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**AZ-104**

**Microsoft Azure Administrator (beta)**

**Version 3.0**

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## Manage Azure identities and governance

### 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 an Azure subscription that contains the following users in an Azure Active Directory tenant named contoso.onmicrosoft.com:

Name	Role	Scope
User1	Global administrator	Azure Active Directory
User2	Global administrator	Azure Active Directory
User3	User administrator	Azure Active Directory
User4	Owner	Azure Subscription

User1 creates a new Azure Active Directory tenant named external.contoso.onmicrosoft.com.

You need to create new user accounts in external.contoso.onmicrosoft.com.

Solution: You instruct User2 to create the user accounts.

Does that meet the goal?

- A. Yes
- B. No

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Only a global administrator can add users to this tenant.

Reference:

<https://docs.microsoft.com/en-us/azure/devops/organizations/accounts/add-users-to-azure-ad>

#### QUESTION 2

**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 an Azure subscription that contains the following users in an Azure Active Directory tenant named contoso.onmicrosoft.com:

Name	Role	Scope
User1	Global administrator	Azure Active Directory
User2	Global administrator	Azure Active Directory
User3	User administrator	Azure Active Directory
User4	Owner	Azure Subscription

User1 creates a new Azure Active Directory tenant named external.contoso.onmicrosoft.com.

You need to create new user accounts in external.contoso.onmicrosoft.com.

Solution: You instruct User4 to create the user accounts.

Does that meet the goal?

- A. Yes
- B. No

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Only a global administrator can add users to this tenant.

Reference:

<https://docs.microsoft.com/en-us/azure/devops/organizations/accounts/add-users-to-azure-ad>

### QUESTION 3

**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 an Azure subscription that contains the following users in an Azure Active Directory tenant named contoso.onmicrosoft.com:

Name	Role	Scope
User1	Global administrator	Azure Active Directory
User2	Global administrator	Azure Active Directory
User3	User administrator	Azure Active Directory
User4	Owner	Azure Subscription

User1 creates a new Azure Active Directory tenant named external.contoso.onmicrosoft.com.

You need to create new user accounts in external.contoso.onmicrosoft.com.

Solution: You instruct User3 to create the user accounts.

Does that meet the goal?

- A. Yes
- B. No

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Only a global administrator can add users to this tenant.

Reference:

<https://docs.microsoft.com/en-us/azure/devops/organizations/accounts/add-users-to-azure-ad>

#### **QUESTION 4**

HOTSPOT

You have an Azure subscription named Subscription1 that contains a resource group named RG1.

In RG1, you create an internal load balancer named LB1 and a public load balancer named LB2.

You need to ensure that an administrator named Admin1 can manage LB1 and LB2. The solution must follow the principle of least privilege.

Which role should you assign to Admin1 for each task? To answer, select the appropriate options in the answer area.

**NOTE:** Each correct selection is worth one point.

Hot Area:

#### **Answer Area**

To add a backend pool to LB1:

Contributor on LB1
Network Contributor on LB1
Network Contributor on RG1
Owner on LB1

To add a health probe to LB2:

Contributor on LB2
Network Contributor on LB2
Network Contributor on RG1
Owner on LB2

**Correct Answer:**

## Answer Area

To add a backend pool to LB1:

Contributor on LB1
Network Contributor on LB1
Network Contributor on RG1
Owner on LB1

To add a health probe to LB2:

Contributor on LB2
Network Contributor on LB2
Network Contributor on RG1
Owner on LB2

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The Network Contributor role lets you manage networks, but not access them.

Reference:

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

### QUESTION 5

You have an Azure subscription that contains an Azure Active Directory (Azure AD) tenant named contoso.com and an Azure Kubernetes Service (AKS) cluster named AKS1.

An administrator reports that she is unable to grant access to AKS1 to the users in contoso.com.

You need to ensure that access to AKS1 can be granted to the contoso.com users.

What should you do first?

- A. From contoso.com, modify the Organization relationships settings.
- B. From contoso.com, create an OAuth 2.0 authorization endpoint.
- C. Recreate AKS1.
- D. From AKS1, create a namespace.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Reference:

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

### QUESTION 6

You have a Microsoft 365 tenant and an Azure Active Directory (Azure AD) tenant named contoso.com.

You plan to grant three users named User1, User2, and User3 access to a temporary Microsoft SharePoint document library named Library1.

You need to create groups for the users. The solution must ensure that the groups are deleted automatically after 180 days.

Which two groups should you create? Each correct answer presents a complete solution.

**NOTE:** Each correct selection is worth one point.

- A. an Office 365 group that uses the Assigned membership type
- B. a Security group that uses the Assigned membership type
- C. an Office 365 group that uses the Dynamic User membership type
- D. a Security group that uses the Dynamic User membership type
- E. a Security group that uses the Dynamic Device membership type

**Correct Answer:** AC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

You can set expiration policy only for Office 365 groups in Azure Active Directory (Azure AD).

Note: With the increase in usage of Office 365 Groups, administrators and users need a way to clean up unused groups. Expiration policies can help remove inactive groups from the system and make things cleaner.

When a group expires, all of its associated services (the mailbox, Planner, SharePoint site, etc.) are also deleted.

You can set up a rule for dynamic membership on security groups or Office 365 groups.

Incorrect Answers:

B, D, E: You can set expiration policy only for Office 365 groups in Azure Active Directory (Azure AD).

Reference:

<https://docs.microsoft.com/en-us/office365/admin/create-groups/office-365-groups-expiration-policy?view=o365-worldwide>

## **QUESTION 7**

HOTSPOT

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

Name	Type	Member of
User1	Member	Group1
User2	Guest	Group1
User3	Member	None
UserA	Member	Group2
UserB	Guest	Group2

User3 is the owner of Group1.

Group2 is a member of Group1.

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

Create an access review

Access reviews enable reviewers to attest user's membership in a group or access to an application.

\* Review name: Review1

Description: (empty)

\* Start date: 2018-11-22

Frequency: One time

Duration (in days): 1

End: Never

\* Number of times: 0

\* End date: 2018-12-22

**Users**

Users to review: Members of a group

Scope: Guest users only

**Group**

Group1

**Reviewers**

Reviewers: Group owners

**Programs**

Link to program: Default program

Upon completion settings

Advanced settings

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
User3 can perform an access review of User1	<input type="radio"/>	<input type="radio"/>
User3 can perform an access review of UserA	<input type="radio"/>	<input type="radio"/>
User3 can perform an access review of UserB	<input type="radio"/>	<input type="radio"/>

Correct Answer:

## Answer Area

Statements	Yes	No
User3 can perform an access review of User1	<input checked="" type="radio"/>	<input type="radio"/>
User3 can perform an access review of UserA	<input type="radio"/>	<input checked="" type="radio"/>
User3 can perform an access review of UserB	<input checked="" type="radio"/>	<input type="radio"/>

Section: (none)

Explanation

Explanation/Reference:

Reference:

<https://docs.microsoft.com/en-us/azure/active-directory/governance/create-access-review>

## QUESTION 8

HOTSPOT

You have the Azure management groups shown in the following table:

Name	In management group
Tenant Root Group	<i>Not applicable</i>
ManagementGroup11	Tenant Root Group
ManagementGroup12	Tenant Root Group
ManagementGroup21	ManagementGroup11

You add Azure subscriptions to the management groups as shown in the following table:

Name	Management group
Subscription1	ManagementGroup21
Subscription2	ManagementGroup12

You create the Azure policies shown in the following table:

Name	Parameter	Scope
Not allowed resource types	virtualNetworks	Tenant Root Group
Allowed resource types	virtualNetworks	ManagementGroup12

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
You can create a virtual network in Subscription1.	<input type="radio"/>	<input type="radio"/>
You can create a virtual machine in Subscription2.	<input type="radio"/>	<input type="radio"/>
You can add Subscription1 to ManagementGroup11.	<input type="radio"/>	<input type="radio"/>

**Correct Answer:**

### Answer Area

Statements	Yes	No
You can create a virtual network in Subscription1.	<input type="radio"/>	<input checked="" type="radio"/>
You can create a virtual machine in Subscription2.	<input checked="" type="radio"/>	<input type="radio"/>
You can add Subscription1 to ManagementGroup11.	<input checked="" type="radio"/>	<input type="radio"/>

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

Box 1: No

Virtual networks are not allowed at the root and is inherited. Deny overrides allowed.

**Box 2: Yes**

Virtual Machines can be created on a Management Group provided the user has the required RBAC permissions.

**Box 3: Yes**

Subscriptions can be moved between Management Groups provided the user has the required RBAC permissions.

**Reference:**

<https://docs.microsoft.com/en-us/azure/governance/management-groups/overview>

<https://docs.microsoft.com/en-us/azure/governance/management-groups/manage#moving-management-groups-and-subscriptions>

**QUESTION 9**

You have an Azure policy as shown in the following exhibit:

**SCOPE**

\* Scope ([Learn more about setting the scope](#))  
Subscription 1

**Exclusions**

Subscription 1/ContosoRG1

**BASICS**

\* Policy definition  
Not allowed resource types

\* Assignment name ⓘ  
Not allowed resource types

Assignment ID  
`/subscriptions/5eb8d0b6-ce3b-4ce0-a631-9f5321bedabb/providers/Microsoft.Authorization/policyAssignments/0e6fb866bf854f54accae2a9`

Description

Assigned by  
admin1@contoso.com

**PARAMETERS**

\* Not allowed resource types ⓘ  
Microsoft.Sql/servers

What is the effect of the policy?

- A. You are prevented from creating Azure SQL servers anywhere in Subscription 1.
- B. You can create Azure SQL servers in ContosoRG1 only.
- C. You are prevented from creating Azure SQL Servers in ContosoRG1 only.
- D. You can create Azure SQL servers in any resource group within Subscription 1.

**Correct Answer: B**

**Section: (none)****Explanation****Explanation/Reference:**

Explanation:

You are prevented from creating Azure SQL servers anywhere in Subscription 1 with the exception of ContosoRG1

**QUESTION 10****HOTSPOT**

You have an Azure subscription that contains the resources shown in the following table:

Name	Type	Resource group	Tag
RG6	Resource group	<i>Not applicable</i>	<i>None</i>
VNET1	Virtual network	RG6	Department: D1

You assign a policy to RG6 as shown in the following table:

Section	Setting	Value
Scope	Scope	Subscription1/RG6
	Exclusions	<i>None</i>
Basics	Policy definition	Apply tag and its default value
	Assignment name	Apply tag and its default value
Parameters	Tag name	Label
	Tag value	Value1

To RG6, you apply the tag: RGroup: RG6.

You deploy a virtual network named VNET2 to RG6.

Which tags apply to VNET1 and VNET2? To answer, select the appropriate options in the answer area.

**NOTE:** Each correct selection is worth one point.

**Hot Area:**

## Answer Area

VNET1:

None
Department: D1 only
Department: D1, and RGroup: RG6 only
Department: D1, and Label: Value1 only
Department: D1, RGroup: RG6, and Label: Value1

VNET2:

None
RGroup: RG6 only
Label: Value1 only
RGroup: RG6, and Label: Value1

**Correct Answer:**

## Answer Area

VNET1:

None
Department: D1 only
Department: D1, and RGroup: RG6 only
Department: D1, and Label: Value1 only
Department: D1, RGroup: RG6, and Label: Value1

VNET2:

None
RGroup: RG6 only
Label: Value1 only
RGroup: RG6, and Label: Value1

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

VNET1: Department: D1, and Label:Value1 only.

Tags applied to the resource group or subscription are not inherited by the resources.

Note: Azure Policy allows you to use either built-in or custom-defined policy definitions and assign them to either a specific resource group or across a whole Azure subscription.

VNET2: Label:Value1 only.

Incorrect Answers:

RGROUP: RG6

Tags applied to the resource group or subscription are not inherited by the resources.

Reference:

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

### QUESTION 11

You have an Azure subscription named AZPT1 that contains the resources shown in the following table:

Name	Type
storage1	Azure Storage account
VNET1	Virtual network
VM1	Azure virtual machine
VM1Managed	Managed disk for VM1
RVAULT1	Recovery Services vault for the site recovery of VM1

You create a new Azure subscription named AZPT2.

You need to identify which resources can be moved to AZPT2.

Which resources should you identify?

- A. VM1, storage1, VNET1, and VM1Managed only
- B. VM1 and VM1Managed only
- C. VM1, storage1, VNET1, VM1Managed, and RVAULT1
- D. RVAULT1 only

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

You can move a VM and its associated resources to a different subscription by using the Azure portal.

You can now move an Azure Recovery Service (ASR) Vault to either a new resource group within the current subscription or to a new subscription.

Reference:

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

<https://docs.microsoft.com/en-us/azure/key-vault/general/keyvault-move-subscription>

### QUESTION 12

You recently created a new Azure subscription that contains a user named Admin1.

Admin1 attempts to deploy an Azure Marketplace resource by using an Azure Resource Manager template. Admin1 deploys the template by using Azure PowerShell and receives the following error message: "User failed validation to purchase resources. Error message: "Legal terms have not been accepted for this item on this subscription. To accept legal terms, please go to the Azure portal (<http://go.microsoft.com/fwlink/?LinkId=534873>) and configure programmatic deployment for the Marketplace item or create it there for the first time."

You need to ensure that Admin1 can deploy the Marketplace resource successfully.

What should you do?

- A. From Azure PowerShell, run the `Set-AzApiManagementSubscription` cmdlet
- B. From the Azure portal, register the `Microsoft.Marketplace` resource provider
- C. From Azure PowerShell, run the `Set-AzMarketplaceTerms` cmdlet
- D. From the Azure portal, assign the Billing administrator role to Admin1

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Reference:

<https://docs.microsoft.com/en-us/powershell/module/az.marketplaceordering/set-azmarketplaceterms?view=azps-4.1.0>

### QUESTION 13

You have an Azure Active Directory (Azure AD) tenant that contains 5,000 user accounts.

You create a new user account named AdminUser1.

You need to assign the User administrator administrative role to AdminUser1.

What should you do from the user account properties?

- A. From the Licenses blade, assign a new license
- B. From the Directory role blade, modify the directory role
- C. From the Groups blade, invite the user account to a new group

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Assign a role to a user

1. Sign in to the Azure portal with an account that's a global admin or privileged role admin for the directory.
2. Select Azure Active Directory, select Users, and then select a specific user from the list.
3. For the selected user, select Directory role, select Add role, and then pick the appropriate admin roles from the Directory roles list, such as Conditional access administrator.
4. Press Select to save.

Reference:

<https://docs.microsoft.com/en-us/azure/active-directory/fundamentals/active-directory-users-assign-role-azure-portal>

### QUESTION 14

You have an Azure Active Directory (Azure AD) tenant named contoso.onmicrosoft.com that contains 100 user accounts.

You purchase 10 Azure AD Premium P2 licenses for the tenant.

You need to ensure that 10 users can use all the Azure AD Premium features.

What should you do?

- A. From the Licenses blade of Azure AD, assign a license
- B. From the Groups blade of each user, invite the users to a group
- C. From the Azure AD domain, add an enterprise application
- D. From the Directory role blade of each user, modify the directory role

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Reference:

<https://docs.microsoft.com/en-us/azure/active-directory/fundamentals/license-users-groups>

### **QUESTION 15**

You have an Azure subscription named Subscription1 and an on-premises deployment of Microsoft System Center Service Manager.

Subscription1 contains a virtual machine named VM1.

You need to ensure that an alert is set in Service Manager when the amount of available memory on VM1 is below 10 percent.

What should you do first?

- A. Create an automation runbook
- B. Deploy a function app
- C. Deploy the IT Service Management Connector (ITSM)
- D. Create a notification

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The IT Service Management Connector (ITSMC) allows you to connect Azure and a supported IT Service Management (ITSM) product/service, such as the Microsoft System Center Service Manager.

With ITSMC, you can create work items in ITSM tool, based on your Azure alerts (metric alerts, Activity Log alerts and Log Analytics alerts).

Reference:

<https://docs.microsoft.com/en-us/azure/azure-monitor/platform/itsmc-overview>

### **QUESTION 16**

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

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

What should you configure in Azure AD?

- A. Device settings from the Devices blade
- B. Providers from the MFA Server blade
- C. User settings from the Users blade
- D. General settings from the Groups blade

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

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

- The Azure AD global administrator role
- The Azure AD device administrator role
- The user performing the Azure AD join

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

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

Reference:

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

## QUESTION 17

HOTSPOT

You have Azure Active Directory tenant named Contoso.com that includes following users:

Name	Role
User1	Cloud device administrator
User2	User administrator

Contoso.com includes following Windows 10 devices:

Name	Join type
Device1	Azure AD registered
Device2	Azure AD joined

You create following security groups in Contoso.com:

Name	Membership Type	Owner
Group1	Assigned	User2
Group2	Dynamic Device	User2

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
User1 can add Device2 to Group1	<input type="radio"/>	<input type="radio"/>
User2 can add Device1 to Group1	<input type="radio"/>	<input type="radio"/>
User2 can add Device2 to Group2	<input type="radio"/>	<input type="radio"/>

Correct Answer:

## Answer Area

Statements	Yes	No
User1 can add Device2 to Group1	<input checked="" type="radio"/>	<input type="radio"/>
User2 can add Device1 to Group1	<input type="radio"/>	<input checked="" type="radio"/>
User2 can add Device2 to Group2	<input type="radio"/>	<input checked="" type="radio"/>

Section: (none)

Explanation

**Explanation/Reference:**

Explanation:

Box 1: Yes

User1 is a Cloud Device Administrator.

Device2 is Azure AD joined.

Group1 has the assigned to join type. User1 is the owner of Group1.

Note: Assigned groups - Manually add users or devices into a static group.

Azure AD joined or hybrid Azure AD joined devices utilize an organizational account in Azure AD

Box 2: No

User2 is a User Administrator.

Device1 is Azure AD registered.

Group1 has the assigned join type, and the owner is User1.

Note: Azure AD registered devices utilize an account managed by the end user, this account is either a Microsoft account or another locally managed credential.

Box 3: Yes

User2 is a User Administrator.

Device2 is Azure AD joined.

Group2 has the Dynamic Device join type, and the owner is User2.

Reference:

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

**QUESTION 18**

You have an Azure subscription that contains a resource group named RG26.

RG26 is set to the West Europe location and is used to create temporary resources for a project. RG26 contains the resources shown in the following table.

Name	Type	Location
VM1	Virtual machine	North Europe
RGV1	Recovery Services vault	North Europe
SQLDB01	Azure SQL database	North Europe
AZSQL01	Azure SQL database server	North Europe
sa001	Storage account	West Europe

SQLDB01 is backed up to RGV1.

When the project is complete, you attempt to delete RG26 from the Azure portal. The deletion fails.

You need to delete RG26.

What should you do first?

- A. Delete VM1
- B. Stop VM1
- C. Stop the backup of SQLDB01
- D. Delete sa001

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 19**

You have an Azure subscription named Subscription1 that contains a virtual network named VNet1. VNet1 is in a resource group named RG1.

Subscription1 has a user named User1. User1 has the following roles:

- Reader
- Security Admin
- Security Reader

You need to ensure that User1 can assign the Reader role for VNet1 to other users.

What should you do?

- A. Remove User 1 from the Security Reader role for Subscription1. Assign User1 the Contributor role for RG1.
- B. Assign User1 the Owner role for VNet1.
- C. Remove User1 from the Security Reader and Reader roles for Subscription1.
- D. Assign User1 the Network Contributor role for RG1.

**Correct Answer:** B

**Section: (none)****Explanation****Explanation/Reference:**

Explanation:

Has full access to all resources including the right to delegate access to others.

Reference:

<https://docs.microsoft.com/en-us/azure/role-based-access-control/overview>

**QUESTION 20**

You have an Azure Active Directory (Azure AD) tenant named contosocloud.onmicrosoft.com.

Your company has a public DNS zone for contoso.com.

You add contoso.com as a custom domain name to Azure AD.

You need to ensure that Azure can verify the domain name.

Which type of DNS record should you create?

- A. MX
- B. NSEC
- C. SRV
- D. NSEC3

**Correct Answer: A**

**Section: (none)****Explanation****Explanation/Reference:**

Reference:

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

**QUESTION 21**

**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 Directory (Azure AD) tenant named Adatum and an Azure Subscription named Subscription1. Adatum contains a group named Developers. Subscription1 contains a resource group named Dev.

You need to provide the Developers group with the ability to create Azure logic apps in the Dev resource group.

Solution: On Subscription1, you assign the DevTest Labs User role to the Developers group.

Does this meet the goal?

- A. Yes
- B. No

**Correct Answer: B**

**Section: (none)****Explanation**

**Explanation/Reference:**

Explanation:

DevTest Labs User role only lets you connect, start, restart, and shutdown virtual machines in your Azure DevTest Labs.

The Logic App Contributor role lets you manage logic app, but not access to them. It provides access to view, edit, and update a logic app.

Reference:

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

<https://docs.microsoft.com/en-us/azure/logic-apps/logic-apps-securing-a-logic-app>

**QUESTION 22**

**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 an Azure Directory (Azure AD) tenant named Adatum and an Azure Subscription named Subscription1. Adatum contains a group named Developers. Subscription1 contains a resource group named Dev.

You need to provide the Developers group with the ability to create Azure logic apps in the Dev resource group.

Solution: On Subscription1, you assign the Logic App Operator role to the Developers group.

Does this meet the goal?

- A. Yes
- B. No

**Correct Answer: B**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

You would need the Logic App Contributor role.

Reference:

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

<https://docs.microsoft.com/en-us/azure/logic-apps/logic-apps-securing-a-logic-app>

**QUESTION 23**

**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 Directory (Azure AD) tenant named Adatum and an Azure Subscription named Subscription1. Adatum contains a group named Developers. Subscription1 contains a resource group named Dev.

You need to provide the Developers group with the ability to create Azure logic apps in the Dev resource group.

Solution: On Dev, you assign the Contributor role to the Developers group.

Does this meet the goal?

- A. Yes
- B. No

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The Contributor role can manage all resources (and add resources) in a Resource Group.

#### **QUESTION 24**

DRAG DROP

You have an Azure subscription that is used by four departments in your company. The subscription contains 10 resource groups. Each department uses resources in several resource groups.

You need to send a report to the finance department. The report must detail the costs for each department.

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:**

<b>Actions</b>	<b>Answer Area</b>
Assign a tag to each resource group.	
Assign a tag to each resource.	
Download the usage report.	◀
From the Cost analysis blade, filter the view by tag.	▶
Open the <b>Resource costs</b> blade of each resource group.	↑ ↓

**Correct Answer:**

Actions	Answer Area
Assign a tag to each resource group.	Assign a tag to each resource.
Assign a tag to each resource.	From the Cost analysis blade, filter the view by tag.
Download the usage report.	Download the usage report.
From the Cost analysis blade, filter the view by tag.	
Open the <b>Resource costs</b> blade of each resource group.	



## Section: (none)

### Explanation

#### Explanation/Reference:

Explanation:

Box 1: Assign a tag to each resource.

You apply tags to your Azure resources giving metadata to logically organize them into a taxonomy. After you apply tags, you can retrieve all the resources in your subscription with that tag name and value. Each resource or resource group can have a maximum of 15 tag name/value pairs. Tags applied to the resource group are not inherited by the resources in that resource group.

Box 2: From the Cost analysis blade, filter the view by tag

After you get your services running, regularly check how much they're costing you. You can see the current spend and burn rate in Azure portal.

1. Visit the Subscriptions blade in Azure portal and select a subscription.

You should see the cost breakdown and burn rate in the popup blade.

2. Click Cost analysis in the list to the left to see the cost breakdown by resource. Wait 24 hours after you add a service for the data to populate.

3. You can filter by different properties like tags, resource group, and timespan. Click Apply to confirm the filters and Download if you want to export the view to a Comma-Separated Values (.csv) file.

Box 3: Download the usage report

Reference:

<https://docs.microsoft.com/en-us/azure/azure-resource-manager/resource-group-using-tags>

<https://docs.microsoft.com/en-us/azure/billing/billing-getting-started>

## QUESTION 25

You have an Azure subscription named Subscription1 that contains an Azure Log Analytics workspace named Workspace1.

You need to view the error from a table named Event.

Which query should you run in Workspace1?

A. Get-Event Event | where {\$\_.EventType == "error"}

- B. Event | search "error"
- C. select \* from Event where EventType == "error"
- D. Event | where EventType is "error"

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Reference:

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

<https://docs.microsoft.com/en-us/azure/azure-monitor/log-query/get-started-portal>

## **QUESTION 26**

HOTSPOT

You have an Azure subscription that contains a virtual network named VNET1 in the East US 2 region.

