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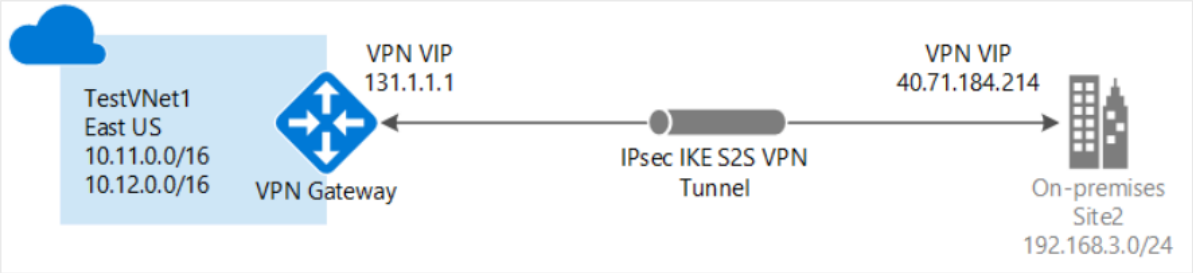
Task-3

Create Site-to-Site VPN Peering in the Azure

A Site-to-Site VPN gateway connection is 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 located on-premises that has an externally facing public IP address assigned to it. For more information about VPN gateways



Prerequisite for Site-to-Site VPN

- Virtual Network
- Virtual Network Gateway
- Local Network Gateway
- Compatible VPN Device On-Premises with Public IP

Brief steps to create Azure Site to Site VPN

Deploying a site-to-site VPN from the Azure side involves the following steps:

- Creating/editing a virtual network
- Verifying or adding virtual subnets to the virtual network
- Creating the gateway subnet
- Creating the virtual network gateway
- Creating a local network gateway
- Integrating with your VPN device
- Creating the site-to-site VPN tunnel
- Verifying the connections in both directions

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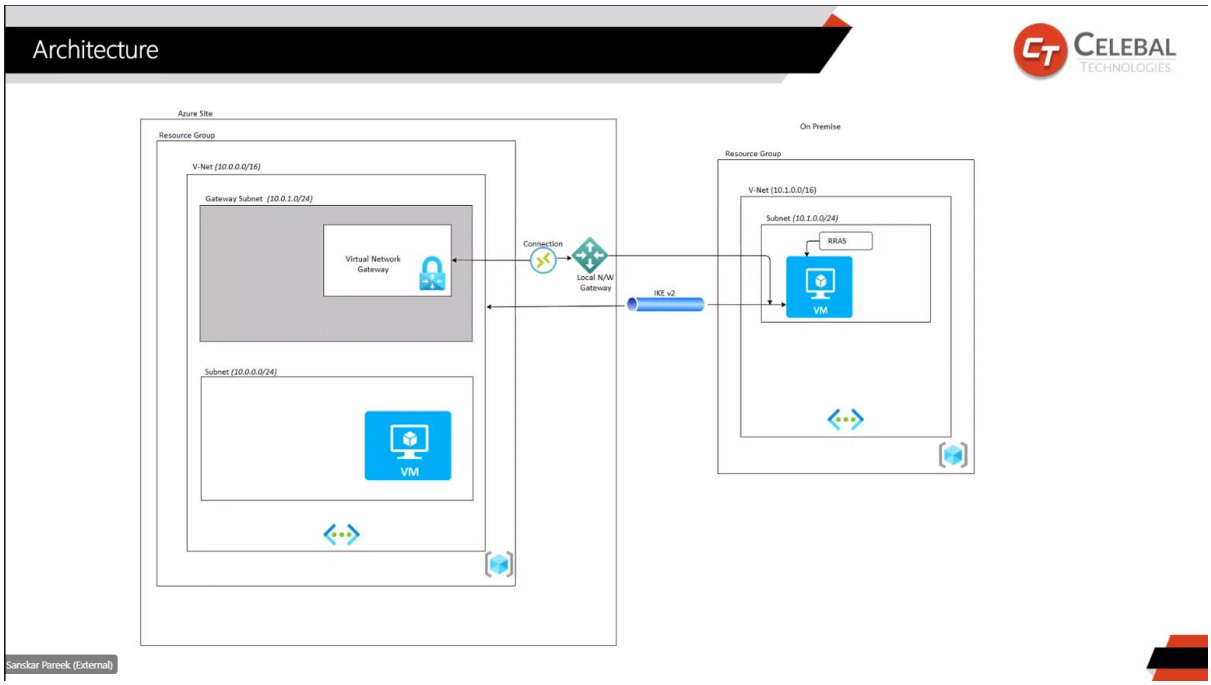

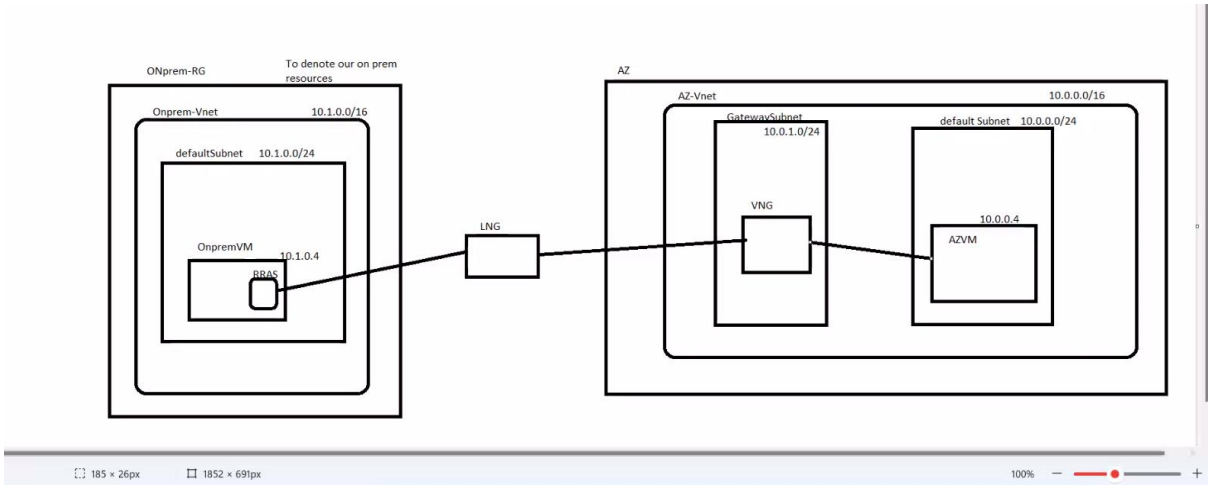

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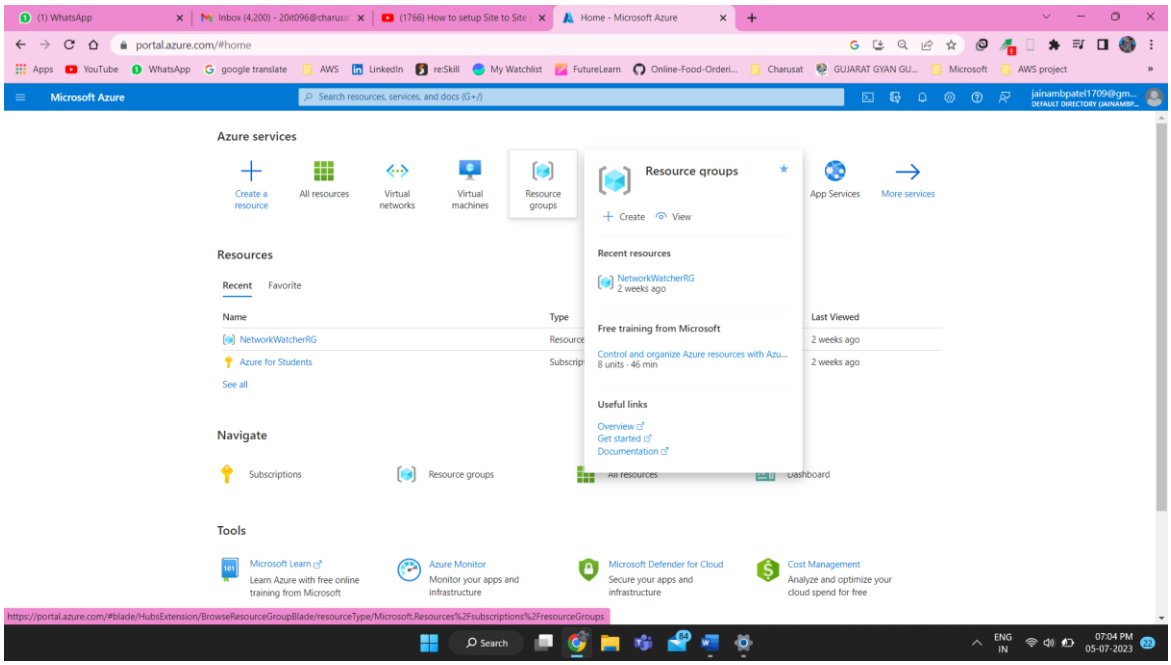
Step-1 Navigate to portal.azure.com

Step-2 Click on create resource group icon.



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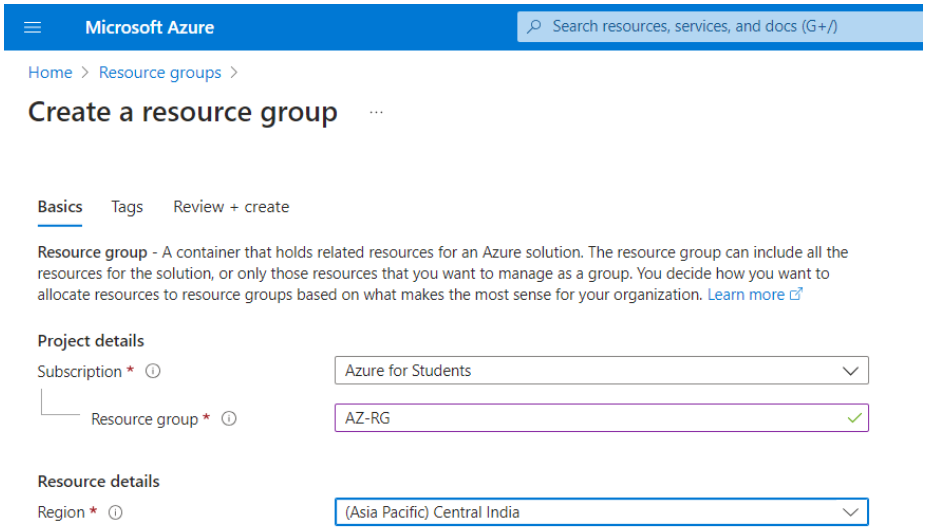
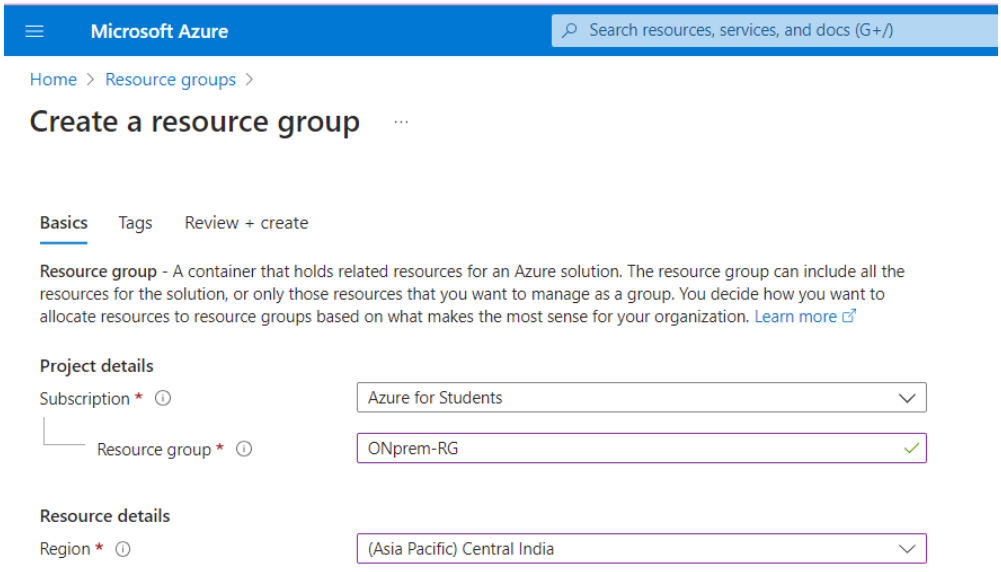
Create Resource Group:

Step-3 We have selected here as Azure for student subscription, entered the resource group name as AZ-RG and choose the region. after entering details click on next button.



Step-4 Same as above create On-premises resource group as ONprem-RG and click on next button.



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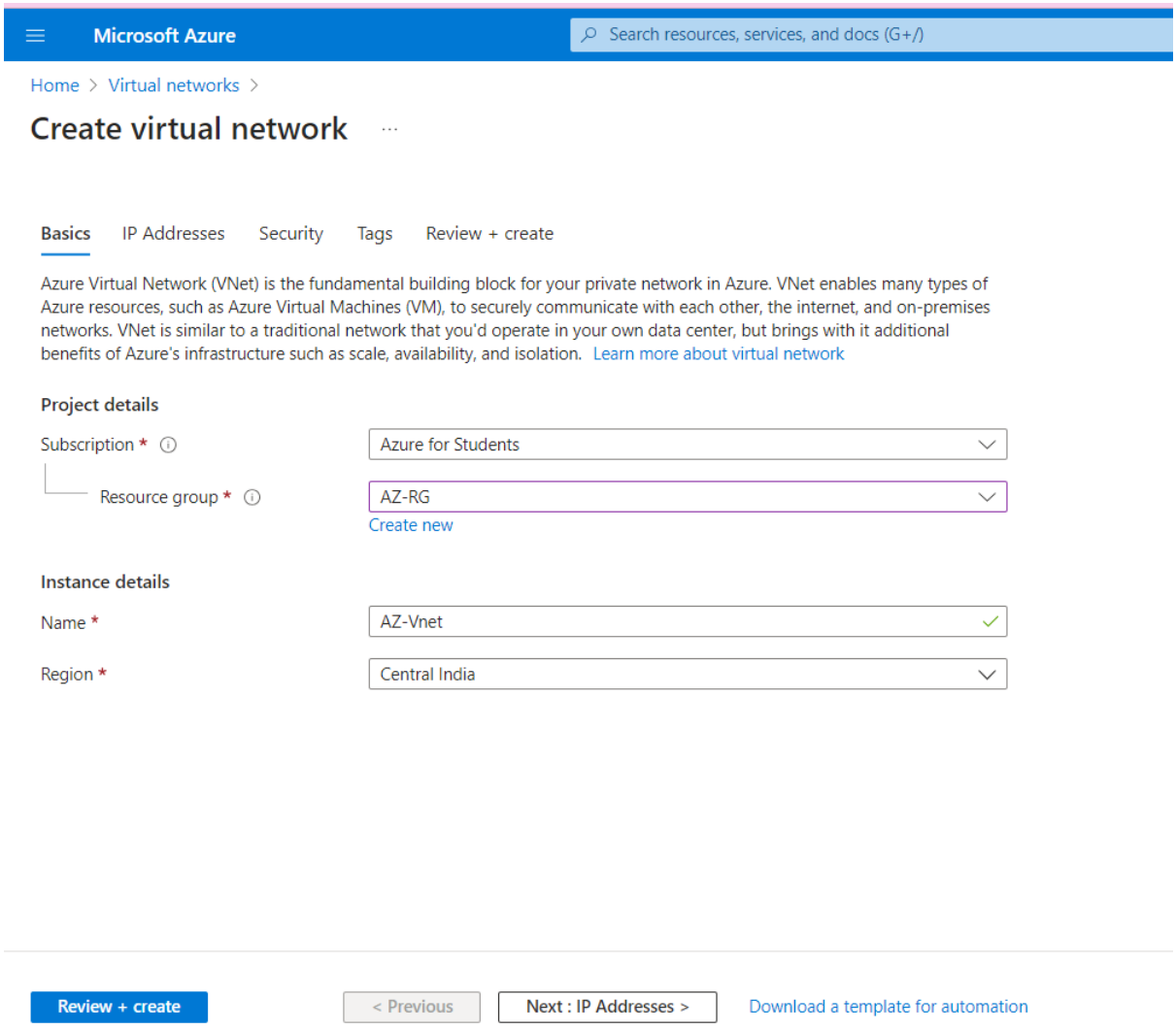
Create Virtual Network:

Step-5 Enter the basic details of virtual network. (Subscription, name, region) and select the resource group as AZ-RG and give AZ-Vnet as a name.



