

# Microsoft

## Exam Questions az-500

Microsoft Azure Security Technologies



**NEW 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 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 (SAs) 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 new stored access policy. Does this meet the goal?

- A. Yes
- B. No

**Answer:** A

**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 effects all of the shared access signatures associated with it.

References:

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

**NEW 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)

**Answer:** B

**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>

**NEW QUESTION 3**

DRAG DROP

You are implementing conditional access policies.

You must evaluate the existing Azure Active Directory (Azure AD) risk events and risk levels to configure and implement the policies. You need to identify the risk level of the following risk events:

- Users with leaked credentials
- Impossible travel to atypical locations
- Sign ins from IP addresses with suspicious activity

Which level should you identify for each risk event? To answer, drag the appropriate levels to the correct risk events. Each level may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.

NOTE: Each correct selection is worth one point.

Select and Place:

Levels	Answer Area
High	Impossible travel to atypical locations: <input type="text"/>
Low	Users with leaked credentials: <input type="text"/>
Medium	Sign ins from IP addresses with suspicious activity: <input type="text"/>

- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

- Azure AD Identity protection can detect six types of suspicious sign-in activities: Users with leaked credentials
- Sign-ins from anonymous IP addresses Impossible travel to atypical locations
- Sign-ins from infected devices
- Sign-ins from IP addresses with suspicious activity Sign-ins from unfamiliar locations

These six types of events are categorized in to 3 levels of risks – High, Medium & Low:

Sign-in Activity	Risk Level
Users with leaked credentials	High
Sign-ins from anonymous IP addresses	Medium
Impossible travel to atypical locations	Medium
Sign-ins from infected devices	Medium
Sign-ins from IP addresses with suspicious activity	Low
Sign-ins from unfamiliar locations	Medium

References:

<http://www.rebeladmin.com/2018/09/step-step-guide-configure-risk-based-azure-conditional-access-policies/>

**NEW QUESTION 4**

**HOTSPOT**

You have an Azure Active Directory (Azure AD) tenant named contoso.com that contains the users shown in the following table.

Name	Member of	Mobile phone	Multi-factor authentication (MFA) status
User1	Group1	123 555 7890	Disabled
User2	Group1, Group2	None	Enabled
User3	Group1	123 555 7891	Required

You create and enforce an Azure AD Identity Protection user risk policy that has the following settings:

- Assignment: Include Group1, Exclude Group2 Conditions: Sign-in risk of Medium and above Access: Allow access, Require password change
- 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**

Statements	Yes	No
If User1 signs in from an unfamiliar location, he must change his password.	<input type="radio"/>	<input type="radio"/>
If User2 signs in from an anonymous IP address, she must change her password.	<input type="radio"/>	<input type="radio"/>
If User3 signs in from a computer containing malware that is communicating with known bot servers, he must change his password.	<input type="radio"/>	<input type="radio"/>

- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

- Box 1: Yes  
User1 is member of Group1. Sign in from unfamiliar location is risk level Medium.
- Box 2: Yes  
User2 is member of Group1. Sign in from anonymous IP address is risk level Medium.
- Box 3: No  
Sign-ins from IP addresses with suspicious activity is low.

Note:

Sign-in Activity	Risk Level
Users with leaked credentials	High
Sign-ins from anonymous IP addresses	Medium
Impossible travel to atypical locations	Medium
Sign-ins from infected devices	Medium
Sign-ins from IP addresses with suspicious activity	Low
Sign-ins from unfamiliar locations	Medium

- Azure AD Identity protection can detect six types of suspicious sign-in activities: Users with leaked credentials
  - Sign-ins from anonymous IP addresses Impossible travel to atypical locations Sign-ins from infected devices
  - Sign-ins from IP addresses with suspicious activity Sign-ins from unfamiliar locations
- These six types of events are categorized in to 3 levels of risks – High, Medium & Low: References:  
<http://www.rebeladmin.com/2018/09/step-step-guide-configure-risk-based-azure-conditional-access-policies/>

**NEW QUESTION 5**

HOTSPOT

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

Name	Role	Sign in frequency
User1	Password administrator	Sign in every work day
User2	Password administrator	Sign in bi-weekly
User3	Global administrator, Password administrator	Signs in every month

You configure an access review named Review1 as shown in the following exhibit.

