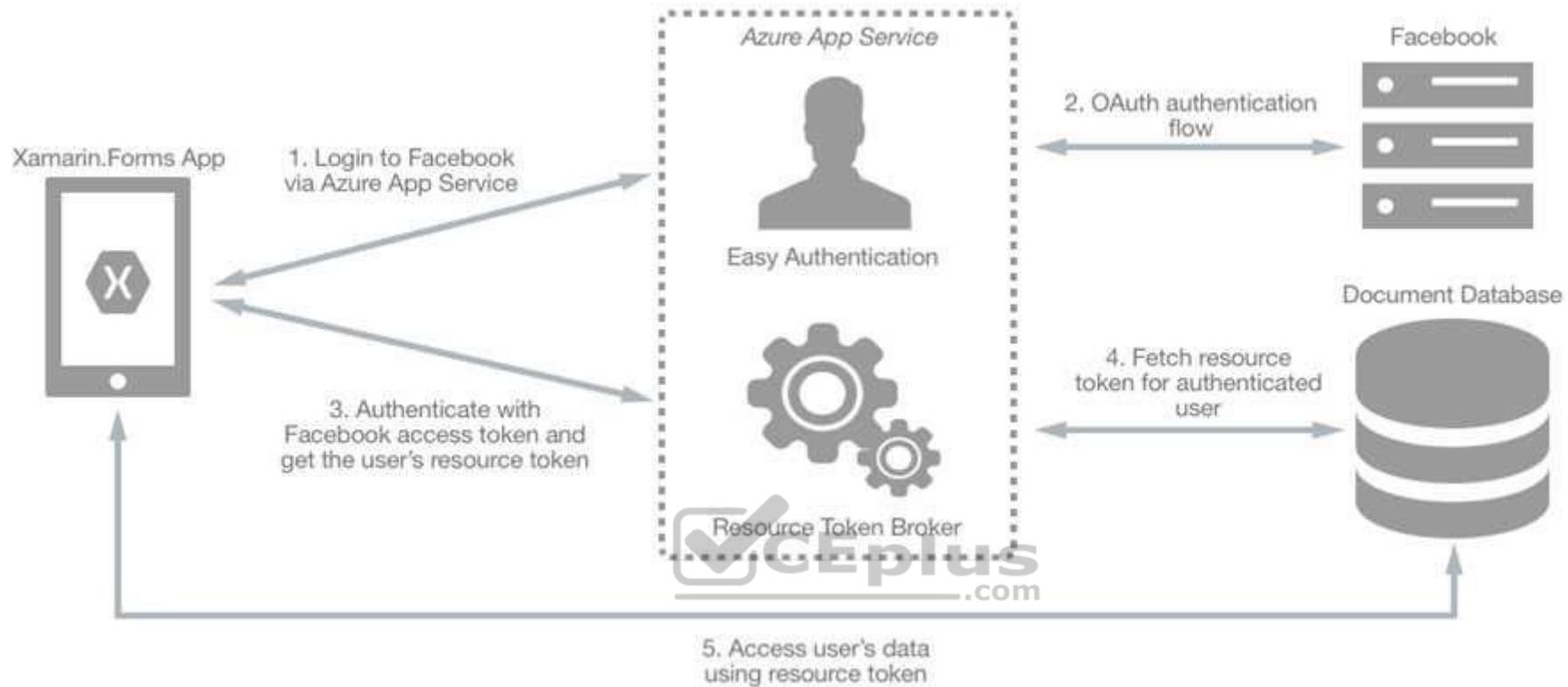
Explanation:

CosmosDB1: Create database users and generate resource tokens.

Azure Cosmos DB resource tokens provide a safe mechanism for allowing clients to read, write, and delete specific resources in an Azure Cosmos DB account according to the granted permissions.