You have the following resources in an Azure Resource Manager template.

```
{
  "apiVersion": "2017-03-30",
  "type": "Microsoft.Compute/virtualMachines",
  "name": "VM1",
  "zones": "1",
  "location": "EastUS2",
  "dependsOn": [
    "[resourceld('Microsoft.Network/networkInterfaces', 'VM1-NI')]"
  ],
  "properties": {
    "hardwareProfile": {
      "vmSize": "Standard_A2_v2"
    },
    "osProfile": {
      "computerName": "VM1",
      "adminUsername": "AzureAdmin",
      "adminPassword": "[parameters('adminPassword')]"
    },
    "storageProfile": {
      "imageReference": "[variables('image')]",
      "osDisk": {
        "createOption": "FromImage"
      }
    },
    "networkProfile": {
      "networkInterfaces": [
        {
          "id": "[resourceld('Microsoft.Network/networkInterfaces', 'VM1-NI')]"
        }
      ]
    }
  },
  {
    "apiVersion": "2017-03-30",
    "type": "Microsoft.Compute/virtualMachines",
    "name": "VM2",
    "zones": "2",
    "location": "EastUS2",
    "dependsOn": [
      "[resourceld('Microsoft.Network/networkInterfaces', 'VM2-NI')]"
    ],
    "properties": {
      "hardwareProfile": {
        "vmSize": "Standard_A2_v2"
      },
      "osProfile": {
        "computerName": "VM2",
        "adminUsername": "AzureAdmin",
        "adminPassword": "[parameters('adminPassword')]"
      },
      "storageProfile": {
        "imageReference": "[variables('image')]",
        "osDisk": {
          "createOption": "FromImage"
        }
      },
      "networkProfile": {
        "networkInterfaces": [
          {
            "id": "[resourceld('Microsoft.Network/networkInterfaces', 'VM2-NI')]"
          }
        ]
      }
    }
  }
}
```

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
VM1 and VM2 can connect to VNET1	<input type="radio"/>	<input type="radio"/>
If an Azure datacenter becomes unavailable, VM1 or VM2 will be available.	<input type="radio"/>	<input type="radio"/>
If the East US 2 region becomes unavailable, VM1 or VM2 will be available.	<input type="radio"/>	<input type="radio"/>

**Correct Answer:****Answer Area**

Statements	Yes	No
VM1 and VM2 can connect to VNET1	<input checked="" type="radio"/>	<input type="radio"/>
If an Azure datacenter becomes unavailable, VM1 or VM2 will be available.	<input checked="" type="radio"/>	<input type="radio"/>
If the East US 2 region becomes unavailable, VM1 or VM2 will be available.	<input type="radio"/>	<input checked="" type="radio"/>

**Section: (none)****Explanation****Explanation/Reference:**

Explanation:

Box 1: Yes

Box 2: Yes

VM1 is in Zone1, while VM2 is on Zone2.

Box 3: No

**Reference:**

<https://docs.microsoft.com/en-us/azure/architecture/resiliency/recovery-loss-azure-region>

**QUESTION 27**

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

Name	Azure region	Policy
RG1	West Europe	Policy1
RG2	North Europe	Policy2
RG3	France Central	Policy3

RG1 has a web app named WebApp1. WebApp1 is located in West Europe.

You move WebApp1 to RG2.

What is the effect of the move?

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

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

You can move an app to another App Service plan, as long as the source plan and the target plan are in the same resource group and geographical region.

The region in which your app runs is the region of the App Service plan it's in. However, you cannot change an App Service plan's region.

Reference:

<https://docs.microsoft.com/en-us/azure/app-service/app-service-plan-manage>

## **QUESTION 28**

HOTSPOT

You have an Azure subscription named Subscription1 that has a subscription ID of c276fc76-9cd4-44c9-99a7-4fd71546436e.

You need to create a custom RBAC role named CR1 that meets the following requirements:

- Can be assigned only to the resource groups in Subscription1
- Prevents the management of the access permissions for the resource groups
- Allows the viewing, creating, modifying, and deleting of resources within the resource groups

What should you specify in the assignable scopes and the permission elements of the definition of CR1? To answer, select the appropriate options in the answer area.

**NOTE:** Each correct selection is worth one point.

**Hot Area:**

## Answer Area

```
"assignableScopes": [  
    "/"  
    "/subscriptions/c276fc76-9cd4-44c9-99a7-4fd71546436e"  
    "/subscriptions/c276fc76-9cd4-44c9-99a7-4fd71546436e/resourceGroups"  
],  
"permissions": [  
    {  
        "actions": [  
            "*"  
        ],  
        "additionalProperties": {},  
        "dataActions": [],  
        "notActions": [  
            "Microsoft.Authorization/"  
            "Microsoft.Resources/"  
            "Microsoft.Security/"  
        ],  
        "notDataActions": []  
    }  
]
```

**Correct Answer:**

## Answer Area

```
"assignableScopes": [  
    "/  
    "/subscriptions/c276fc76-9cd4-44c9-99a7-4fd71546436e"  
    "/subscriptions/c276fc76-9cd4-44c9-99a7-4fd71546436e/resourceGroups"  
  
,  
    "permissions": [  
        {  
            "actions": [  
                "*"  
            ],  
            "additionalProperties": {},  
            "dataActions": [],  
            "notActions": [  
                "Microsoft.Authorization/*"  
                "Microsoft.Resources/*"  
                "Microsoft.Security/*"  
            ],  
            "notDataActions": []  
        }  
    ]  
],
```

### Section: (none) Explanation

#### Explanation/Reference:

Reference:

<https://docs.microsoft.com/en-us/azure/role-based-access-control/custom-roles>

<https://docs.microsoft.com/en-us/azure/role-based-access-control/resource-provider-operations#microsoftresources>

#### QUESTION 29

You have an Azure subscription.

Users access the resources in the subscription from either home or from customer sites. From home, users must establish a point-to-site VPN to access the Azure resources. The users on the customer sites access the Azure resources by using site-to-site VPNs.

You have a line-of-business-app named App1 that runs on several Azure virtual machine. The virtual machines run Windows Server 2016.

You need to ensure that the connections to App1 are spread across all the virtual machines.

What are two possible Azure services that you can use? Each correct answer presents a complete solution.

**NOTE:** Each correct selection is worth one point.

- A. an internal load balancer
- B. a public load balancer

- C. an Azure Content Delivery Network (CDN)
- D. Traffic Manager
- E. an Azure Application Gateway

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Line-of-business apps are custom apps that are used by internal staff members.

### **QUESTION 30**

You have an Azure subscription.

You have 100 Azure virtual machines.

You need to quickly identify underutilized virtual machines that can have their service tier changed to a less expensive offering.

Which blade should you use?

- A. Monitor
- B. Advisor
- C. Metrics
- D. Customer insights

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

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

Reference:

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

## Implement and manage storage

### Question Set 1

#### QUESTION 1

HOTSPOT

You have Azure subscription that includes following Azure file shares:

Name	In storage account	Location
share1	storage1	West US
share2	storage1	West US

You have the following on-premises servers:

Name	Folders
Server1	D:\Folder1, E:\Folder2
Server2	D:\Data

You create a Storage Sync Service named Sync1 and an Azure File Sync group named Group1. Group1 uses share1 as a cloud endpoint.

You register Server1 and Server2 in Sync1. You add D:\Folder1 on Server1 as a server endpoint of Group1.

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
------------	-----	----

share2 can be added as a cloud endpoint for Group1

E:\Folder2 on Server1 can be added as a server endpoint for Group1

D:\Data on Server2 can be added as a server endpoint for Group1

Correct Answer:

## Answer Area

Statements	Yes	No
share2 can be added as a cloud endpoint for Group1	<input type="radio"/>	<input checked="" type="radio"/>
E:\Folder2 on Server1 can be added as a server endpoint for Group1	<input checked="" type="radio"/>	<input type="radio"/>
D:\Data on Server2 can be added as a server endpoint for Group1	<input type="radio"/>	<input checked="" type="radio"/>

Section: (none)

Explanation

**Explanation/Reference:**

Explanation:

Box 1: No

Group1 already has a cloud endpoint named Share1.

A sync group must contain one cloud endpoint, which represents an Azure file share and one or more server endpoints.

Box 2: Yes

Yes, one or more server endpoints can be added to the sync group.

Box 3: Yes

Yes, one or more server endpoints can be added to the sync group.

Reference:

<https://docs.microsoft.com/en-us/azure/storage/files/storage-sync-files-deployment-guide>

## QUESTION 2

DRAG DROP

You have an Azure subscription named Subscription1.

You create an Azure Storage account named contosostorage, and then you create a file share named data.

Which UNC path should you include in a script that references files from the data file share? To answer, drag the appropriate values to the correct targets. Each value may be used once, more than once or not at all. You may need to drag the split bar between panes or scroll to view content.

**NOTE:** Each correct selection is worth one point.

**Select and Place:**

Values	
blob	blob.core.windows.net
contosostorage	data
file	file.core.windows.net
portal.azure.com	subscription1

Answer Area

\\  .  \

**Correct Answer:**

Values	Answer Area
blob	\ contosostorage \ file.core.windows.net \ data
contosostorage	
file	
portal.azure.com	
subscription1	

**Section: (none)****Explanation****Explanation/Reference:**

Explanation:

Box 1: contosostorage

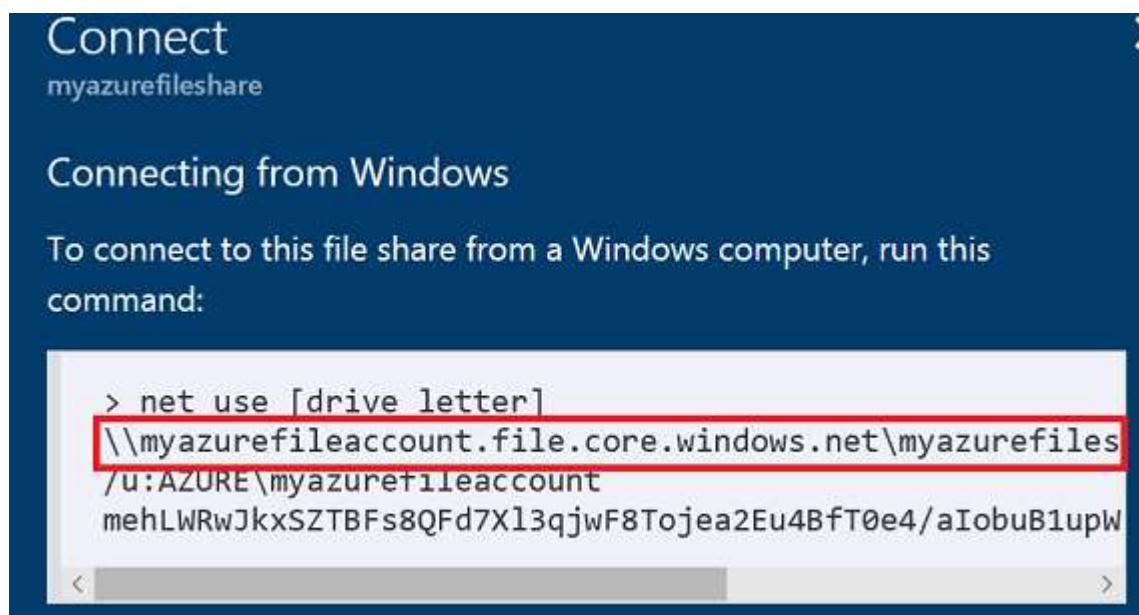
The name of account

Box 2: file.core.windows.net

Box 3: data

The name of the file share is data.

Example:



Reference:

<https://docs.microsoft.com/en-us/azure/storage/files/storage-how-to-use-files-windows>

**QUESTION 3****HOTSPOT**

You have an Azure subscription that contains an Azure Storage account.

You plan to copy an on-premises virtual machine image to a container named `vmimages`.

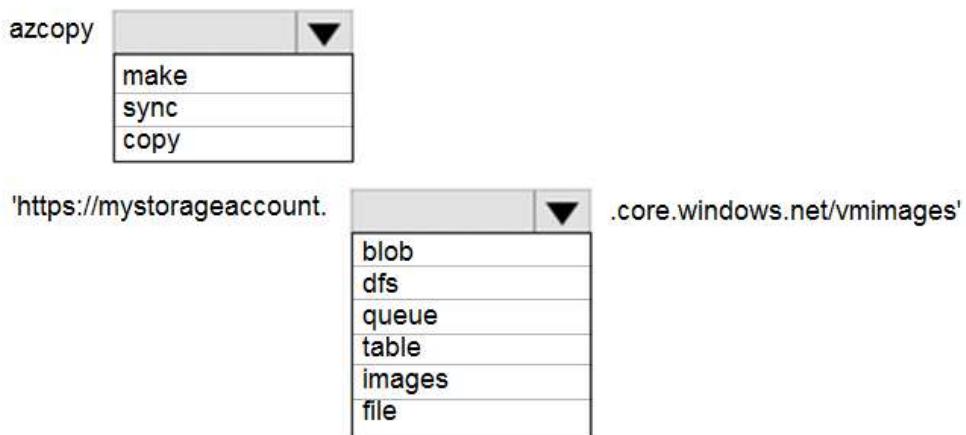
You need to create the container for the planned image.

Which command should you run? To answer, select the appropriate options in the answer area.

**NOTE:** Each correct selection is worth one point.

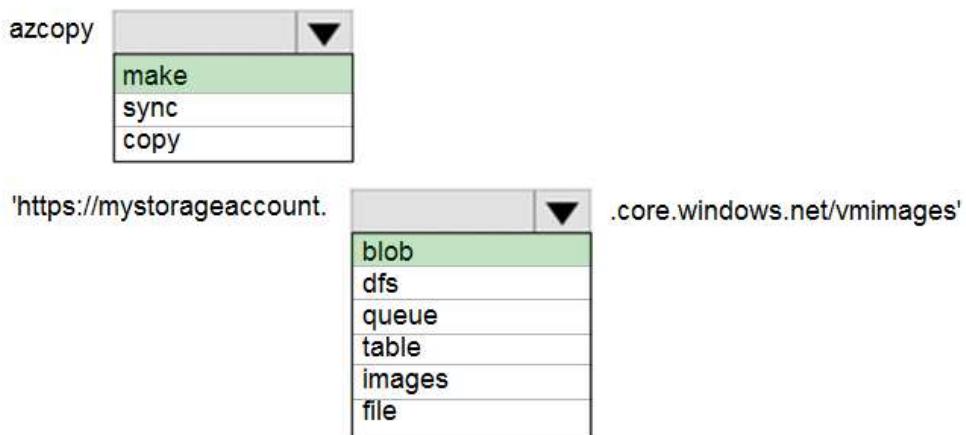
**Hot Area:**

**Answer Area**



**Correct Answer:**

**Answer Area**



**Section: (none)**  
**Explanation**

**Explanation/Reference:**

**QUESTION 4**  
**HOTSPOT**

You have an Azure File sync group that has the endpoints shown in the following table.

Name	Type
Endpoint1	Cloud endpoint
Endpoint2	Server endpoint
Endpoint3	Server endpoint

Cloud tiering is enabled for Endpoint3.

You add a file named File1 to Endpoint1 and a file named File2 to Endpoint2.

On which endpoints will File1 and File2 be available within 24 hours of adding the files? To answer, select the appropriate options in the answer area.

**NOTE:** Each correct selection is worth one point.

**Hot Area:**

## Answer Area

File1:

▼

- Endpoint1 only
- Endpoint3 only
- Endpoint2 and Endpoint3 only
- Endpoint1, Endpoint2, and Endpoint3

File2:

▼

- Endpoint2 only
- Endpoint3 only
- Endpoint2 and Endpoint3 only
- Endpoint1, Endpoint2, and Endpoint3

**Correct Answer:**

## Answer Area

File1:

Endpoint1 only
Endpoint3 only
Endpoint2 and Endpoint3 only
Endpoint1, Endpoint2, and Endpoint3

File2:

Endpoint2 only
Endpoint3 only
Endpoint2 and Endpoint3 only
Endpoint1, Endpoint2, and Endpoint3

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

File1: Endpoint3 only

Cloud Tiering: A switch to enable or disable cloud tiering. When enabled, cloud tiering will tier files to your Azure file shares. This converts on-premises file shares into a cache, rather than a complete copy of the dataset, to help you manage space efficiency on your server. With cloud tiering, infrequently used or accessed files can be tiered to Azure Files.

File2: Endpoint1, Endpoint2, and Endpoint3

Reference:

<https://docs.microsoft.com/en-us/azure/storage/files/storage-sync-cloud-tiering>

### QUESTION 5

HOTSPOT

You have several Azure virtual machines on a virtual network named VNet1.

You configure an Azure Storage account as shown in the following exhibit.

Home > Storage accounts >contoso – Firewalls and virtual networks

contoso – Firewalls and virtual networks

Storage Account

Search (Ctrl + f)

Save Discard

Allow access from

All networks  Selected networks

Configure network security for your storage accounts. [Learn more.](#)

Virtual networks

Secure your storage account with virtual networks. [+ Add existing virtual network](#) [+ Add new virtual network](#)

VIRTUAL NET...	SUBNET	ADDRESS RA...	ENDPOINT ST...	RESOURCE G...	SUBSCRIPTION
VNet1	1	10.2.0.0/16		DemoRG	Production subscrip ...
	Prod	10.2.0.0/24	✓ Enabled	DemoRG	Production subscrip ...

Firewall

Add IP ranges to allow access from the Internet or your on-premises networks. [Learn more.](#)

ADDRESS RANGE

IP address or CIDR

Exceptions

Allow trusted Microsoft services to access this storage account [?](#)

Allow read access to storage logging from any network

Allow read access to storage metrics from any network

The screenshot shows the 'Firewalls and virtual networks' settings for a storage account named 'contoso'. The 'Selected networks' option is chosen. A table lists a single subnet 'VNet1' with address range '10.2.0.0/16' and endpoint status 'Enabled'. Below the table, there's a 'Firewall' section with an 'ADDRESS RANGE' input field and an 'Exceptions' section containing three checkboxes. The third checkbox, 'Allow read access to storage metrics from any network', is highlighted with a red box.

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**

The virtual machines on the 10.2.9.0/24 subnet will have network connectivity to the file shares in the storage account [answer choice].

▼

always
during a backup
never

Azure Backup will be able to back up the unmanaged hard disks of the virtual machines in the storage account [answer choice].

▼

always
during a backup
never

**Correct Answer:**

## Answer Area

The virtual machines on the 10.2.9.0/24 subnet will have network connectivity to the file shares in the storage account [answer choice].

▼
always
during a backup
never

Azure Backup will be able to back up the unmanaged hard disks of the virtual machines in the storage account [answer choice].

▼
always
during a backup
never

### Section: (none) Explanation

#### Explanation/Reference:

Explanation:

Box 1: always

Endpoint status is enabled.

Box 2: Never

After you configure firewall and virtual network settings for your storage account, select Allow trusted Microsoft services to access this storage account as an exception to enable Azure Backup service to access the network restricted storage account.

sogupstorage - Firewalls and virtual networks

Storage account

Save Discard

Allow access from

All networks Selected networks

Configure network security for your storage accounts. [Learn more](#).

Virtual networks

Secure your storage account with virtual networks. [+ Add existing virtual network](#) [+ Add new virtual network](#)

VIRTUAL NET...	SUBNET	ADDRESS RA...	ENDPOINT ST...	RESOURCE G...	SUBSCRIPTION
No network selected.					

Firewall

Add IP ranges to allow access from the internet or your on-premises networks. [Learn more](#).

ADDRESS RANGE

IP address or CIDR

Exceptions

Allow trusted Microsoft services to access this storage account  ⓘ

Allow read access to storage logging from any network

Allow read access to storage metrics from any network

Metrics (preview)

Reference:

<https://docs.microsoft.com/en-us/azure/storage/files/storage-how-to-use-files-windows>

<https://azure.microsoft.com/en-us/blog/azure-backup-now-supports-storage-accounts-secured-with-azure-storage-firewalls-and-virtual-networks/>

## QUESTION 6

HOTSPOT

You have a sync group named Sync1 that has a cloud endpoint. The cloud endpoint includes a file named File1.txt.

Your on-premises network contains servers that run Windows Server 2016. The servers are configured as shown in the following table.

Name	Share	Share contents
Server1	Share1	File1.txt, File2.txt
Server2	Share2	File2.txt, File3.txt

You add Share1 as an endpoint for Sync1. One hour later, you add Share2 as an endpoint for Sync1.

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
On the cloud endpoint, File1.txt is overwritten by File1.txt from Share1.	<input type="radio"/>	<input type="radio"/>
On Server1, File1.txt is overwritten by File1.txt from the cloud endpoint.	<input type="radio"/>	<input type="radio"/>
File1.txt from Share1 replicates to Share2.	<input type="radio"/>	<input type="radio"/>

Correct Answer:

## Answer Area

Statements	Yes	No
On the cloud endpoint, File1.txt is overwritten by File1.txt from Share1.	<input checked="" type="radio"/>	<input type="radio"/>
On Server1, File1.txt is overwritten by File1.txt from the cloud endpoint.	<input type="radio"/>	<input checked="" type="radio"/>
File1.txt from Share1 replicates to Share2.	<input checked="" type="radio"/>	<input type="radio"/>

### Section: (none)

#### Explanation

#### Explanation/Reference:

Explanation:

Box 1: Yes

If you add an Azure file share that has an existing set of files as a cloud endpoint to a sync group, the existing files are merged with any other files that are already on other endpoints in the sync group.

Box 2: No

Box 3: Yes

Reference:

<https://docs.microsoft.com/en-us/azure/storage/files/storage-sync-files-planning>

## QUESTION 7

You have an Azure subscription that contains the storage accounts shown in the following table.

Name	Kind	Performance	Replication	Access tier
storage1	Storage (general purpose v1)	Premium	Geo-redundant storage (GRS)	None
storage2	StorageV2 (general purpose v2)	Standard	Locally-redundant storage (LRS)	Cool
storage3	StorageV2 (general purpose v2)	Premium	Read-access geo-redundant storage (RA-GRS)	Hot
storage4	BlobStorage	Standard	Locally-redundant storage (LRS)	Hot

You need to identify which storage account can be converted to zone-redundant storage (ZRS) replication by requesting a live migration from Azure support.

What should you identify?

- A. storage1
- B. storage2
- C. storage3
- D. storage4

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

ZRS currently supports standard general-purpose v2, FileStorage and BlockBlobStorage storage account types.

Incorrect Answers:

A, not C: Live migration is supported only for storage accounts that use LRS replication. If your account uses GRS or RA-GRS, then you need to first change your account's replication type to LRS before proceeding. This intermediary step removes the secondary endpoint provided by GRS/RA-GRS.

Also, only standard storage account types support live migration. Premium storage accounts must be migrated manually.

D: ZRS currently supports standard general-purpose v2, FileStorage and BlockBlobStorage storage account types.

Reference:

<https://docs.microsoft.com/en-us/azure/storage/common/storage-redundancy-zrs>

## QUESTION 8

You have an Azure subscription that contains a storage account named account1.

You plan to upload the disk files of a virtual machine to account1 from your on-premises network. The on-premises network uses a public IP address space of 131.107.1.0/24.

You plan to use the disk files to provision an Azure virtual machine named VM1. VM1 will be attached to a virtual network named VNet1. VNet1 uses an IP address space of 192.168.0.0/24.

You need to configure account1 to meet the following requirements:

- Ensure that you can upload the disk files to account1.
- Ensure that you can attach the disks to VM1.
- Prevent all other access to account1.

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

**NOTE:** Each correct selection is worth one point.

- A. From the Firewalls and virtual networks blade of account1, select **Selected networks**.
- B. From the Firewalls and virtual networks blade of account1, select **Allow trusted Microsoft services to access this storage account**.
- C. From the Firewalls and virtual networks blade of account1, add the 131.107.1.0/24 IP address range.
- D. From the Firewalls and virtual networks blade of account1, add VNet1.
- E. From the Service endpoints blade of VNet1, add a service endpoint.

**Correct Answer:** AE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

A: By default, storage accounts accept connections from clients on any network. To limit access to selected networks, you must first change the default action.

Azure portal

1. Navigate to the storage account you want to secure.
2. Click on the settings menu called Firewalls and virtual networks.
3. To deny access by default, choose to allow access from 'Selected networks'. To allow traffic from all networks, choose to allow access from 'All networks'.
4. Click Save to apply your changes.

E: Grant access from a Virtual Network

Storage accounts can be configured to allow access only from specific Azure Virtual Networks.

By enabling a Service Endpoint for Azure Storage within the Virtual Network, traffic is ensured an optimal route to the Azure Storage service. The identities of the virtual network and the subnet are also transmitted with each request.