Use the drop-down menus to select the answer choice that completes each statement based on the information presented in the graphic.

NOTE: Each correct selection is worth one point.

Hot Area:

**Answer Area**

User3 can perform Review1 for

▼

User3 only

User1 and User2 only

User1, User2, and User3

If User2 fails to complete Review1 by March 20, 2019

▼

The Password administrator role will be revoked from User2

User2 will retain the Password administrator role

User3 will receive a confirmation request

- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

Box 1: User3 only

Use the Members (self) option to have the users review their own role assignments.

Box 2: User3 will receive a confirmation request

Use the Should reviewer not respond list to specify what happens for users that are not reviewed by the reviewer within the review period. This setting does not impact users who have been reviewed by the reviewers manually. If the final reviewer's decision is Deny, then the user's access will be removed.

No change - Leave user's access unchanged Remove access - Remove user's access Approve access - Approve user's access

Take recommendations - Take the system's recommendation on denying or approving the user's continued access

References:

<https://docs.microsoft.com/bs-latn-ba/azure/active-directory/privileged-identity-management/pim-how-to-start-security-review>

**NEW QUESTION 6**

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

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.  Yes       No
- If User2 signs in to Azure from a device in the Seattle office, User2 must be authenticated by using the Microsoft Authenticator app.  Yes       No
- If User2 signs in to Azure from a device in the New York office, User1 must be authenticated by using a phone  Yes       No

- A. Mastered
- B. Not Mastered

**Answer: A**

**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/>

**NEW QUESTION 7**

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 Blueprints
- C. Azure AD Privileged Identity Management (PIM)
- D. Azure Policy

**Answer: C**

**Explanation:**

The Azure AD Privileged Identity Management (PIM) service also allows Privileged Role Administrators to make permanent admin role assignments.

References:

<https://docs.microsoft.com/en-us/azure/active-directory/privileged-identity-management/pim-how-to-add-role-to-user>

**NEW QUESTION 8**

**HOTSPOT**

You have an Azure Container Registry named Registry1.

You add role assignment for Registry1 as shown in the following table.

User	Role
User1	AcrPush
User2	AcrPull
User3	AcrImageSigner
User4	Contributor

Which users can upload images to Registry1 and download images from Registry1? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

## Answer Area

Upload images:  ▼

User1 only
User1 and User4 only
User1, User3, and User4
User1, User2, User3, and User4

Download images:  ▼

User2 only
User1 and User2 only
User2 ad User4 only
User1, User2, and User4
User1, User2, User3, and User4

- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

Box 1: User1 and User4 only  
 Owner, Contributor and AcrPush can push images.  
 Box 2: User1, User2, and User4  
 All, except AcrImageSigner, can download/pull images.

Role/Permission	Access Resource Manager	Create/delete registry	Push image	Pull image	Delete image data	Change policies	Sign images
Owner	X	X	X	X	X	X	
Contributor	X	X	X	X	X	X	
Reader	X			X			
AcrPush			X	X			
AcrPull				X			
AcrDelete					X		
AcrImageSigner							X

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

**NEW QUESTION 9**

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.

**Answer:** BE

**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 name that points to the A record

E: To map a custom DNS name to a web app, the web app's App Service plan must be a paid tier (Shared, Basic, Standard, Premium or Consumption for Azure Functions). I

Scale up the App Service plan: Select any of the non-free tiers (D1, B1, B2, B3, or any tier in the Production category). References:

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

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.

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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 <a href="https://litwareinc.com">https://litwareinc.com</a> and <a href="http://www.litwareinc.com">http://www.litwareinc.com</a> .
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

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.

**NEW QUESTION 10**

You need to ensure that users can access VM0. The solution must meet the platform protection requirements. What should you do?

- A. Move VM0 to Subnet1.
- B. On Firewall, configure a network traffic filtering rule.
- C. Assign RT1 to AzureFirewallSubnet.
- D. On Firewall, configure a DNAT rule.

**Answer:** A

**Explanation:**

Azure Firewall has the following known issue:

Conflict with Azure Security Center (ASC) Just-in-Time (JIT) feature.