WebApp1: Authenticate Azure AD users and relay resource tokens

A typical approach to requesting, generating, and delivering resource tokens to a mobile application is to use a resource token broker. The following diagram shows a high-level overview of how the sample application uses a resource token broker to manage access to the document database data:



References: <https://docs.microsoft.com/en-us/xamarin/xamarin-forms/data-cloud/cosmosdb/authentication>

QUESTION 6

You have an Azure subscription that contains an Azure key vault named Vault1.

In Vault1, you create a secret named Secret1.

An application developer registers an application in Azure Active Directory (Azure AD).

You need to ensure that the application can use Secret1.

What should you do?

- A. In Azure AD, create a role.
- B. In Azure Key Vault, create a key.
- C. In Azure Key Vault, create an access policy.
- D. In Azure AD, enable Azure AD Application Proxy.

Correct Answer: A

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Azure Key Vault provides a way to securely store credentials and other keys and secrets, but your code needs to authenticate to Key Vault to retrieve them. Managed identities for Azure resources overview makes solving this problem simpler, by giving Azure services an automatically managed identity in Azure Active Directory (Azure AD). You can use this identity to authenticate to any service that supports Azure AD authentication, including Key Vault, without having any credentials in your code.

Example: How a system-assigned managed identity works with an Azure VM

After the VM has an identity, use the service principal information to grant the VM access to Azure resources. To call Azure Resource Manager, use role-based access control (RBAC) in Azure AD to assign the appropriate role to the VM service principal. To call Key Vault, grant your code access to the specific secret or key in Key Vault.

References: <https://docs.microsoft.com/en-us/azure/key-vault/quick-create-net>

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

QUESTION 7

You have an Azure SQL database.

You implement Always Encrypted.

You need to ensure that application developers can retrieve and decrypt data in the database.

Which two pieces of information should you provide to the developers? Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point.

- A. a stored access policy
- B. a shared access signature (SAS)

- C. the column encryption key
- D. user credentials
- E. the column master key

Correct Answer: CE

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Always Encrypted uses two types of keys: column encryption keys and column master keys. A column encryption key is used to encrypt data in an encrypted column. A column master key is a key-protecting key that encrypts one or more column encryption keys.

References: <https://docs.microsoft.com/en-us/sql/relational-databases/security/encryption/always-encrypted-database-engine>

QUESTION 8

You have a hybrid configuration of Azure Active Directory (Azure AD).

All users have computers that run Windows 10 and are hybrid Azure AD joined.

You have an Azure SQL database that is configured to support Azure AD authentication.

Database developers must connect to the SQL database by using Microsoft SQL Server Management Studio (SSMS) and authenticate by using their on-premises Active Directory account.

You need to tell the developers which authentication method to use to connect to the SQL database from SSMS. The solution must minimize authentication prompts.

Which authentication method should you instruct the developers to use?

- A. SQL Login
- B. Active Directory – Universal with MFA support
- C. Active Directory – Integrated
- D. Active Directory – Password

Correct Answer: C

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Azure AD can be the initial Azure AD managed domain. Azure AD can also be an on-premises Active Directory Domain Services that is federated with the Azure AD.