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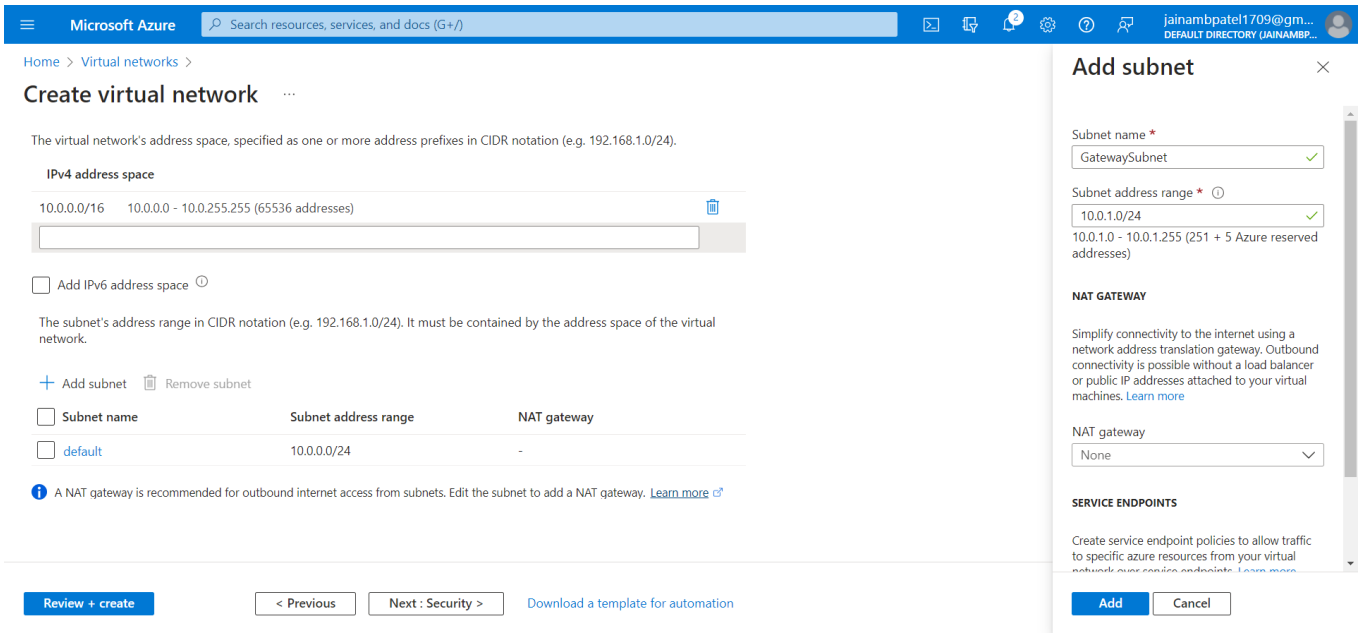
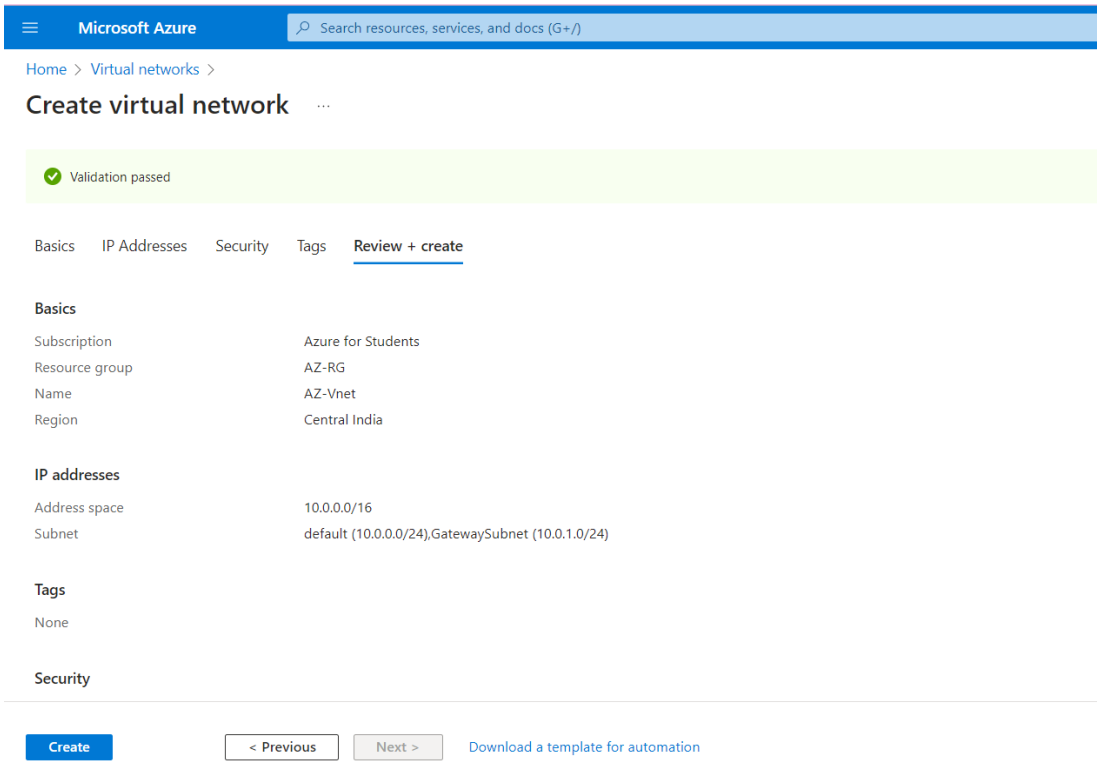
Step-6 On IP Addresses tab we can select default subnet but here we created a subnet named GatewaySubnet.



Step-7 After review and create stage click on create button.



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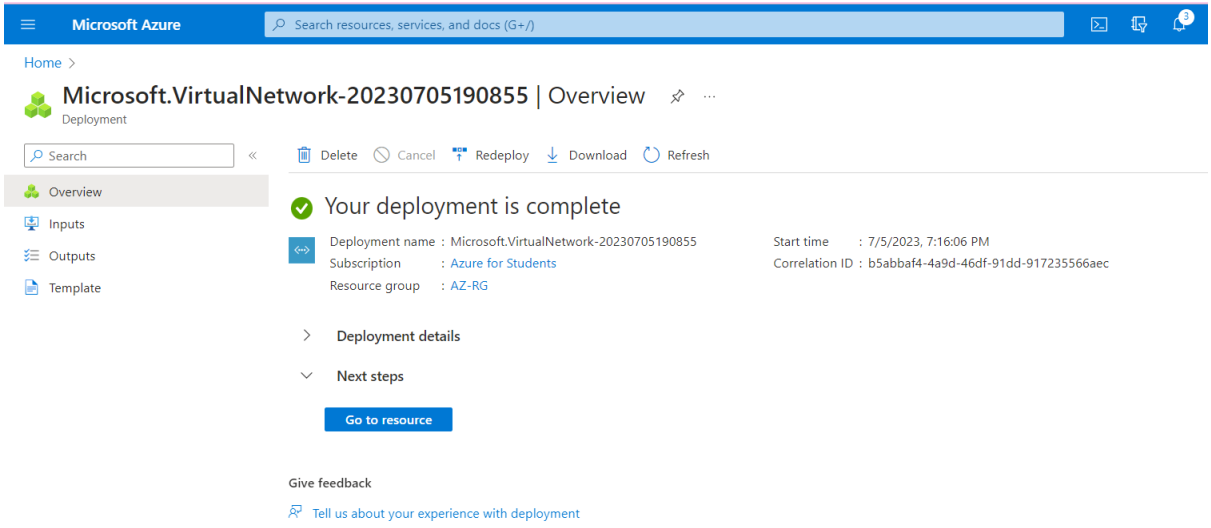
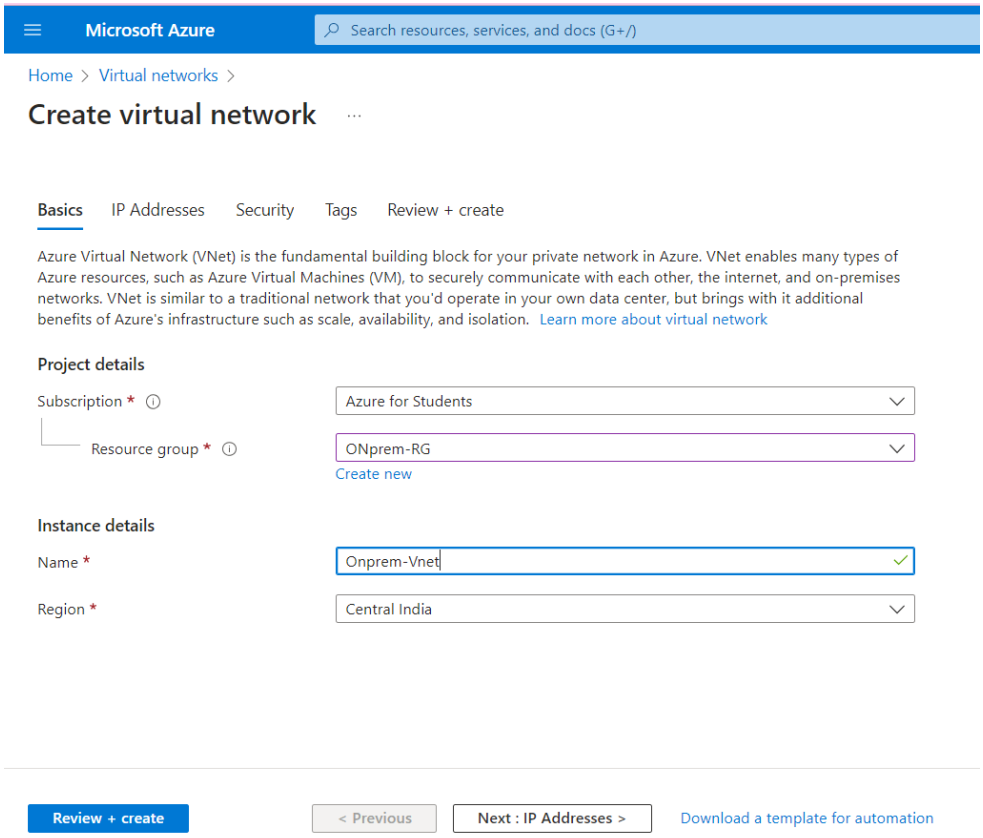
Step-8 Azure Virtual Network has been created. you can click on go to resource and can see all the details of Virtual Network.



Step-9 Enter the basic details of virtual network. (Subscription, name, region) and select the resource group as ONprem-RG and give Onprem-Vnet as a name.



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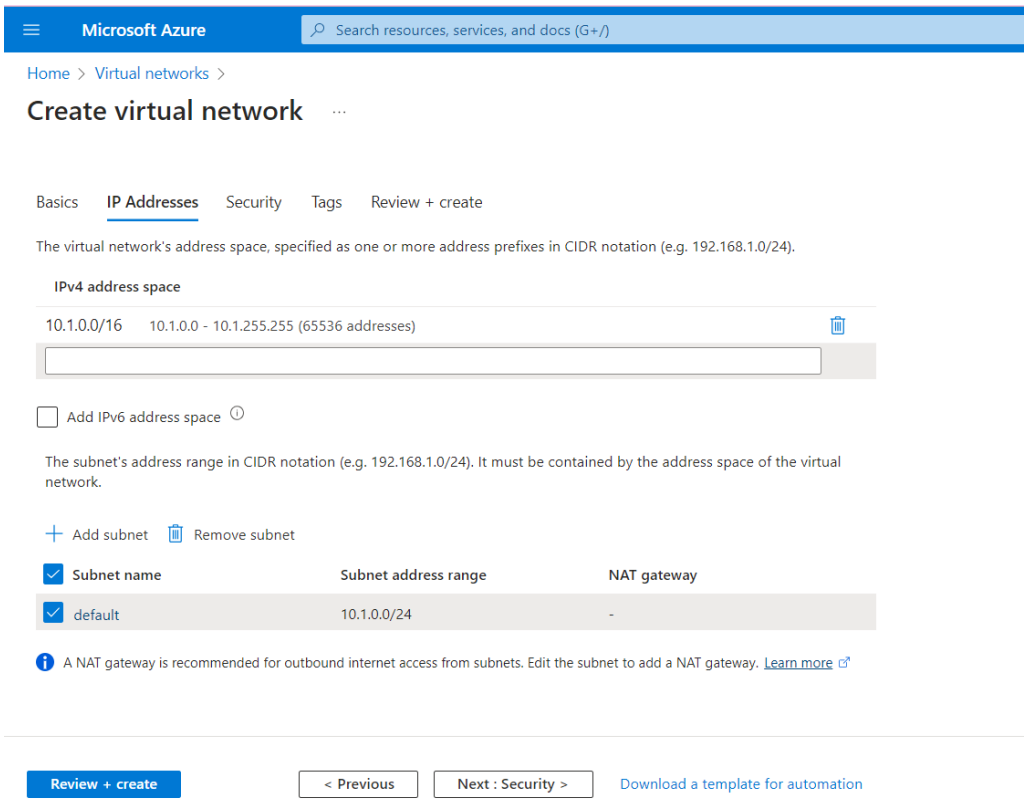
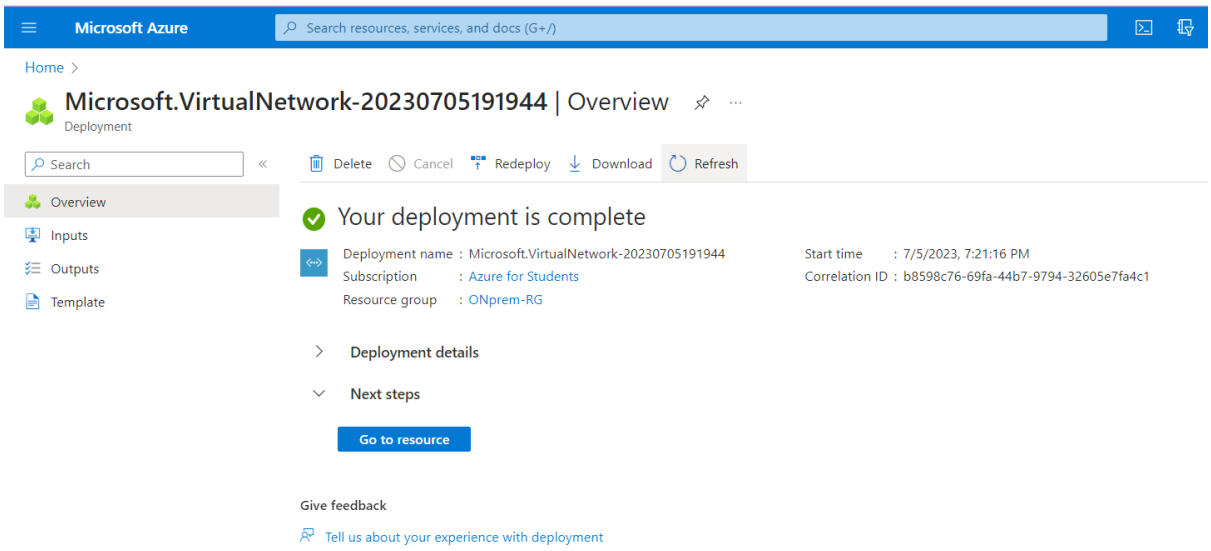
Step-10 On IP Addresses tab we have selected default subnet.



Step-11 On premise Virtual Network has been created. you can click on go to resource and can see all the details of Virtual Network.