Reference:

<https://docs.microsoft.com/en-us/azure/storage/common/storage-network-security>

### QUESTION 9

DRAG DROP

You have an on-premises file server named Server1 that runs Windows Server 2016.

You have an Azure subscription that contains an Azure file share.

You deploy an Azure File Sync Storage Sync Service, and you create a sync group.

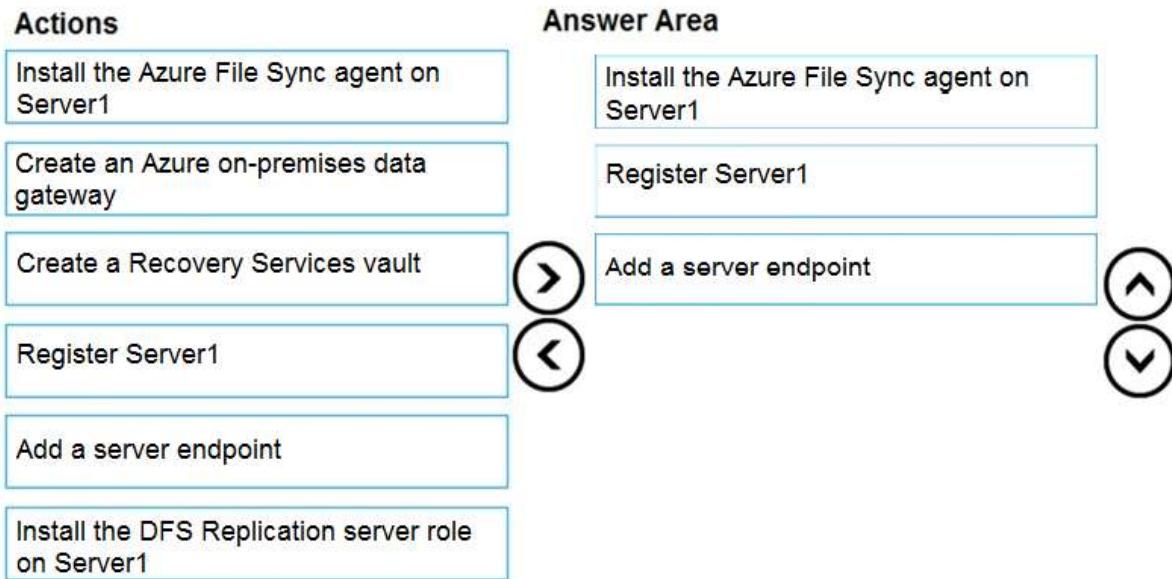
You need to synchronize files from Server1 to Azure.

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
Install the Azure File Sync agent on Server1	
Create an Azure on-premises data gateway	
Create a Recovery Services vault	>
Register Server1	<
Add a server endpoint	^
Install the DFS Replication server role on Server1	▼

Correct Answer:



**Section: (none)**

**Explanation:**

**Explanation/Reference:**

Explanation:

Step 1: Install the Azure File Sync agent on Server1

The Azure File Sync agent is a downloadable package that enables Windows Server to be synced with an Azure file share

Step 2: Register Server1.

Register Windows Server with Storage Sync Service

Registering your Windows Server with a Storage Sync Service establishes a trust relationship between your server (or cluster) and the Storage Sync Service.

Step 3: Add a server endpoint

Create a sync group and a cloud endpoint.

A sync group defines the sync topology for a set of files. Endpoints within a sync group are kept in sync with each other. A sync group must contain one cloud endpoint, which represents an Azure file share and one or more server endpoints. A server endpoint represents a path on registered server.

Reference:

<https://docs.microsoft.com/en-us/azure/storage/files/storage-sync-files-deployment-guide>

**QUESTION 10**

**HOTSPOT**

You plan to create an Azure Storage account in the Azure region of East US 2.

You need to create a storage account that meets the following requirements:

- Replicates synchronously.
- Remains available if a single data center in the region fails.

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

**NOTE:** Each correct selection is worth one point.

**Hot Area:**

**Answer Area**

Replication:

Geo-redundant storage (GRS)
Locally-redundant storage (LRS)
Read-access geo-redundant storage (RA GRS)
Zone-redundant storage (ZRS)

Account type:

Blob storage
Storage (general purpose v1)
StorageV2 (general purpose v2)

**Correct Answer:**

**Answer Area**

Replication:

Geo-redundant storage (GRS)
Locally-redundant storage (LRS)
Read-access geo-redundant storage (RA GRS)
Zone-redundant storage (ZRS)

Account type:

Blob storage
Storage (general purpose v1)
StorageV2 (general purpose v2)

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

Box 1: Zone-redundant storage (ZRS)

Zone-redundant storage (ZRS) replicates your data synchronously across three storage clusters in a single region.

LRS would not remain available if a data center in the region fails  
GRS and RA GRS use asynchronous replication.

Box 2: StorageV2 (general purpose V2)

ZRS only support GPv2.

Reference:

<https://docs.microsoft.com/en-us/azure/storage/common/storage-redundancy>

<https://docs.microsoft.com/en-us/azure/storage/common/storage-redundancy-zrs>

**QUESTION 11**

You have an Azure Storage account named storage1.

You plan to use AzCopy to copy data to storage1.

You need to identify the storage services in storage1 to which you can copy the data.

What should you identify?

- A. blob, file, table, and queue
- B. blob and file only
- C. file and table only
- D. file only
- E. blob, table, and queue only

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

AzCopy is a command-line utility that you can use to copy blobs or files to or from a storage account.

Incorrect Answers:

A, C, E: AzCopy does not support table and queue storage services.

D: AzCopy supports file storage services, as well as blob storage services.

Reference:

<https://docs.microsoft.com/en-us/azure/storage/common/storage-use-azcopy-v10>

## QUESTION 12

HOTSPOT

You have an Azure Storage account named storage1 that uses Azure Blob storage and Azure File storage.

You need to use AzCopy to copy data to the blob storage and file storage in storage1.

Which authentication method should you use for each type of storage? To answer, select the appropriate options in the answer area.

**NOTE:** Each correct selection is worth one point.

**Hot Area:**

Answer Area

Blob storage:

Azure Active Directory (Azure AD) only
Shared access signatures (SAS) only
Access keys and shared access signatures (SAS) only
Azure Active Directory (Azure AD) and shared access signatures (SAS) only
Azure Active Directory (Azure AD), access keys, and shared access signatures (SAS)

File storage:

Azure Active Directory (Azure AD) only
Shared access signatures (SAS) only
Access keys and shared access signatures (SAS) only
Azure Active Directory (Azure AD) and shared access signatures (SAS) only
Azure Active Directory (Azure AD), access keys, and shared access signatures (SAS)

**Correct Answer:**

**Answer Area**

Blob storage:	<table border="1"><tr><td>Azure Active Directory (Azure AD) only</td></tr><tr><td>Shared access signatures (SAS) only</td></tr><tr><td>Access keys and shared access signatures (SAS) only</td></tr><tr style="background-color: #c0e0c0;"><td>Azure Active Directory (Azure AD) and shared access signatures (SAS) only</td></tr><tr><td>Azure Active Directory (Azure AD), access keys, and shared access signatures (SAS)</td></tr></table>	Azure Active Directory (Azure AD) only	Shared access signatures (SAS) only	Access keys and shared access signatures (SAS) only	Azure Active Directory (Azure AD) and shared access signatures (SAS) only	Azure Active Directory (Azure AD), access keys, and shared access signatures (SAS)
Azure Active Directory (Azure AD) only						
Shared access signatures (SAS) only						
Access keys and shared access signatures (SAS) only						
Azure Active Directory (Azure AD) and shared access signatures (SAS) only						
Azure Active Directory (Azure AD), access keys, and shared access signatures (SAS)						
File storage:	<table border="1"><tr><td>Azure Active Directory (Azure AD) only</td></tr><tr style="background-color: #c0e0c0;"><td>Shared access signatures (SAS) only</td></tr><tr><td>Access keys and shared access signatures (SAS) only</td></tr><tr><td>Azure Active Directory (Azure AD) and shared access signatures (SAS) only</td></tr><tr><td>Azure Active Directory (Azure AD), access keys, and shared access signatures (SAS)</td></tr></table>	Azure Active Directory (Azure AD) only	Shared access signatures (SAS) only	Access keys and shared access signatures (SAS) only	Azure Active Directory (Azure AD) and shared access signatures (SAS) only	Azure Active Directory (Azure AD), access keys, and shared access signatures (SAS)
Azure Active Directory (Azure AD) only						
Shared access signatures (SAS) only						
Access keys and shared access signatures (SAS) only						
Azure Active Directory (Azure AD) and shared access signatures (SAS) only						
Azure Active Directory (Azure AD), access keys, and shared access signatures (SAS)						

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

You can provide authorization credentials by using Azure Active Directory (AD), or by using a Shared Access Signature (SAS) token.

Box 1:

Both Azure Active Directory (AD) and Shared Access Signature (SAS) token are supported for Blob storage.

Box 2:

Only Shared Access Signature (SAS) token is supported for File storage.

Reference:

<https://docs.microsoft.com/en-us/azure/storage/common/storage-use-azcopy-v10>

### QUESTION 13

You have an Azure subscription that contains an Azure Storage account.

You plan to create an Azure container instance named container1 that will use a Docker image named Image1. Image1 contains a Microsoft SQL Server instance that requires persistent storage.

You need to configure a storage service for Container1.

What should you use?

- A. Azure Files
- B. Azure Blob storage
- C. Azure Queue storage
- D. Azure Table storage

**Correct Answer: D**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 14**

You have an app named App1 that runs on two Azure virtual machines named VM1 and VM2.

You plan to implement an Azure Availability Set for App1. The solution must ensure that App1 is available during planned maintenance of the hardware hosting VM1 and VM2.

What should you include in the Availability Set?

- A. one update domain
- B. two fault domains
- C. one fault domain
- D. two update domains

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Microsoft updates, which Microsoft refers to as planned maintenance events, sometimes require that VMs be rebooted to complete the update. To reduce the impact on VMs, the Azure fabric is divided into update domains to ensure that not all VMs are rebooted at the same time.

Incorrect Answers:

A: An update domain is a group of VMs and underlying physical hardware that can be rebooted at the same time.

B, C: A fault domain shares common storage as well as a common power source and network switch. It is used to protect against unplanned system failure.

References:

<https://petri.com/understanding-azure-availability-sets>

<https://docs.microsoft.com/en-us/azure/virtual-machines/windows/tutorial-availability-sets>

**QUESTION 15**

HOTSPOT

You have an Azure subscription named Subscription1 that contains the resources shown in the following table:

Name	Type	Location	Resource group
RG1	Resource group	East US	<i>Not applicable</i>
RG2	Resource group	West US	<i>Not applicable</i>
Vault1	Recovery Services vault	West Europe	RG1
storage1	Storage account	East US	RG2
storage2	Storage account	West US	RG1
storage3	Storage account	West Europe	RG2
Analytics1	Log Analytics workspace	East US	RG1
Analytics2	Log Analytics workspace	West US	RG2
Analytics3	Log Analytics workspace	West Europe	RG1

You plan to configure Azure Backup reports for Vault1.

You are configuring the Diagnostics settings for the AzureBackupReports log.

Which storage accounts and which Log Analytics workspaces can you use for the Azure Backup reports of Vault1? To answer, select the appropriate options in the answer area.

**NOTE:** Each correct selection is worth one point.

**Hot Area:**

**Answer Area**

Storage accounts:

storage1 only
storage2 only
storage3 only
storage1, storage2, and storage3

Log Analytics workspaces:

Analytics1 only
Analytics2 only
Analytics3 only
Analytics1, Analytics2, and Analytics3

**Correct Answer:**

**Answer Area**

Storage accounts:

storage1 only
storage2 only
storage3 only
storage1, storage2, and storage3

Log Analytics workspaces:

Analytics1 only
Analytics2 only
Analytics3 only
Analytics1, Analytics2, and Analytics3

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

Box 1: storage3 only

Vault1 and storage3 are both in West Europe.

Box 2: Analytics3

Vault1 and Analytics3 are both in West Europe.

Reference:

<https://docs.microsoft.com/en-us/azure/backup/backup-azure-configure-reports>

**QUESTION 16**  
HOTSPOT

You have an Azure subscription named Subscription1.

In Subscription1, you create an Azure file share named share1.

You create a shared access signature (SAS) named SAS1 as shown in the following exhibit:

Allowed services 

Blob  File  Queue  Table

Allowed resource types 

Service  Container  Object

Allowed permissions 

Read  Write  Delete  List  Add  Create  Update  Process

Start and expiry date/time 

Start  
2018-09-01  2:00:00 PM

End  
2018-09-14  2:00:00 PM

(UTC+02:00) --- Current Timezone --- 

Allowed IP addresses 

193.77.134.10-193.77.134.50 

Allowed protocols 

HTTPS only  HTTPS and HTTP

Signing key 

key1 

**Generate SAS and connection string**

To answer, select the appropriate options in the answer area.

**NOTE:** Each correct selection is worth one point.

**Hot Area:**

## Answer Area

If on September 2, 2018, you run Microsoft Azure Storage Explorer on a computer that has an IP address of 193.77.134.1, and you use SAS1 to connect to the storage account, you [answer choice].

will be prompted for credentials
will have no access
will have read, write, and list access
will have read-only access

If on September 10, 2018, you run the net use command on a computer that has an IP address of 193.77.134.50, and you use SAS1 as the password to connect to share1, you [answer choice].

will be prompted for credentials
will have no access
will have read, write, and list access
will have read-only access

Correct Answer:

## Answer Area

If on September 2, 2018, you run Microsoft Azure Storage Explorer on a computer that has an IP address of 193.77.134.1, and you use SAS1 to connect to the storage account, you [answer choice].

will be prompted for credentials
<b>will have no access</b>
will have read, write, and list access
will have read-only access

If on September 10, 2018, you run the net use command on a computer that has an IP address of 193.77.134.50, and you use SAS1 as the password to connect to share1, you [answer choice].

will be prompted for credentials
will have no access
<b>will have read, write, and list access</b>
will have read-only access

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Box 1: Will have no access

The IP 193.77.134.1 does not have access on the SAS.

Box 2: Will have read, write, and list access

The net use command is used to connect to file shares.

Reference:

<https://docs.microsoft.com/en-us/azure/storage/common/storage-dotnet-shared-access-signature-part-1>

<https://docs.microsoft.com/en-us/azure/vs-azure-tools-storage-manage-with-storage-explorer?tabs=windows>

## QUESTION 17

You have an on-premises server that contains a folder named D:\Folder1.

You need to copy the contents of D:\Folder1 to the public container in an Azure Storage account named contosodata.

Which command should you run?

- A. `https://contosodata.blob.core.windows.net/public`
- B. `azcopy sync D:\folder1 https://contosodata.blob.core.windows.net/public --snapshot`
- C. `azcopy copy D:\folder1 https://contosodata.blob.core.windows.net/public --recursive`
- D. `az storage blob copy start-batch D:\Folder1 https://contosodata.blob.core.windows.net/public`

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The azcopy copy command copies a directory (and all of the files in that directory) to a blob container. The result is a directory in the container by the same name.

Incorrect Answers:

B: The azcopy sync command replicates the source location to the destination location. However, the file is skipped if the last modified time in the destination is more recent.

D: The az storage blob copy start-batch command copies multiple blobs to a blob container.

Reference:

<https://docs.microsoft.com/en-us/azure/storage/common/storage-use-azcopy-blobs>

<https://docs.microsoft.com/en-us/azure/storage/common/storage-ref-azcopy-copy>

## QUESTION 18

You have an Azure subscription named Subscription1 that contains the storage accounts shown in the following table:

Name	Account kind	Azure service that contains data
storage1	Storage	File
storage2	StorageV2 (general purpose v2)	File, Table
storage3	StorageV2 (general purpose v2)	Queue
storage4	BlobStorage	Blob

You plan to use the Azure Import/Export service to export data from Subscription1.

You need to identify which storage account can be used to export the data.

What should you identify?

- A. storage1
- B. storage2
- C. storage3
- D. storage4

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Azure Import/Export service supports the following of storage accounts:

- Standard General Purpose v2 storage accounts (recommended for most scenarios)
- Blob Storage accounts
- General Purpose v1 storage accounts (both Classic or Azure Resource Manager deployments),

Azure Import/Export service supports the following storage types:

- Import supports Azure Blob storage and Azure File storage
- Export supports Azure Blob storage

Reference:

<https://docs.microsoft.com/en-us/azure/storage/common/storage-import-export-requirements>

### QUESTION 19

HOTSPOT

You have Azure Storage accounts as shown in the following exhibit.

The screenshot shows the Azure Storage accounts blade. At the top, there's a navigation bar with 'Home > Storage accounts' and a 'Storage accounts' title. Below the title are buttons for '+ Add', 'Edit columns', 'Refresh', 'Assign Tags', and 'Delete'. A message says 'Subscription: All 2 selected - Don't see a subscription? Switch directories'. Below this are filter buttons for 'Filter by home...', 'All subscriptions', 'All resource groups', 'All types', 'All locations', and 'No grouping'. A table titled '3 items' lists three storage accounts:

NAME	TYPE	RESOURCE...	LOCATION	SUBSCRIPTION	ACCESS T...	REPLICAT...	
storageaccount1	Storage account	Storage	ContosoRG1	East US	Subscription 1	-	Read-access ge...
storageaccount2	Storage account	StorageV2	ContosoRG1	Central US	Subscription 1	Hot	Geo-redundant...
storageaccount3	Storage account	BlobStorage	ContosoRG1	East US	Subscription 1	Hot	Locally-redundant...

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

You can use [answer choice] for Azure Table Storage.

storageaccount1 only  
storageaccount2 only  
storageaccount3 only  
storageaccount1 and storageaccount2 only  
storageaccount2 and storageaccount3 only

You can use [answer choice] for Azure Blob storage.

storageaccount3 only  
storageaccount2 and storageaccount3 only  
storageaccount1 and storageaccount3 only  
all the storage accounts

Correct Answer:

## Answer Area

You can use [answer choice] for Azure Table Storage.

storageaccount1 only
storageaccount2 only
storageaccount3 only
storageaccount1 and storageaccount2 only
storageaccount2 and storageaccount3 only

You can use [answer choice] for Azure Blob storage.

storageaccount3 only
storageaccount2 and storageaccount3 only
storageaccount1 and storageaccount3 only
all the storage accounts

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

Box 1: storageaccount1 and storageaccount2 only

Box 2: All the storage accounts

Note: The three different storage account options are: General-purpose v2 (GPv2) accounts, General-purpose v1 (GPv1) accounts, and Blob storage accounts.

- General-purpose v2 (GPv2) accounts are storage accounts that support all of the latest features for blobs, files, queues, and tables.
- Blob storage accounts support all the same block blob features as GPv2, but are limited to supporting only block blobs.
- General-purpose v1 (GPv1) accounts provide access to all Azure Storage services, but may not have the latest features or the lowest per gigabyte pricing.

Reference:

<https://docs.microsoft.com/en-us/azure/storage/common/storage-account-options>

## QUESTION 20

You have Azure subscription that includes data in following locations:

Name	Type
container1	Blob container
share1	Azure files share
DB1	SQL database
Table1	Azure Table

You plan to export data by using Azure import/export job named Export1.

You need to identify the data that can be exported by using Export1.

Which data should you identify?

A. DB1

- B. container1
- C. Share1
- D. Table1

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Azure Import/Export service is used to securely import large amounts of data to Azure Blob storage and Azure Files by shipping disk drives to an Azure datacenter.

Reference:

<https://docs.microsoft.com/en-us/azure/storage/common/storage-import-export-service>

## **QUESTION 21**

HOTSPOT

You have an Azure Storage account named storage1.

You have an Azure Service app named App1 and an app named App2 that runs in an Azure container instance. Each app uses a managed identity.

You need to ensure that App1 and App2 can read blobs from storage1. The solution must meet the following requirements:

- Minimize the number of secrets used.
- Ensure that App2 can only read from storage1 for the next 30 days.

What should you configure in storage1 for each app? To answer, select the appropriate options in the answer area.

**NOTE:** Each correct selection is worth one point.

**Hot Area:**

## Answer Area

App1:

Access keys
Advanced security
Access control (IAM)
Shared access signatures (SAS)

App2:

Access keys
Advanced security
Access control (IAM)
Shared access signatures (SAS)

Correct Answer:

## Answer Area

App1:

Access keys
Advanced security
Access control (IAM)
Shared access signatures (SAS)

App2:

Access keys
Advanced security
Access control (IAM)
Shared access signatures (SAS)

Section: (none)

Explanation

Explanation/Reference:

Explanation:

App1: Access keys

App2: Shared access signature (SAS)

A shared access signature (SAS) provides secure delegated access to resources in your storage account

without compromising the security of your data. With a SAS, you have granular control over how a client can access your data. You can control what resources the client may access, what permissions they have on those resources, and how long the SAS is valid, among other parameters.

Reference:

<https://docs.microsoft.com/en-us/azure/storage/common/storage-sas-overview>

## QUESTION 22

HOTSPOT

You need to create an Azure Storage account that meets the following requirements:

- Minimizes costs
- Supports hot, cool, and archive blob tiers
- Provides fault tolerance if a disaster affects the Azure region where the account resides

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

```
az storage account create -g RG1 -n storageaccount1
```

--kind

BlobStorage
Storage
StorageV2

--sku

Standard_GRS
Standard_LRS
Standard_RAGRS
Premium_LRS

**Correct Answer:**

### Answer Area

```
az storage account create -g RG1 -n storageaccount1
```

--kind

BlobStorage
Storage
StorageV2

--sku

Standard_GRS
Standard_LRS
Standard_RAGRS
Premium_LRS

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

**Box 1: StorageV2**

You may only tier your object storage data to hot, cool, or archive in Blob storage and General Purpose v2 (GPv2) accounts. General Purpose v1 (GPv1) accounts do not support tiering.

General-purpose v2 accounts deliver the lowest per-gigabyte capacity prices for Azure Storage, as well as industry-competitive transaction prices.

**Box 2: Standard\_GRS**

Geo-redundant storage (GRS): Cross-regional replication to protect against region-wide unavailability.

**Incorrect Answers:**

Locally-redundant storage (LRS): A simple, low-cost replication strategy. Data is replicated within a single storage scale unit.

Read-access geo-redundant storage (RA-GRS): Cross-regional replication with read access to the replica. RA-GRS provides read-only access to the data in the secondary location, in addition to geo-replication across two regions, but is more expensive compared to GRS.

**Reference:**

<https://docs.microsoft.com/en-us/azure/storage/common/storage-redundancy-grs>

<https://docs.microsoft.com/en-us/azure/storage/blobs/storage-blob-storage-tiers>

**QUESTION 23**

You have an Azure subscription that contains the resources in the following table.

Name	Type
RG1	Resource group
store1	Azure Storage account
Sync1	Azure File Sync

Store1 contains a file share named data. Data contains 5,000 files.

You need to synchronize the files in the file share named data to an on-premises server named Server1.

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

**NOTE:** Each correct selection is worth one point.

- A. Create a container instance
- B. Register Server1
- C. Install the Azure File Sync agent on Server1
- D. Download an automation script
- E. Create a sync group

**Correct Answer:** BCE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Step 1 (C): Install the Azure File Sync agent on Server1

The Azure File Sync agent is a downloadable package that enables Windows Server to be synced with an Azure file share

Step 2 (B): Register Server1.

## Register Windows Server with Storage Sync Service

Registering your Windows Server with a Storage Sync Service establishes a trust relationship between your server (or cluster) and the Storage Sync Service.

Step 3 (E): Create a sync group and a cloud endpoint.

A sync group defines the sync topology for a set of files. Endpoints within a sync group are kept in sync with each other. A sync group must contain one cloud endpoint, which represents an Azure file share and one or more server endpoints. A server endpoint represents a path on registered server.

Reference:

<https://docs.microsoft.com/en-us/azure/storage/files/storage-sync-files-deployment-guide>

## QUESTION 24

HOTSPOT

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

Name	Type	Resource group
VNET1	Virtual network	RG1
VNET2	Virtual network	RG2
VM1	Virtual machine	RG2

The status of VM1 is **Running**.

You assign an Azure policy as shown in the exhibit. (Click the **Exhibit** tab.)