Using an Azure AD identity to connect using SSMS or SSDT

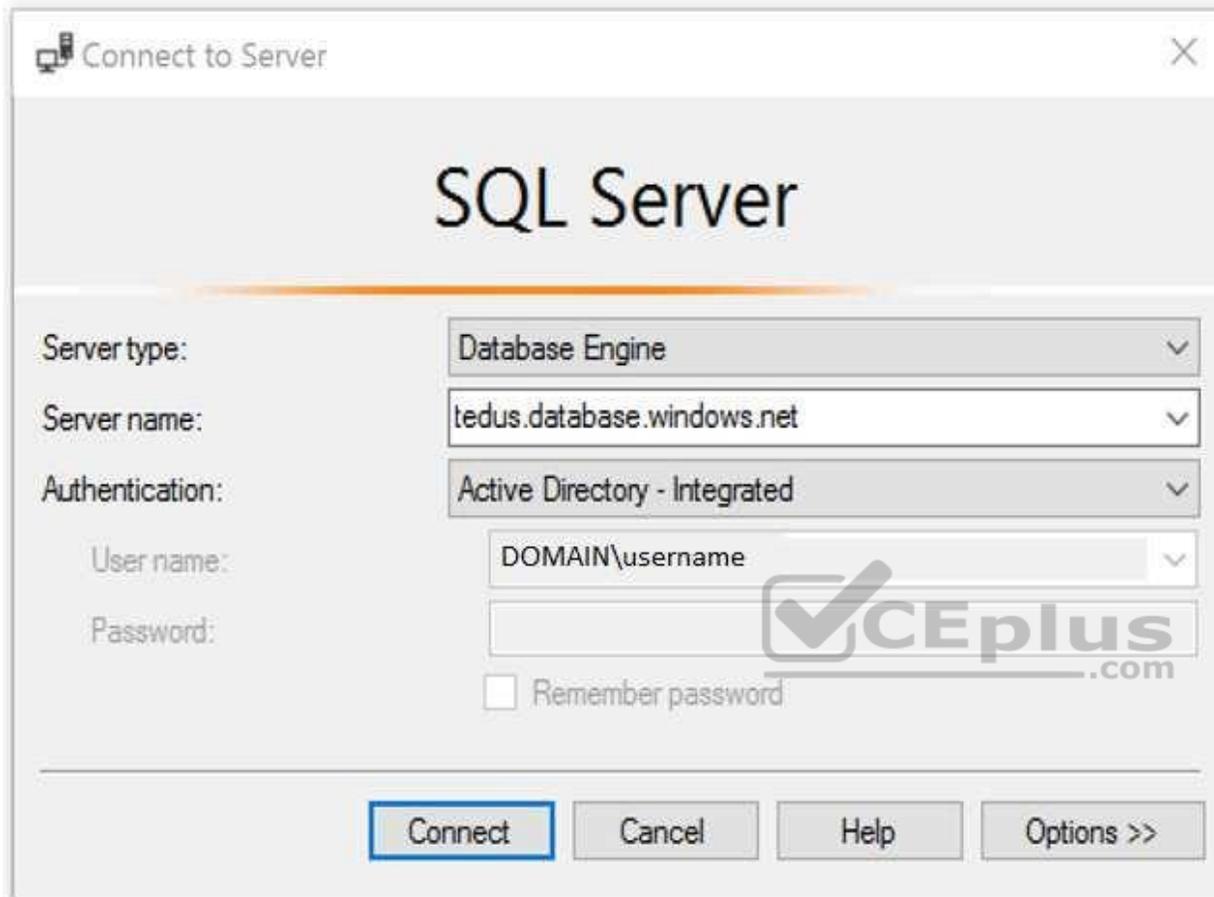
The following procedures show you how to connect to a SQL database with an Azure AD identity using SQL Server Management Studio or SQL Server Database Tools.

Active Directory integrated authentication

Use this method if you are logged in to Windows using your Azure Active Directory credentials from a federated domain.

1. Start Management Studio or Data Tools and in the Connect to Server (or Connect to Database Engine) dialog box, in the Authentication box, select Active Directory - Integrated. No password is needed or can be entered because your existing credentials will be presented for the connection.





2. Select the Options button, and on the Connection Properties page, in the Connect to database box, type the name of the user database you want to connect to. (The AD domain name or tenant ID" option is only supported for Universal with MFA connection options, otherwise it is greyed out.)

References: <https://github.com/MicrosoftDocs/azure-docs/blob/master/articles/sql-database/sql-database-aad-authentication-configure.md>

QUESTION 9 DRAG DROP

You have an Azure subscription named Sub1 that contains an Azure Storage account named Contosostorage1 and an Azure key vault named Contosokeyvault1.

