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Exam : AZ-104

**Title : Microsoft Azure
Administrator**

Version : DEMO

1. Topic 1, Litware, inc.

Overview

Litware, Ltd. is a consulting company that has a main office in Montreal and two branch offices in Seattle and New York.

The Montreal office has 2,000 employees. The Seattle office has 1,000 employees. The New York office has 200 employees.

All the resources used by 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 links.

Litware has data centers in the Montreal and Seattle offices. Each data center has a firewall that can be configured as a VPN device.

All infrastructure servers are virtualized.

The virtualization environment contains the servers in the following table.

Name	Role	Contains virtual machine
Server1	VMWare vCenter server	VM1
Server2	Hyper-V-host	VM2

Litware uses two web applications named App1 and App2. Each instance on each web application requires 1GB of memory.

The Azure subscription contains the resources in the following table.

Name	Type
VNet1	Virtual network
VM3	Virtual machine
VM4	Virtual machine

The network security team implements several network security groups (NSGs).

Planned Changes

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 instance*.
- 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 Your 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.

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.

	-Name "Reader"	
Find-RoleCapability		ConvertFrom-Json
Get-AzureADDirectoryRole		ConvertFrom-String
Get-AzureRmRoleAssignment		ConvertTo-Json
Get-AzureRmRoleDefinition		ConvertTo-Xml

Answer:

	-Name "Reader"	
Find-RoleCapability		ConvertFrom-Json
Get-AzureADDirectoryRole		ConvertFrom-String
Get-AzureRmRoleAssignment		ConvertTo-Json
Get-AzureRmRoleDefinition		ConvertTo-Xml

Explanation:

<https://docs.microsoft.com/en-us/azure/role-based-access-control/tutorial-custom-role-powershellGet-AzRoleDefinition> -Name "Reader" | ConvertTo-Json

<https://docs.microsoft.com/en-us/powershell/module/az.resources/get-azroledescription?view=azps-5.9.0>

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

<https://docs.microsoft.com/en-us/powershell/module/microsoft.powershell.utility/convertto-json?view=powershell-7.1>

<https://docs.microsoft.com/en-us/powershell/module/azuread/get-azureaddirectoryrole?view=azureadps-2.0>

2.You need to ensure that VM1 can communicate with VM4. The solution must minimize administrative effort.

What should you do?

- A. Create a user-defined route from VNET1 to VNET3.
- B. Assign VM4 an IP address of 10.0.1.5/24.
- C. Establish peering between VNET1 and VNET3.
- D. Create an NSG and associate the NSG to VMI and VM4.

Answer: B

Explanation:

Reference: <https://docs.microsoft.com/en-us/azure/vpn-gateway/tutorial-site-to-site-portal>

3.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. the security recommendations in Azure Advisor
- C. Diagnostic settings in Azure Monitor
- D. Diagnose and solve problems in Traffic Manager Profiles
- E. IP flow verify in Azure Network Watcher

Answer: E

Explanation:

Scenario: Litware 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>

4.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.

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.	

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.	

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

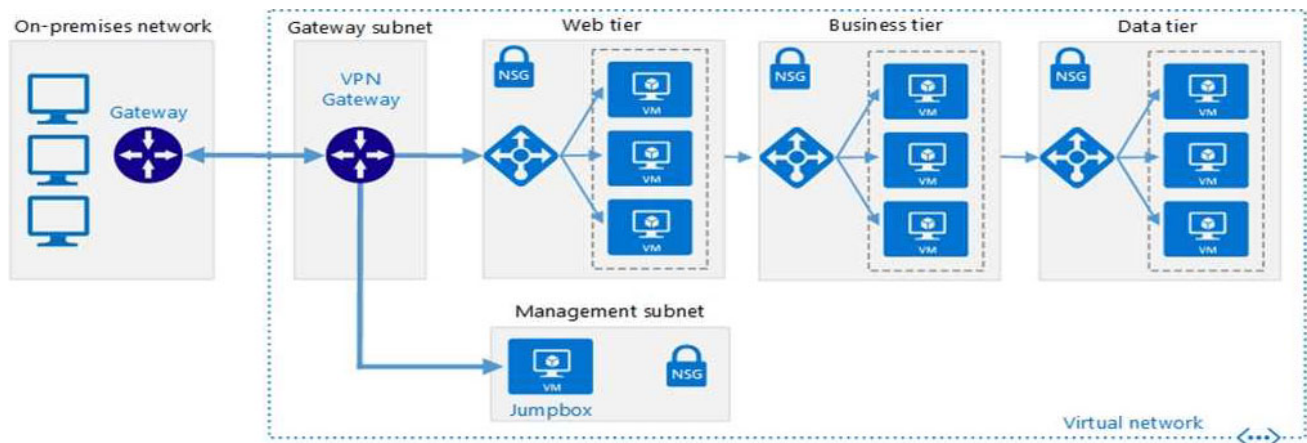
application to the on-premises network is routed through this gateway.

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.

5.HOTSPOT

You need to the appropriate sizes for the Azure virtual for Server2.

What should you do? To answer, select the appropriate options in the answer area. NOTE: Each correct selection is worth one point.

From the Azure portal:

- Create an Azure Migrate project.
- Create a Recovery Services vault.
- Upload a management certificate.
- Create an Azure Import/Export job.

On Server2:

- Enable Hyper-V Replica.
- Install the Azure File Sync agent.
- Create a collector virtual machine.
- Configure Hyper-V storage migration.
- Install the Azure Site Recovery Provider.

Answer:

From the Azure portal:

	▼
Create an Azure Migrate project.	
Create a Recovery Services vault.	
Upload a management certificate.	
Create an Azure Import/Export job.	

On Server2:

	▼
Enable Hyper-V Replica.	
Install the Azure File Sync agent.	
Create a collector virtual machine.	
Configure Hyper-V storage migration.	
Install the Azure Site Recovery Provider.	

Explanation:

Box 1: Create a Recovery Services vault

Create a Recovery Services vault on the Azure Portal.

Box 2: Install the Azure Site Recovery Provider

Azure Site Recovery can be used to manage migration of on-premises machines to Azure.

Scenario: Migrate the virtual machines hosted on Server1 and Server2 to Azure.

Server2 has the Hyper-V host role.

Reference: <https://docs.microsoft.com/en-us/azure/site-recovery/migrate-tutorial-on-premises-azure>