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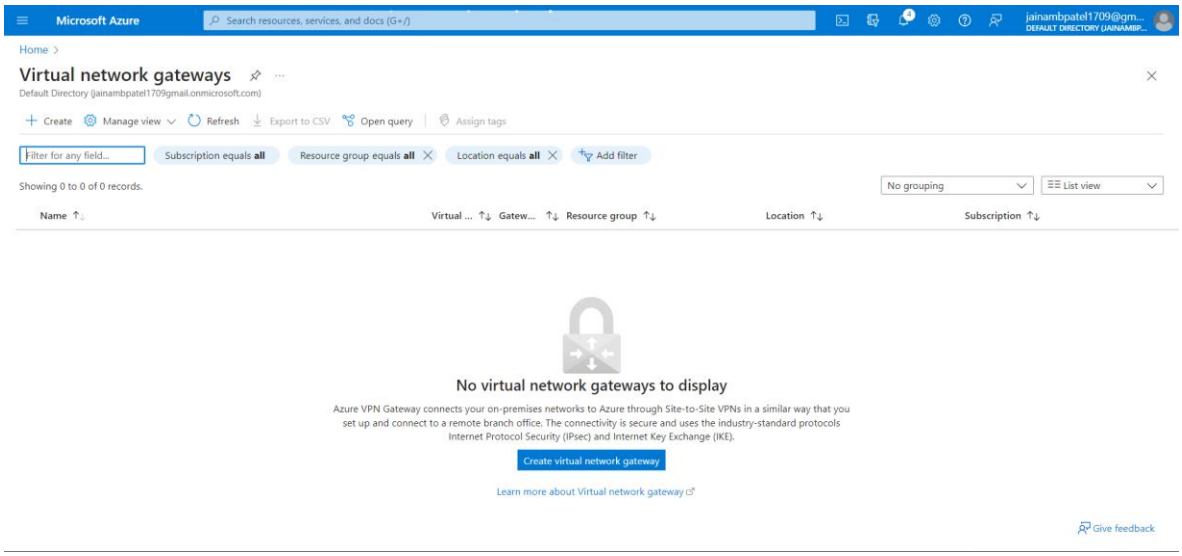
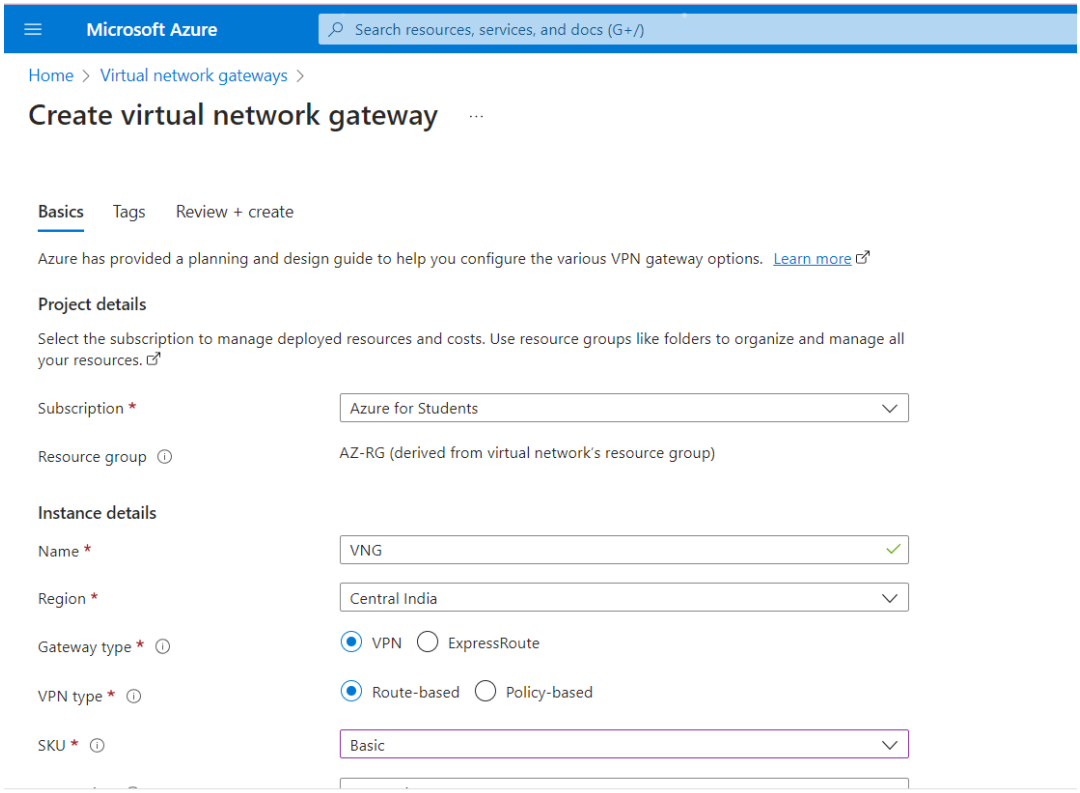
Step-12 Click on Create Virtual network gateway for create VNG.



Step-13 Apply name as VNG and select SKU as Basic**.**



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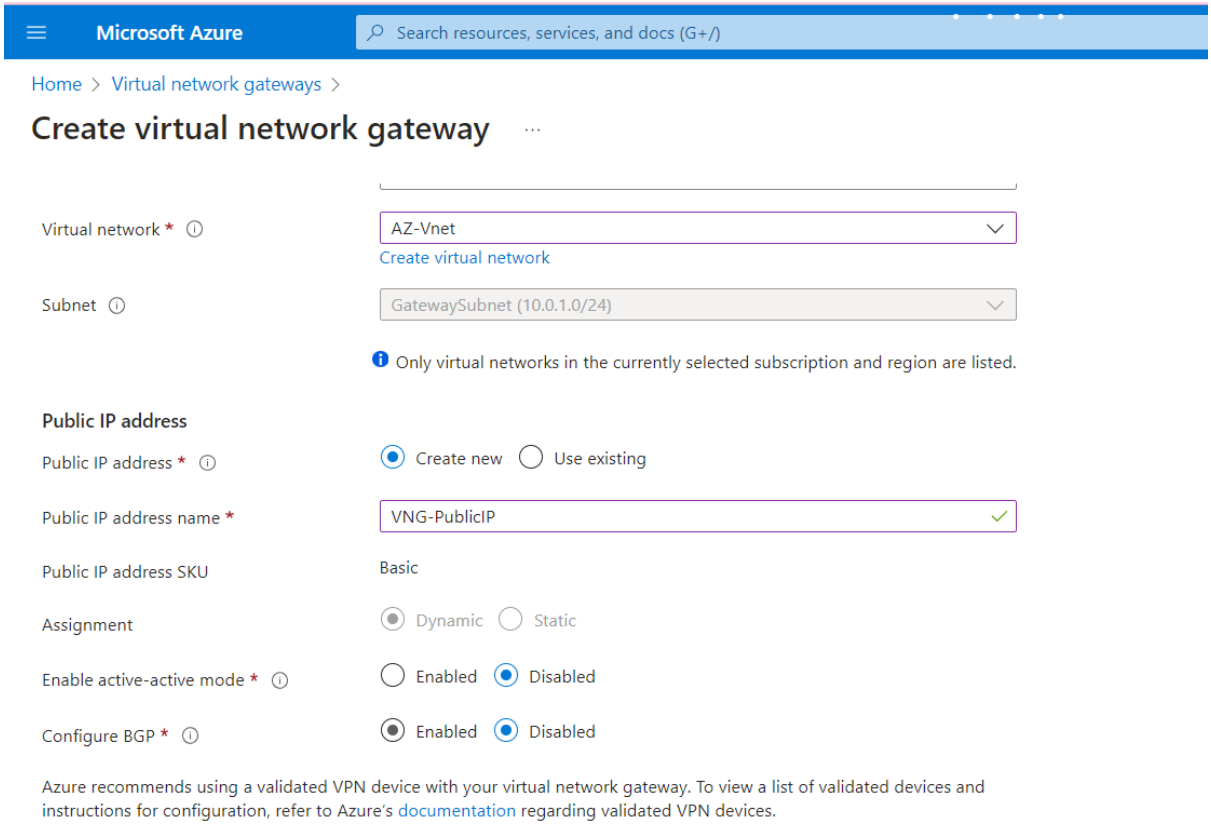
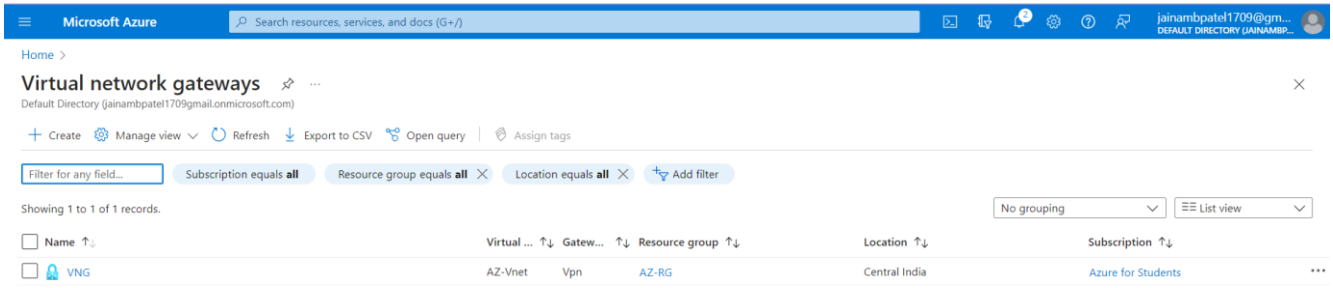
Step-14 Select Virtual network "AZ-Vnet" and create Public IP address "VNG-PublicIP" and disable active-active mode.



Step-15 Virtual network gateway has been created.



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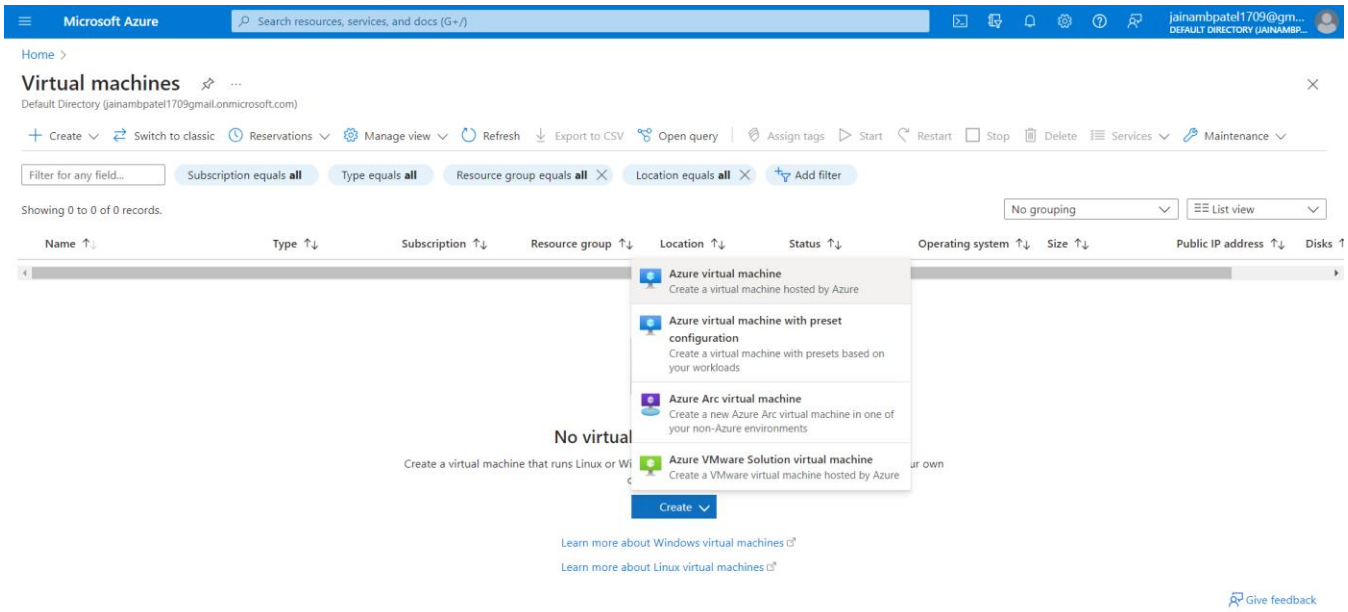
Create Virtual Machine:

Step-16 After click on Create Button select Azure virtual machine as a VM type.



Create Azure Virtual machine.

Step-17 In the Basics tab:

1. Select your Subscription.
2. Create or select a Resource Group as AZ-RG.
3. Choose a virtual machine Name as AZVM.
4. Select the Region where you want to deploy the virtual machine.
5. Choose a suitable Availability Options based on your requirements.
6. Select an Image that corresponds to the operating system you want to use.
7. Choose a Size for your virtual machine based on the desired compute power and memory.
8. Specify the Administrator account username and password for the virtual machine.

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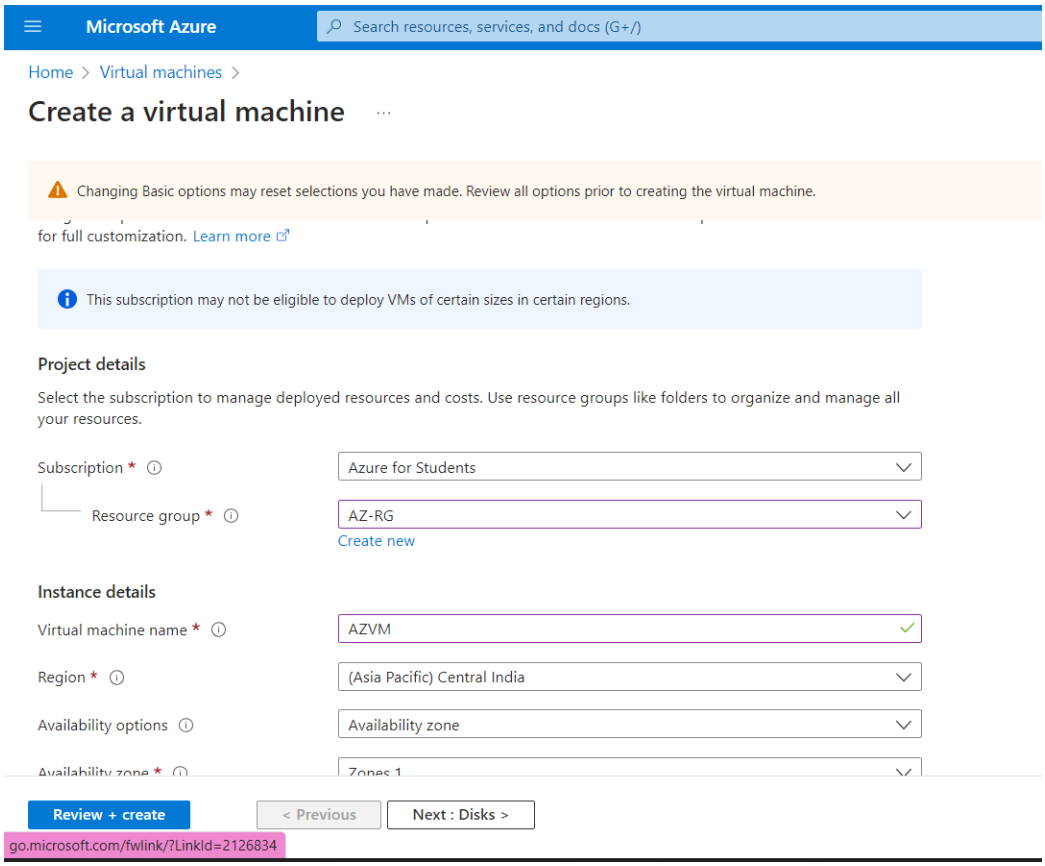

