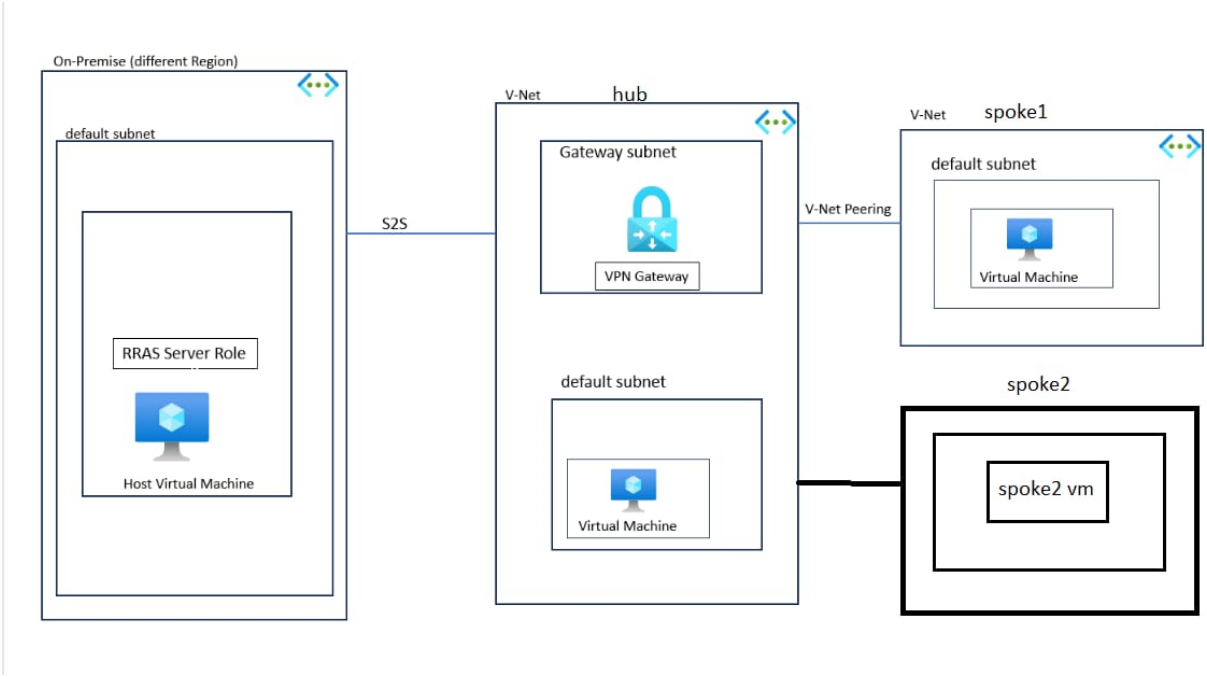
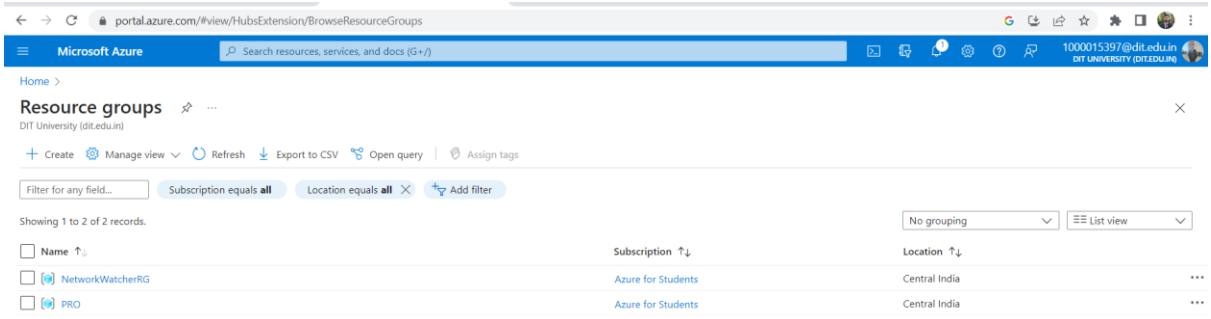
PROJECT REPORT

Project Description: Configuration of On-premises to Hub and Spoke connectivity using S2S tunneling from On-premises and hub and Transit Vnet peering from hub to spoke. Configure RRAS on on-premises VM and establish S2S connectivity to the Hub. The On-premise VM should be able to ping both Hub VM and Spoke VM successfully. The connectivity should be bi-directional. There is no direct connectivity established between spoke and On-premises Vnet.



