Question

Answered step-by-step

Asked by Ishirzad

Module 5 Hands-On Project 5-2 NOTE Public cloud platforms and...

Module 5 Hands-On Project 5-2

NOTE

Public cloud platforms and related account options change frequently. While the instructions given here were accurate at the time of writing, you might need to adjust the steps or options according to later changes.

Recall that in Project 1-4, you surveyed available Azure subscription options and had the opportunity to create an Azure subscription. In this project, you'll create a VPN connection between two VNets in the same subscription. Although it's possible to connect VNets in different subscriptions, that process is much more complicated.

A VPN connection to a VNet in Azure relies on a special subnet called a gateway subnet, which holds two VM instances that manage traffic through the gateway subnet. In this project, you'll see how to configure and connect these gateway subnets.

VNet-to-VNet VPN connections within the same region are free. You should be able to complete this entire project without incurring charges so long as you follow the steps correctly. Complete the following steps:

2. Create a new resource group for each VNet.
3. Use a smaller CIDR block for the subnet in each VNet, as you'll need some of the available address range for the gateway subnets. What CIDR block did you use for each subnet?

2. Create a new gateway subnet in each VNet. You learned how to add a second subnet to a VNet in Project 4-4. However, this time you need to create a **gateway subnet**, not a regular subnet (see Figure 5-28). The process is very similar except that you won't be able to change the name of the subnet. You should also use a smaller CIDR block, such as /27 or /28. Don't change any other default settings.
3. Now you're ready to create a Virtual network gateway for each VNet. In the navigation pane, click **Create a resource**. In the Search the Marketplace field, type **virtual network gateway**. Click **Virtual network gateway** when it appears as a suggestion. On the Virtual network gateway blade that appears, click **Create**.
4. Configure the following settings:
    1. Give this first VGW a name and make sure you add it to the same region where you created your VNets.
    2. Select **VPN** gateway type and **Route-based** VPN type.
    3. Under SKU, choose **Basic**. The basic VPN supports fewer users, less security, and no BGP routing. However, this is sufficient for your purposes in this project.
    4. Assign the VGW to a VNet.
    5. Make sure **Create new** is selected for the public IP address, and then give the IP address a name.
    6. Click **Review + create** and then click **Create**.
    7. Make sure you've created a VGW for each VNet before continuing with the next step, and make sure all deployments are complete. It might take quite a while—perhaps 30 minutes or more—for the VGWs to fully deploy. Grab a cup of coffee while you wait.
5. You're now ready to create the connection from each VGW to the other VGW. Go to your list of virtual network gateways. One way to do this is to click **All services** in the navigation pane, click **Networking**, and then click **Virtual network gateways**. After all deployments have completed, click the first VGW.
6. Under Settings, click **Connections** and then click **Add** to create a VPN connection.
    1. Give the connection a descriptive name, such as MyVNet1toMyVNet2.
    2. Make sure that **VNet-to-VNet** is selected for the connection type.
    3. The first VGW is selected for you because it's already associated with the VNet where you're creating the connection.
    4. Select the second VNet for the other end of the connection.
    5. Create a shared key (PSK) for the connection, and write it down where you can get to it easily in the next step.
    6. Click **OK**.
7. Create a connection in reverse from the second VGW. Be sure to use the same shared key.
8. Watch the Connections page for one of the VGWs until the status for each connection changes to Connected, as shown in Figure 5-29 (this might take several minutes).

9. Click one of the connections to open its overview page. How much data in and data out is reported? What are IP addresses being used at each end of the connection?

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11. Delete all the resources you created in this project, including both VNets, both resource groups, all related subnets and gateway subnets, both VGWs, and all connections. In what order did you delete these resources? What error messages did you encounter? How did you handle these problems? Check through your account to confirm that all related resources have been deleted.

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Answer & Explanation

Solved by verified expert

Rated Helpful

Create local network gateway page, specify the values for your local network gateway.

Create VPN connections
Create a site-to-site VPN connection between your virtual network gateway and your on-premises VPN device.
On the Add connection page, configure the values for your connection.

Verify the VPN connection
In the Azure portal, you can view the connection status of a VPN gateway by navigating to the connection.

Connect to a virtual machine:

```
$VMs = Get-AzVM
$Nics = Get-AzNetworkInterface | Where VirtualMachine -ne $null
foreach($Nic in $Nics)
{
$VM = $VMs | Where-Object -Property Id -eq $Nic.VirtualMachine.Id
$Prv = $Nic.IpConfigurations | Select-Object -ExpandProperty PrivateIpAddress
$Alloc = $Nic.IpConfigurations | Select-Object -ExpandProperty PrivateIpAllocationMethod
Write-Output "$($VM.Name): $Prv,$Alloc"
}
```

Step-by-step explanation

I hope it helps

Create local network gateway page, specify the values for your local network gateway.