## Assign Policy

### SCOPE

\* Scope ([Learn more about setting the scope](#))

Azure Pass/RG2



### Exclusions

*Optionally select resources to exempt from the policy assignment*



### BASICS

\* Policy definition

Not allowed resource types



\* Assignment name [?](#)

Not allowed resource types



### Description

### Assigned by

First User

### PARAMETERS

\* Not allowed resource types [?](#)

3 selected



**Assign**

**Cancel**

You assign the policy by using the following parameters:

Microsoft.ClassicNetwork/virtualNetworks  
Microsoft.Network/virtualNetworks  
Microsoft.Compute/virtualMachines

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
An administrator can move VNET1 to RG2	<input type="radio"/>	<input type="radio"/>
The state of VM1 changed to deallocated	<input type="radio"/>	<input type="radio"/>
An administrator can modify the address space of VNET2	<input type="radio"/>	<input type="radio"/>

**Correct Answer:****Answer Area**

Statements	Yes	No
An administrator can move VNET1 to RG2	<input type="radio"/>	<input checked="" type="radio"/>
The state of VM1 changed to deallocated	<input checked="" type="radio"/>	<input type="radio"/>
An administrator can modify the address space of VNET2	<input type="radio"/>	<input checked="" type="radio"/>

**Section: (none)****Explanation****Explanation/Reference:****QUESTION 25****DRAG DROP**

You have an Azure subscription that contains a storage account.

You have an on-premises server named Server1 that runs Windows Server 2016. Server1 has 2 TB of data.

You need to transfer the data to the storage account by using the Azure Import/Export service.

In which order should you perform the actions? To answer, move all actions from the list of actions to the answer area and arrange them in the correct order.

**NOTE:** More than one order of answer choices is correct. You will receive credit for any of the correct orders you select.

**Select and Place:**

Actions	Answer Area
From the Azure portal, update the import job	
From the Azure portal, create an import job	
Attach an external disk to Server1 and then run waimportexport.exe	
Detach the external disks from Server1 and ship the disks to an Azure data center	  

#### Correct Answer:

Actions	Answer Area
From the Azure portal, update the import job	Attach an external disk to Server1 and then run waimportexport.exe
From the Azure portal, create an import job	From the Azure portal, create an import job
Attach an external disk to Server1 and then run waimportexport.exe	 Detach the external disks from Server1 and ship the disks to an Azure data center
Detach the external disks from Server1 and ship the disks to an Azure data center	 From the Azure portal, update the import job  

#### Section: (none)

#### Explanation

#### Explanation/Reference:

Explanation:

At a high level, an import job involves the following steps:

Step 1: Attach an external disk to Server1 and then run waimportexport.exe

Determine data to be imported, number of drives you need, destination blob location for your data in Azure storage.

Use the WAImpoExport tool to copy data to disk drives. Encrypt the disk drives with BitLocker.

Step 2: From the Azure portal, create an import job.

Create an import job in your target storage account in Azure portal. Upload the drive journal files.

Step 3: Detach the external disks from Server1 and ship the disks to an Azure data center.

Provide the return address and carrier account number for shipping the drives back to you.

Ship the disk drives to the shipping address provided during job creation.

Step 4: From the Azure portal, update the import job

Update the delivery tracking number in the import job details and submit the import job.

The drives are received and processed at the Azure data center.

The drives are shipped using your carrier account to the return address provided in the import job.

#### Reference:

<https://docs.microsoft.com/en-us/azure/storage/common/storage-import-export-service>

## **Implement and manage storage**

### **Testlet 2**

#### **Case study**

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 questions in 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 section 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 in 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**

Contoso, Ltd. is a manufacturing company that has offices worldwide. Contoso works with partner organizations to bring products to market.

Contoso products are manufactured by using blueprint files that the company authors and maintains.

#### **Existing Environment**

Currently, Contoso uses multiple types of servers for business operations, including the following:

- File servers
- Domain controllers
- Microsoft SQL Server servers

Your network contains an Active Directory forest named contoso.com. All servers and client computers are joined to Active Directory.

You have a public-facing application named App1. App1 is comprised of the following three tiers:

- A SQL database
- A web front end
- A processing middle tier

Each tier is comprised of five virtual machines. Users access the web front end by using HTTPS only.

#### **Requirements**

#### **Planned Changes**

Contoso plans to implement the following changes to the infrastructure:

- Move all the tiers of App1 to Azure.

- Move the existing product blueprint files to Azure Blob storage.
- Create a hybrid directory to support an upcoming Microsoft Office 365 migration project.

## Technical Requirements

Contoso must meet the following technical requirements:

- Move all the virtual machines for App1 to Azure.
- Minimize the number of open ports between the App1 tiers.
- Ensure that all the virtual machines for App1 are protected by backups.
- Copy the blueprint files to Azure over the Internet.
- Ensure that the blueprint files are stored in the archive storage tier.
- Ensure that partner access to the blueprint files is secured and temporary.
- Prevent user passwords or hashes of passwords from being stored in Azure.
- Use unmanaged standard storage for the hard disks of the virtual machines.
- Ensure that when users join devices to Azure Active Directory (Azure AD), the users use a mobile phone to verify their identity.
- Minimize administrative effort whenever possible.

## User Requirements

Contoso identifies the following requirements for users:

- Ensure that only users who are part of a group named Pilot can join devices to Azure AD.
- Designate a new user named Admin1 as the service admin for the Azure subscription.
- Admin1 must receive email alerts regarding service outages.
- Ensure that a new user named User3 can create network objects for the Azure subscription.

## QUESTION 1

You need to implement a backup solution for App1 after the application is moved.

What should you create first?

- A. a recovery plan
- B. an Azure Backup Server
- C. a backup policy
- D. a Recovery Services vault

**Correct Answer: D**

**Section: (none)**

**Explanation**

### Explanation/Reference:

Explanation:

A Recovery Services vault is a logical container that stores the backup data for each protected resource, such as Azure VMs. When the backup job for a protected resource runs, it creates a recovery point inside the Recovery Services vault.

Scenario:

There are three application tiers, each with five virtual machines.

Move all the virtual machines for App1 to Azure.

Ensure that all the virtual machines for App1 are protected by backups.

Reference:

<https://docs.microsoft.com/en-us/azure/backup/quick-backup-vm-portal>

## QUESTION 2

You need to move the blueprint files to Azure.

What should you do?

- A. Generate an access key. Map a drive, and then copy the files by using File Explorer.
- B. Use Azure Storage Explorer to copy the files.
- C. Use the Azure Import/Export service.
- D. Generate a shared access signature (SAS). Map a drive, and then copy the files by using File Explorer.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Azure Storage Explorer is a free tool from Microsoft that allows you to work with Azure Storage data on Windows, macOS, and Linux. You can use it to upload and download data from Azure blob storage.

Scenario:

Planned Changes include: move the existing product blueprint files to Azure Blob storage.

Technical Requirements include: Copy the blueprint files to Azure over the Internet.

Reference:

<https://docs.microsoft.com/en-us/azure/machine-learning/team-data-science-process/move-data-to-azure-blob-using-azure-storage-explorer>

### QUESTION 3

HOTSPOT

You need to identify the storage requirements for Contoso.

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
Contoso requires a storage account that supports Blob storage.	<input type="radio"/>	<input type="radio"/>
Contoso requires a storage account that supports Azure Table storage.	<input type="radio"/>	<input type="radio"/>
Contoso requires a storage account that supports Azure File Storage.	<input type="radio"/>	<input type="radio"/>

**Correct Answer:**

## Answer Area

Statements	Yes	No
Contoso requires a storage account that supports Blob storage.	<input checked="" type="radio"/>	<input type="radio"/>
Contoso requires a storage account that supports Azure Table storage.	<input type="radio"/>	<input checked="" type="radio"/>
Contoso requires a storage account that supports Azure File Storage.	<input type="radio"/>	<input checked="" type="radio"/>

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

Box 1: Yes

Contoso is moving the existing product blueprint files to Azure Blob storage.

Use unmanaged standard storage for the hard disks of the virtual machines. We use Page Blobs for these.

Box 2: No

Box 3: No

## Deploy and manage Azure compute resources

### 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 an Azure subscription that contains the resources shown in the following table.

Name	Type	Region
RG1	Resource group	West US
RG2	Resource group	East Asia
storage1	Storage account	West US
storage2	Storage account	East Asia
VM1	Virtual machine	West US
VNET1	Virtual network	West US
VNET2	Virtual network	East Asia

VM1 connects to VNET1.

You need to connect VM1 to VNET2.

Solution: You move VM1 to RG2, and then you add a new network interface to VM1.

Does this meet the goal?

- A. Yes
- B. No

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Instead you should delete VM1. You recreate VM1, and then you add the network interface for VM1.

Note: When you create an Azure virtual machine (VM), you must create a virtual network (VNet) or use an existing VNet. You can change the subnet a VM is connected to after it's created, but you cannot change the VNet.

Reference:

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

#### QUESTION 2

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 that contains the resources shown in the following table.

Name	Type	Region
RG1	Resource group	West US
RG2	Resource group	East Asia
storage1	Storage account	West US
storage2	Storage account	East Asia
VM1	Virtual machine	West US
VNET1	Virtual network	West US
VNET2	Virtual network	East Asia

VM1 connects to VNET1.

You need to connect VM1 to VNET2.

Solution: You delete VM1. You recreate VM1, and then you create a new network interface for VM1 and connect it to VNET2.

Does this meet the goal?

- A. Yes
- B. No

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

You should delete VM1. You recreate VM1, and then you add the network interface for VM1.

Note: When you create an Azure virtual machine (VM), you must create a virtual network (VNet) or use an existing VNet. You can change the subnet a VM is connected to after it's created, but you cannot change the VNet.

Reference:

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

### QUESTION 3

**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 that contains the resources shown in the following table.

Name	Type	Region
RG1	Resource group	West US
RG2	Resource group	East Asia
storage1	Storage account	West US
storage2	Storage account	East Asia
VM1	Virtual machine	West US
VNET1	Virtual network	West US
VNET2	Virtual network	East Asia

VM1 connects to VNET1.

You need to connect VM1 to VNET2.

Solution: You turn off VM1, and then you add a new network interface to VM1.

Does this meet the goal?

- A. Yes
- B. No

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Instead you should delete VM1. You recreate VM1, and then you add the network interface for VM1.

Note: When you create an Azure virtual machine (VM), you must create a virtual network (VNet) or use an existing VNet. You can change the subnet a VM is connected to after it's created, but you cannot change the VNet.

Reference:

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

#### **QUESTION 4**

HOTSPOT

You have an Azure subscription named Subscription1 that contains the quotas shown in the following table.

Quota	Location	Usage
Standard BS Family vCPUs	West US	0 of 20
Standard D Family vCPUs	West US	0 of 20
Total Regional vCPUs	West US	0 of 20

You deploy virtual machine to Subscription1 as shown in the following table.

Name	Size	vCPUs	Location	Status
VM1	Standard_B2ms	2	West US	Running
VM20	Standard_B16ms	16	West US	Stopped (Deallocated)

You plan to deploy the virtual machines shown in the following table.

Name	Size	vCPUs
VM3	Standard_B2ms	1
VM4	Standard_D4s_v3	4
VM5	Standard_B16ms	16

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
You can deploy VM3 to West US.	<input type="radio"/>	<input type="radio"/>
You can deploy VM4 to West US.	<input type="radio"/>	<input type="radio"/>
You can deploy VM5 to West US.	<input type="radio"/>	<input type="radio"/>

**Correct Answer:**

### Answer Area

Statements	Yes	No
You can deploy VM3 to West US.	<input checked="" type="radio"/>	<input type="radio"/>
You can deploy VM4 to West US.	<input type="radio"/>	<input checked="" type="radio"/>
You can deploy VM5 to West US.	<input type="radio"/>	<input checked="" type="radio"/>

**Section: (none)**  
**Explanation**

**Explanation/Reference:**

Explanation:

The total regional vCPUs is 20 so that means a maximum total of 20 vCPUs across all the different VM sizes. The deallocated VM with 16 vCPUs counts towards the total. VM20 and VM1 are using 18 of the maximum 20 vCPUs leaving only two vCPUs available.

Reference:

<https://docs.microsoft.com/en-us/azure/virtual-machines/windows/quotas>

## QUESTION 5

HOTSPOT

You have an Azure subscription that contains an Azure Availability Set named WEBPROD-AS-USE2 as shown in the following exhibit.

```
PS Azure:\> az vm availability-set list --g RG1
[
  {
    "id": "/subscriptions/8372f433-2dcd-4361-b5ef-5b188fed87d0/resourceGroups/RG1/providers/Microsoft.Compute/availabilitySets/WEBPROD-AS-USE2",
    "location": "eastus2",
    "name": "WEBPROD-AS-USE2",
    "platformFaultDomainCount": 2,
    "platformUpdateDomainCount": 10,
    "proximityPlacementGroup": null,
    "resourceGroup": "RG1",
    "sku": {
      "capacity": null,
      "name": "Aligned",
      "tier": null
    },
    "statuses": null,
    "tags": {},
    "type": "Microsoft.Compute/availabilitySets",
    "virtualMachines": []
  }
]
Azure:/
```

You add 14 virtual machines to WEBPROD-AS-USE2.

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

When Microsoft performs planned maintenance in East US 2, the maximum number of unavailable virtual machines will be [answer choice].

▼
2
7
10
14

If the server rack in the Azure datacenter that hosts WEBPROD-AS-USE2 experiences a power failure, the maximum number of unavailable virtual machines will be [answer choice].

▼
2
7
10
14

**Correct Answer:**

## Answer Area

When Microsoft performs planned maintenance in East US 2, the maximum number of unavailable virtual machines will be [answer choice].

▼
2
7
10
14

If the server rack in the Azure datacenter that hosts WEBPROD-AS-USE2 experiences a power failure, the maximum number of unavailable virtual machines will be [answer choice].

▼
2
7
10
14

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

Box 1: 2

There are 10 update domains. The 14 VMs are shared across the 10 update domains so four update domains will have two VMs and six update domains will have one VM. Only one update domain is rebooted at a time. Therefore, a maximum of two VMs will be offline.

Box 2: 7

There are 2 fault domains. The 14 VMs are shared across the 2 fault domains, so 7 VMs in each fault domain. A rack failure will affect one fault domain so 7 VMs will be offline.

Reference:

<https://docs.microsoft.com/en-us/azure/virtual-machines/windows/manage-availability>

**QUESTION 6**

You deploy an Azure Kubernetes Service (AKS) cluster named Cluster1 that uses the IP addresses shown in the following table.

IP address	Assigned to
131.107.2.1	Load balancer front end
192.168.10.2	Kubernetes DNS service
172.17.7.1	Docket bridge address
10.0.10.11	Kubernetes cluster node

You need to provide internet users with access to the applications that run in Cluster1.

Which IP address should you include in the DNS record for Cluster1?

- A. 131.107.2.1
- B. 10.0.10.11
- C. 172.17.7.1
- D. 192.168.10.2

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 7**

You have a deployment template named Template1 that is used to deploy 10 Azure web apps.

You need to identify what to deploy before you deploy Template1. The solution must minimize Azure costs.

What should you identify?

- A. five Azure Application Gateways
- B. one App Service plan
- C. 10 App Service plans
- D. one Azure Traffic Manager
- E. one Azure Application Gateway

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

You create Azure web apps in an App Service plan.

Reference:

<https://docs.microsoft.com/en-us/azure/app-service/overview-hosting-plans>

**QUESTION 8**

HOTSPOT

You plan to deploy an Azure container instance by using the following Azure Resource Manager template.

```
{
  "type": "Microsoft.ContainerInstance/containerGroups",
  "apiVersion": "2018-10-01",
  "name": "webprod",
  "location": "westus",
  "properties": {
    "containers": [
      {
        "name": "webprod",
        "properties": {
          "image": "microsoft/iis:nanoserver",
          "ports": [
            {
              "protocol": "TCP",
              "port": 80
            }
          ],
          "environmentVariables": [],
          "resources": {
            "requests": {
              "memoryInGB": 1.5,
              "cpu": 1
            }
          }
        }
      }
    ],
    "restartPolicy": "OnFailure",
    "ipAddress": {
      "ports": [
        {
          "protocol": "TCP",
          "port": 80
        }
      ],
      "ip": "[parameters('IPAddress')]",
      "type": "Public"
    },
    "osType": "Windows"
  }
}
```

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

**Hot Area:**

## Answer Area

Internet users [answer choice].

can connect to the container from any device
cannot connect to the container
can only connect to the container from devices that run Windows

If Internet Information Services (IIS) in the container fail, [answer choice].

the container will restart automatically
the container will only restart manually
the container must be redeployed

Correct Answer:

## Answer Area

Internet users [answer choice].

can connect to the container from any device
cannot connect to the container
can only connect to the container from devices that run Windows

If Internet Information Services (IIS) in the container fail, [answer choice].

the container will restart automatically
the container will only restart manually
the container must be redeployed

Section: (none)

Explanation

Explanation/Reference:

## QUESTION 9

You have an Azure subscription that contains a virtual machine named VM1. VM1 hosts a line-of-business application that is available 24 hours a day. VM1 has one network interface and one managed disk. VM1 uses the D4s v3 size.

You plan to make the following changes to VM1:

- Change the size to D8s v3.
- Add a 500-GB managed disk.
- Add the Puppet Agent extension.
- Enable Desired State Configuration Management.

Which change will cause downtime for VM1?

- A. Enable Desired State Configuration Management
- B. Add a 500-GB managed disk
- C. Change the size to D8s v3
- D. Add the Puppet Agent extension

Correct Answer: C

Section: (none)

Explanation

**Explanation/Reference:**

Explanation:

While resizing the VM it must be in a stopped state.

Reference:

<https://azure.microsoft.com/en-us/blog/resize-virtual-machines/>

**QUESTION 10**

You have an app named App1 that runs on an Azure web app named webapp1.

The developers at your company upload an update of App1 to a Git repository named Git1.

Webapp1 has the deployment slots shown in the following table.

Name	Function
webapp1-prod	Production
webapp1-test	Staging

You need to ensure that the App1 update is tested before the update is made available to users.

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

- A. Swap the slots
- B. Deploy the App1 update to webapp1-prod, and then test the update
- C. Stop webapp1-prod
- D. Deploy the App1 update to webapp1-test, and then test the update
- E. Stop webapp1-test

**Correct Answer:** AD

**Section:** (none)

**Explanation**

**Explanation/Reference:****QUESTION 11**

You have an Azure subscription named Subscription1 that has the following providers registered:

- Authorization
- Automation
- Resources
- Compute
- KeyVault
- Network
- Storage
- Billing
- Web

Subscription1 contains an Azure virtual machine named VM1 that has the following configurations:

- Private IP address: 10.0.0.4 (dynamic)
- Network security group (NSG): NSG1
- Public IP address: None
- Availability set: AVSet
- Subnet: 10.0.0.0/24
- Managed disks: No

- Location: East US

You need to record all the successful and failed connection attempts to VM1.

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

**NOTE:** Each correct selection is worth one point.

- A. Enable Azure Network Watcher in the East US Azure region.
- B. Add an Azure Network Watcher connection monitor.
- C. Register the MicrosoftLogAnalytics provider.
- D. Create an Azure Storage account.
- E. Register the Microsoft.Insights resource provider.
- F. Enable Azure Network Watcher flow logs.

**Correct Answer:** ACD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

D: NSG flow log data is written to an Azure Storage account. You need to create an Azure Storage account,

With an Azure Storage account NSG flow logs can be enabled.

A: Enable network watcher in the East US region.

C: NSG flow logging requires the Microsoft.Insights provider.

Reference:

<https://docs.microsoft.com/en-us/azure/network-watcher/network-watcher-nsg-flow-logging-portal>

## QUESTION 12

You need to deploy an Azure virtual machine scale set that contains five instances as quickly as possible.

What should you do?

- A. Deploy five virtual machines. Modify the Availability Zones settings for each virtual machine.
- B. Deploy five virtual machines. Modify the Size setting for each virtual machine.
- C. Deploy one virtual machine scale set that is set to VM (virtual machines) orchestration mode.
- D. Deploy one virtual machine scale set that is set to ScaleSetVM orchestration mode.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Reference:

<https://docs.microsoft.com/en-us/azure/virtual-machine-scale-sets/orchestration-modes>

## QUESTION 13

You plan to create the Azure web apps shown in the following table.

Name	Runtime stack
WebApp1	.NET Core 3.0
WebApp2	ASP.NET V4.7
WebApp3	PHP 7.3
WebApp4	Ruby 2.6

What is the minimum number of App Service plans you should create for the web apps?

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

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 14

HOTSPOT

You have a pay-as-you-go Azure subscription that contains the virtual machines shown in the following table.

Name	Resource group	Daily cost
VM1	RG1	20 euros
VM2	RG2	30 euros

You create the budget shown in the following exhibit.

## Budget1

Resource group

Edit budget

Delete budget

CURRENT SPEND  
5.93 EUR



### BUDGET SUMMARY

Name	Budget1
Scope	RG1 (Resource group)
Filters	-
Amount	1,000.00 EUR
Budget period	Resets billing month
Start date	6/20/2019
End date	6/19/2021

### BUDGET ALERTS

Alert conditions	% OF BUDGET	AMOUNT	ACTION GROUP	ACTION GROUP
	50%	€500	AG1	1 Email
	70%	€700	AG2	1 SMS
	100%	€1,000	AG3	1 Azure app
Alert recipients (email)	User1@Contoso.com			

The AG1 action group contains a user named admin@contoso.com only.

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

**Hot Area:**

## Answer Area

When the maximum amount in Budget1 is reached, [answer choice].

VM1 and VM2 are turned off
VM1 and VM2 continue to run
VM1 is turned off, and VM2 continues to run

Based on the current usage costs of the virtual machines, [answer choice].

no email notifications will be sent each month
one email notification will be sent each month
two email notifications will be sent each month
three email notifications will be sent each month

## Correct Answer:

## Answer Area

When the maximum amount in Budget1 is reached, [answer choice].

VM1 and VM2 are turned off
VM1 and VM2 continue to run
VM1 is turned off, and VM2 continues to run

Based on the current usage costs of the virtual machines, [answer choice].

no email notifications will be sent each month
one email notification will be sent each month
two email notifications will be sent each month
three email notifications will be sent each month

## Section: (none)

### Explanation

#### Explanation/Reference:

Explanation:

Box 1: VM1 is turned off, and VM2 continues to run

The budget alerts are for Resource Group RG1, which include VM1, but not VM2.

Box 2: one email notification will be sent each month.

Budget alerts for Resource Group RG1, which include VM1, but not VM2. VM1 consumes 20 Euro/day. The 50%, 500 Euro limit, will be reached in 25 days, and an email will be sent.

The 70% and 100% alert conditions will not be reached within a month, and they don't trigger email actions anyway.

Credit alerts: Credit alerts are generated automatically at 90% and at 100% of your Azure credit balance. Whenever an alert is generated, it's reflected in cost alerts and in the email sent to the account owners. 90% and 100% will not be reached though.

Reference:

<https://docs.microsoft.com/en-us/azure/cost-management-billing/costs/cost-mgt-alerts-monitor-usage-spending>

## QUESTION 15

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 Subscription1. Subscription1 contains a resource group named RG1. RG1 contains resources that were deployed by using templates.

You need to view the date and time when the resources were created in RG1.

Solution: From the Subscriptions blade, you select the subscription, and then click **Programmatic deployment**.

Does this meet the goal?

- A. Yes
- B. No

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

From the RG1 blade, click Deployments. You see a history of deployment for the resource group.

Reference:

<https://docs.microsoft.com/en-us/azure/azure-resource-manager/templates/template-tutorial-create-first-template?tabs=azure-powershell>

## **QUESTION 16**

**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 Subscription1. Subscription1 contains a resource group named RG1. RG1 contains resources that were deployed by using templates.

You need to view the date and time when the resources were created in RG1.

Solution: From the RG1 blade, you click **Automation script**.

Does this meet the goal?

- A. Yes
- B. No

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

From the RG1 blade, click Deployments. You see a history of deployment for the resource group.

Reference:

<https://docs.microsoft.com/en-us/azure/azure-resource-manager/templates/template-tutorial-create-first-template?tabs=azure-powershell>

### QUESTION 17

**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 Subscription1. Subscription1 contains a resource group named RG1. RG1 contains resources that were deployed by using templates.

You need to view the date and time when the resources were created in RG1.

Solution: From the RG1 blade, you click **Deployments**.

Does this meet the goal?

- A. Yes
- B. No

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

From the RG1 blade, click Deployments. You see a history of deployment for the resource group.

Reference:

<https://docs.microsoft.com/en-us/azure/azure-resource-manager/templates/template-tutorial-create-first-template?tabs=azure-powershell>

### QUESTION 18

You have an Azure subscription named Subscription1.

You deploy a Linux virtual machine named VM1 to Subscription1.

You need to monitor the metrics and the logs of VM1.

What should you use?