If a virtual machine is accessed using JIT, and is in a subnet with a user-defined route that points to Azure Firewall as a default gateway, ASC JIT doesn't work. This is a result of asymmetric routing – a packet comes in via the virtual machine public IP (JIT opened the access), but the return path is via the firewall, which drops the packet because there is no established session on the firewall.

Solution: To work around this issue, place the JIT virtual machines on a separate subnet that doesn't have a user-defined route to the firewall. Scenario:

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.
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Following the implementation of the planned changes, the IT team must be able to connect to VM0 by using JIT VM access.

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.

References:

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

Testlet 2

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Overview

Contoso, Ltd. is a consulting company that has a main office in Montreal and two branch offices in Seattle and New York. The company hosts its entire server infrastructure in Azure.

Contoso has two Azure subscriptions named Sub1 and Sub2. Both subscriptions are associated to an Azure Active Directory (Azure AD) tenant named contoso.com.

Technical requirements

Contoso identifies the following technical requirements:

- \_ Deploy Azure Firewall to VNetWork1 in Sub2. Register an application named App2 in contoso.com.
- \_ Whenever possible, use the principle of least privilege.
- \_ Enable Azure AD Privileged Identity Management (PIM) for contoso.com

Existing Environment Azure AD

Contoso.com contains the users shown in the following table.

Name	City	Role
User1	Montreal	Global administrator
User2	MONTREAL	Security administrator
User3	London	Privileged role administrator
User4	Ontario	Application administrator
User5	Seattle	Cloud application administrator
User6	Seattle	User administrator
User7	Sydney	Reports reader
User8	Sydney	None

Contoso.com contains the security groups shown in the following table.

Name	Membership type	Dynamic membership rule
Group1	Dynamic user	user.city -contains "ON"
Group2	Dynamic user	user.city -match "*on"

Sub1

Sub1 contains six resource groups named RG1, RG2, RG3, RG4, RG5, and RG6. User2 creates the virtual networks shown in the following table.

Name	Resource group
VNET1	RG1
VNET2	RG2
VNET3	RG3
VNET4	RG4

Sub1 contains the locks shown in the following table.

Name	Set on	Lock type
Lock1	RG1	Delete
Lock2	RG2	Read-only
Lock3	RG3	Delete
Lock4	RG3	Read-only

Sub1 contains the Azure policies shown in the following table.

Policy definition	Resource type	Scope
Allowed resource types	networkSecurityGroups	RG4
Not allowed resource types	virtualNetworks/subnets	RG5
Not allowed resource types	networksSecurityGroups	RG5
Not allowed resource types	virtualNetworks/virtualNetworkPeerings	RG6

Sub2

Sub2 contains the network security groups (NSGs) shown in the following table.

Name	Associated to
NSG1	NIC2
NSG2	Subnet1.1
NSG3	Subnet1.3
NSG4	Subnet2.1

NSG1 has the inbound security rules shown in the following table.

Priority	Port	Protocol	Source	Destination	Action
65000	Any	Any	VirtualNetwork	VirtualNetwork	Allow
65001	Any	Any	AzureLoadBalancer	Any	Allow
65500	Any	Any	Any	Any	Deny

NSG2 has the inbound security rules shown in the following table.

Priority	Port	Protocol	Source	Destination	Action
100	80	TCP	Internet	VirtualNetwork	Allow
65000	Any	Any	VirtualNetwork	VirtualNetwork	Allow
65001	Any	Any	AzureLoadBalancer	Any	Allow
65500	Any	Any	Any	Any	Deny

NSG3 has the inbound security rules shown in the following table.

Priority	Port	Protocol	Source	Destination	Action
100	Any	TCP	ASG1	ASG1	Allow
150	Any	Any	ASG2	VirtualNetwork	Allow
200	Any	Any	Any	Any	Deny
65000	Any	Any	VirtualNetwork	VirtualNetwork	Allow
65001	Any	Any	AzureLoadBalancer	Any	Allow
65500	Any	Any	Any	Any	Deny

NSG4 has the inbound security rules shown in the following table.

Priority	Port	Protocol	Source	Destination	Action
100	Any	Any	Any	Any	Allow
65000	Any	Any	VirtualNetwork	VirtualNetwork	Allow
65001	Any	Any	AzureLoadBalancer	Any	Allow
65500	Any	Any	Any	Any	Deny

NSG1, NSG2, NSG3, and NSG4 have the outbound security rules shown in the following table.