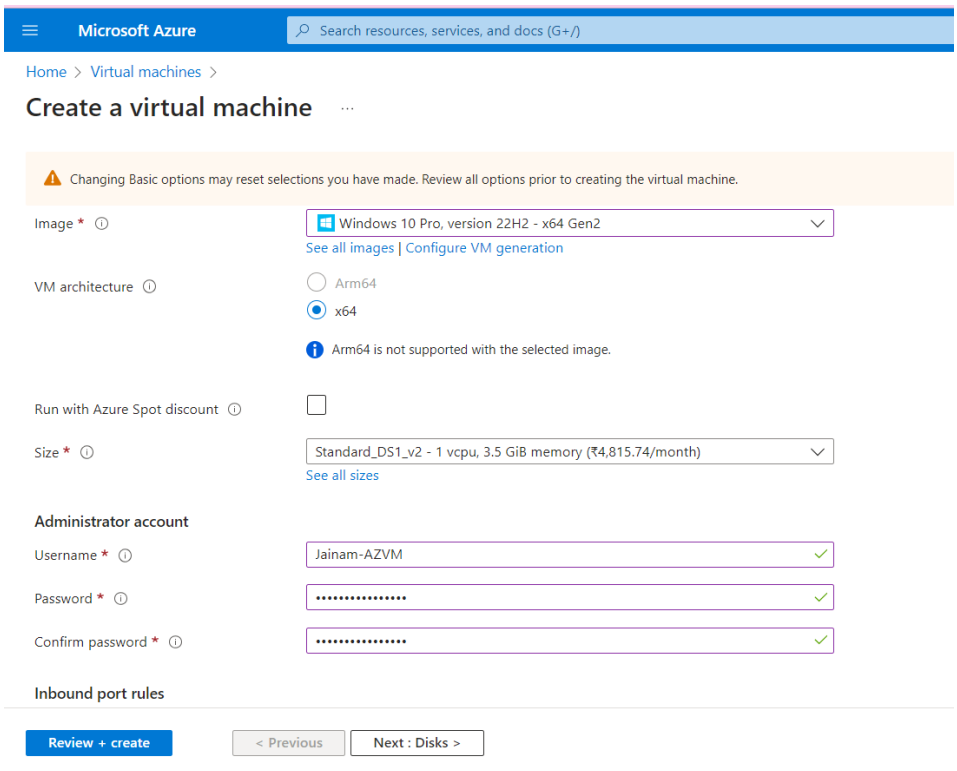

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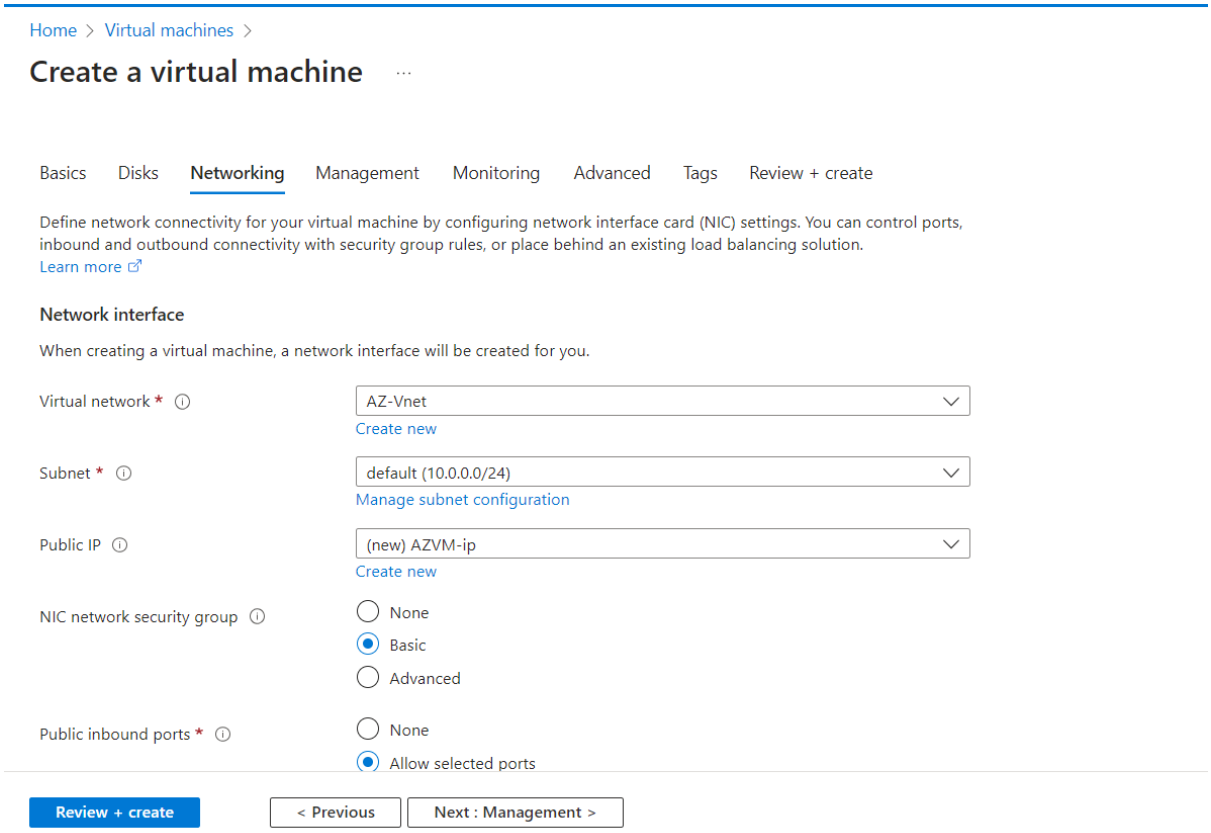
Step-18 In Networking tab Select Virtual network as AZ-Vnet and Subnet as default (10.0.0.0/24).



Create On premises Virtual machine.

Step-19 In the Basics tab:

1. Select your Subscription.
2. Create or select a Resource Group as ONprem-RG.
3. Choose a virtual machine Name as ONpremVM.
4. Select the Region where you want to deploy the virtual machine.
5. Choose a suitable Availability Options based on your requirements.
6. Select an Image that corresponds to the operating system you want to use.
7. Choose a Size for your virtual machine based on the desired compute power and memory.
8. Specify the Administrator account username and password for the virtual machine.

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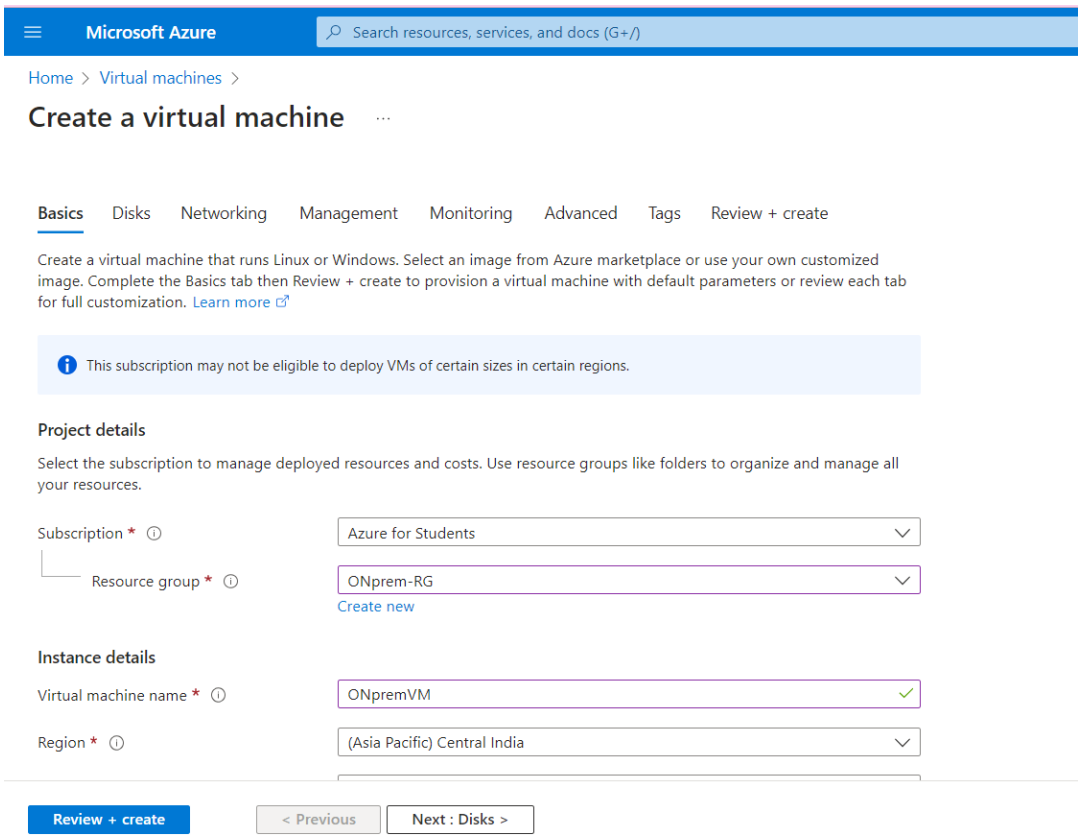

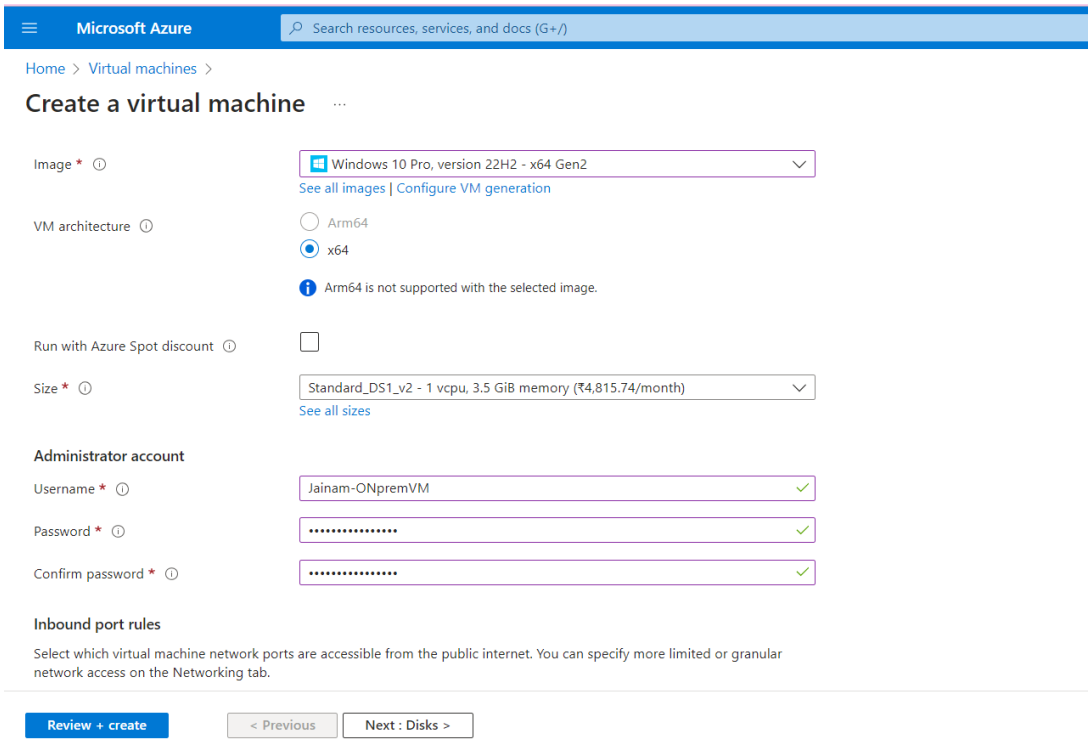

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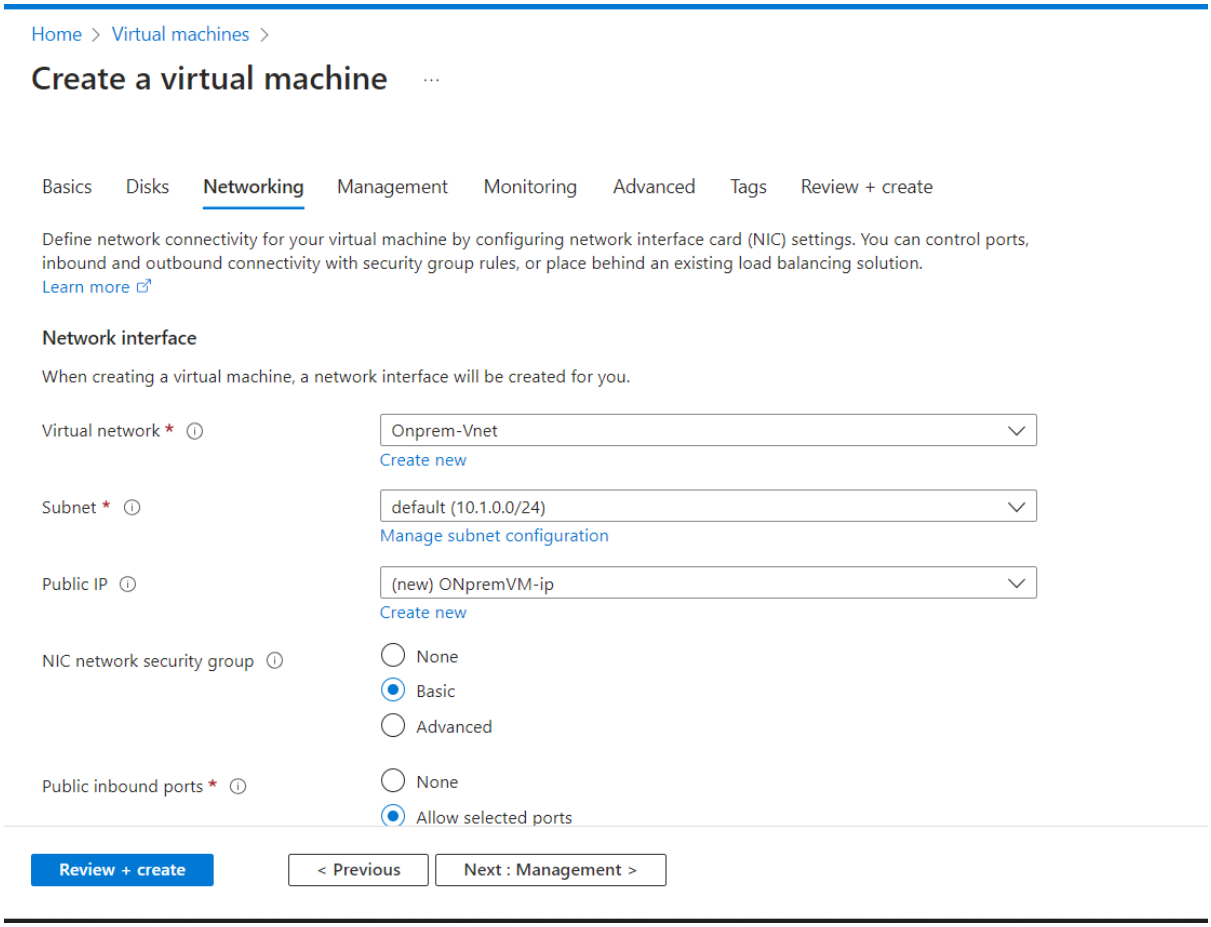
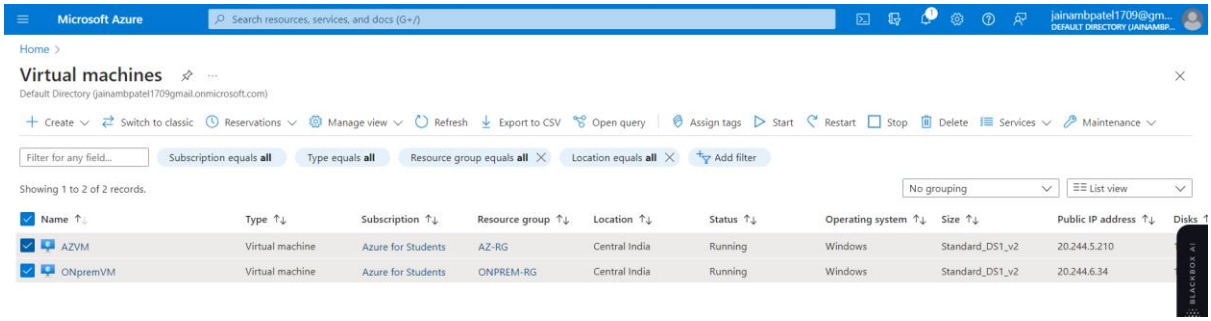
Step-19 In Networking tab Select Virtual network as Onprem-Vnet and Subnet as default (10.1.0.0/24).



Step-20 In virtual machines Tab you can see that both virtual machines has been created.