- A. Azure HDInsight
- B. Linux Diagnostic Extension (LAD) 3.0
- C. the AzurePerformanceDiagnostics extension
- D. Azure Analysis Services

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

You can use extensions to configure diagnostics on your VMs to collect additional metric data.



## Answer Area

Internet users [answer choice].

can connect to only the DNS server on VM1
can connect to only the web server on VM1
can connect to the web server and the DNS server on VM1
cannot connect to the web server and the DNS server on VM1

If you delete Rule2, Internet users [answer choice].

can connect to only the DNS server on VM1
can connect to only the web server on VM1
can connect to the web server and the DNS server on VM1
cannot connect to the web server and the DNS server on VM1

Correct Answer:

## Answer Area

Internet users [answer choice].

can connect to only the DNS server on VM1
can connect to only the web server on VM1
can connect to the web server and the DNS server on VM1
cannot connect to the web server and the DNS server on VM1

If you delete Rule2, Internet users [answer choice].

can connect to only the DNS server on VM1
can connect to only the web server on VM1
can connect to the web server and the DNS server on VM1
cannot connect to the web server and the DNS server on VM1

Section: (none)

Explanation

Explanation/Reference:

## QUESTION 20

You plan to deploy three Azure virtual machines named VM1, VM2, and VM3. The virtual machines will host a web app named App1.

You need to ensure that at least two virtual machines are available if a single Azure datacenter becomes unavailable.

What should you deploy?

- A. all three virtual machines in a single Availability Zone
- B. all virtual machines in a single Availability Set
- C. each virtual machine in a separate Availability Zone
- D. each virtual machine in a separate Availability Set

Correct Answer: B

Section: (none)

Explanation

**Explanation/Reference:**

Explanation:

Availability sets are a datacenter configuration to provide VM redundancy and availability. This configuration within a datacenter ensures that during either a planned or unplanned maintenance event, at least one virtual machine is available.

Reference:

<https://docs.microsoft.com/en-us/azure/virtual-machines/windows/manage-availability>

<https://docs.microsoft.com/en-us/azure/virtual-machines/windows/tutorial-availability-sets>

**QUESTION 21**

You have an Azure virtual machine named VM1 that runs Windows Server 2019.

You save VM1 as a template named Template1 to the Azure Resource Manager library.

You plan to deploy a virtual machine named VM2 from Template1.

What can you configure during the deployment of VM2?

- A. operating system
- B. administrator username
- C. virtual machine size
- D. resource group

**Correct Answer:** B

**Section:** (none)

Explanation

**Explanation/Reference:**

Explanation:

When deploying a virtual machine from a template, you must specify:

- the Resource Group name and location for the VM
- the administrator username and password
- an unique DNS name for the public IP

Reference:

<https://docs.microsoft.com/en-us/azure/virtual-machines/windows/ps-template>

**QUESTION 22**

You have an Azure subscription that contains an Azure virtual machine named VM1. VM1 runs a financial reporting app named App1 that does not support multiple active instances.

At the end of each month, CPU usage for VM1 peaks when App1 runs.

You need to create a scheduled runbook to increase the processor performance of VM1 at the end of each month.

What task should you include in the runbook?

- A. Add the Azure Performance Diagnostics agent to VM1.
- B. Modify the VM size property of VM1.
- C. Add VM1 to a scale set.
- D. Increase the vCPU quota for the subscription.
- E. Add a Desired State Configuration (DSC) extension to VM1.

**Correct Answer:** E

**Section: (none)****Explanation****Explanation/Reference:**

Reference:

<https://docs.microsoft.com/en-us/azure/automation/automation-quickstart-dsc-configuration>

**QUESTION 23**

You have an Azure virtual machine named VM1 that runs Windows Server 2019.

You sign in to VM1 as a user named User1 and perform the following actions:

- Create files on drive C.
- Create files on drive D.
- Modify the screen saver timeout.
- Change the desktop background.

You plan to redeploy VM1.

Which changes will be lost after you redeploy VM1?

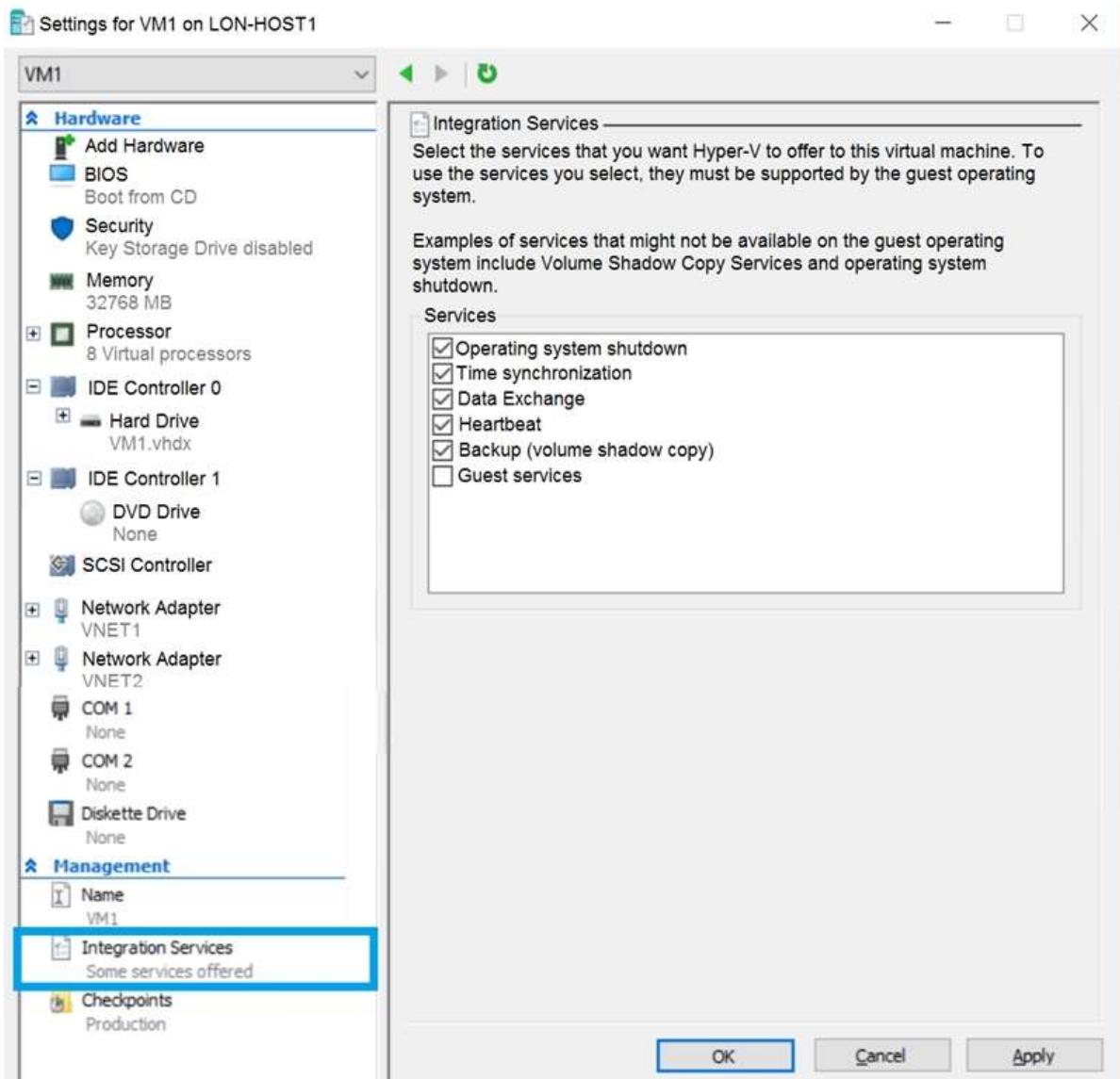
- A. the modified screen saver timeout
- B. the new desktop background
- C. the new files on drive D
- D. the new files on drive C

**Correct Answer:** A

**Section: (none)****Explanation****Explanation/Reference:****QUESTION 24**

You have an Azure subscription.

You have an on-premises virtual machine named VM1. The settings for VM1 are shown in the exhibit. (Click the **Exhibit** tab.)



You need to ensure that you can use the disks attached to VM1 as a template for Azure virtual machines.

What should you modify on VM1?

- A. the memory
- B. the network adapters
- C. the hard drive
- D. the processor
- E. Integration Services

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

From the exhibit we see that the disk is in the VHDX format.

Before you upload a Windows virtual machine (VM) from on-premises to Microsoft Azure, you must prepare

the virtual hard disk (VHD or VHDX). Azure supports only generation 1 VMs that are in the VHD file format and have a fixed sized disk. The maximum size allowed for the VHD is 1,023 GB. You can convert a generation 1 VM from the VHDX file system to VHD and from a dynamically expanding disk to fixed-sized.

Reference:

<https://docs.microsoft.com/en-us/azure/virtual-machines/windows/prepare-for-upload-vhd-image>

## QUESTION 25

HOTSPOT

You have an Azure subscription that contains a virtual machine scale set. The scale set contains four instances that have the following configurations:

- Operating system: Windows Server 2016
- Size: Standard\_D1\_v2

You run the `get-azvmss` cmdlet as shown in the following exhibit:

```
PS Azure:> (Get-AzVmss -Name WebProd -ResourceGroupName RG1).VirtualMachineProfile.OsProfile.WindowsConfiguration
ProvisionVMAgent      : True
EnableAutomaticUpdates : False
TimeZone               :
AdditionalUnattendContent:
WinRM                 :

Azure:/
PS Azure:> Get-AzVmss -Name WebProd -ResourceGroupName RG1 | Select -ExpandProperty UpgradePolicy
Mode RollingUpgradePolicy  AutomaticOSUpgradePolicy
----- -----
Automatic              Microsoft.Azure.Management.Compute.Models.AutomaticOSUpgradePolicy

Azure:/
PS Azure:> []
```

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

When an administrator changes the virtual machine size, the size will be changed on up to [answer choice] virtual machines simultaneously.

0
1
2
4

When a new build of the Windows Server 2016 image is released, the new build will be deployed to up to [answer choice] virtual machines simultaneously.

0
1
2
4

Correct Answer:

## Answer Area

When an administrator changes the virtual machine size, the size will be changed on up to [answer choice] virtual machines simultaneously.

0
1
2
4

When a new build of the Windows Server 2016 image is released, the new build will be deployed to up to [answer choice] virtual machines simultaneously.

0
1
2
4

Section: (none)  
Explanation

Explanation/Reference:  
Explanation:

The Get-AzVmssVM cmdlet gets the model view and instance view of a Virtual Machine Scale Set (VMSS) virtual machine.

Box 1: 0

The enableAutomaticUpdates parameter is set to false. To update existing VMs, you must do a manual upgrade of each existing VM.

Box 2: 4

Enabling automatic OS image upgrades on your scale set helps ease update management by safely and automatically upgrading the OS disk for all instances in the scale set.

Reference:

<https://docs.microsoft.com/en-us/azure/virtual-machine-scale-sets/virtual-machine-scale-sets-upgrade-scale-set>

<https://docs.microsoft.com/en-us/azure/virtual-machine-scale-sets/virtual-machine-scale-sets-automatic-upgrade>

## QUESTION 26

You have an Azure subscription named Subscription1 that is used by several departments at your company. Subscription1 contains the resources in the following table:

Name	Type
storage1	Storage account
RG1	Resource group
container1	Blob container
share1	File share

Another administrator deploys a virtual machine named VM1 and an Azure Storage account named storage2 by using a single Azure Resource Manager template.

You need to view the template used for the deployment.

From which blade can you view the template that was used for the deployment?

- A. VM1
- B. RG1
- C. storage2
- D. container1

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

View template from deployment history

1. Go to the resource group for your new resource group. Notice that the portal shows the result of the last deployment. Select this link.

The screenshot shows the Azure Resource Group blade for a resource group named 'exportsite'. The left sidebar has 'Overview' selected. The main area displays deployment history. A red box highlights the 'Deployments' section, which shows '1 Succeeded'. The deployment details show 'Subscription name (change)' as 'Microsoft Azure Consumption' and 'Subscription ID'.

2. You see a history of deployments for the group. In your case, the portal probably lists only one deployment.

Select this deployment.

DEPLOYMENT NAME	STATUS
Microsoft.WebSiteSQLDatabased1...	Succeeded

3. The portal displays a summary of the deployment. The summary includes the status of the deployment and its operations and the values that you provided for parameters. To see the template that you used for the deployment, select View template.

Microsoft.WebSiteSQLDatabased13386b0-9908 Deployment	
	<span>Microsoft.WebSiteSQLDatabased13386b0-9908 Deployment</span>
	Delete
	Cancel
	Refresh
	Redeploy
	<span>View template</span>
<hr/>	
Summary	
DEPLOYMENT DATE	7/5/2017 4:01:15 PM
STATUS	Succeeded
DURATION	1 minute 30 seconds
RESOURCE GROUP	exportsite
RELATED	Events

Reference:

<https://docs.microsoft.com/en-us/azure/azure-resource-manager/resource-manager-export-template>

## QUESTION 27

You have an Azure web app named App1. App1 has the deployment slots shown in the following table:

Name	Function
webapp1-prod	Production
webapp1-test	Staging

In webapp1-test, you test several changes to App1.

You back up App1.

You swap webapp1-test for webapp1-prod and discover that App1 is experiencing performance issues.

You need to revert to the previous version of App1 as quickly as possible.

What should you do?

- A. Redeploy App1
- B. Swap the slots
- C. Clone App1
- D. Restore the backup of App1

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

When you swap deployment slots, Azure swaps the Virtual IP addresses of the source and destination slots, thereby swapping the URLs of the slots. We can easily revert the deployment by swapping back.

Reference:

<https://docs.microsoft.com/en-us/azure/app-service/deploy-staging-slots>

## QUESTION 28

HOTSPOT

You have an Azure subscription named Subscription1. Subscription1 contains two Azure virtual machines VM1 and VM2. VM1 and VM2 run Windows Server 2016.

VM1 is backed up daily by Azure Backup without using the Azure Backup agent.

VM1 is affected by ransomware that encrypts data.

You need to restore the latest backup of VM1.

To which location can you restore the backup? To answer, select the appropriate options in the answer area.

**NOTE:** Each correct selection is worth one point.

**Hot Area:**

## Answer Area

You can perform a file recovery of VM1 to:

- VM1 only
- VM1 or a new Azure virtual machine only
- VM1 and VM2 only
- A new Azure virtual machine only
- Any Windows computer that has Internet connectivity

You can restore VM1 to:

- VM1 only
- VM1 or a new Azure virtual machine only
- VM1 and VM2 only
- Any Windows computer that has Internet connectivity

**Correct Answer:**

## Answer Area

You can perform a file recovery of VM1 to:

- VM1 only
- VM1 or a new Azure virtual machine only
- VM1 and VM2 only
- A new Azure virtual machine only
- Any Windows computer that has Internet connectivity

You can restore VM1 to:

- VM1 only
- VM1 or a new Azure virtual machine only
- VM1 and VM2 only
- Any Windows computer that has Internet connectivity

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

Note: The new VM must be in the same region.

Reference:

<https://docs.microsoft.com/en-us/azure/backup/backup-azure-arm-restore-vms>

## QUESTION 29

**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 virtual machine named VM1 that runs Windows Server 2016.

You need to create an alert in Azure when more than two error events are logged to the System event log on VM1 within an hour.

Solution: You create an Azure Log Analytics workspace and configure the data settings. You add the Microsoft Monitoring Agent VM extension to VM1. You create an alert in Azure Monitor and specify the Log Analytics workspace as the source.

Does this meet the goal?

- A. Yes
- B. No

**Correct Answer: B**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

Instead: You create an Azure Log Analytics workspace and configure the data settings. You install the Microsoft Monitoring Agent on VM1. You create an alert in Azure Monitor and specify the Log Analytics workspace as the source.

Reference:

<https://docs.microsoft.com/en-us/azure/azure-monitor/platform/agents-overview>

### **QUESTION 30**

**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 virtual machine named VM1 that runs Windows Server 2016.

You need to create an alert in Azure when more than two error events are logged to the System event log on VM1 within an hour.

Solution: You create an Azure Log Analytics workspace and configure the data settings. You install the Microsoft Monitoring Agent on VM1. You create an alert in Azure Monitor and specify the Log Analytics workspace as the source.

Does this meet the goal?

- A. Yes
- B. No

**Correct Answer: A**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

Alerts in Azure Monitor can identify important information in your Log Analytics repository. They are created by

alert rules that automatically run log searches at regular intervals, and if results of the log search match particular criteria, then an alert record is created and it can be configured to perform an automated response.

The Log Analytics agent collects monitoring data from the guest operating system and workloads of virtual machines in Azure, other cloud providers, and on-premises. It collects data into a Log Analytics workspace.

Reference:

<https://docs.microsoft.com/en-us/azure/azure-monitor/learn/tutorial-response>

<https://docs.microsoft.com/en-us/azure/azure-monitor/platform/agents-overview>

### QUESTION 31

**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 virtual machine named VM1 that runs Windows Server 2016.

You need to create an alert in Azure when more than two error events are logged to the System event log on VM1 within an hour.

Solution: You create an Azure storage account and configure shared access signatures (SASs). You install the Microsoft Monitoring Agent on VM1. You create an alert in Azure Monitor and specify the storage account as the source.

Does this meet the goal?

- A. Yes
- B. No

**Correct Answer: B**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

Instead: You create an Azure Log Analytics workspace and configure the data settings. You install the Microsoft Monitoring Agent on VM1. You create an alert in Azure Monitor and specify the Log Analytics workspace as the source.

Reference:

<https://docs.microsoft.com/en-us/azure/azure-monitor/platform/agents-overview>

### QUESTION 32

HOTSPOT

You have an Azure subscription named Subscription1. Subscription1 contains the resources in the following table.

Name	Type
RG1	Resource group
RG2	Resource group
VNet1	Virtual network
VNet2	Virtual network

VNet1 is in RG1. VNet2 is in RG2. There is no connectivity between VNet1 and VNet2.

An administrator named Admin1 creates an Azure virtual machine named VM1 in RG1. VM1 uses a disk named Disk1 and connects to VNet1. Admin1 then installs a custom application in VM1.

You need to move the custom application to VNet2. The solution must minimize administrative effort.

Which two actions should you perform? To answer, select the appropriate options in the answer area.

**NOTE:** Each correct selection is worth one point.

**Hot Area:**

### Answer Area

First action:

- Create a network interface in RG2.
- Detach a network interface.
- Delete VM1.
- Move a network interface to RG2.

Second action:

- Attach a network interface.
- Create a network interface in RG2.
- Create a new virtual machine.
- Move VM1 to RG2.

**Correct Answer:**

## Answer Area

First action:

- Create a network interface in RG2.
- Detach a network interface.
- Delete VM1.**
- Move a network interface to RG2.

Second action:

- Attach a network interface.
- Create a network interface in RG2.
- Create a new virtual machine.**
- Move VM1 to RG2.

### Section: (none)

#### Explanation

#### Explanation/Reference:

Explanation:

We cannot just move a virtual machine between networks. What we need to do is identify the disk used by the VM, delete the VM itself while retaining the disk, and recreate the VM in the target virtual network and then attach the original disk to it.

Reference:

<https://blogs.technet.microsoft.com/canitpro/2014/06/16/step-by-step-move-a-vm-to-a-different-vnet-on-azure/>

<https://4sysops.com/archives/move-an-azure-vm-to-another-virtual-network-vnet/#migrate-an-azure-vm-between-vnets>

### QUESTION 33

You download an Azure Resource Manager template based on an existing virtual machine. The template will be used to deploy 100 virtual machines.

You need to modify the template to reference an administrative password. You must prevent the password from being stored in plain text.

What should you create to store the password?

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

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

You can use a template that allows you to deploy a simple Windows VM by retrieving the password that is stored in a Key Vault. Therefore, the password is never put in plain text in the template parameter file.

Reference:

<https://azure.microsoft.com/en-us/resources/templates/101-vm-secure-password/>

### **QUESTION 34**

HOTSPOT

You have the App Service plans shown in the following table.

Name	Operating system	Location
ASP1	Windows	West US
ASP2	Windows	Central US
ASP3	Linux	West US

You plan to create the Azure web apps shown in the following table.

Name	Runtime stack	Location
WebApp1	.NET Core 3.0	West US
WebApp2	ASP.NET 4.7	West US

You need to identify which App Service plans can be used for the web apps.

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

**NOTE:** Each correct selection is worth one point.

**Hot Area:**

## Answer Area

WebApp1:

ASP1 only
ASP3 only
ASP1 and ASP2 only
ASP1 and ASP3 only
ASP1, ASP2, and ASP3

WebApp2:

ASP1 only
ASP3 only
ASP1 and ASP2 only
ASP1 and ASP3 only
ASP1, ASP2, and ASP3

Correct Answer:

## Answer Area

WebApp1:

ASP1 only
ASP3 only
ASP1 and ASP2 only
ASP1 and ASP3 only
ASP1, ASP2, and ASP3

WebApp2:

ASP1 only
ASP3 only
ASP1 and ASP2 only
ASP1 and ASP3 only
ASP1, ASP2, and ASP3

Section: (none)

Explanation

Explanation/Reference:

Explanation:

**Box 1: ASP1 ASP3**

ASP1, ASP3: ASP.NET Core apps can be hosted both on Windows or Linux.

Not ASP2: The region in which your app runs is the region of the App Service plan it's in.

**Box 2: ASP1**

ASP.NET apps can be hosted on Windows only.

Reference:

<https://docs.microsoft.com/en-us/azure/app-service/quickstart-dotnetcore?pivots=platform-linux>

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

**QUESTION 35**

HOTSPOT

You create a virtual machine scale set named Scale1. Scale1 is configured as shown in the following exhibit.

### Create a virtual machine scale set

Basics Disks Networking Scaling Management Health Advanced

An Azure virtual machine scale set can automatically increase or decrease the number of VM instances that run your application. This automated and elastic behavior reduces the management overhead to monitor and optimize the performance of your application. [Learn more about VMSS scaling](#)

#### Instance

Initial instance count \*

#### Scaling

Scaling policy  Manual  Custom

Minimum number of VMs \*

Maximum number of VMs \*

#### Scale out

CPU threshold (%) \*

Duration in minutes \*

Number of VMs to increase by \*

#### Scale in

CPU threshold (%) \*

Number of VMs to decrease by \*

#### Diagnostic logs

Collect diagnostic logs from Autoscale   Disabled  Enabled

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initial instance count is 4 and rises to 6 when the 2 extra instances of VMs are added.

Box 2: 2 virtual machines

The Autoscale scale in rule decreases the number of VMs by 4 if the CPU threshold is 30% or lower. The initial instance count is 4 and thus cannot be reduced to 0 as the minimum instances is set to 2. Instances are only added when the CPU threshold reaches 80%.

Reference:

<https://docs.microsoft.com/en-us/azure/azure-monitor/platform/autoscale-overview>

<https://docs.microsoft.com/en-us/azure/azure-monitor/platform/autoscale-best-practices>

<https://docs.microsoft.com/en-us/azure/azure-monitor/platform/autoscale-common-scale-patterns>

### QUESTION 36

You plan to automate the deployment of a virtual machine scale set that uses the Windows Server 2016 Datacenter image.

You need to ensure that when the scale set virtual machines are provisioned, they have web server components installed.

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 configuration script
- B. Create an automation account
- C. Create an Azure policy
- D. Modify the `extensionProfile` section of the Azure Resource Manager template
- E. Create a new virtual scale set in the Azure portal

**Correct Answer:** DE

**Section:** (none)

**Explanation**

#### Explanation/Reference:

Explanation:

Virtual Machine Scale Sets can be used with the Azure Desired State Configuration (DSC) extension handler. Virtual machine scale sets provide a way to deploy and manage large numbers of virtual machines, and can elastically scale in and out in response to load. DSC is used to configure the VMs as they come online so they are running the production software.

Reference:

<https://docs.microsoft.com/en-us/azure/virtual-machine-scale-sets/virtual-machine-scale-sets-dsc>

### QUESTION 37

HOTSPOT

You have an Azure Kubernetes Service (AKS) cluster named AKS1 and a computer named Computer1 that runs Windows 10. Computer1 has the Azure CLI installed.

You need to install the kubectl client on Computer1.

Which command should you run? To answer, select the appropriate options in the answer area.

**NOTE:** Each correct selection is worth one point.

**Hot Area:**

## Answer Area

	▼	
az		
docker		
msiexec.exe		
Install-Module		

Install-cli

Correct Answer:

## Answer Area

	▼	
az		
docker		
msiexec.exe		
Install-Module		

Install-cli

Section: (none)

Explanation

Explanation/Reference:

Explanation:

To install kubectl locally, use the az aks install-cli command:

az aks install-cli

Reference:

<https://docs.microsoft.com/en-us/azure/aks/kubernetes-walkthrough>

### QUESTION 38

DRAG DROP

You onboard 10 Azure virtual machines to Azure Automation State Configuration.