Priority	Port	Protocol	Source	Destination	Action
65000	Any	Any	VirtualNetwork	VirtualNetwork	Allow
65001	Any	Any	Any	Internet	Allow
65500	Any	Any	Any	Any	Deny

Contoso identifies the following technical requirements:

- \_ Deploy Azure Firewall to VNetwork1 in Sub2. Register an application named App2 in contoso.com.
- \_ Whenever possible, use the principle of least privilege.
- \_ Enable Azure AD Privileged Identity Management (PIM) for contoso.com.

**NEW QUESTION 10**

HOTSPOT

What is the membership of Group1 and Group2? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

## Answer Area

Group1:  ▼

No members
Only User2
Only User2 and User4
User1, User2, User3, and User4

Group2:  ▼

No members
Only User3
Only User1 and User3
User1, User2, User3, and User4

- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

Box 1: User1, User2, User3, User4

Contains "ON" is true for Montreal (User1), MONTREAL (User2), London (User 3), and Ontario (User4) as string and regex operations are not case sensitive.

Box 2: Only User3

Match "\*on" is only true for London (User3).

Scenario:

Contoso.com contains the users shown in the following table.

Name	City	Role
User1	Montreal	Global administrator
User2	MONTREAL	Security administrator
User3	London	Privileged role administrator
User4	Ontario	Application administrator
User5	Seattle	Cloud application administrator
User6	Seattle	User administrator
User7	Sydney	Reports reader
User8	Sydney	None

Contoso.com contains the security groups shown in the following table.

Name	Membership type	Dynamic membership rule
Group1	Dynamic user	user.city -contains "ON"
Group2	Dynamic user	user.city -match "*on"

References:

<https://docs.microsoft.com/en-us/azure/active-directory/users-groups-roles/groups-dynamic-membership>

**NEW QUESTION 15**

HOTSPOT

You are evaluating the security of the network communication between the virtual machines in Sub2. 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**

Statements	Yes	No
From VM1, you can successfully ping the public IP address of VM2.	<input type="radio"/>	<input type="radio"/>
From VM1, you can successfully ping the private IP address of VM3.	<input type="radio"/>	<input type="radio"/>
From VM1, you can successfully ping the public IP address of VM5.	<input type="radio"/>	<input type="radio"/>

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Box 1: Yes

NSG1 has the inbound security rules shown in the following table.

Priority	Port	Protocol	Source	Destination	Action
65000	Any	Any	VirtualNetwork	VirtualNetwork	Allow
65001	Any	Any	AzureLoadBalancer	Any	Allow
65500	Any	Any	Any	Any	Deny

NSG2 has the inbound security rules shown in the following table.

Priority	Port	Protocol	Source	Destination	Action
100	80	TCP	Internet	VirtualNetwork	Allow
65000	Any	Any	VirtualNetwork	VirtualNetwork	Allow
65001	Any	Any	AzureLoadBalancer	Any	Allow
65500	Any	Any	Any	Any	Deny

Box 2: Yes

Box 3: No Note:

Sub2 contains the virtual machines shown in the following table.

Name	Network interface	Application security group	Connected to
VM1	NIC1	ASG1	Subnet1.1
VM2	NIC2	ASG2	Subnet1.1
VM3	NIC3	None	Subnet1.2
VM4	NIC4	ASG1	Subnet1.3
VM5	NIC5	None	Subnet2.1

Name	Subnet
VNetwork1	Subnet1.1, Subnet1.2 and Subent1.3
VNetwork2	Subnet2.1

Sub2 contains the network security groups (NSGs) shown in the following table.

Name	Associated to
NSG1	NIC2
NSG2	Subnet1.1
NSG3	Subnet1.3
NSG4	Subnet2.1

Question Set 3

**NEW QUESTION 16**

**HOTSPOT**

You have an Azure subscription. The subscription contains Azure virtual machines that run Windows Server 2016.