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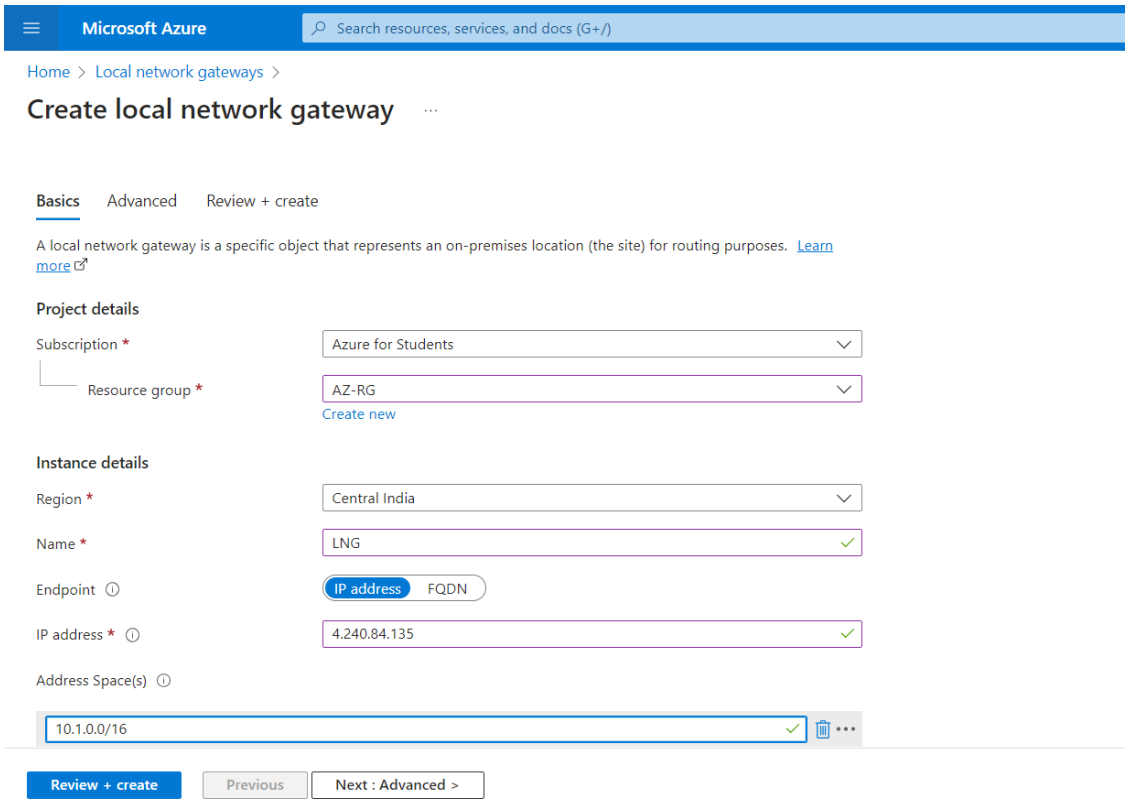
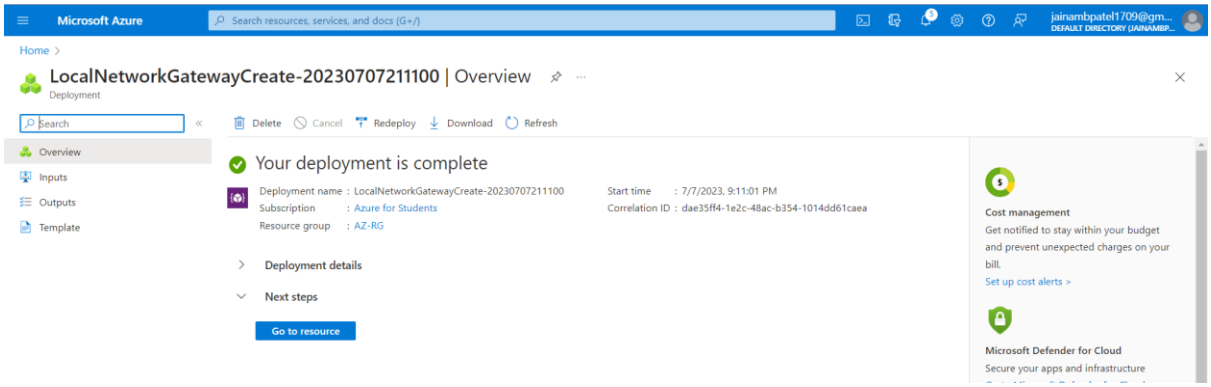
Step-21 For create Local Network Gateway we have provided all the necessary configuration in Basic tab.

IP address: OnpremVM public IP address.

Address Space: ONprem-Vnet address space.



Step-22 click on Overview tab we can see that LNG has been created.



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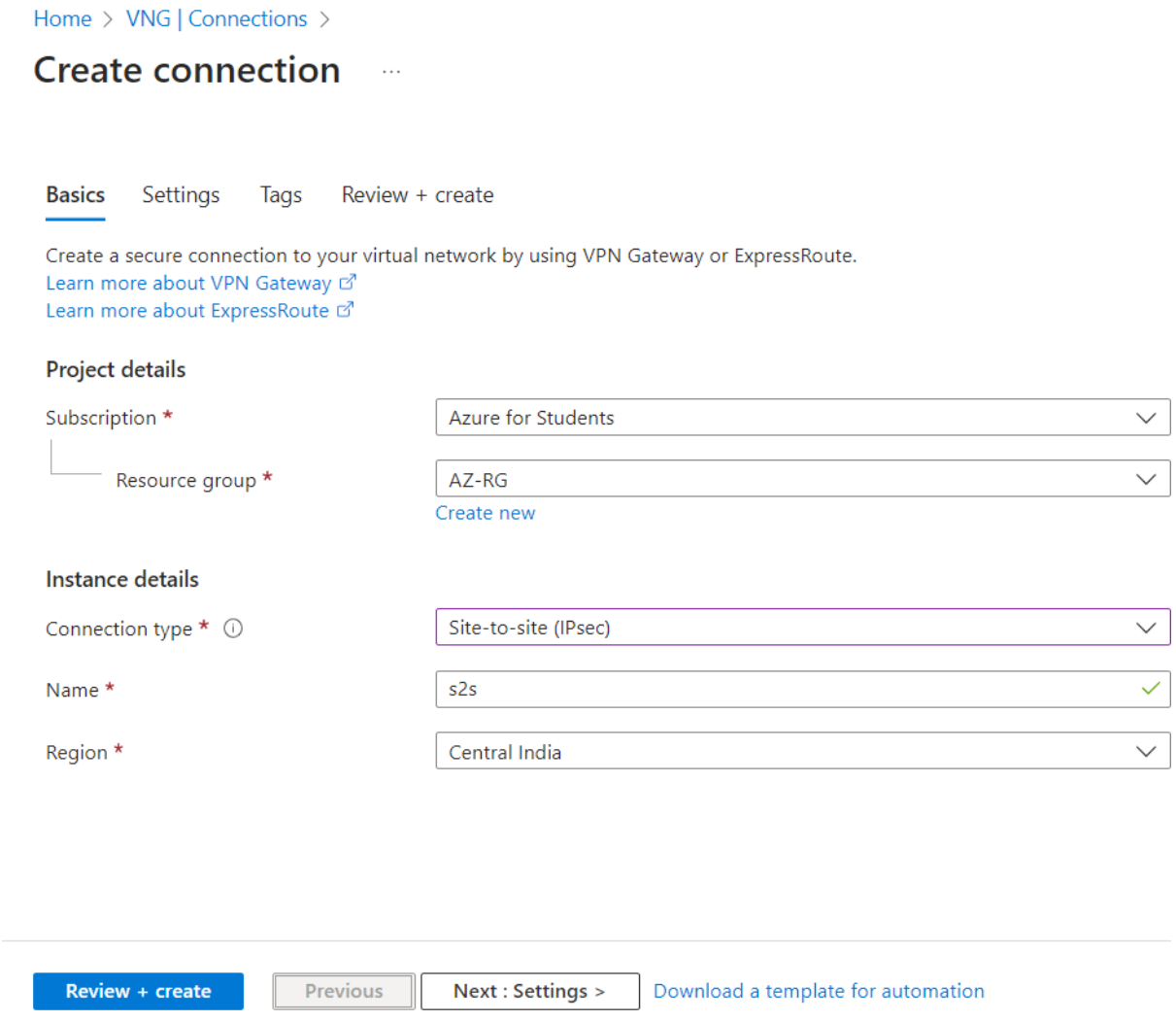
Create Site-to-Site Connection

Step-23 Under Virtual Network Gateways click on connection. Provide all the configurations.

Connection type: Site-to-Site

Name: s2s.



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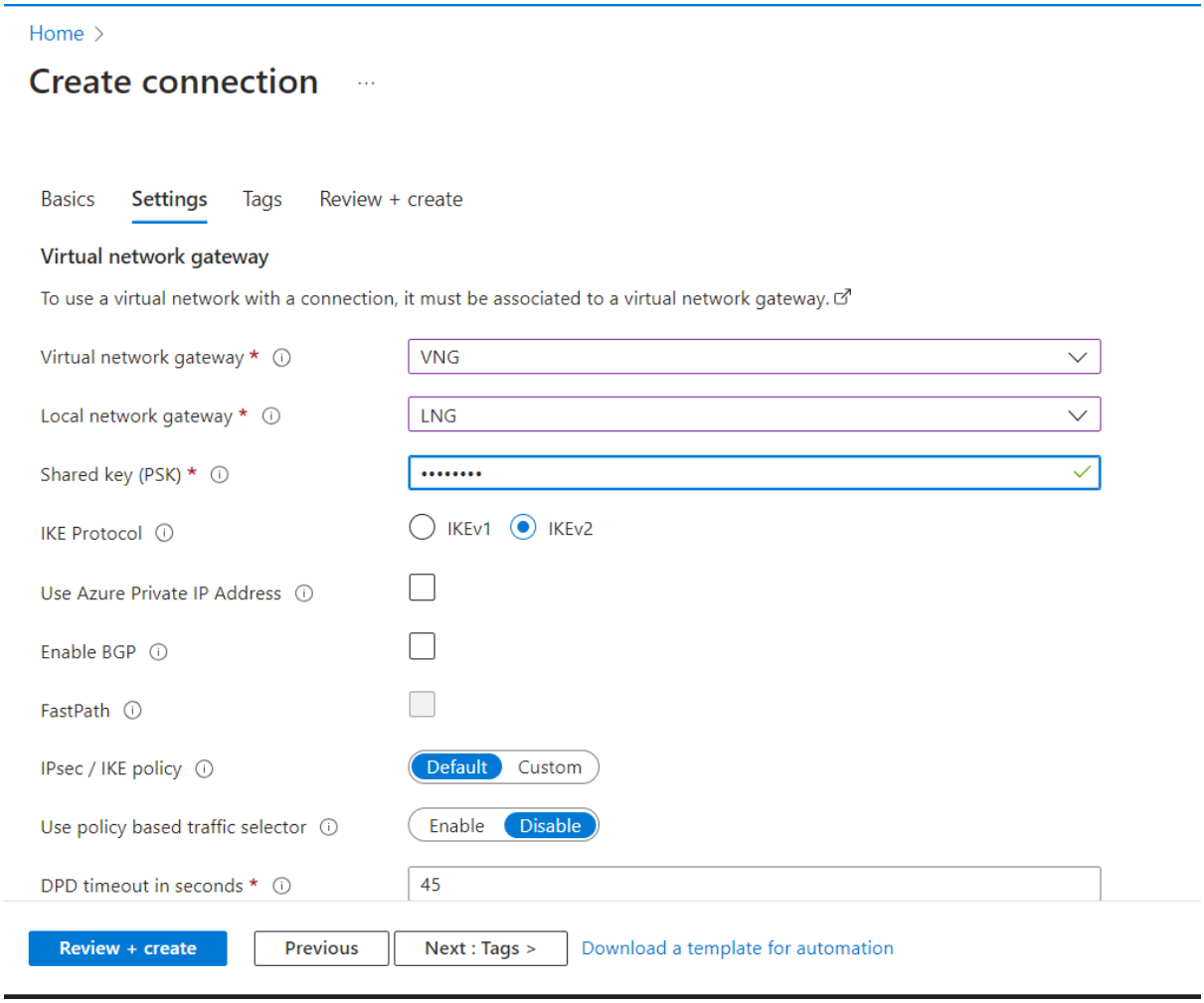
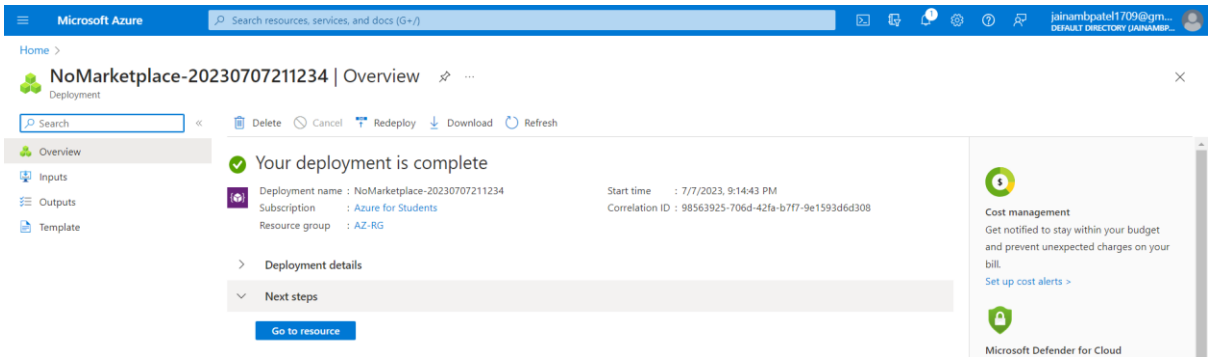
Step-24 Select VNG and LNG and provide Shared Key and click on Review and create.





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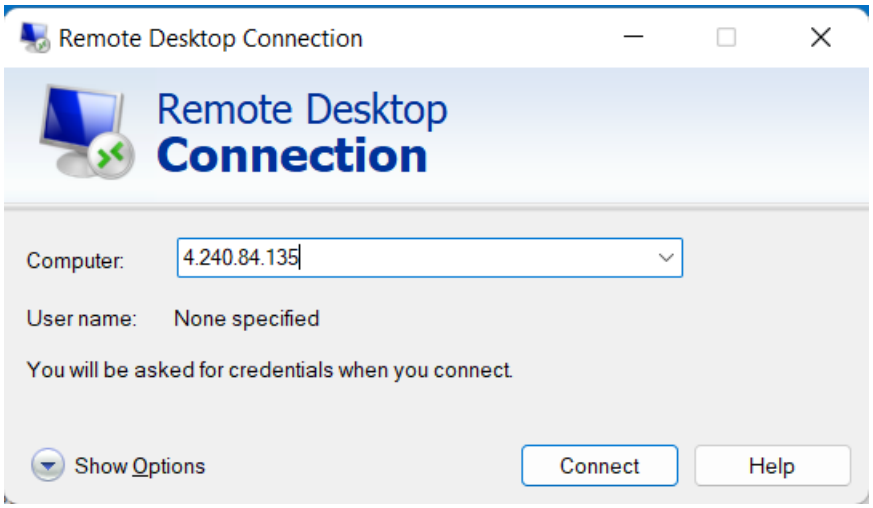
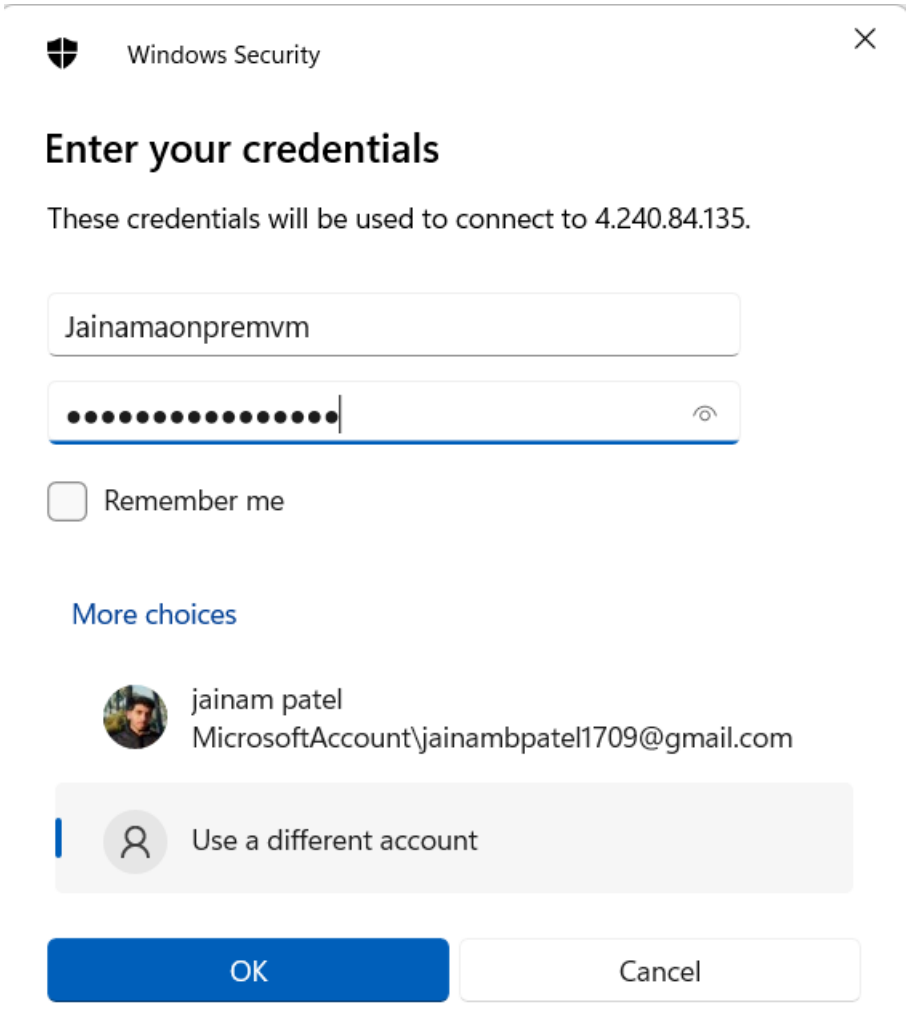
Step-24 Open On-premises virtual machine by remote desktop.