You plan to create an Azure Automation runbook that will rotate the keys of Contosostorage1 and store them in Contosokeyvault1.

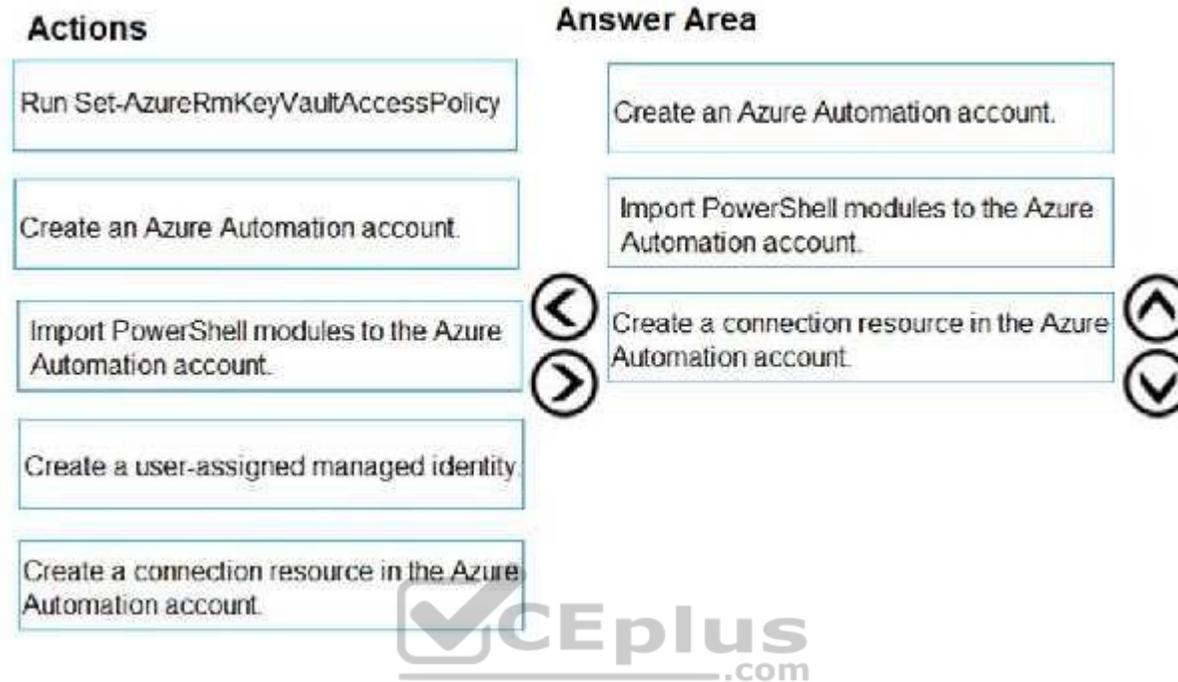
You need to implement prerequisites to ensure that you can implement the runbook.

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
Run Set-AzureRmKeyVaultAccessPolicy	
Create an Azure Automation account.	
Import PowerShell modules to the Azure Automation account.	⬅️ ⬆️
Create a user-assigned managed identity.	➡️ ⬇️
Create a connection resource in the Azure Automation account.	

Correct Answer:



Section: [none]

Explanation

Explanation/Reference:

Explanation:

Step 1: Create an Azure Automation account

Runbooks live within the Azure Automation account and can execute PowerShell scripts.

Step 2: Import PowerShell modules to the Azure Automation account

Under 'Assets' from the Azure Automation account Resources section select 'to add in Modules to the runbook. To execute key vault cmdlets in the runbook, we need to add AzureRM.profile and AzureRM.key vault.