You need to implement a policy to ensure that each virtual machine has a custom antimalware virtual machine extension installed. How should you complete the policy? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

**Answer Area**

```

{
  "if": {
    "allOf": [
      {
        "field": "type",
        "equals": "Microsoft.Compute/virtualMachines"
      },
      {
        "field": "Microsoft.Compute/imagesSKU",
        "equals": "2016-Datacenter"
      }
    ]
  },
  "then": {
    "effect": "
    

Append
      Deny
      DeployIfNotExists


",
    "details": {
      "type": "Microsoft.GuestConfiguration/questConfigurationAssignments",
      "roleDefinitionsIds": [
        "/providers/microsoft.authorization/roleDefinitions/12345678-1234-5678-abcd-012345678910"
      ],
      "name": "customExtension",
      "deployment": {
        "properties": {
          "mode": "incremental",
          "parameters": {
            "
            

existenceCondition
              resources
              template


": [

```

- A. Mastered
- B. Not Mastered

**Answer: A**

**Explanation:**

Box 1: DeployIfNotExists

DeployIfNotExists executes a template deployment when the condition is met.

Box 2: Template

The details property of the DeployIfNotExists effects has all the subproperties that define the related resources to match and the template deployment to execute.

Deployment [required]

This property should include the full template deployment as it would be passed to the Microsoft.Resources/deployment References:

<https://docs.microsoft.com/en-us/azure/governance/policy/concepts/effects>

**NEW QUESTION 21**

**HOTSPOT**

You have an Azure key vault.

You need to delegate administrative access to the key vault to meet the following requirements:

- Provide a user named User1 with the ability to set advanced access policies for the key vault. Provide a user named User2 with the ability to add and delete certificates in the key vault. Use the principle of least privilege.

What should you use to assign access to each user? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

## Answer Area

User1:  ▼

A key vault access policy
Azure Information Protection
Azure Policy
Managed identities for Azure resources
RBAC

User2:  ▼

A key vault access policy
Azure Information Protection
Azure Policy
Managed identities for Azure resources
RBAC

- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

User1: RBAC

- \_ RBAC is used as the Key Vault access control mechanism for the management plane. It would allow a user with the proper identity to: set Key Vault access policies
- \_ create, read, update, and delete key vaults set Key Vault tags

Note: Role-based access control (RBAC) is a system that provides fine-grained access management of Azure resources. Using RBAC, you can segregate duties within your team and grant only the amount of access to users that they need to perform their jobs.

User2: A key vault access policy

A key vault access policy is the access control mechanism to get access to the key vault data plane. Key Vault access policies grant permissions separately to keys, secrets, and certificates.

References:

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

**NEW QUESTION 26**

HOTSPOT

You have two Azure virtual machines in the East US2 region as shown in the following table.

Name	Operating system	Type	Tier
VM1	Windows Server 2008 R2	A3	Basic
VM2	Ubuntu 16.04-DAILY-LTS	L4s	Standard

You deploy and configure an Azure Key vault.

You need to ensure that you can enable Azure Disk Encryption on VM1 and VM2.

What should you modify on each virtual machine? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

## Answer Area

VM1: 

	▼
The operating system version	
The tier	
The type	

VM2: 

	▼
The operating system version	
The tier	
The type	

- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

VM1: The Tier

The Tier needs to be upgraded to standard.

Disk Encryption for Windows and Linux IaaS VMs is in General Availability in all Azure public regions and Azure Government regions for Standard VMs and VMs with Azure Premium Storage.

VM2: The type

Need to change the VMtype to any of A, D, DS, G, GS, F, and so on, series IaaS VMs.

Not the operating system version: Ubuntu 16.04 is supported. References:

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

[https://docs.microsoft.com/en-us/azure/security/azure-security-disk-encryption-faq#bkmk\\_LinuxOSSupport](https://docs.microsoft.com/en-us/azure/security/azure-security-disk-encryption-faq#bkmk_LinuxOSSupport)

**NEW QUESTION 30**

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.
- D. Modify the Security Center workspace configuration.