Step1- create Resource Group to deploy all V-nets.



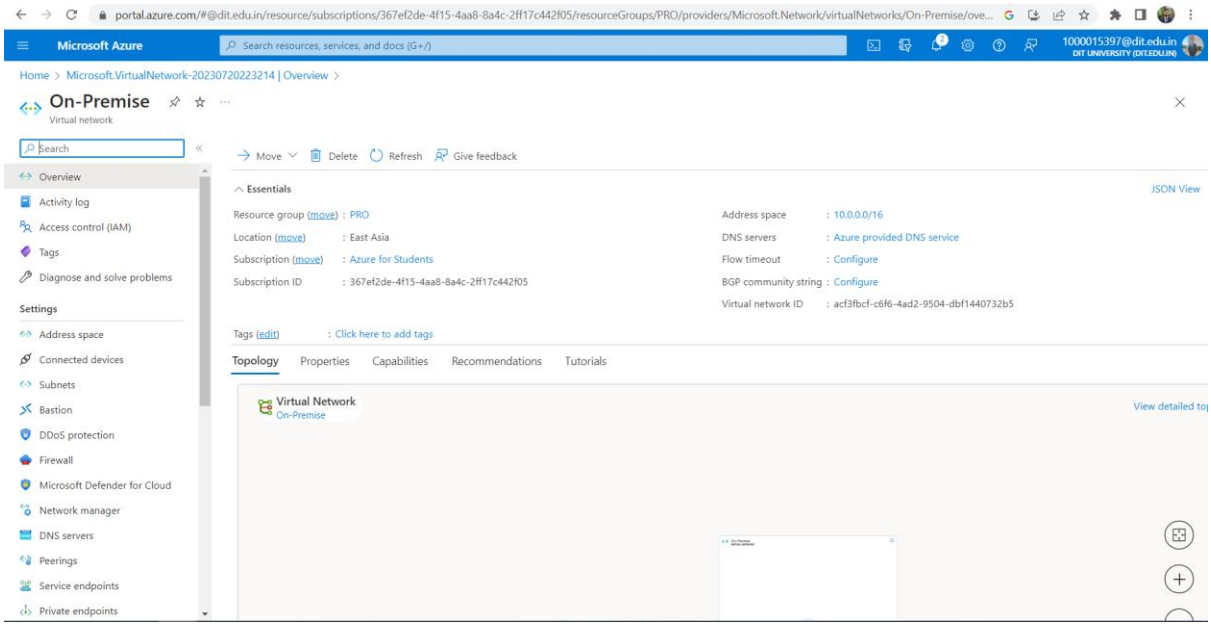
Step2-Create three Virtual Networks (VNet) - one for On-premises, one for Hub, and one for the Spoke. Specify the address space for each VNet, ensuring there is no overlap. For example:

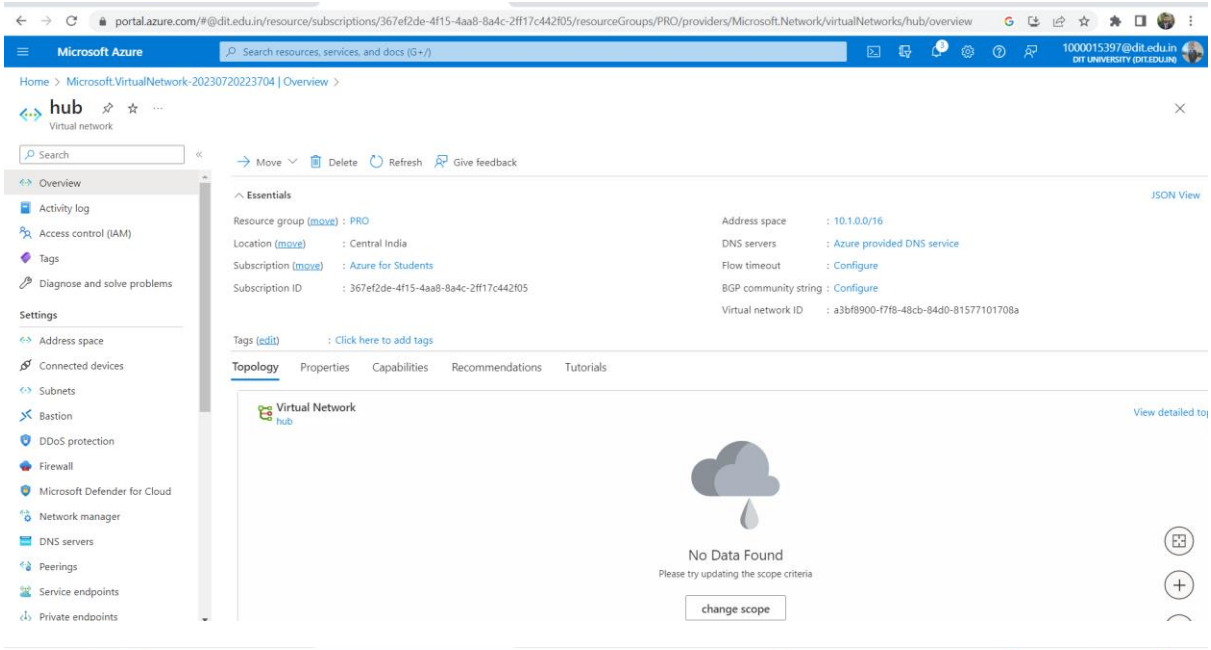
On-premises VNet: 10.0.0.0/16

Hub VNet: 10.1.0.0/16

Spoke VNet: 10.2.0.0/16

Spoke2 Vnet:10.3.0.0/16

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Resource group (move) : PRO
Location (move) : Central India
Subscription (move) : Azure for Students