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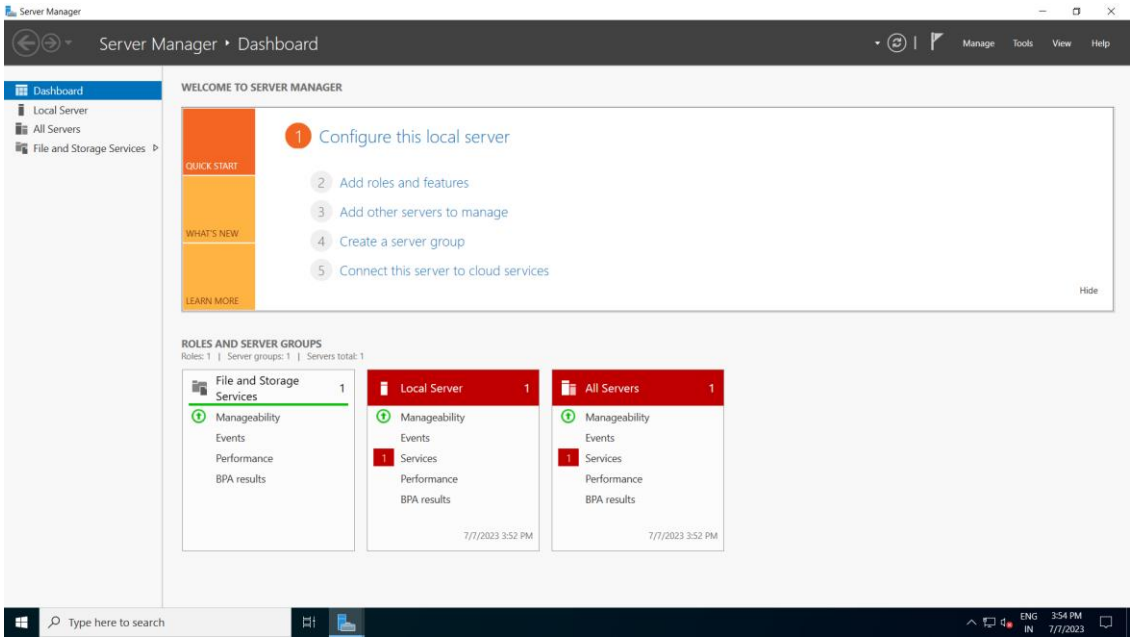
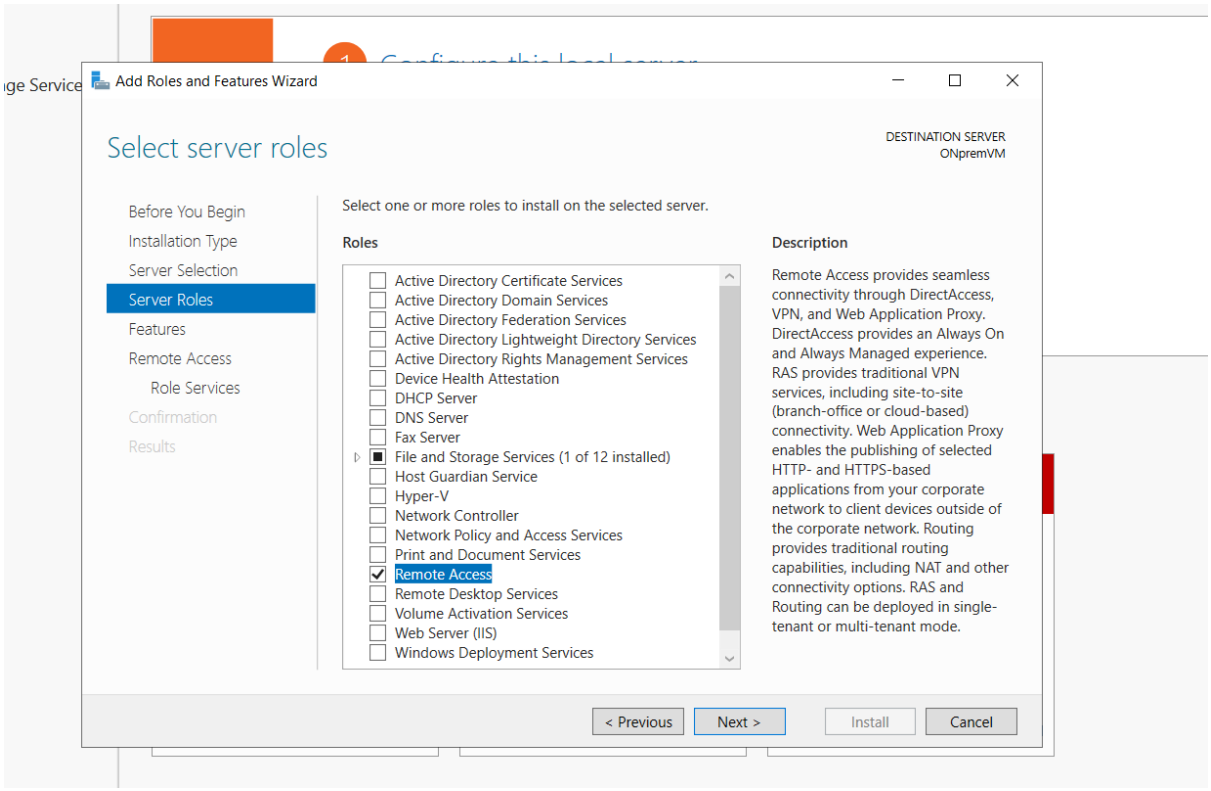
Step-25 Open server manager dashboard and click on “add rules and features”.



Step-26 Go to server rules and enable the “remote access”.



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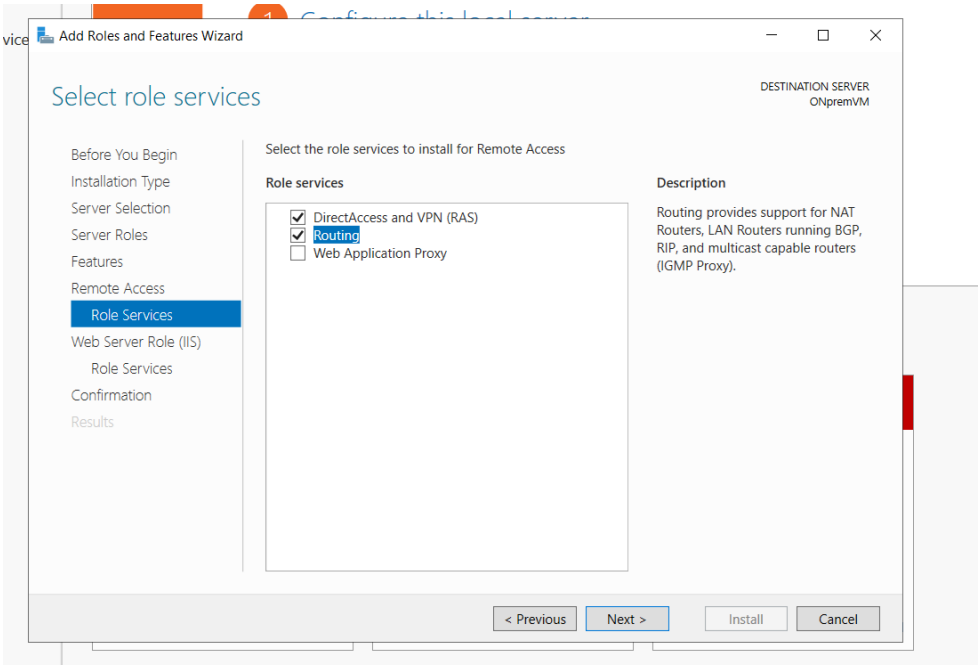
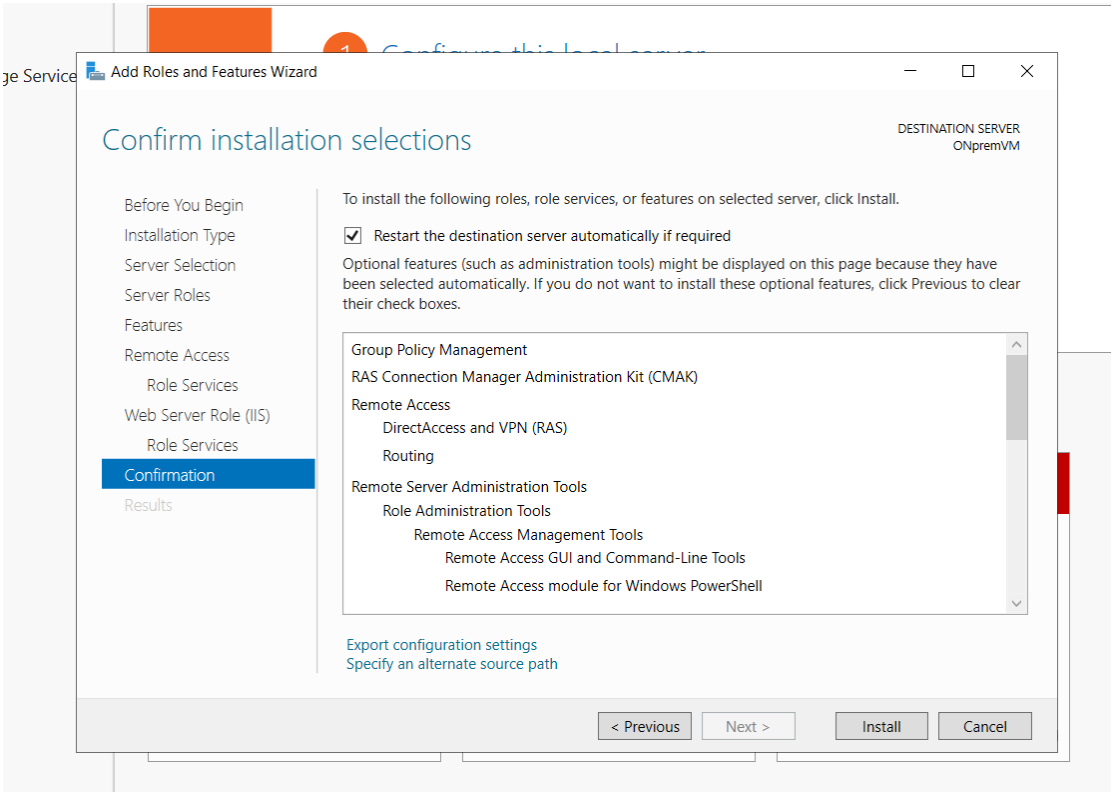
Step-27 Next, go to rule services and enable DirectAccess and Routing.



Step-28 Now, go to confirmation and check the restart box.



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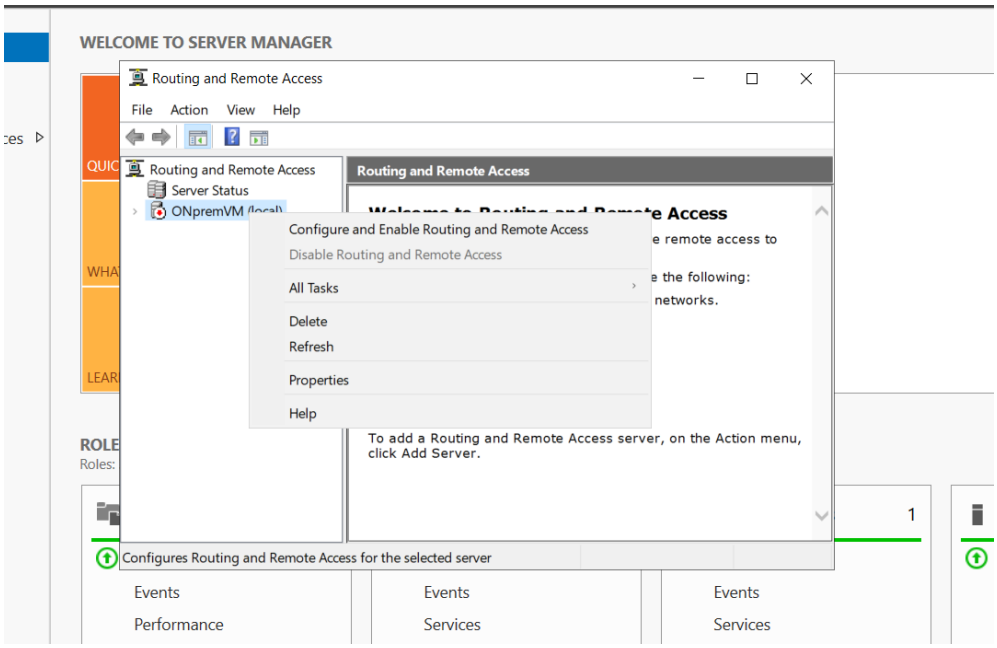
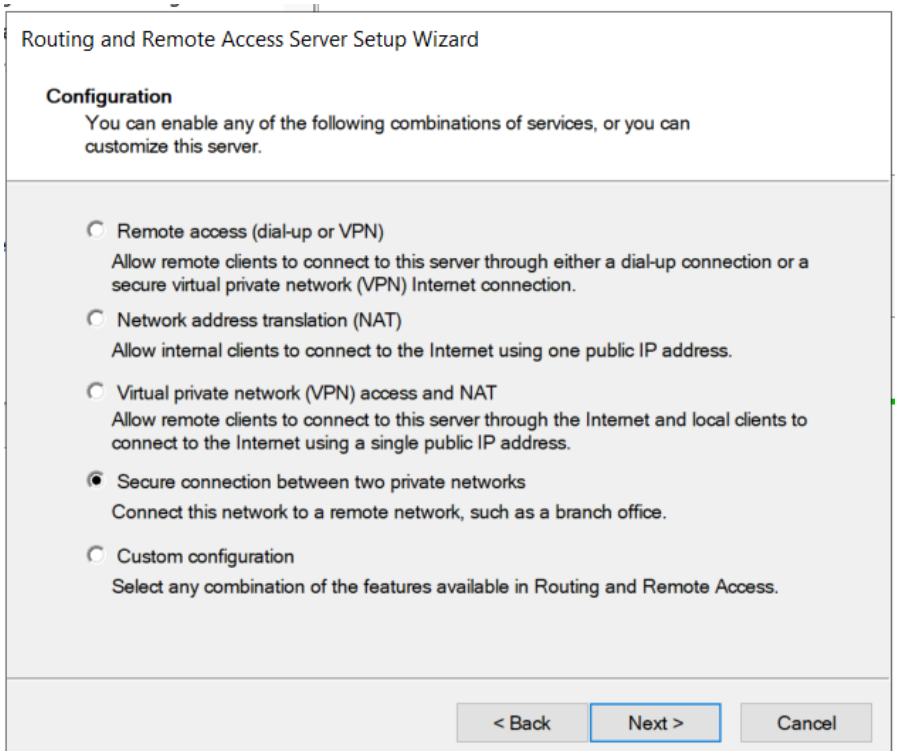
Step-29 Now, Right click on “OnPrem-VM (local)” and Select “Configure and Enable Routing and Remote Access”.