You need to use Azure Automation State Configuration to manage the ongoing consistency of the virtual machine configurations.

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.

**NOTE:** More than one order of answer choices is correct. You will receive credit for any of the correct orders you select.

Select and Place:



The report status — whether the node is "Compliant", the configuration "Failed", or the node is "Not Compliant"

Reference:

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

### QUESTION 39

You have an Azure Resource Manager template named Template1 that is used to deploy an Azure virtual machine.

Template1 contains the following text:

```
"location": {  
    "type": "String",  
    "defaultValue": "eastus",  
    "allowedValues": [  
        "canadacentral",  
        "eastus",  
        "westeurope",  
        "westus" ]  
}
```

The variables section in Template1 contains the following text:

```
"location": "westeurope"
```

The resources section in Template1 contains the following text:

```
"type": "Microsoft.Compute/virtualMachines",  
"apiVersion": "2018-10-01",  
"name": "[variables('vmName')]",  
"location": "westeurope",
```

You need to deploy the virtual machine to the West US location by using Template1.

What should you do?

- A. Modify the location in the resource section to westus
- B. Select West US during the deployment
- C. Modify the location in the variables section to westus

**Correct Answer: A**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

### QUESTION 40

You create an App Service plan named Plan1 and an Azure web app named webapp1.

You discover that the option to create a staging slot is unavailable.

You need to create a staging slot for Plan1.

What should you do first?

- A. From Plan1, scale up the App Service plan
- B. From webapp1, modify the Application settings
- C. From webapp1, add a custom domain
- D. From Plan1, scale out the App Service plan

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The app must be running in the Standard, Premium, or Isolated tier in order for you to enable multiple deployment slots.

If the app isn't already in the Standard, Premium, or Isolated tier, you receive a message that indicates the supported tiers for enabling staged publishing. At this point, you have the option to select Upgrade and go to the Scale tab of your app before continuing.

Scale up: Get more CPU, memory, disk space, and extra features like dedicated virtual machines (VMs), custom domains and certificates, staging slots, autoscaling, and more.

Incorrect:

Scale out: Increase the number of VM instances that run your app. You can scale out to as many as 30 instances

Reference:

<https://docs.microsoft.com/en-us/azure/app-service/deploy-staging-slots>

<https://docs.microsoft.com/en-us/azure/app-service/manage-scale-up>

#### **QUESTION 41**

You plan to move a distributed on-premises app named App1 to an Azure subscription.

After the planned move, App1 will be hosted on several Azure virtual machines.

You need to ensure that App1 always runs on at least eight virtual machines during planned Azure maintenance.

What should you create?

- A. one virtual machine scale set that has 10 virtual machines instances
- B. one Availability Set that has three fault domains and one update domain
- C. one Availability Set that has 10 update domains and one fault domain
- D. one virtual machine scale set that has 12 virtual machines instances

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

An update domain is a logical group of underlying hardware that can undergo maintenance or be rebooted at the same time. As you create VMs within an availability set, the Azure platform automatically distributes your

VMs across these update domains. This approach ensures that at least one instance of your application always remains running as the Azure platform undergoes periodic maintenance.

Reference:

<http://www.thatlazyadmin.com/azure-fault-update-domains/>

#### QUESTION 42

**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 virtual machine named VM1 that runs Windows Server 2016.

You need to create an alert in Azure when more than two error events are logged to the System event log on VM1 within an hour.

Solution: You create an event subscription on VM1. You create an alert in Azure Monitor and specify VM1 as the source

Does this meet the goal?

- A. Yes
- B. No

**Correct Answer: B**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

Instead: You create an Azure Log Analytics workspace and configure the data settings. You install the Microsoft Monitoring Agent on VM1. You create an alert in Azure Monitor and specify the Log Analytics workspace as the source.

Reference:

<https://docs.microsoft.com/en-us/azure/azure-monitor/platform/agents-overview>

#### QUESTION 43

**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 virtual machine named VM1. VM1 was deployed by using a custom Azure Resource Manager template named ARM1.json.

You receive a notification that VM1 will be affected by maintenance.

You need to move VM1 to a different host immediately.

Solution: From the Overview blade, you move the virtual machine to a different subscription.

Does this meet the goal?

- A. Yes
- B. No

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

You would need to redeploy the VM.

Reference:

<https://docs.microsoft.com/en-us/azure/virtual-machines/windows/redeploy-to-new-node>

#### **QUESTION 44**

**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 virtual machine named VM1. VM1 was deployed by using a custom Azure Resource Manager template named ARM1.json.

You receive a notification that VM1 will be affected by maintenance.

You need to move VM1 to a different host immediately.

Solution: From the Redeploy blade, you click **Redeploy**.

Does this meet the goal?

- A. Yes
- B. No

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

When you redeploy a VM, it moves the VM to a new node within the Azure infrastructure and then powers it back on, retaining all your configuration options and associated resources.

References:

<https://docs.microsoft.com/en-us/azure/virtual-machines/windows/redeploy-to-new-node>

#### **QUESTION 45**

**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 virtual machine named VM1. VM1 was deployed by using a custom Azure Resource Manager template named ARM1.json.

You receive a notification that VM1 will be affected by maintenance.

You need to move VM1 to a different host immediately.

Solution: From the Update management blade, you click **Enable**.

Does this meet the goal?

- A. Yes
- B. No

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

You would need to redeploy the VM.

Reference:

<https://docs.microsoft.com/en-us/azure/virtual-machines/windows/redeploy-to-new-node>

## Deploy and manage Azure compute resources

### Testlet 2

#### Case study

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 questions in 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 section 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 in 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 consulting company that has a main office in Montreal and two branch offices in Seattle and New York.

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

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

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

#### Existing Environment

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

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

Litware.com contains a user named User1.

All the offices connect by using private connections.

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

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

Name	Role	Contains virtual machine
Server1	VMware vCenter server	VM1
Server2	Hyper-V host	VM2

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

The Azure subscription contains the resources in the following table.

Name	Type
VNet1	Virtual network
VM3	Virtual machine
VM4	Virtual machine

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

## Requirements

### Planned Changes

Litware plans to implement the following changes:

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

### Technical Requirements

Litware must meet the following technical requirements:

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

## QUESTION 1

You discover that VM3 does **NOT** meet the technical requirements.

You need to verify whether the issue relates to the NSGs.

What should you use?

- A. Diagram in VNet1
- B. Diagnostic settings in Azure Monitor

- C. Diagnose and solve problems in Traffic Manager profiles
- D. The security recommendations in Azure Advisor
- E. IP flow verify in Azure Network Watcher

**Correct Answer:** E

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Scenario: Contoso must meet technical requirements including:

Ensure that VM3 can establish outbound connections over TCP port 8080 to the applications servers in the Montreal office.

IP flow verify checks if a packet is allowed or denied to or from a virtual machine. The information consists of direction, protocol, local IP, remote IP, local port, and remote port. If the packet is denied by a security group, the name of the rule that denied the packet is returned. While any source or destination IP can be chosen, IP flow verify helps administrators quickly diagnose connectivity issues from or to the internet and from or to the on-premises environment.

Reference:

<https://docs.microsoft.com/en-us/azure/network-watcher/network-watcher-ip-flow-verify-overview>

## Configure and manage virtual networking

### 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 an Azure subscription that contains 10 virtual networks. The virtual networks are hosted in separate resource groups.

Another administrator plans to create several network security groups (NSGs) in the subscription.

You need to ensure that when an NSG is created, it automatically blocks TCP port 8080 between the virtual networks.

Solution: From the Resource providers blade, you unregister the Microsoft.ClassicNetwork provider.

Does this meet the goal?

- A. Yes
- B. No

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

You should use a policy definition.

Resource policy definition used by Azure Policy enables you to establish conventions for resources in your organization by describing when the policy is enforced and what effect to take. By defining conventions, you can control costs and more easily manage your resources.

Reference:

<https://docs.microsoft.com/en-us/azure/azure-policy/policy-definition>

#### QUESTION 2

**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 that contains 10 virtual networks. The virtual networks are hosted in separate resource groups.

Another administrator plans to create several network security groups (NSGs) in the subscription.

You need to ensure that when an NSG is created, it automatically blocks TCP port 8080 between the virtual networks.

Solution: You assign a built-in policy definition to the subscription.

Does this meet the goal?

- A. Yes
- B. No

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Resource policy definition used by Azure Policy enables you to establish conventions for resources in your organization by describing when the policy is enforced and what effect to take. By defining conventions, you can control costs and more easily manage your resources.

Reference:

<https://docs.microsoft.com/en-us/azure/azure-policy/policy-definition>

**QUESTION 3**

**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 that contains 10 virtual networks. The virtual networks are hosted in separate resource groups.

Another administrator plans to create several network security groups (NSGs) in the subscription.

You need to ensure that when an NSG is created, it automatically blocks TCP port 8080 between the virtual networks.

Solution: You configure a custom policy definition, and then you assign the policy to the subscription.

Does this meet the goal?

- A. Yes
- B. No

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Resource policy definition used by Azure Policy enables you to establish conventions for resources in your organization by describing when the policy is enforced and what effect to take. By defining conventions, you can control costs and more easily manage your resources.

Reference:

<https://docs.microsoft.com/en-us/azure/azure-policy/policy-definition>

**QUESTION 4**

You have two Azure virtual networks named VNet1 and VNet2. VNet1 contains an Azure virtual machine named VM1. VNet2 contains an Azure virtual machine named VM2.

VM1 hosts a frontend application that connects to VM2 to retrieve data.

Users report that the frontend application is slower than usual.

You need to view the average round-trip time (RTT) of the packets from VM1 to VM2.

Which Azure Network Watcher feature should you use?

- A. IP flow verify
- B. Connection troubleshoot
- C. Connection monitor
- D. NSG flow logs

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The connection monitor capability monitors communication at a regular interval and informs you of reachability, latency, and network topology changes between the VM and the endpoint

Incorrect Answers:

A: The IP flow verify capability enables you to specify a source and destination IPv4 address, port, protocol (TCP or UDP), and traffic direction (inbound or outbound). IP flow verify then tests the communication and informs you if the connection succeeds or fails. If the connection fails, IP flow verify tells you which security rule allowed or denied the communication, so that you can resolve the problem.

B: The connection troubleshoot capability enables you to test a connection between a VM and another VM, an FQDN, a URI, or an IPv4 address. The test returns similar information returned when using the connection monitor capability, but tests the connection at a point in time, rather than monitoring it over time, as connection monitor does.

D: The NSG flow log capability allows you to log the source and destination IP address, port, protocol, and whether traffic was allowed or denied by an NSG.

Reference:

<https://docs.microsoft.com/en-us/azure/network-watcher/network-watcher-monitoring-overview>

## QUESTION 5

You have an Azure subscription that contains a policy-based virtual network gateway named GW1 and a virtual network named VNet1.

You need to ensure that you can configure a point-to-site connection from an on-premises computer to VNet1.

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

**NOTE:** Each correct selection is worth one point.

- A. Add a service endpoint to VNet1
- B. Reset GW1
- C. Create a route-based virtual network gateway
- D. Add a connection to GW1
- E. Delete GW1
- F. Add a public IP address space to VNet1

**Correct Answer:** CE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

C: A VPN gateway is used when creating a VPN connection to your on-premises network.

Route-based VPN devices use any-to-any (wildcard) traffic selectors, and let routing/forwarding tables direct traffic to different IPsec tunnels. It is typically built on router platforms where each IPsec tunnel is modeled as a network interface or VTI (virtual tunnel interface).

E: Policy-based VPN devices use the combinations of prefixes from both networks to define how traffic is encrypted/decrypted through IPsec tunnels. It is typically built on firewall devices that perform packet filtering. IPsec tunnel encryption and decryption are added to the packet filtering and processing engine.

Incorrect Answers:

F: Point-to-Site connections do not require a VPN device or a public-facing IP address.

Reference:

<https://docs.microsoft.com/en-us/azure/vpn-gateway/create-routebased-vpn-gateway-portal>

<https://docs.microsoft.com/en-us/azure/vpn-gateway/vpn-gateway-connect-multiple-policybased-rm-ps>

## QUESTION 6

HOTSPOT

You have an Azure subscription that contains the resources in the following table:

Name	Type
VMRG	Resource group
VNet1	Virtual network
VNet2	Virtual network
VM5	Virtual machine connected to VNet1
VM6	Virtual machine connected to VNet2

In Azure, you create a private DNS zone named adatum.com. You set the registration virtual network to VNet2. The adatum.com zone is configured as shown in the following exhibit:

Resource group ([change](#))  
vmrg

Name server 1  
-

Subscription ([change](#))  
Azure Pass

Name server 2  
-

Subscription ID  
a4fde29b-d56a-4f6c-8298-6c53cd0b720c

Name server 3  
-  
Name server 4  
-

Tags ([change](#))  
[Click here to add tags](#)

Search record sets

Name	Type	TTL	VALUE
@	SOA	3600	Email: azuredns-hostmaster.microsoft.com Host: internal.cloudapp.net Refresh: 3600 Retry: 300 Expire: 2419200 Minimum TTL: 300 Serial number: 1
vm1	A	3600	10.1.0.4
vm9	A	3600	10.1.0.12

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
The A record for VM5 will be registered automatically in the adatum.com zone.	<input type="radio"/>	<input type="radio"/>
VM5 can resolve VM9.adatum.com.	<input type="radio"/>	<input type="radio"/>
VM6 can resolve VM9.adatum.com.	<input type="radio"/>	<input type="radio"/>

**Correct Answer:**

## Answer Area

Statements	Yes	No
The A record for VM5 will be registered automatically in the adatum.com zone.	<input type="radio"/>	<input checked="" type="radio"/>
VM5 can resolve VM9.adatum.com.	<input type="radio"/>	<input checked="" type="radio"/>
VM6 can resolve VM9.adatum.com.	<input checked="" type="radio"/>	<input type="radio"/>

### Section: (none)

#### Explanation

#### Explanation/Reference:

Explanation:

Box 1: No

Azure DNS provides automatic registration of virtual machines from a single virtual network that's linked to a private zone as a registration virtual network. VM5 does not belong to the registration virtual network though.

Box 2: No

Forward DNS resolution is supported across virtual networks that are linked to the private zone as resolution virtual networks. VM5 does belong to a resolution virtual network.

Box 3: Yes

VM6 belongs to registration virtual network, and an A (Host) record exists for VM9 in the DNS zone. By default, registration virtual networks also act as resolution virtual networks, in the sense that DNS resolution against the zone works from any of the virtual machines within the registration virtual network.

Reference:

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

## QUESTION 7

#### HOTSPOT

You have an Azure subscription that contains a virtual network named VNet1. VNet1 uses an IP address space of 10.0.0.0/16 and contains the subnets in the following table:

Name	IP address range
Subnet0	10.0.0.0/24
Subnet1	10.0.1.0/24
Subnet2	10.0.2.0/24
GatewaySubnet	10.0.254.0/24

Subnet1 contains a virtual appliance named VM1 that operates as a router.

You create a routing table named RT1.

You need to route all inbound traffic from the VPN gateway to VNet1 through VM1.

How should you configure RT1? To answer, select the appropriate options in the answer area.

**NOTE:** Each correct selection is worth one point.

**Hot Area:**

## Answer Area

Address prefix

10.0.0.0/16
10.0.1.0/24
10.0.254.0/24

Next hop type

Virtual appliance
Virtual network
Virtual network gateway

Assigned to

GatewaySubnet
Subnet0
Subnet1 and Subnet2

**Correct Answer:**

## Answer Area

Address prefix

10.0.0.0/16
10.0.1.0/24
10.0.254.0/24

Next hop type

Virtual appliance
Virtual network
Virtual network gateway

Assigned to

GatewaySubnet
Subnet0
Subnet1 and Subnet2

**Section:** (none)

**Explanation:**

**Explanation/Reference:**

### QUESTION 8

You have five Azure virtual machines that run Windows Server 2016. The virtual machines are configured as web servers.

You have an Azure load balancer named LB1 that provides load balancing services for the virtual machines.

You need to ensure that visitors are serviced by the same web server for each request.

What should you configure?

- A. Floating IP (direct server return) to **Enabled**
- B. Idle Time-out (minutes) to **20**
- C. Protocol to **UDP**
- D. Session persistence to **Client IP and Protocol**

**Correct Answer:** D

**Section:** (none)

**Explanation:**

**Explanation/Reference:**

**Explanation:**

With Sticky Sessions when a client starts a session on one of your web servers, session stays on that specific server. To configure An Azure Load-Balancer For Sticky Sessions set Session persistence to Client IP.

On the following image you can see sticky session configuration:

Reference:

<https://cloudopszone.com/configure-azure-load-balancer-for-sticky-sessions/>

## QUESTION 9 HOTSPOT

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

Name	Operating system	Connects to
VM1	Windows Server 2019	Subnet1
VM2	Windows Server 2019	Subnet2

VM1 and VM2 use public IP addresses. From Windows Server 2019 on VM1 and VM2, you allow inbound Remote Desktop connections.

Subnet1 and Subnet2 are in a virtual network named VNET1.

The subscription contains two network security groups (NSGs) named NSG1 and NSG2. NSG1 uses only the default rules.

NSG2 uses the default rules and the following custom incoming rule:

- Priority: 100
- Name: Rule1
- Port: 3389
- Protocol: TCP
- Source: Any
- Destination: Any
- Action: Allow

NSG1 is associated to Subnet1. NSG2 is associated to the network interface of VM2.





Explanation:

Box 1: Yes

The inbound security rule for NSG1 allows TCP port 1433 from 10.10.2.0/24 (or Subnet2 where VM2 and VM3 are located) to 10.10.1.0/24 (or Subnet1 where VM1 is located) while the inbound security rule for NSG2 blocks TCP port 1433 from 10.10.2.5 (or VM2) to 10.10.1.5 (or VM1). However, the NSG1 rule has a higher priority (or lower value) than the NSG2 rule.

Box 2: Yes

No rule explicitly blocks communication from VM1. The default rules, which allow communication, are thus applied.

Box 3: Yes

No rule explicitly blocks communication between VM2 and VM3 which are both on Subnet2. The default rules, which allow communication, are thus applied.

Reference:

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

## QUESTION 11

HOTSPOT

You have an Azure subscription named Subscription1.

Subscription1 contains the virtual machines in the following table:

Name	IP address
VM1	10.0.1.4
VM2	10.0.2.4
VM3	10.0.3.4

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

Name	Address space	Connected virtual machine
Subnet1	10.0.1.0/24	VM1
Subnet2	10.0.2.0/24	VM2
Subnet3	10.0.3.0/24	VM3

VM3 has multiple network adapters, including a network adapter named NIC3. IP forwarding is enabled on NIC3. Routing is enabled on VM3.

You create a route table named RT1 that contains the routes in the following table:

Address prefix	Next hop type	Next hop address
10.0.1.0/24	Virtual appliance	10.0.3.4
10.0.2.0/24	Virtual appliance	10.0.3.4

You apply RT1 to Subnet1 and Subnet2.

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**

<b>Statements</b>	<b>Yes</b>	<b>No</b>
VM3 can establish a network connection to VM1.	<input type="radio"/>	<input type="radio"/>
If VM3 is turned off, VM2 can establish a network connection to VM1.	<input type="radio"/>	<input type="radio"/>
VM1 can establish a network connection to VM2.	<input type="radio"/>	<input type="radio"/>

**Correct Answer:**

### **Answer Area**

<b>Statements</b>	<b>Yes</b>	<b>No</b>
VM3 can establish a network connection to VM1.	<input checked="" type="radio"/>	<input type="radio"/>
If VM3 is turned off, VM2 can establish a network connection to VM1.	<input type="radio"/>	<input checked="" type="radio"/>
VM1 can establish a network connection to VM2.	<input checked="" type="radio"/>	<input type="radio"/>

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

IP forwarding enables the virtual machine a network interface is attached to:

- Receive network traffic not destined for one of the IP addresses assigned to any of the IP configurations assigned to the network interface.
- Send network traffic with a different source IP address than the one assigned to one of a network interface's IP configurations.

The setting must be enabled for every network interface that is attached to the virtual machine that receives traffic that the virtual machine needs to forward. A virtual machine can forward traffic whether it has multiple network interfaces or a single network interface attached to it.

Box 1: Yes

The routing table allows connections from VM3 to VM1 and VM2. And as IP forwarding is enabled on VM3, VM3 can connect to VM1.

Box 2: No

VM3, which has IP forwarding, must be turned on, in order for VM2 to connect to VM1.

Box 3: Yes

The routing table allows connections from VM1 and VM2 to VM3. IP forwarding on VM3 allows VM1 to connect to VM2 via VM3.

Reference:

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

<https://www.quora.com/What-is-IP-forwarding>

## QUESTION 12

Your on-premises network contains an SMB share named Share1.

You have an Azure subscription that contains the following resources:

- A web app named webapp1
- A virtual network named VNET1

You need to ensure that webapp1 can connect to Share1.

What should you deploy?

- A. an Azure Application Gateway
- B. an Azure Active Directory (Azure AD) Application Proxy
- C. an Azure Virtual Network Gateway

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

A Site-to-Site VPN gateway connection can be used to connect your on-premises network to an Azure virtual network over an IPsec/IKE (IKEv1 or IKEv2) VPN tunnel.

This type of connection requires a VPN device, a VPN gateway, located on-premises that has an externally facing public IP address assigned to it.

Incorrect Answers:

B: Application Proxy is a feature of Azure AD that enables users to access on-premises web applications from a remote client.

Reference:

<https://docs.microsoft.com/en-us/azure/vpn-gateway/vpn-gateway-howto-site-to-site-resource-manager-portal>

## QUESTION 13

You plan to deploy several Azure virtual machines that will run Windows Server 2019 in a virtual machine scale set by using an Azure Resource Manager template.

You need to ensure that NGINX is available on all the virtual machines after they are deployed.

What should you use?

- A. Azure Active Directory (Azure AD) Application Proxy
- B. Azure Application Insights
- C. Azure Custom Script Extension
- D. the New-AzConfigurationAssignment cmdlet

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 14****HOTSPOT**

You have an Azure subscription named Sub1.

You plan to deploy a multi-tiered application that will contain the tiers shown in the following table.

Tier	Accessible from the Internet	Number of virtual machines
Front-end web server	Yes	10
Business logic	No	100
Microsoft SQL Server database	No	5

You need to recommend a networking solution to meet the following requirements:

- Ensure that communication between the web servers and the business logic tier spreads equally across the virtual machines.
- Protect the web servers from SQL injection attacks.

Which Azure resource should you recommend for each requirement? To answer, select the appropriate options in the answer area.

**NOTE:** Each correct selection is worth one point.

**Hot Area:****Answer Area**

Ensure that communication between the web servers and the business logic tier spreads equally across the virtual machines:

▼
an application gateway that uses the Standard tier
an application gateway that uses the WAF tier
an internal load balancer
a network security group (NSG)
a public load balancer

Protect the web servers from SQL injection attacks:

▼
an application gateway that uses the Standard tier
an application gateway that uses the WAF tier
an internal load balancer
a network security group (NSG)
a public load balancer

**Correct Answer:**

## Answer Area

Ensure that communication between the web servers and the business logic tier spreads equally across the virtual machines:

▼
an application gateway that uses the Standard tier
an application gateway that uses the WAF tier
<b>an internal load balancer</b>
a network security group (NSG)
a public load balancer

Protect the web servers from SQL injection attacks:

▼
an application gateway that uses the Standard tier
<b>an application gateway that uses the WAF tier</b>
an internal load balancer
a network security group (NSG)
a public load balancer

### Section: (none)

#### Explanation

#### Explanation/Reference:

Explanation:

Box 1: an internal load balancer

Azure Internal Load Balancer (ILB) provides network load balancing between virtual machines that reside inside a cloud service or a virtual network with a regional scope.

Box 2: an application gateway that uses the WAF tier

Azure Web Application Firewall (WAF) on Azure Application Gateway provides centralized protection of your web applications from common exploits and vulnerabilities. Web applications are increasingly targeted by malicious attacks that exploit commonly known vulnerabilities.

Reference:

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

### QUESTION 15

Your company has three offices. The offices are located in Miami, Los Angeles, and New York. Each office contains datacenter.

You have an Azure subscription that contains resources in the East US and West US Azure regions. Each region contains a virtual network. The virtual networks are peered.

You need to connect the datacenters to the subscription. The solution must minimize network latency between the datacenters.

What should you create?