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Address space : 10.1.0.0/16
DNS servers : Azure provided DNS service
Flow timeout : Configure
BGP community string : Configure
Virtual network ID : a3bf8900-f7f8-48cb-84d0-81577101708a
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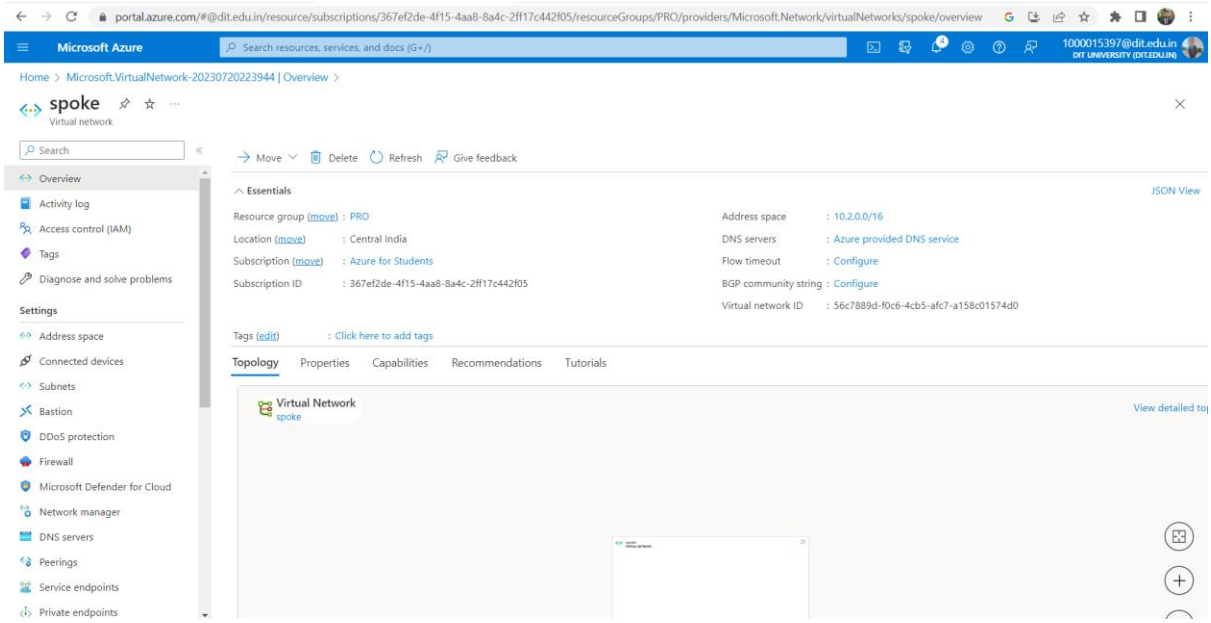