**Answer:** C

**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 3

**NEW QUESTION 32**

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

**Answer:** D

**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>

**NEW QUESTION 33**

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

**Answer: C**

**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>

**NEW QUESTION 37**

**HOTSPOT**

You need to create Role1 to meet the platform protection requirements. How should you complete the role definition of Role1? To answer, select the appropriate options in the answer area. NOTE: Each correct selection is worth one point. Hot Area:

**Answer Area**

```
(
  "Name" | "Role1",
  "Id" | "11111111-1111-1111-1111-111111111111",
  "IsCustom" : true,
  "Description": "VM storage operator"
  "Actions" : [
    [
      "Microsoft.Compute/
      Microsoft.Resources/
      Microsoft.Storage/
    ],
    "NotActions": [
      ],
    "AssignableScopes" : [
      ]
  ]
}
```

	▼
"Microsoft.Compute/	
"Microsoft.Resources/	
"Microsoft.Storage/	

	▼
disks/*,	
storageAccounts/*,	
virtualMachines/disks/*,	

- A. Mastered
- B. Not Mastered

**Answer: A**

**Explanation:**

Scenario: 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.

Azure RBAC template managed disks "Microsoft.Storage/" References: <https://blogs.msdn.microsoft.com/azureedu/2017/02/11/new-managed-disk-storage-option-for-your-azure-vms/>

**NEW QUESTION 41**

**DRAG DROP**

You need to configure SQLDB1 to meet the data and application requirements.

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

Actions	Answer Area
From the Azure portal, create an Azure AD administrator for LitwareSQLServer1.	
In SQLDB1, create contained database users.	
Connect to SQLDB1 by using Microsoft SQL Server Management Studio (SSMS).	<div style="display: flex; justify-content: space-around;"> <span>⬅</span> <span>⬆</span> </div>
In Azure AD, create a system-assigned managed identity.	
In Azure AD, create a user-assigned managed identity.	

- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

Step 1: Connect to SQLDB1 by using Microsoft SQL Server Management Studio (SSMS)

Step 2: In SQLDB1, create contained database users.

Create a contained user in the database that represents the VM's system-assigned identity.

Step 3: In Azure AD, create a system-assigned managed identity.

A system-assigned identity for a Windows virtual machine (VM) can be used to access an Azure SQL server. Managed Service Identities are automatically managed by Azure and enable you to authenticate to services that support Azure AD authentication, without needing to insert credentials into your code.

References:

<https://docs.microsoft.com/en-us/azure/active-directory/managed-identities-azure-resources/tutorial-windows-vm-access-sql>

Question Set 2

**NEW QUESTION 42**

DRAG DROP

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

The company is developing an application named App1. App1 will run as a service on server that runs Windows Server 2016. App1 will authenticate to contoso.com and access Microsoft Graph to read directory data.

You need to delegate the minimum required permissions to App1.

Which three actions should you perform in sequence from the Azure portal? 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
Grant permissions	
Add a delegated permission.	
Configure Azure AD Application Proxy.	<div style="display: flex; justify-content: space-around;"> <span>⬅</span> <span>⬆</span> </div>
Add an application permission.	<div style="display: flex; justify-content: space-around;"> <span>➡</span> <span>⬇</span> </div>
Create an app registration.	

- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

Step 1: Create an app registration

First the application must be created/registered.

Step 2: Add an application permission

Application permissions are used by apps that run without a signed-in user present.

Step 3: Grant permissions

Incorrect Answers: Delegated permission

Delegated permissions are used by apps that have a signed-in user present.

Application Proxy:

Azure Active Directory's Application Proxy provides secure remote access to on-premises web applications.

References:

<https://docs.microsoft.com/en-us/azure/active-directory/develop/v2-permissions-and-consent>

**NEW QUESTION 46**

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

**Answer: C**

**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>

**NEW QUESTION 48**

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:  ▼

- 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.