- A. three Azure Application Gateways and one On-premises data gateway
- B. three virtual hubs and one virtual WAN
- C. three virtual WANs and one virtual hub
- D. three On-premises data gateways and one Azure Application Gateway

**Correct Answer: C**

Section: (none)

Explanation

#### Explanation/Reference:

Reference:

<https://docs.microsoft.com/en-us/azure/virtual-wan/virtual-wan-about>

**QUESTION 16**

HOTSPOT

You plan to deploy five virtual machines to a virtual network subnet.

Each virtual machine will have a public IP address and a private IP address.

Each virtual machine requires the same inbound and outbound security rules.

What is the minimum number of network interfaces and network security groups that you require? To answer, select the appropriate options in the answer area.

**NOTE:** Each correct selection is worth one point.

Hot Area:

**Answer Area**

Minimum number of network  
interfaces:

5
10
15
20

Minimum number of network  
security groups:

1
2
5
10

Correct Answer:

## Answer Area

Minimum number of network interfaces:

5
10
15
20

Minimum number of network security groups:

1
2
5
10

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

Box 1: 5

A public and a private IP address can be assigned to a single network interface.

Box 2: 1

You can associate zero, or one, network security group to each virtual network subnet and network interface in a virtual machine. The same network security group can be associated to as many subnets and network interfaces as you choose.

Reference:

<https://docs.microsoft.com/en-us/azure/virtual-network/virtual-network-network-interface-addresses>

### QUESTION 17

HOTSPOT

You have Azure virtual machines that run Windows Server 2019 and are configured as shown in the following table.

Name	Private IP address	Public IP address	Virtual network name	DNS suffix configured in Windows Server
VM1	10.1.0.4	52.186.85.63	VNET1	Adatum.com
VM2	10.1.0.5	13.92.168.13	VNET1	Contoso.com

You create a private Azure DNS zone named adatum.com. You configure the adatum.com zone to allow auto registration from VNET1.

Which A records will be added to the adatum.com zone for 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

A records for VM1:

None
Private IP address only
Public IP address only
Private IP address and public IP address

A records for VM2:

None
Private IP address only
Public IP address only
Private IP address and public IP address

**Correct Answer:**

### Answer Area

A records for VM1:

None
Private IP address only
Public IP address only
Private IP address and public IP address

A records for VM2:

None
Private IP address only
Public IP address only
Private IP address and public IP address

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

The virtual machines are registered (added) to the private zone as A records pointing to their private IP addresses.

Reference:

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

<https://docs.microsoft.com/en-us/azure/dns/private-dns-scenarios>

**QUESTION 18**  
**HOTSPOT**

You have an Azure virtual network named VNet1 that connects to your on-premises network by using a site-to-site VPN. VNet1 contains one subnet named Sunet1.

Subnet1 is associated to a network security group (NSG) named NSG1. Subnet1 contains a basic internal load balancer named ILB1. ILB1 has three Azure virtual machines in the backend pool.

You need to collect data about the IP addresses that connects to ILB1. You must be able to run interactive queries from the Azure portal against the collected data.

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

**NOTE:** Each correct selection is worth one point.

**Hot Area:**

**Answer Area**

Resource to create:

- An Azure Event Grid
- An Azure Log Analytics workspace
- An Azure Storage account

Resource on which to enable diagnostics:

- ILB1
- NSG1
- The Azure virtual machines

**Correct Answer:**

**Answer Area**

Resource to create:

- An Azure Event Grid
- An Azure Log Analytics workspace
- An Azure Storage account

Resource on which to enable diagnostics:

- ILB1
- NSG1
- The Azure virtual machines

**Section: (none)**  
**Explanation**

**Explanation/Reference:**

Explanation:

Box 1: An Azure Log Analytics workspace

In the Azure portal you can set up a Log Analytics workspace, which is a unique Log Analytics environment with its own data repository, data sources, and solutions

Box 2: ILB1

Reference:

<https://docs.microsoft.com/en-us/azure/log-analytics/log-analytics-quick-create-workspace>

<https://docs.microsoft.com/en-us/azure/load-balancer/load-balancer-standard-diagnostics>

### QUESTION 19

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

Name	Address space	Subnet	Resource group Azure region
VNet1	10.11.0.0/16	10.11.0.0/17	West US
VNet2	10.11.0.0/17	10.11.0.0/25	West US
VNet3	10.10.0.0/22	10.10.1.0/24	East US
VNet4	192.168.16.0/22	192.168.16.0/24	North Europe

To which virtual networks can you establish a peering connection from VNet1?

- A. VNet2 and VNet3 only
- B. VNet2 only
- C. VNet3 and VNet4 only
- D. VNet2, VNet3, and VNet4

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Reference:

<https://docs.microsoft.com/en-us/azure/virtual-network/tutorial-connect-virtual-networks-portal>

### QUESTION 20

You have an Azure subscription that contains a virtual network named VNet1. VNet1 contains four subnets named Gateway, Perimeter, NVA, and Production.

The NVA subnet contains two network virtual appliances (NVAs) that will perform network traffic inspection between the Perimeter subnet and the Production subnet.

You need to implement an Azure load balancer for the NVAs. The solution must meet the following requirements:

- The NVAs must run in an active-active configuration that uses automatic failover.
- The NVA must load balance traffic to two services on the Production subnet. The services have different IP addresses.

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

**NOTE:** Each correct selection is worth one point.

- A. Deploy a basic load balancer

- B. Deploy a standard load balancer
- C. Add two load balancing rules that have HA Ports and Floating IP enabled
- D. Add two load balancing rules that have HA Ports enabled and Floating IP disabled
- E. Add a frontend IP configuration, a backend pool, and a health probe
- F. Add a frontend IP configuration, two backend pools, and a health probe

**Correct Answer:** BCF

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

A standard load balancer is required for the HA ports.

Two backend pools are needed as there are two services with different IP addresses.

Floating IP rule is used where backend ports are reused.

Incorrect Answers:

E: HA Ports are not available for the basic load balancer.

Reference:

<https://docs.microsoft.com/en-us/azure/load-balancer/load-balancer-standard-overview>

<https://docs.microsoft.com/en-us/azure/load-balancer/load-balancer-multivip-overview>

## **QUESTION 21**

You have an Azure subscription named Subscription1 that contains two Azure virtual networks named VNet1 and VNet2. VNet1 contains a VPN gateway named VPNGW1 that uses static routing. There is a site-to-site VPN connection between your on-premises network and VNet1.

On a computer named Client1 that runs Windows 10, you configure a point-to-site VPN connection to VNet1.

You configure virtual network peering between VNet1 and VNet2. You verify that you can connect to VNet2 from the on-premises network. Client1 is unable to connect to VNet2.

You need to ensure that you can connect Client1 to VNet2.

What should you do?

- A. Download and re-install the VPN client configuration package on Client1.
- B. Select **Allow gateway transit** on VNet1.
- C. Select **Allow gateway transit** on VNet2.
- D. Enable BGP on VPNGW1

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Reference:

<https://docs.microsoft.com/en-us/azure/vpn-gateway/vpn-gateway-about-point-to-site-routing>

## **QUESTION 22**

HOTSPOT

You have an Azure subscription. The subscription contains virtual machines that run Windows Server 2016 and are configured as shown in the following table.

Name	Virtual network	DNS suffix configured in Windows Server
VM1	VNET2	Contoso.com
VM2	VNET2	None
VM3	VNET2	Adatum.com

You create a public Azure DNS zone named adatum.com and a private Azure DNS zone named contoso.com.

You create a virtual network link for contoso.com as shown in the following exhibit.

The screenshot shows the Azure portal interface for managing a virtual network link. The top navigation bar includes 'link1' and 'contoso.com'. Below the navigation are standard actions: Save, Discard, Delete, Access Control (IAM), and Tags. The main content area displays the following details:

- Link name:** link1
- Link state:** Completed
- Provisioning state:** Succeeded
- Virtual network details:** Virtual network id: /subscriptions/8372f433-2dcd-4361-b5ef-5b188fed87d0/resourceGroups/RG2/provi... (with a copy icon)
- Virtual network:** VNET2
- Configuration:** A checked checkbox labeled "Enable auto registration" with a help icon.

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
When VM1 starts, a record for VM1 is added to the contoso.com DNS zone.	<input type="radio"/>	<input type="radio"/>
When VM2 starts, a record for VM2 is added to the contoso.com DNS zone.	<input type="radio"/>	<input type="radio"/>
When VM3 starts, a record for VM3 is added to the adatum.com DNS zone.	<input type="radio"/>	<input type="radio"/>

Correct Answer:

## Answer Area

Statements	Yes	No
When VM1 starts, a record for VM1 is added to the contoso.com DNS zone.	<input checked="" type="radio"/>	<input type="radio"/>
When VM2 starts, a record for VM2 is added to the contoso.com DNS zone.	<input checked="" type="radio"/>	<input type="radio"/>
When VM3 starts, a record for VM3 is added to the adatum.com DNS zone.	<input type="radio"/>	<input checked="" type="radio"/>

Section: (none)

Explanation

Explanation/Reference:

Reference:

<https://docs.microsoft.com/en-us/azure/virtual-network/virtual-networks-name-resolution-for-vms-and-role-instances>

<https://docs.microsoft.com/en-us/azure/dns/private-dns-autoregistration>

## QUESTION 23

You have an Azure subscription that contains the resources in the following table.

Name	Type	Azure region	Resource group
VNet1	Virtual network	West US	RG2
VNet2	Virtual network	West US	RG1
VNet3	Virtual network	East US	RG1
NSG1	Network security group (NSG)	East US	RG2

To which subnets can you apply NSG1?

- A. the subnets on VNet1 only
- B. the subnets on VNet2 and VNet3 only
- C. the subnets on VNet2 only
- D. the subnets on VNet3 only
- E. the subnets on VNet1, VNet2, and VNet3

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

All Azure resources are created in an Azure region and subscription. A resource can only be created in a virtual network that exists in the same region and subscription as the resource.

Reference:

<https://docs.microsoft.com/en-us/azure/virtual-network/virtual-network-vnet-plan-design-arm>

## QUESTION 24

DRAG DROP

You have an Azure subscription that contains two virtual networks named VNet1 and VNet2. Virtual machines connect to the virtual networks.

The virtual networks have the address spaces and the subnets configured as shown in the following table.

Virtual network	Address space	Subnet	Peering
VNet1	10.1.0.0/16	10.1.0.0/24	VNet2
		10.1.1.0/26	
VNet2	10.2.0.0/16	10.2.0.0/24	VNet1

You need to add the address space of 10.33.0.0/16 to VNet1. The solution must ensure that the hosts on VNet1 and VNet2 can communicate.

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
Remove VNet1.	
Add the 10.33.0.0/16 address space to VNet1.	
Create a new virtual network named VNet1.	▶
On the peering connection in VNet2, allow gateway transit.	◀
Recreate peering between VNet1 and VNet2.	
On the peering connection in VNet1, allow gateway transit.	◀
Remove peering between VNet1 and VNet2.	

**Correct Answer:**

Actions	Answer Area
Remove VNet1.	Remove peering between VNet1 and VNet2.
Add the 10.33.0.0/16 address space to VNet1.	Add the 10.33.0.0/16 address space to VNet1.
Create a new virtual network named VNet1.	Recreate peering between VNet1 and VNet2.
On the peering connection in VNet2, allow gateway transit.	
Recreate peering between VNet1 and VNet2.	
On the peering connection in VNet1, allow gateway transit.	
Remove peering between VNet1 and VNet2.	

**Section: (none)**

**Explanation:**

**Explanation/Reference:**

Explanation:

Step 1: Remove peering between Vnet1 and VNet2.

You can't add address ranges to, or delete address ranges from a virtual network's address space once a virtual network is peered with another virtual network. To add or remove address ranges, delete the peering, add or remove the address ranges, then re-create the peering.

Step 2: Add the 10.44.0.0/16 address space to VNet1.

Step 3: Recreate peering between VNet1 and VNet2

Reference:

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

**QUESTION 25**

HOTSPOT

You have an Azure subscription that contains the resource groups shown in the following table.

Name	Location
RG1	West US
RG2	East US

RG1 contains the resources shown in the following table.

Name	Type	Location
storage1	Storage account	West US
VNet1	Virtual network	West US
NIC1	Network interface	West US
Disk1	Disk	West US
VM1	Virtual machine	West US

VM1 is running and connects to NIC1 and Disk1. NIC1 connects to VNET1.

RG2 contains a public IP address named IP2 that is in the East US location. IP2 is not assigned to a virtual machine.

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
You can move storage1 to RG2.	<input type="radio"/>	<input type="radio"/>
You can move NIC1 to RG2.	<input type="radio"/>	<input type="radio"/>
If you move IP2 to RG1, the location of IP2 will change.	<input type="radio"/>	<input type="radio"/>

**Correct Answer:**

### Answer Area

Statements	Yes	No
You can move storage1 to RG2.	<input checked="" type="radio"/>	<input type="radio"/>
You can move NIC1 to RG2.	<input type="radio"/>	<input checked="" type="radio"/>
If you move IP2 to RG1, the location of IP2 will change.	<input type="radio"/>	<input checked="" type="radio"/>

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

Box 1: Yes

You can move storage

Box 2: No

You can't move to a new resource group a NIC that is attached to a virtual machine.

Box 3: No

Azure Public IPs are region specific and can't be moved from one region to another.

Reference:

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

<https://docs.microsoft.com/en-us/azure/virtual-network/move-across-regions-publicip-powershell>

## QUESTION 26

You have an Azure web app named webapp1.

You have a virtual network named VNET1 and an Azure virtual machine named VM1 that hosts a MySQL database. VM1 connects to VNET1.

You need to ensure that webapp1 can access the data hosted on VM1.

What should you do?

- A. Deploy an internal load balancer
- B. Peer VNET1 to another virtual network
- C. Connect webapp1 to VNET1
- D. Deploy an Azure Application Gateway

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

## QUESTION 27

**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 computer named Computer1 that has a point-to-site VPN connection to an Azure virtual network named VNet1. The point-to-site connection uses a self-signed certificate.

From Azure, you download and install the VPN client configuration package on a computer named Computer2.

You need to ensure that you can establish a point-to-site VPN connection to VNet1 from Computer2.

**Solution:** You modify the Azure Active Directory (Azure AD) authentication policies.

Does this meet the goal?

- A. Yes
- B. No

**Correct Answer:** B

**Section: (none)****Explanation****Explanation/Reference:**

Explanation:

Instead export the client certificate from Computer1 and install the certificate on Computer2.

Note:

Each client computer that connects to a VNet using Point-to-Site must have a client certificate installed. You generate a client certificate from the self-signed root certificate, and then export and install the client certificate. If the client certificate is not installed, authentication fails.

Reference:

<https://docs.microsoft.com/en-us/azure/vpn-gateway/vpn-gateway-certificates-point-to-site>

**QUESTION 28**

**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 computer named Computer1 that has a point-to-site VPN connection to an Azure virtual network named VNet1. The point-to-site connection uses a self-signed certificate.

From Azure, you download and install the VPN client configuration package on a computer named Computer2.

You need to ensure that you can establish a point-to-site VPN connection to VNet1 from Computer2.

Solution: You join Computer2 to Azure Active Directory (Azure AD)

Does this meet the goal?

A. Yes

B. No

**Correct Answer: B**

**Section: (none)****Explanation****Explanation/Reference:**

Explanation:

A client computer that connects to a VNet using Point-to-Site must have a client certificate installed.

Reference:

<https://docs.microsoft.com/en-us/azure/vpn-gateway/vpn-gateway-certificates-point-to-site>

**QUESTION 29**

**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 that contains 10 virtual networks. The virtual networks are hosted in separate resource groups.

Another administrator plans to create several network security groups (NSGs) in the subscription.

You need to ensure that when an NSG is created, it automatically blocks TCP port 8080 between the virtual networks.

Solution: You create a resource lock, and then you assign the lock to the subscription.

Does this meet the goal?

- A. Yes
- B. No

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### QUESTION 30

You have an Azure subscription named Subscription1. Subscription1 contains a virtual machine named VM1.

You have a computer named Computer1 that runs Windows 10. Computer1 is connected to the Internet.

You add a network interface named vm1173 to VM1 as shown in the exhibit. (Click the **Exhibit** tab.)

**Network Interface: vm1173**      **Effective security rules**      **Topology**  
Virtual network/subnet: RG1-vnet/default      Public IP: VM1-ip      Private IP: 10.0.0.5      Accelerated  
networking: **Disabled**

Inbound port rules	Outbound port rules	Application security groups	Load balancing			
<p>🛡 Network security group <b>VM1-nsg</b> (attached to network interface: <b>vm1173</b>) Impacts 0 subnets, 1 network interfaces</p> <p>Add inbound port rule</p>						
PRIORITY	NAME	PORT	PROTOCOL	SOURCE	DESTINA...	ACTION
300	⚠ RDP	3389	TCP	Any	Any	<span style="color: green;">✓</span> Allow ...
65000	AllowVnetInBound	Any	Any	VirtualN...	VirtualN...	<span style="color: green;">✓</span> Allow ...
65001	AllowAzureLoadB...	Any	Any	AzureLo...	Any	<span style="color: green;">✓</span> Allow ...
65500	DenyAllInBound	Any	Any	Any	Any	<span style="color: red;">✗</span> Deny ...

From Computer1, you attempt to connect to VM1 by using Remote Desktop, but the connection fails.

You need to establish a Remote Desktop connection to VM1.

What should you do first?

- A. Change the priority of the RDP rule
- B. Attach a network interface

- C. Delete the DenyAllInBound rule
- D. Start VM1

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Incorrect Answers:

A: Rules are processed in priority order, with lower numbers processed before higher numbers, because lower numbers have higher priority. Once traffic matches a rule, processing stops. RDP already has the lowest number and thus the highest priority.

B: The network interface has already been added to VM.

C: The Outbound rules are fine.

Reference:

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

### QUESTION 31

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

Name	IP address	Connected to
VM1	10.1.0.4	VNET1/Subnet1
VM2	10.1.10.4	VNET1/Subnet2
VM3	172.16.0.4	VNET2/SubnetA
VM4	10.2.0.8	VNET3/SubnetB

A DNS service is installed on VM1.

You configure the DNS servers settings for each virtual network as shown in the following exhibit.

The screenshot shows the 'DNS servers' configuration for VNET1. At the top, there are 'Save' and 'Discard' buttons. Below that, there are two options: 'Default (Azure-provided)' (unchecked) and 'Custom' (checked). Under 'Custom', the IP address '10.1.0.4' is listed. There is also an 'Add DNS server' button and a '...' button.

You need to ensure that all the virtual machines can resolve DNS names by using the DNS service on VM1.

What should you do?

- A. Configure a conditional forwarder on VM1

- B. Add service endpoints on VNET1
- C. Add service endpoints on VNET2 and VNET3
- D. Configure peering between VNET1, VNET2, and VNET3

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**Explanation:**

Virtual network peering enables you to seamlessly connect networks in Azure Virtual Network. The virtual networks appear as one for connectivity purposes. The traffic between virtual machines uses the Microsoft backbone infrastructure.

**Incorrect Answers:**

B, C: Virtual Network (VNet) service endpoint provides secure and direct connectivity to Azure services over an optimized route over the Azure backbone network. Endpoints allow you to secure your critical Azure service resources to only your virtual networks. Service Endpoints enables private IP addresses in the VNet to reach the endpoint of an Azure service without needing a public IP address on the VNet.

**Reference:**

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

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

### QUESTION 32

HOTSPOT

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

Name	Connected to subnet
VM1	172.16.1.0/24
VM2	172.16.2.0/24

You add inbound security rules to a network security group (NSG) named NSG1 as shown in the following table.

Priority	Source	Destination	Protocol	Port	Action
100	172.16.1.0/24	172.16.2.0/24	TCP	Any	Allow
101	Any	172.16.2.0/24	TCP	Any	Deny

You run Azure Network Watcher as shown in the following exhibit.

Resource group \*

RG1



Source type \*

Virtual machine



\* Virtual machine

VM1



Destination

Select a virtual machine  Specify manually

Resource group \*

RG1



Virtual machine \*

VM2



Probe Settings

Protocol

TCP  ICMP

Destination port \*

8080



Advanced settings

### Check

Status

Unreachable

Agent extension version

1.4

Source virtual machine

[VM1](#)

Grid view

[Topology view](#)

Hops

NAME	IP ADDRESS	STATUS	NEXT HOP IP ADDRESS	RTT FROM SOURCE (...)
VM1	172.16.1.4		172.16.2.4	-
VM2	172.16.2.4		-	-

You run Network Watcher again as shown in the following exhibit.

Source type \*

Virtual machine

\* Virtual machine

VM1

Destination

Select a virtual machine  Specify manually

Resource group \*

RG1

Virtual machine\* ⓘ

VM2

Probe Settings

Protocol ⓘ

TCP  ICMP

**Check**

Status

Reachable

Agent extension version

1.4

Source virtual machine

VM1

Grid view **Topology view**

Hops

NAME	IP ADDRESS	STATUS	NEXT HOP IP ADDRESS	RTT FROM SOURCE (...)
VM1	172.16.1.4		172.16.2.4	0
VM2	172.16.2.4		-	-

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
NSG1 limits VM1 traffic	<input type="radio"/>	<input type="radio"/>
NSG1 applies to VM2	<input type="radio"/>	<input type="radio"/>
VM1 and VM2 connect to the same virtual network	<input type="radio"/>	<input type="radio"/>

**Correct Answer:**

### Answer Area

Statements	Yes	No
NSG1 limits VM1 traffic	<input type="radio"/>	<input checked="" type="radio"/>
NSG1 applies to VM2	<input checked="" type="radio"/>	<input type="radio"/>
VM1 and VM2 connect to the same virtual network	<input type="radio"/>	<input checked="" type="radio"/>

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

Box 1: No

It limits traffic to VM2, but not VM1 traffic.

Box 2: Yes

Yes, the destination is VM2.

Box 3: No

Reference:

<https://docs.microsoft.com/en-us/azure/virtual-network/network-security-group-how-it-works>

### QUESTION 33

You have the Azure virtual network named VNet1 that contains a subnet named Subnet1. Subnet1 contains three Azure virtual machines. Each virtual machine has a public IP address.

The virtual machines host several applications that are accessible over port 443 to users on the Internet.

Your on-premises network has a site-to-site VPN connection to VNet1.

You discover that the virtual machines can be accessed by using the Remote Desktop Protocol (RDP) from the Internet and from the on-premises network.

You need to prevent RDP access to the virtual machines from the Internet, unless the RDP connection is established from the on-premises network. The solution must ensure that all the applications can still be accessed by the Internet users.

What should you do?

- A. Modify the address space of the local network gateway
- B. Create a deny rule in a network security group (NSG) that is linked to Subnet1
- C. Remove the public IP addresses from the virtual machines
- D. Modify the address space of Subnet1

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

You can use a site-to-site VPN to connect your on-premises network to an Azure virtual network. Users on your on-premises network connect by using the RDP or SSH protocol over the site-to-site VPN connection. You don't have to allow direct RDP or SSH access over the internet.

Reference:

<https://docs.microsoft.com/en-us/azure/security/fundamentals/network-best-practices>

### QUESTION 34

You have an Azure subscription that contains the resources in the following table.

Name	Type
ASG1	Application security group
NSG1	Network security group (NSG)
Subnet1	Subnet
VNet1	Virtual network
NIC1	Network interface
VM1	Virtual machine

Subnet1 is associated to VNet1. NIC1 attaches VM1 to Subnet1.

You need to apply ASG1 to VM1.

What should you do?

- A. Associate NIC1 to ASG1
- B. Modify the properties of ASG1
- C. Modify the properties of NSG1

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Application Security Group can be associated with NICs.

References:

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

**QUESTION 35**

You have an Azure subscription named Subscription1 that contains an Azure virtual network named VNet1. VNet1 connects to your on-premises network by using Azure ExpressRoute.

You plan to prepare the environment for automatic failover in case of ExpressRoute failure.

You need to connect VNet1 to the on-premises network by using a site-to-site VPN. The solution must minimize cost.

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

**NOTE:** Each correct selection is worth one point.

- A. Create a connection
- B. Create a local site VPN gateway
- C. Create a VPN gateway that uses the VpnGw1 SKU
- D. Create a gateway subnet
- E. Create a VPN gateway that uses the Basic SKU

**Correct Answer:** ADE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Reference:

<https://docs.microsoft.com/en-us/azure/vpn-gateway/vpn-gateway-howto-site-to-site-resource-manager-portal>

**QUESTION 36**

HOTSPOT

You have peering configured as shown in the following exhibit.

The screenshot shows two side-by-side tables in the Azure portal.