Step 3: Create a connection resource in the Azure Automation account

You can use the sample code below, taken from the AzureAutomationTutorialScript example runbook, to authenticate using the Run As account to manage Resource Manager resources with your runbooks. The AzureRunAsConnection is a connection asset automatically created when we created 'run as accounts' above. This can be found under Assets -> Connections. After the authentication code, run the same code above to get all the keys from the vault.

```
$connectionName = "AzureRunAsConnection"
```

```
try
{
  # Get the connection "AzureRunAsConnection "
  $servicePrincipalConnection=Get-AutomationConnection -Name $connectionName

  "Logging in to Azure..."
  Add-AzureRmAccount `
    -ServicePrincipal `
    -TenantId $servicePrincipalConnection.TenantId `
    -ApplicationId $servicePrincipalConnection.ApplicationId `
    -CertificateThumbprint $servicePrincipalConnection.CertificateThumbprint
}
```

References: <https://www.rahulnath.com/blog/accessing-azure-key-vault-from-azure-runbook/>

QUESTION 10

You have an Azure SQL Database server named SQL1.

You turn on Advanced Threat Protection for SQL1 to detect all threat detection types.

Which action will Advanced Threat Protection detect as a threat?

- A. A user updates more than 50 percent of the records in a table.
- B. A user attempts to sign in as `SELECT * FROM table1`.
- C. A user is added to the `db_owner` database role.
- D. A user deletes more than 100 records from the same table.

Correct Answer: B

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Advanced Threat Protection can detect potential SQL injections: This alert is triggered when an active exploit happens against an identified application vulnerability to SQL injection. This means the attacker is trying to inject malicious SQL statements using the vulnerable application code or stored procedures.

References:

<https://docs.microsoft.com/en-us/azure/sql-database/sql-database-threat-detection-overview>

QUESTION 11

Your company uses Azure DevOps.

You need to recommend a method to validate whether the code meets the company's quality standards and code review standards.

What should you recommend implementing in Azure DevOps?

- A. branch folders
- B. branch permissions
- C. branch policies
- D. branch locking

Correct Answer: C

Section: [none]

Explanation

Explanation/Reference:

Explanation:

Branch policies help teams protect their important branches of development. Policies enforce your team's code quality and change management standards.

References: <https://docs.microsoft.com/en-us/azure/devops/repos/git/branch-policies?view=azure-devops&viewFallbackFrom=vsts>

QUESTION 12

You have an Azure subscription that contains a virtual machine named VM1.

You create an Azure key vault that has the following configurations:

- Name: Vault5
- Region: West US
- Resource group: RG1

You need to use Vault5 to enable Azure Disk Encryption on VM1. The solution must support backing up VM1 by using Azure Backup.

Which key vault settings should you configure?

- A. Access policies
- B. Secrets
- C. Keys
- D. Locks

Correct Answer: A

Section: [none]

Explanation

Explanation/Reference:

References: <https://docs.microsoft.com/en-us/azure/key-vault/key-vault-secure-your-key-vault>

QUESTION 13

You have an Azure subscription named Sub1 that contains the Azure key vaults shown in the following table:

Name	Region	Resource group
Vault1	West Europe	RG1
Vault2	East US	RG1
Vault3	West Europe	RG2
Vault4	East US	RG2

In Sub1, you create a virtual machine that has the following configurations:

- Name: VM1
- Size: DS2v2
- Resource group: RG1
- Region: West Europe
- Operating system: Windows Server 2016

You plan to enable Azure Disk Encryption on VM1.

In which key vaults can you store the encryption key for VM1?

- A. Vault1 or Vault3 only
- B. Vault1, Vault2, Vault3, or Vault4
- C. Vault1 only
- D. Vault1 or Vault2 only

Correct Answer: A

Section: [none]

Explanation

Explanation/Reference:

Explanation:

In order to make sure the encryption secrets don't cross regional boundaries, Azure Disk Encryption needs the Key Vault and the VMs to be co-located in the same region. Create and use a Key Vault that is in the same region as the VM to be encrypted.

Reference: <https://docs.microsoft.com/en-us/azure/security/azure-security-disk-encryption-prerequisites>



<https://vceplus.com/>