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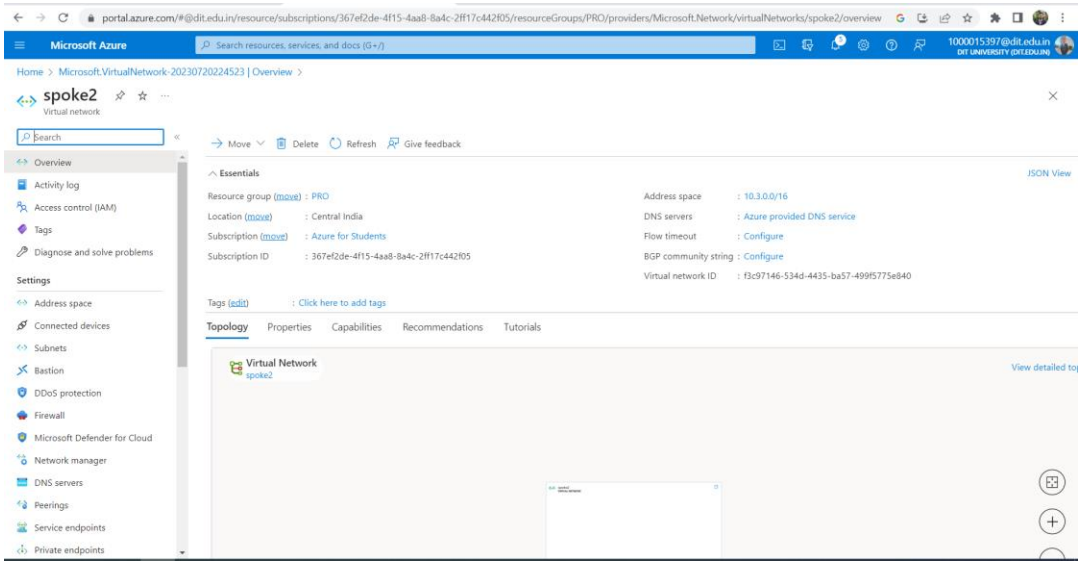
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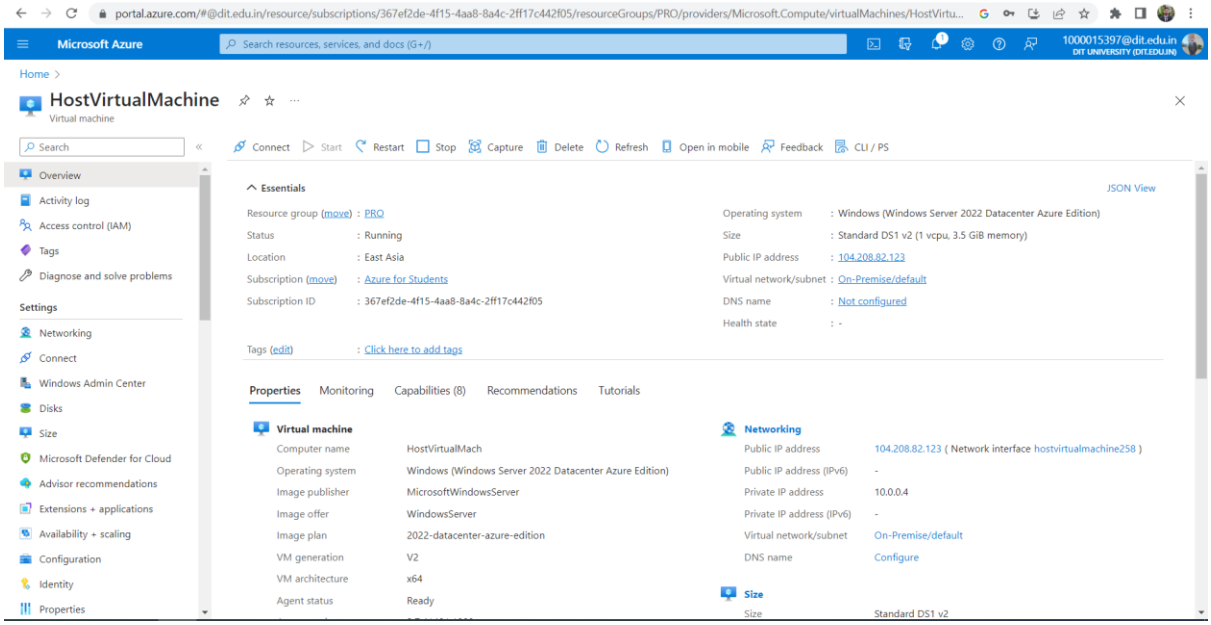
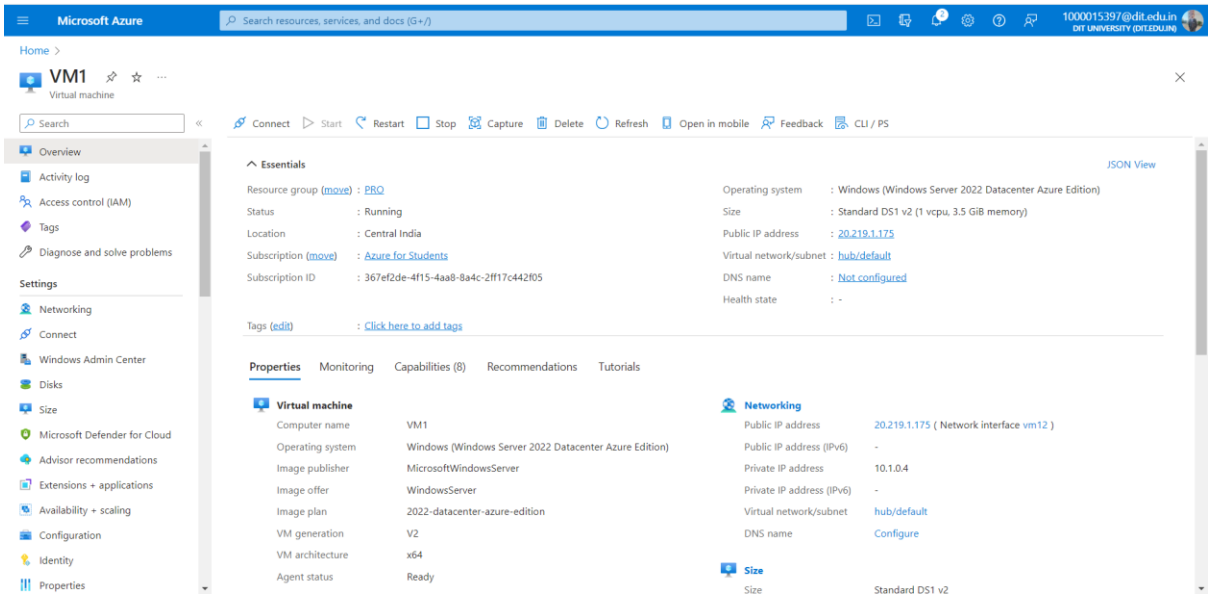
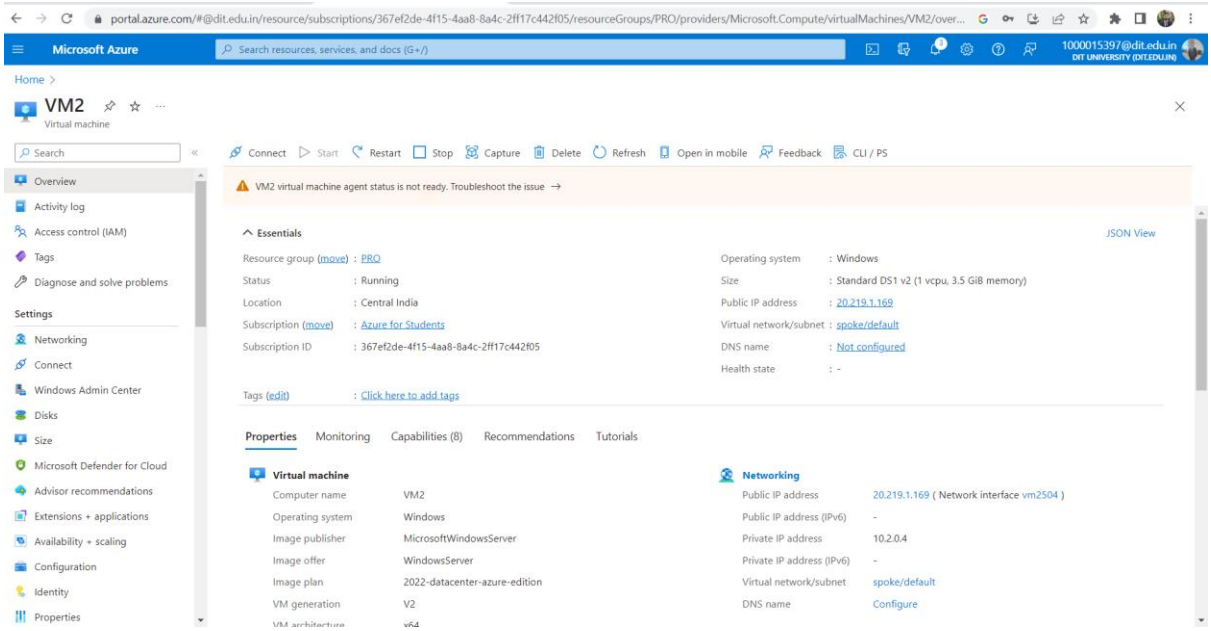