Step-30 Check the “Secure Connection” box.



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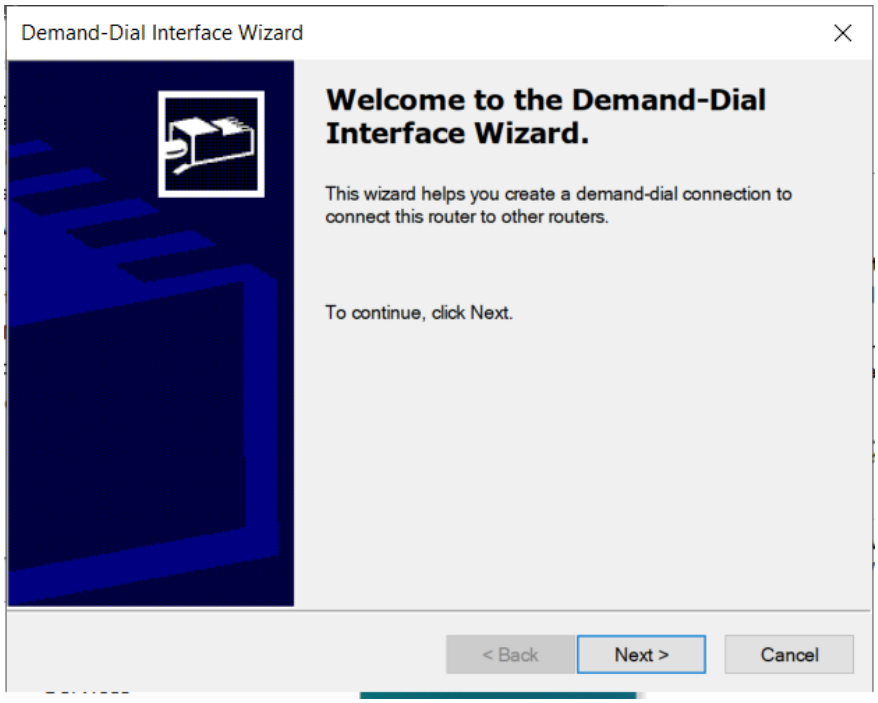
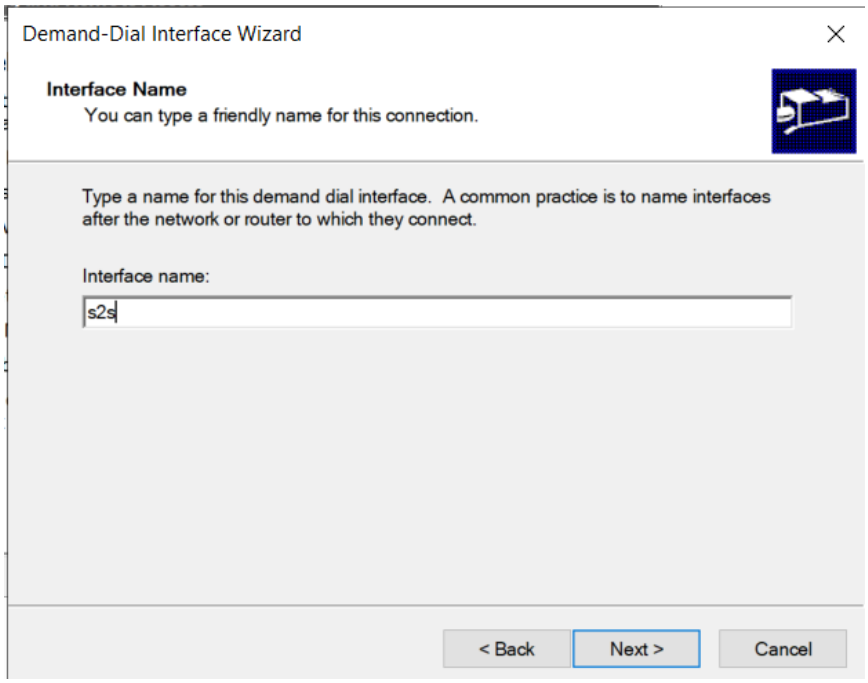
Step-31 To continue, click Next.



Step-32 Enter an Interface Name.



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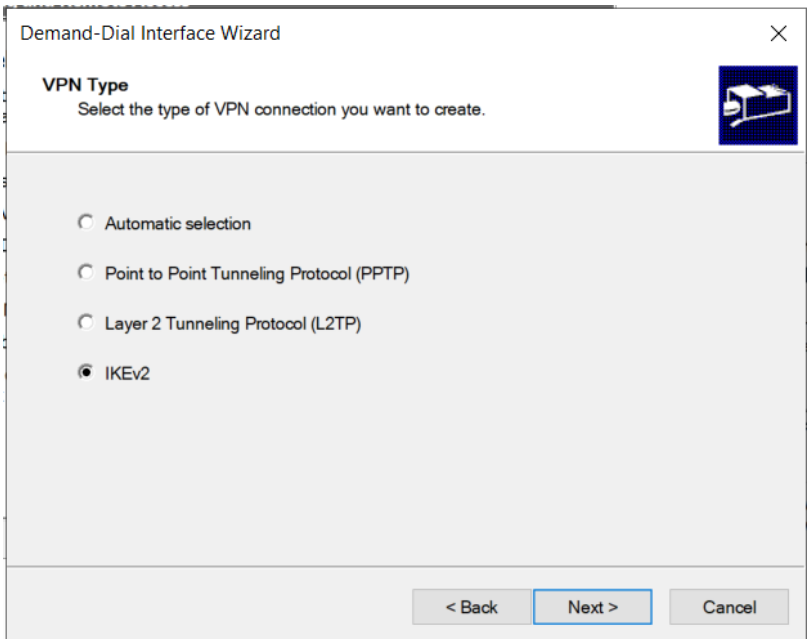
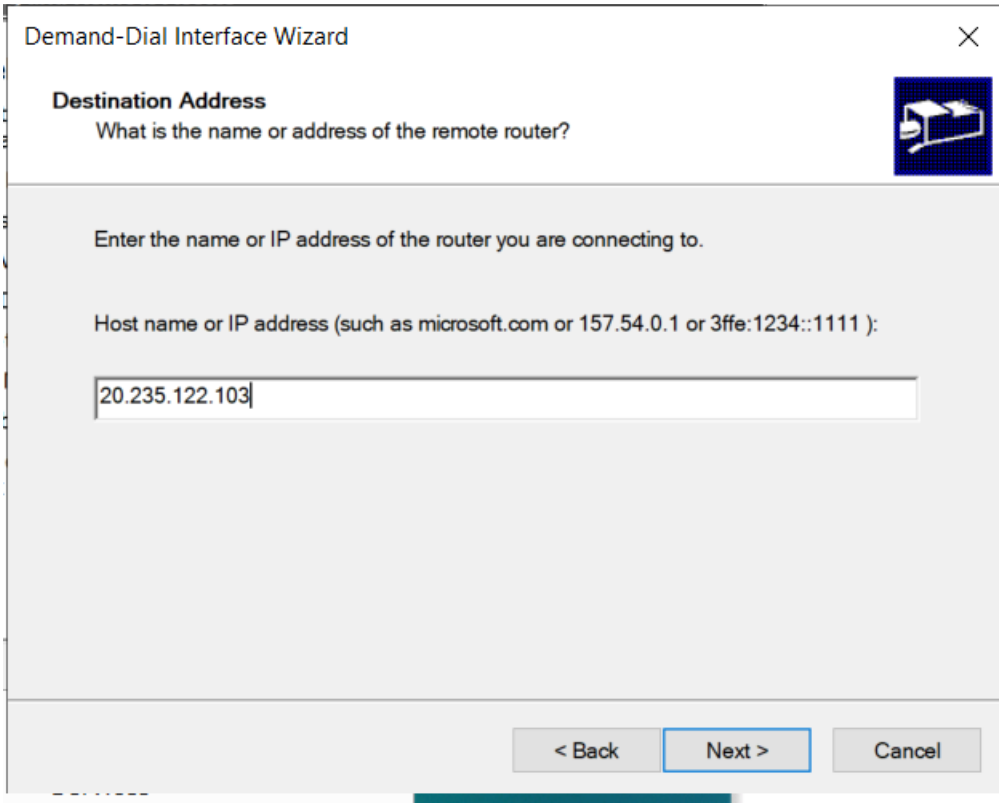
Step-33 Select IKEv2.



Step-34 Enter the Public IP address of Virtual Network Gateway



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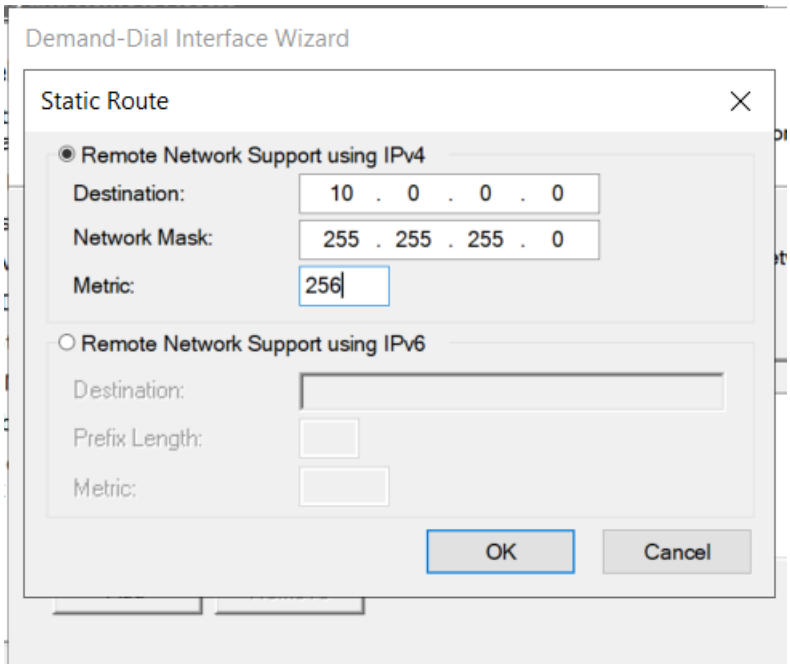
Step-35 Add Ip Address of Azure Virtual Network in Destination and add Network Mask after click on OK then Click on Finish .



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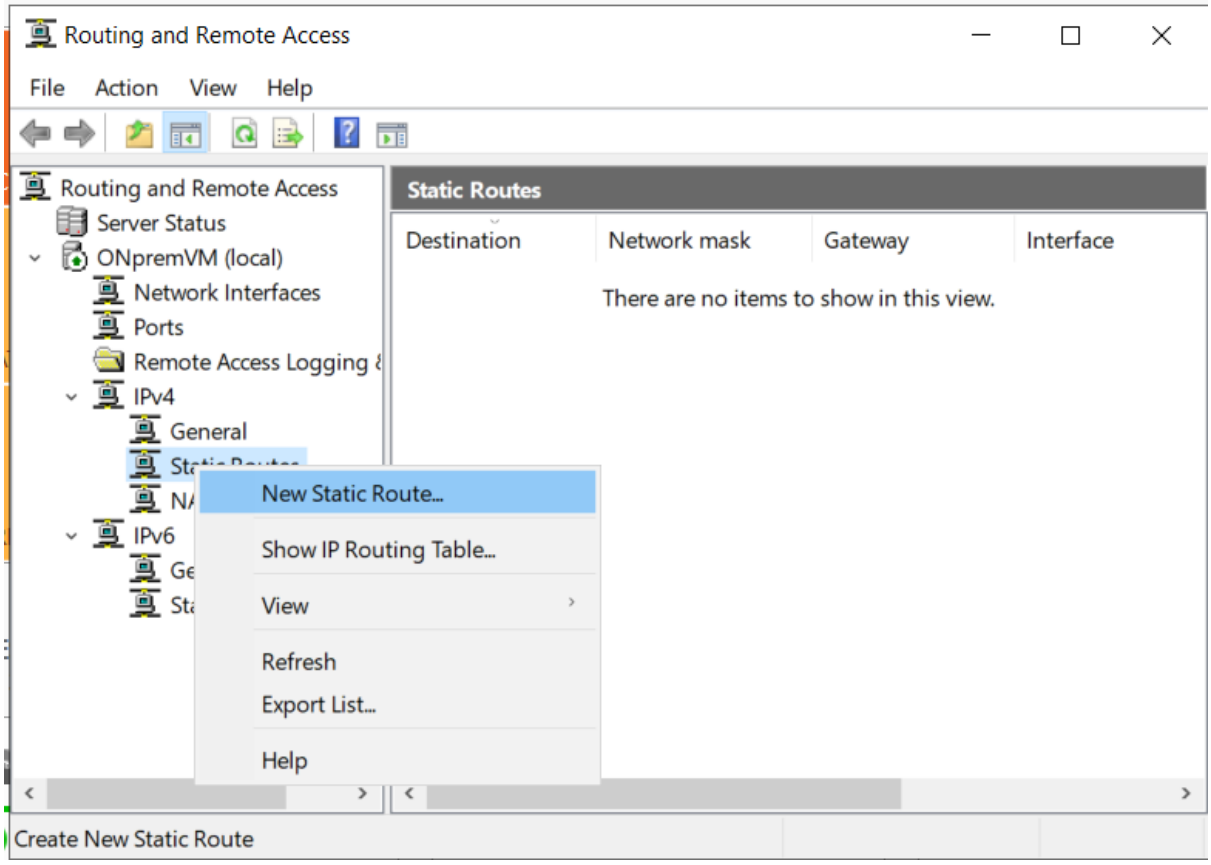
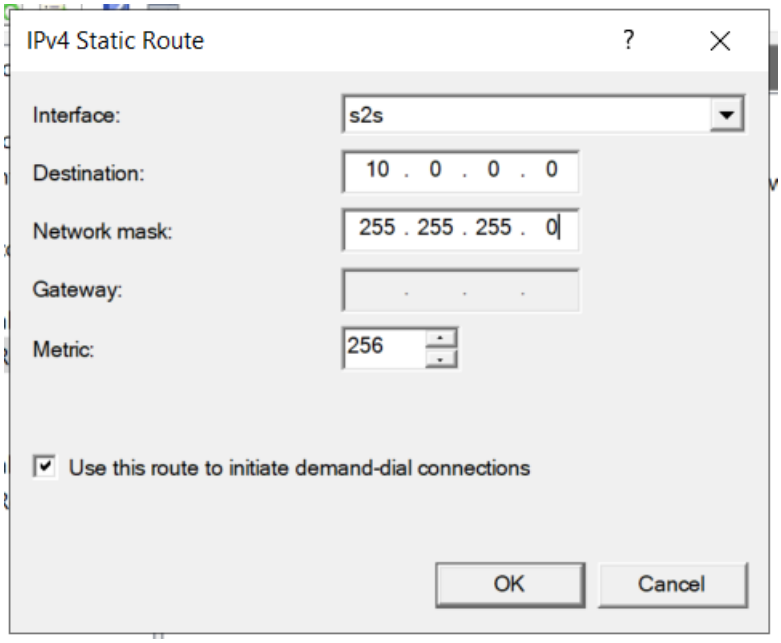
Step-36 go to OnPrem-VM (local)/Network Interfaces and right click select on S2S and go to in Properties.