- A. Mastered
- B. Not Mastered

**Answer: A**

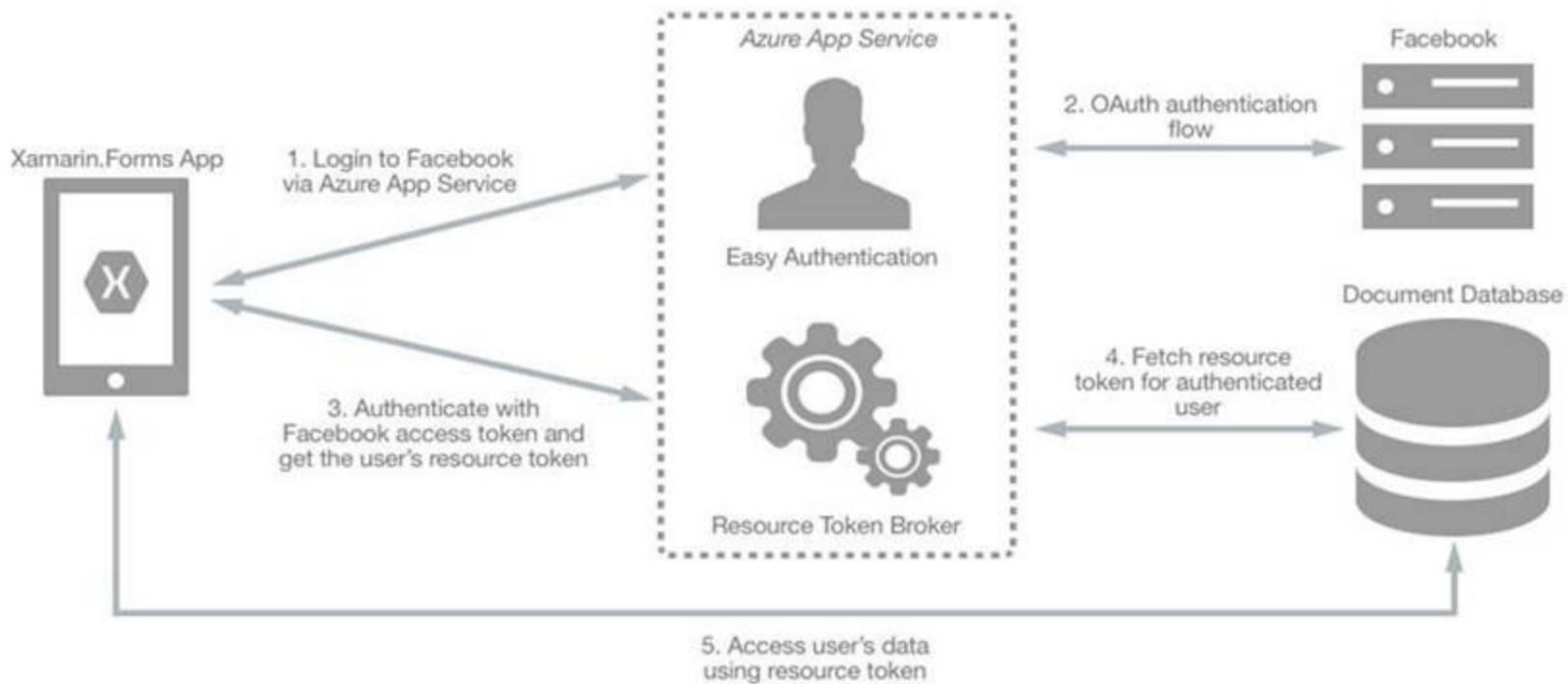
**Explanation:**

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>

**NEW QUESTION 50**

**HOTSPOT**

You need to create an Azure key vault. The solution must ensure that any object deleted from the key vault be retained for 90 days. How should you complete the command? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

**Answer Area**

```
New-AzureRmKeyVault -VaultName 'KeyVault1' -ResourceGroupName 'RG1'
```

**-Location 'East US'**

-EnabledForDeployment	-Confirm
-EnablePurgeProtection	-DefaultProfile
-Tag	-EnableSoftDelete
	-SKU

- A. Mastered
- B. Not Mastered

**Answer: A**

**Explanation:**

Box 1: -EnablePurgeProtection

If specified, protection against immediate deletion is enabled for this vault; requires soft delete to be enabled as well.

Box 2: -EnableSoftDelete

Specifies that the soft-delete functionality is enabled for this key vault. When soft-delete is enabled, for a grace period, you can recover this key vault and its contents after it is deleted.

References:

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

**NEW QUESTION 52**

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.

**Answer: A**

**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>

**NEW QUESTION 53**

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

**Answer:** CE

**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>

**NEW QUESTION 58**

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.	⬆️
	⬇️

- A. Mastered
- B. Not Mastered

**Answer:** A

**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/>

**NEW QUESTION 61**

You have an Azure SQL Database server named SQL1.

You plan to 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 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.

**Answer: B**

**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>

**NEW QUESTION 64**

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