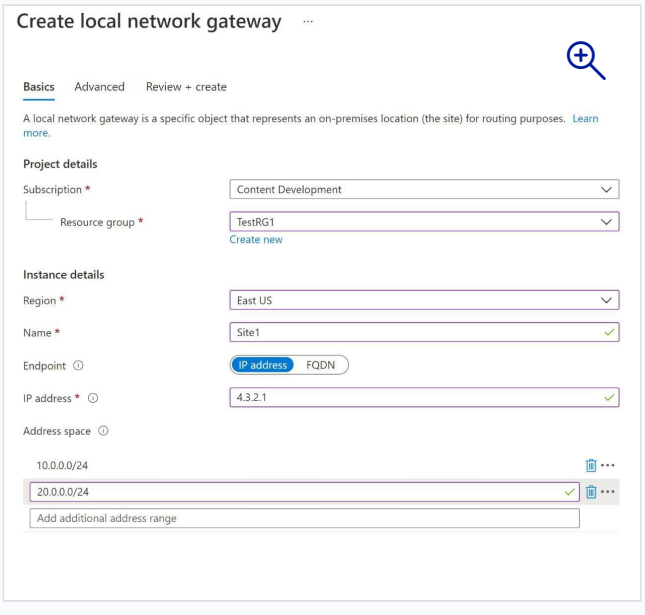

Image transcription text

Create local network gateway Basics Advanced Review + create A local network gateway is a
specific object that represents an on-premises location (the site) for routing purposes. Learn
*more. Project details Subscription * Content Development V | Resource group * Test...*
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Create VPN connections

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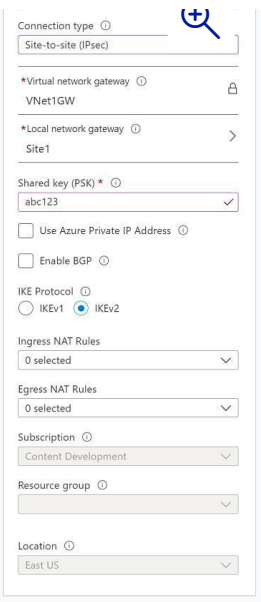

Image transcription text

*Name * VNet1toSite 1 V Connection type O Site-to-site (IPsec) V *Virtual network gateway O VNet1GW * Local network gateway O Site 1 Shared key (PSK) * O abc123 V Use Azure Private IP Address O Enable BGP O IKE Protocol O IKEV1 O IKEV2 Ingress NAT Rules 0 select...* Show more

Verify the VPN connection

In the Azure portal, you can view the connection status of a VPN gateway by navigating to the connection.

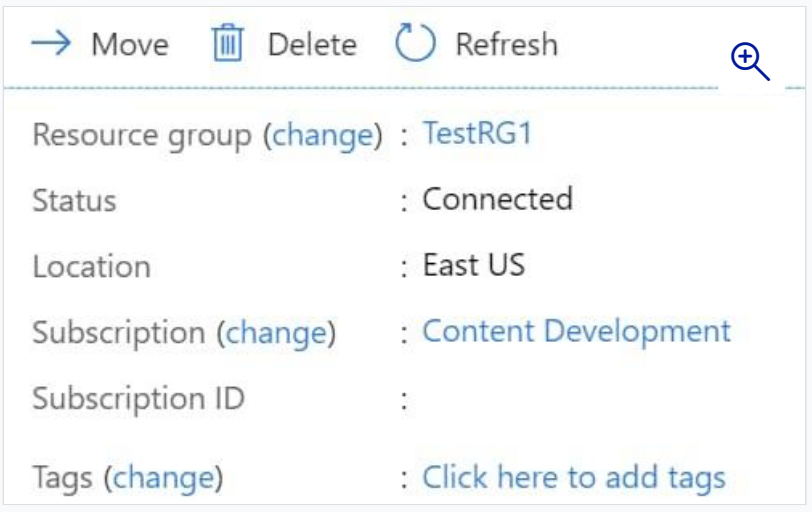

Image transcription text

Move Delete Refresh Resource group (change) : TestRG1 Status : Connected Location : East US
Subscription (change) : Content Development Subscription ID Tags (change) : Click here to add
tags

Connect to a virtual machine:

```
$VMs = Get-AzVM
$Nics = Get-AzNetworkInterface | Where VirtualMachine -ne $null
foreach($Nic in $Nics)
{
$VM = $VMs | Where-Object -Property Id -eq $Nic.VirtualMachine.Id
$Prv = $Nic.IpConfigurations | Select-Object -ExpandProperty PrivateIpAddress
$Alloc = $Nic.IpConfigurations | Select-Object -ExpandProperty PrivateIpAllocationMethod
Write-Output "$($VM.Name): $Prv,$Alloc"
}
```

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"Thank you, Sir."

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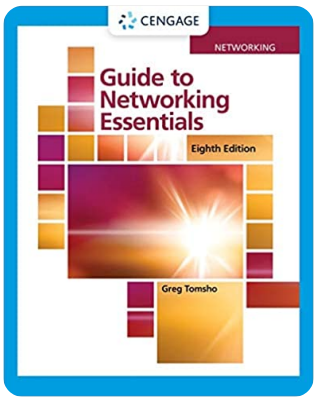

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