**Virtual networks table:**

NAME
test1-vnet
testvNET1
vNET1
vNET2
vNET3
vNET4
vNET5
vNET6

**VNet 6 - Peering table:**

NAME	PEERING STATUS	PEER	GATEWAY TRANSIT
peering1	Disconnected	vNET1	Enabled
peering2	Disconnected	vNET2	Disabled

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

Hosts on vNET6 can communicate with hosts on [answer choice].

vNET6 only
vNET6 and vNET1 only
vNET6, vNET1, and vNET2 only
all the virtual networks in the subscription

To change the status of the peering connection to vNET1 to **Connected**, you must first [answer choice].

add a service endpoint
add a subnet
delete peering1
modify the address space

Correct Answer:

## Answer Area

Hosts on vNET6 can communicate with hosts on [answer choice].

vNET6 only
vNET6 and vNET1 only
vNET6, vNET1, and vNET2 only
all the virtual networks in the subscription

To change the status of the peering connection to vNET1 to **Connected**, you must first [answer choice].

add a service endpoint
add a subnet
delete peering1
modify the address space

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Box 1: vNET6 only

Peering status to both VNet1 and Vnet2 are disconnected.

Box 2: delete peering1

Peering to Vnet1 is Enabled but disconnected. We need to update or re-create the remote peering to get it back to Initiated state.

Reference:

<https://blog.kloud.com.au/2018/10/19/address-space-maintenance-with-vnet-peering/>

## Configure and manage virtual networking

### Testlet 2

#### Case study

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 questions in 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 section 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 in 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 consulting company that has a main office in Montreal and two branch offices in Seattle and New York.

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

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

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

#### Existing Environment

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

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

Litware.com contains a user named User1.

All the offices connect by using private connections.

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

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

Name	Role	Contains virtual machine
Server1	VMware vCenter server	VM1
Server2	Hyper-V host	VM2

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

The Azure subscription contains the resources in the following table.

Name	Type
VNet1	Virtual network
VM3	Virtual machine
VM4	Virtual machine

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

## Requirements

### Planned Changes

Litware plans to implement the following changes:

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

### Technical Requirements

Litware must meet the following technical requirements:

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

## QUESTION 1

### HOTSPOT

You need to meet the connection requirements for the New York office.

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

**NOTE:** Each correct selection is worth one point.

**Hot Area:**

## Answer Area

From the Azure portal:

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

In the New York office:

Deploy ExpressRoute.
Deploy a DirectAccess server.
Implement a Web Application Proxy.
Configure a site-to-site VPN connection.

**Correct Answer:**

## Answer Area

From the Azure portal:

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

In the New York office:

Deploy ExpressRoute.
Deploy a DirectAccess server.
Implement a Web Application Proxy.
Configure a site-to-site VPN connection.

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

Box 1: Create a virtual network gateway and a local network gateway.

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

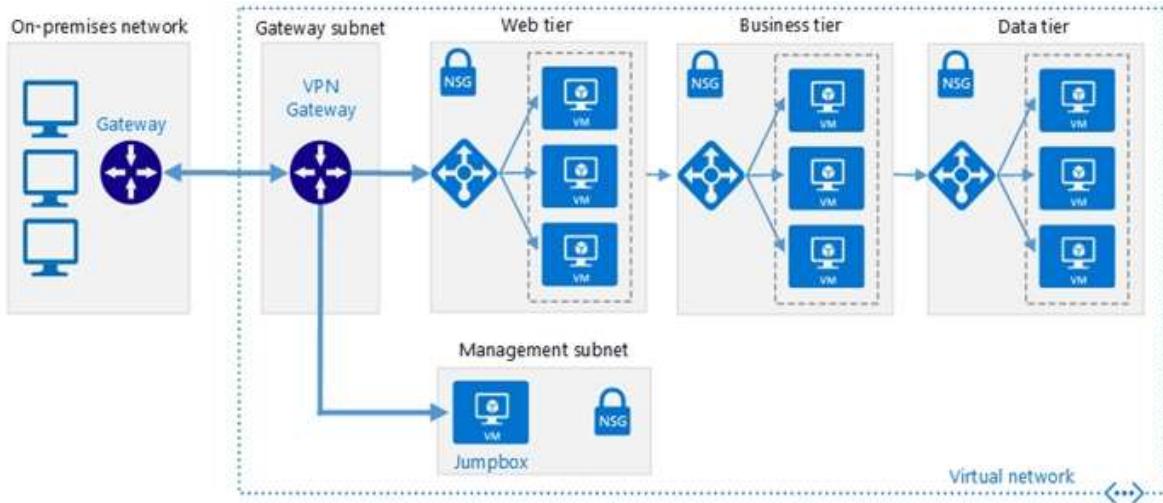
- Virtual network gateway. A resource that provides a virtual VPN appliance for the VNet. It is responsible for routing traffic from the on-premises network to the VNet.
- Local network gateway. An abstraction of the on-premises VPN appliance. Network traffic from the cloud

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

- Connection. The connection has properties that specify the connection type (IPSec) and the key shared with the on-premises VPN appliance to encrypt traffic.
- Gateway subnet. The virtual network gateway is held in its own subnet, which is subject to various requirements, described in the Recommendations section below.

#### Box 2: Configure a site-to-site VPN connection

On premises create a site-to-site connection for the virtual network gateway and the local network gateway.



Scenario: Connect the New York office to VNet1 over the Internet by using an encrypted connection.

Incorrect Answers:

Azure ExpressRoute: Established between your network and Azure, through an ExpressRoute partner. This connection is private. Traffic does not go over the internet.

Reference:

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

## **Configure and manage virtual networking**

### **Testlet 3**

#### **Case study**

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 section 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 in 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**

Contoso, Ltd. is a manufacturing company that has offices worldwide. Contoso works with partner organizations to bring products to market.

Contoso products are manufactured by using blueprint files that the company authors and maintains.

#### **Existing Environment**

Currently, Contoso uses multiple types of servers for business operations, including the following:

- File servers
- Domain controllers
- Microsoft SQL Server servers

Your network contains an Active Directory forest named contoso.com. All servers and client computers are joined to Active Directory.

You have a public-facing application named App1. App1 is comprised of the following three tiers:

- A SQL database
- A web front end
- A processing middle tier

Each tier is comprised of five virtual machines. Users access the web front end by using HTTPS only.

#### **Requirements**

#### **Planned Changes**

Contoso plans to implement the following changes to the infrastructure:

- Move all the tiers of App1 to Azure.

- Move the existing product blueprint files to Azure Blob storage.
- Create a hybrid directory to support an upcoming Microsoft Office 365 migration project.

## **Technical Requirements**

Contoso must meet the following technical requirements:

- Move all the virtual machines for App1 to Azure.
- Minimize the number of open ports between the App1 tiers.
- Ensure that all the virtual machines for App1 are protected by backups.
- Copy the blueprint files to Azure over the Internet.
- Ensure that the blueprint files are stored in the archive storage tier.
- Ensure that partner access to the blueprint files is secured and temporary.
- Prevent user passwords or hashes of passwords from being stored in Azure.
- Use unmanaged standard storage for the hard disks of the virtual machines.
- Ensure that when users join devices to Azure Active Directory (Azure AD), the users use a mobile phone to verify their identity.
- Minimize administrative effort whenever possible.

## **User Requirements**

Contoso identifies the following requirements for users:

- Ensure that only users who are part of a group named Pilot can join devices to Azure AD.
- Designate a new user named Admin1 as the service admin for the Azure subscription.
- Admin1 must receive email alerts regarding service outages.
- Ensure that a new user named User3 can create network objects for the Azure subscription.

## **QUESTION 1**

### **HOTSPOT**

You need to recommend a solution for App1. The solution must meet the technical requirements.

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

**NOTE:** Each correct selection is worth one point.

**Hot Area:**

## Answer Area

Number of virtual networks:

1
2
3

Number of subnets per virtual network:

1
2
3

Correct Answer:

## Answer Area

Number of virtual networks:

1
2
3

Number of subnets per virtual network:

1
2
3

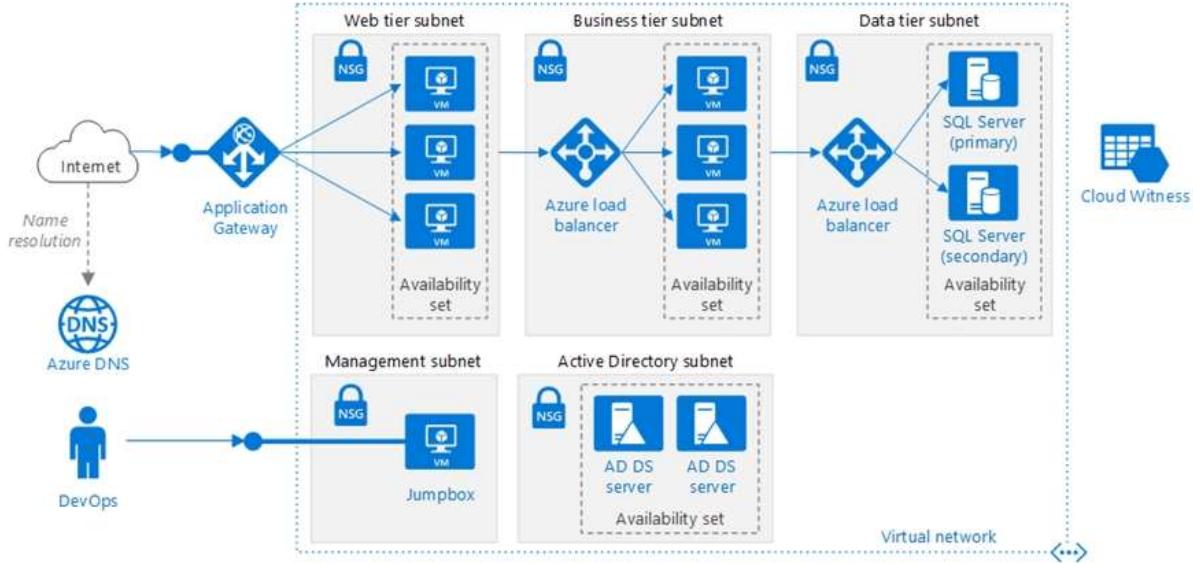
Section: (none)

Explanation

Explanation/Reference:

Explanation:

This reference architecture shows how to deploy VMs and a virtual network configured for an N-tier application, using SQL Server on Windows for the data tier.



Scenario: You have a public-facing application named App1. App1 is comprised of the following three tiers:

- A SQL database
- A web front end
- A processing middle tier

Each tier is comprised of five virtual machines. Users access the web front end by using HTTPS only.

Technical requirements include:

- Move all the virtual machines for App1 to Azure.
- Minimize the number of open ports between the App1 tiers.

Reference:

<https://docs.microsoft.com/en-us/azure/architecture/reference-architectures/n-tier/n-tier-sql-server>

## **Monitor and back up Azure resources**

### **Question Set 1**

#### **QUESTION 1**

You have an Azure web app named webapp1.

Users report that they often experience HTTP 500 errors when they connect to webapp1.

You need to provide the developers of webapp1 with real-time access to the connection errors. The solution must provide all the connection error details.

What should you do first?

- A. From webapp1, enable Web server logging
- B. From Azure Monitor, create a workbook
- C. From Azure Monitor, create a Service Health alert
- D. From webapp1, turn on Application Logging

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 2**

You have an Azure subscription that has a Recovery Services vault named Vault1. The subscription contains the virtual machines shown in the following table:

Name	Operating system	Auto-shutdown
VM1	Windows Server 2012 R2	Off
VM2	Windows Server 2016	19:00
VM3	Ubuntu Server 18.04 LTS	Off
VM4	Windows 10	19:00

You plan to schedule backups to occur every night at 23:00.

Which virtual machines can you back up by using Azure Backup?

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

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Azure Backup supports backup of 64-bit Windows server operating system from Windows Server 2008.

Azure Backup supports backup of 64-bit Windows 10 operating system.

Azure Backup supports backup of 64-bit Ubuntu Server operating system from Ubuntu 12.04.

Azure Backup supports backup of VM that are shutdown or offline.

Reference:

<https://docs.microsoft.com/en-us/azure/backup/backup-support-matrix-iaas>

<https://docs.microsoft.com/en-us/azure/virtual-machines/linux/endorsed-distros>

### QUESTION 3

#### HOTSPOT

You create a Recovery Services vault backup policy named Policy1 as shown in the following exhibit:

**Policy1**

Associated items Delete Save Discard

**Backup schedule**

\* Frequency   \* Time   \* Timezone  
Daily 11:00 PM (UTC) Coordinated Universal Time

**Retention range**

Retention of daily backup point  
\* At For  
11:00 PM 30 Day(s)

Retention of weekly backup point  
\* On \* At For  
Sunday 11:00 PM 10 Week(s)

Retention of monthly backup point  
Week Based Day Based  
\* On \* At For  
1 11:00 PM 36 Month(s)

Retention of yearly backup point  
Week Based Day Based  
\* In \* On \* At For  
March 1 11:00 PM 10 Year(s)

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

The backup that occurs on Sunday, March 1, will be retained for [answer choice].

30 days
10 weeks
36 months
10 years

The backup that occurs on Sunday, November 1, will be retained for [answer choice].

30 days
10 weeks
36 months
10 years

**Correct Answer:**

### Answer Area

The backup that occurs on Sunday, March 1, will be retained for [answer choice].

30 days
10 weeks
36 months
10 years

The backup that occurs on Sunday, November 1, will be retained for [answer choice].

30 days
10 weeks
36 months
10 years

**Section: (none)**  
**Explanation:**

**Explanation/Reference:**  
Explanation:

Box 1: 10 years

The yearly backup point occurs to 1 March and its retention period is 10 years.

Box 2: 36 months

The monthly backup point occurs on the 1<sup>st</sup> of every month and its retention period is 36 months.

#### QUESTION 4

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

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

You have a Recovery Services vault that protects VM1 and VM2.

You need to protect VM3 and VM4 by using Recovery Services.

What should you do first?

- A. Create a new Recovery Services vault
- B. Create a storage account
- C. Configure the extensions for VM3 and VM4
- D. Create a new backup policy

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

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

Reference:

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

#### QUESTION 5

HOTSPOT

You have an Azure subscription that contains an Azure Storage account named storage1 and the users shown in the following table.

Name	Member of
User1	Group1
User2	Group2
User3	Group1

You plan to monitor storage1 and to configure email notifications for the signals shown in the following table.

Name	Type	Users to notify
Ingress	Metric	User1 and User3 only
Egress	Metric	User1 only
Delete storage account	Activity log	User1, User2, and User3
Restore blob ranges	Activity log	User1 and User3 only

You need to identify the minimum number of alert rules and action groups required for the planned monitoring.

How many alert rules and action groups should you identify? To answer, select the appropriate options in the answer area.

**NOTE:** Each correct selection is worth one point.

**Hot Area:**

## Answer Area

**Alert rules:**

1
2
3
4

**Action groups:**

1
2
3
4

**Correct Answer:**

## Answer Area

Alert rules:

1
2
3
4

Action groups:

1
2
3
4

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### QUESTION 6

HOTSPOT

You have an Azure virtual machine named VM1 and a Recovery Services vault named Vault1.

You create a backup policy named Policy1 as shown in the exhibit. (Click the **Exhibit** tab.)

# Policy1

Associated items    Delete    Save    Discard

## Backup schedule

\* Frequency

Daily

\* Time

2:00 AM

\* Timezone

(UTC) Coordinated Universal Time

## Retention range

Retention of daily backup point.

\* At

For

2:00 AM

5

Day(s)

Retention of weekly backup point.

\* On

\* At

For

Sunday

2:00 AM

20

Week(s)

Retention of monthly backup point.

Week Based

Day Based

\* On

\* At

For

2

2:00 AM

24

Month(s)

You configure the backup of VM1 to use Policy1 on Thursday, January 1.

You need to identify the number of available recovery points for VM1.

How many recovery points are available on January 8 and January 15? To answer, select the appropriate options in the answer area.

**NOTE:** Each correct selection is worth one point.

**Hot Area:**

## Answer Area

January 8 at 2:00 PM (14:00):

5
6
8
9

January 15 at 2:00 PM (14:00):

5
8
17
19

Correct Answer:

## Answer Area

January 8 at 2:00 PM (14:00):

5
6
8
9

January 15 at 2:00 PM (14:00):

5
8
17
19

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Box 1: 6

5 latest daily recovery points, which includes the weekly backup from the previous Sunday, plus the monthly recovery point.

Box 2: 8

5 latest daily recovery points, plus two weekly backups, plus the monthly recovery point.

Reference:

<https://social.technet.microsoft.com/Forums/en-US/854ab6ae-79aa-4bad-ac65-471c4d422e94/daily-monthly-yearly-recovery-points-and-storage-used?forum=windowsazureonlinebackup>

## QUESTION 7

### HOTSPOT

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

Name	Member of	Role assigned
User1	Group1	<i>None</i>
User2	Group2	<i>None</i>
User3	Group1, Group2	User administrator

You enable password reset for contoso.onmicrosoft.com as shown in the Password Reset exhibit. (Click the **Password Reset** tab.)

Self service password reset enabled ⓘ

None  Selected  All

---

Select group >

Group2

**i** These settings only apply to end users in your organization. Admins are always enabled for self-service password reset and are required to use two authentication methods to reset their password. Click here to learn more about administrator password policies.

You configure the authentication methods for password reset as shown in the Authentication Methods exhibit. (Click the **Authentication Methods** tab.)

Number of methods required to reset ⓘ

1	2
---	---

Methods available to users

- Mobile app notification
- Mobile app code
- Email
- Mobile phone
- Office phone
- Security questions

Number of questions required to register ⓘ

3	4	5
---	---	---

Number of questions required to reset ⓘ

3	4	5
---	---	---

---

Select security questions



10 security questions selected

---

**ⓘ** These settings only apply to end users in your organization. Admins are always enabled for self-service password reset and are required to use two authentication methods to reset their password. Click here to learn more about administrator password policies.

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
After User2 answers three security questions, he can reset his password immediately.	<input type="radio"/>	<input type="radio"/>
If User1 forgets her password, she can reset the password by using the mobile phone app.	<input type="radio"/>	<input type="radio"/>
User3 can add security questions to the password reset process	<input type="radio"/>	<input type="radio"/>

**Correct Answer:****Answer Area**

Statements	Yes	No
After User2 answers three security questions, he can reset his password immediately.	<input type="radio"/>	<input checked="" type="radio"/>
If User1 forgets her password, she can reset the password by using the mobile phone app.	<input type="radio"/>	<input checked="" type="radio"/>
User3 can add security questions to the password reset process	<input checked="" type="radio"/>	<input type="radio"/>

**Section: (none)****Explanation****Explanation/Reference:**

Explanation:

Box 1: No

Two methods are required.

Box 2: No

Self-service password reset is only enabled for Group2, and User1 is not a member of Group2.

Box 3: Yes

As a User Administrator, User3 can add security questions to the reset process.

**Reference:**<https://docs.microsoft.com/en-us/azure/active-directory/authentication/quickstart-sspr><https://docs.microsoft.com/en-us/azure/active-directory/authentication/active-directory-passwords-faq>**QUESTION 8**

Your company has a main office in London that contains 100 client computers.

Three years ago, you migrated to Azure Active Directory (Azure AD).

The company's security policy states that all personal devices and corporate-owned devices must be

registered or joined to Azure AD.

A remote user named User1 is unable to join a personal device to Azure AD from a home network.

You verify that User1 was able to join devices to Azure AD in the past.

You need to ensure that User1 can join the device to Azure AD.

What should you do?

- A. Assign the User administrator role to User1.
- B. From the Device settings blade, modify the **Maximum number of devices per user** setting.
- C. Create a point-to-site VPN from the home network of User1 to Azure.
- D. From the Device settings blade, modify the **Users may join devices to Azure AD** setting.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The Maximum number of devices setting enables you to select the maximum number of devices that a user can have in Azure AD. If a user reaches this quota, they will not be able to add additional devices until one or more of the existing devices are removed.

Incorrect Answers:

C: Azure AD Join enables users to join their devices to Active Directory from anywhere as long as they have connectivity with the Internet.

D: The Users may join devices to Azure AD setting enables you to select the users who can join devices to Azure AD. Options are All, Selected and None. The default is All.

Reference:

<https://docs.microsoft.com/en-us/azure/active-directory/devices/device-management-azure-portal>

<http://techgenix.com/pros-and-cons-azure-ad-join/>

## 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 that contains the following users in an Azure Active Directory tenant named contoso.onmicrosoft.com:

Name	Role	Scope
User1	Global administrator	Azure Active Directory
User2	Global administrator	Azure Active Directory
User3	User administrator	Azure Active Directory
User4	Owner	Azure Subscription

User1 creates a new Azure Active Directory tenant named external.contoso.onmicrosoft.com.

You need to create new user accounts in external.contoso.onmicrosoft.com.

Solution: You instruct User1 to create the user accounts.

Does that meet the goal?

- A. Yes
- B. No

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Only a global administrator can add users to this tenant.

Reference:

<https://docs.microsoft.com/en-us/azure/devops/organizations/accounts/add-users-to-azure-ad>

## **Monitor and back up Azure resources**

### **Testlet 2**

#### **Case study**

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 questions in 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 section 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 in 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 consulting company that has a main office in Montreal and two branch offices in Seattle and New York.

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

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

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

#### **Existing Environment**

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

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

Litware.com contains a user named User1.

All the offices connect by using private connections.

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

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

Name	Role	Contains virtual machine
Server1	VMware vCenter server	VM1
Server2	Hyper-V host	VM2

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

The Azure subscription contains the resources in the following table.

Name	Type
VNet1	Virtual network
VM3	Virtual machine
VM4	Virtual machine

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

## Requirements

### Planned Changes

Litware plans to implement the following changes:

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

### Technical Requirements

Litware must meet the following technical requirements:

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

## QUESTION 1

### HOTSPOT

You need to implement Role1.

Which command should you run before you create Role1? To answer, select the appropriate options in the answer area.

**NOTE:** Each correct selection is worth one point.

**Hot Area:**

**Answer Area**

<table border="1"><tr><td>Find-RoleCapability</td></tr><tr><td>Get-AzureADDirectoryRole</td></tr><tr><td>Get-AzRoleDefinition</td></tr><tr><td>Get-AzResourceProvider</td></tr></table>	Find-RoleCapability	Get-AzureADDirectoryRole	Get-AzRoleDefinition	Get-AzResourceProvider	-Name "Reader"	<table border="1"><tr><td>ConvertFrom-Json</td></tr><tr><td>ConvertFrom-String</td></tr><tr><td>ConvertTo-Json</td></tr><tr><td>ConvertTo-Xml</td></tr></table>	ConvertFrom-Json	ConvertFrom-String	ConvertTo-Json	ConvertTo-Xml
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Get-AzureADDirectoryRole										
Get-AzRoleDefinition										
Get-AzResourceProvider										
ConvertFrom-Json										
ConvertFrom-String										
ConvertTo-Json										
ConvertTo-Xml										

**Correct Answer:**

**Answer Area**

<table border="1"><tr><td>Find-RoleCapability</td></tr><tr><td>Get-AzureADDirectoryRole</td></tr><tr><td>Get-AzRoleDefinition</td></tr><tr><td>Get-AzResourceProvider</td></tr></table>	Find-RoleCapability	Get-AzureADDirectoryRole	Get-AzRoleDefinition	Get-AzResourceProvider	-Name "Reader"	<table border="1"><tr><td>ConvertFrom-Json</td></tr><tr><td>ConvertFrom-String</td></tr><tr><td>ConvertTo-Json</td></tr><tr><td>ConvertTo-Xml</td></tr></table>	ConvertFrom-Json	ConvertFrom-String	ConvertTo-Json	ConvertTo-Xml
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Get-AzRoleDefinition										
Get-AzResourceProvider										
ConvertFrom-Json										
ConvertFrom-String										
ConvertTo-Json										
ConvertTo-Xml										

**Section: (none)**

**Explanation**

**Explanation/Reference:**

## QUESTION 2

You need to recommend a solution to automate the configuration for the finance department users. The solution must meet the technical requirements.

What should you include in the recommendation?

- A. Azure AD B2C
- B. dynamic groups and conditional access policies
- C. Azure AD Identity Protection
- D. an Azure logic app and the Microsoft Identity Management (MIM) client

**Correct Answer: B**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

Scenario: Ensure Azure Multi-Factor Authentication (MFA) for the users in the finance department only.

The recommendation is to use conditional access policies that can then be targeted to groups of users, specific applications, or other conditions.

Reference:

<https://docs.microsoft.com/en-us/azure/active-directory/authentication/howto-mfa-userstates>