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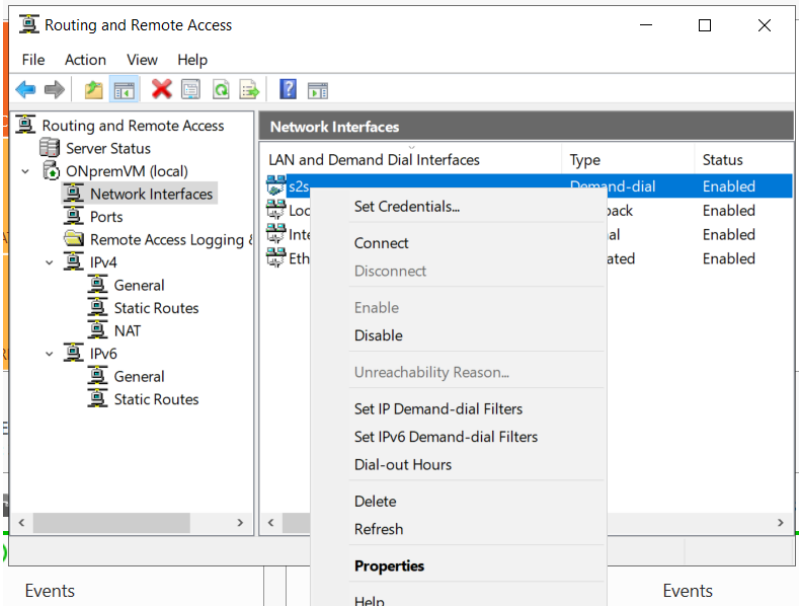
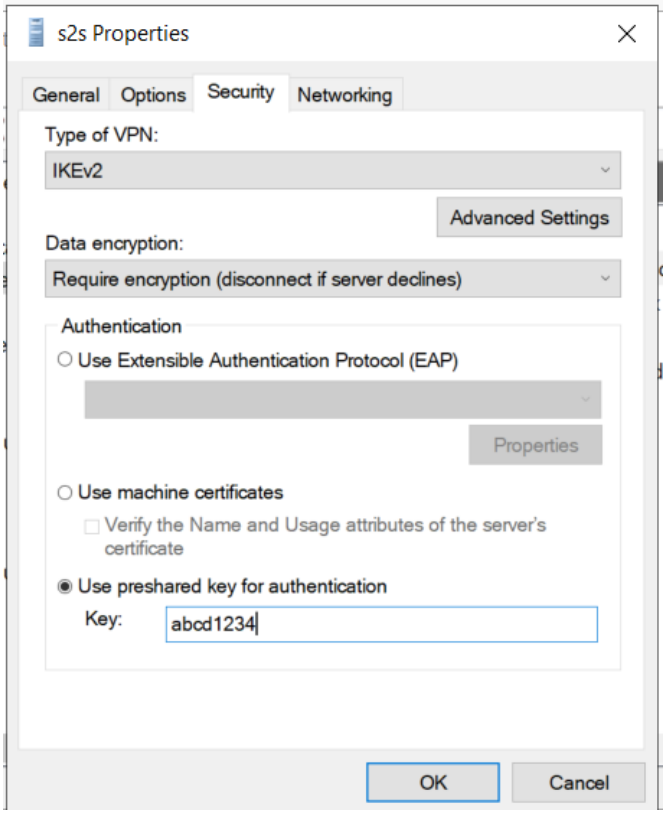
Step-37 Let's connect S2S Network Interface.



Step-38 Step-Now, go to in Options and select Persistent connection and click on "Ok".



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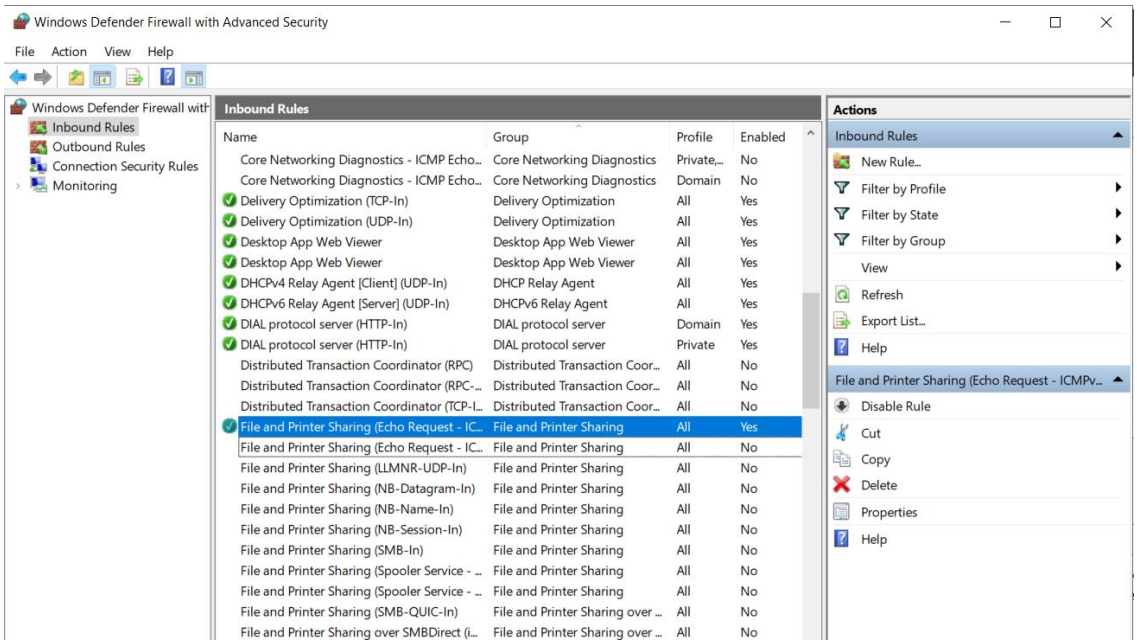
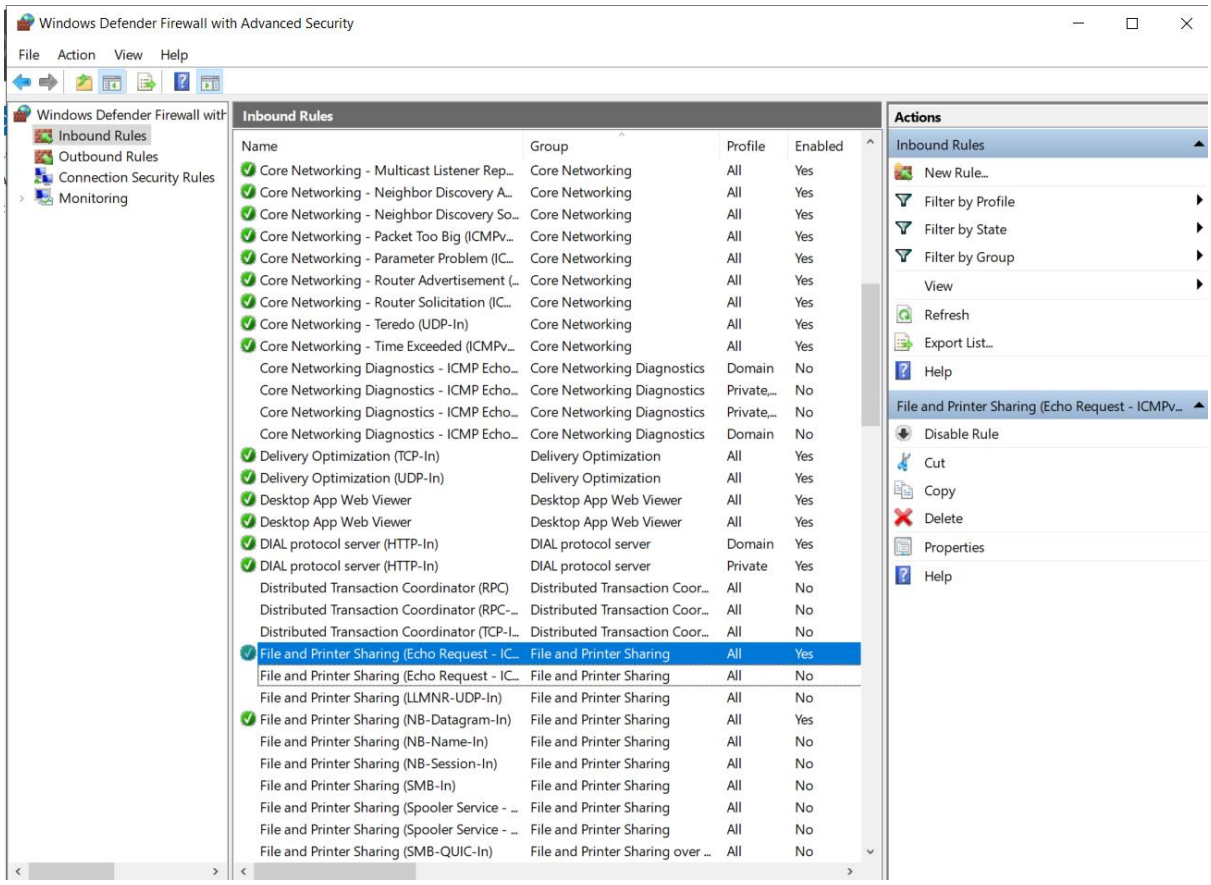
Step-39 Enable the ICMP. (Inbound rule) In both the VM.





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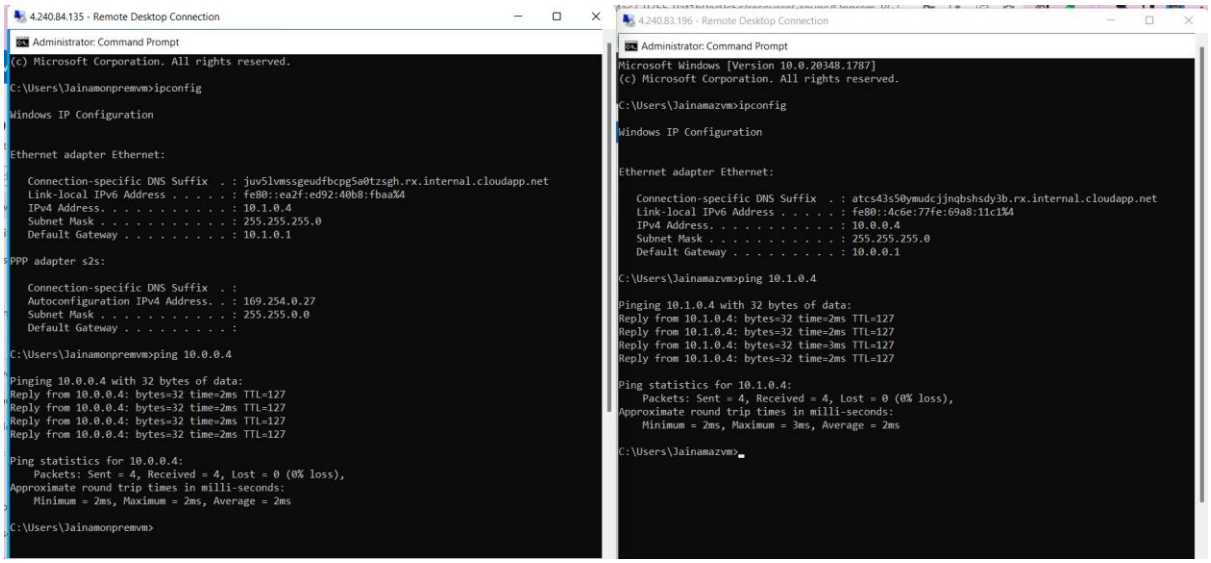
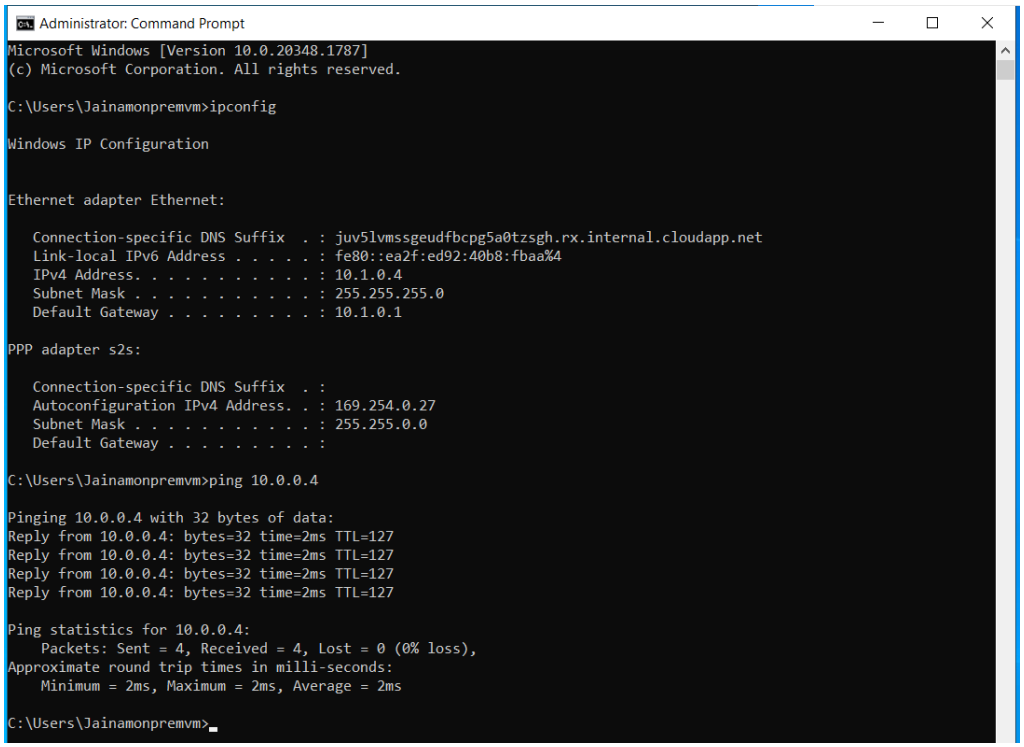
Step-40 Check the Ip address using command: ipconfig and check the connectivity using command: ping.



Step-41 Our Site-to-Site Connection between on Premise to Azure Virtual Networks is Successfully Established.



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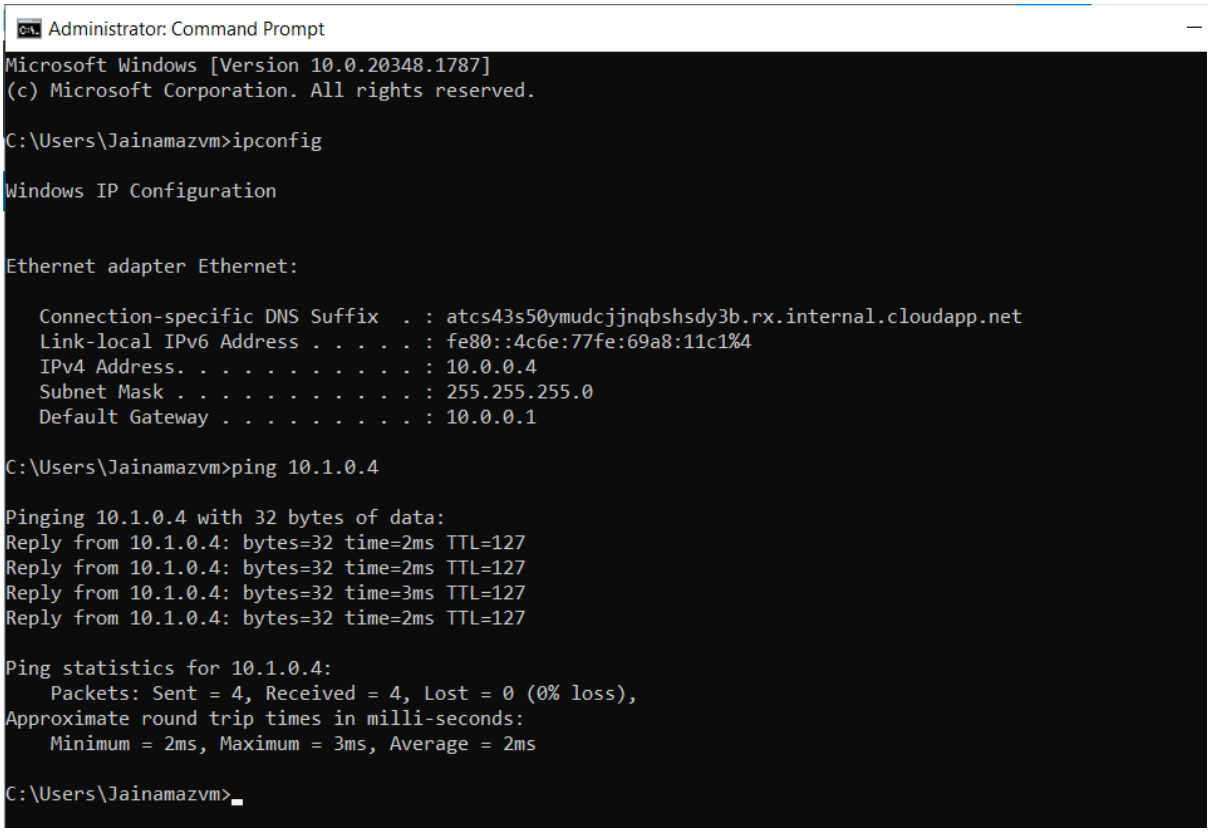

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