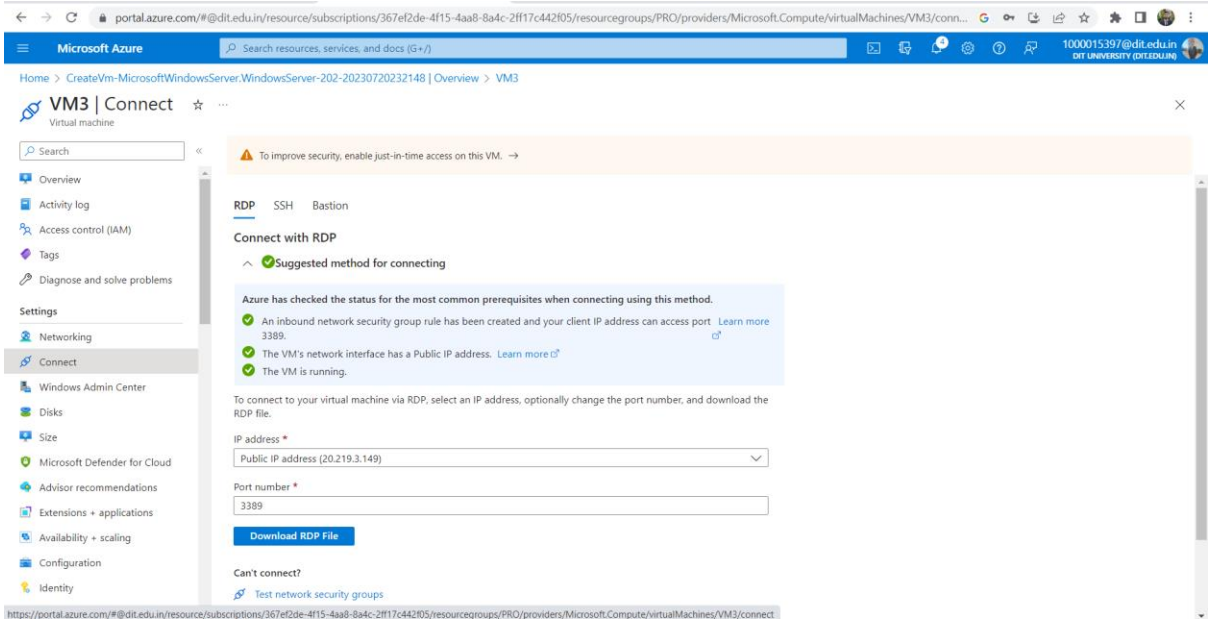
Step3-Create Virtual Machines:Create a Virtual Machine (VM) in each VNet for testing connectivity later. One VM in the On-premises VNet, one in the Hub VNet, and one in the Spoke Vnet, one in th Spoke 2 Vnet.

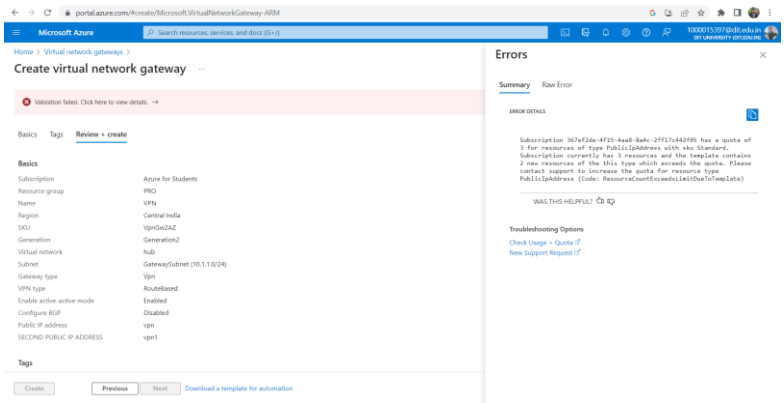




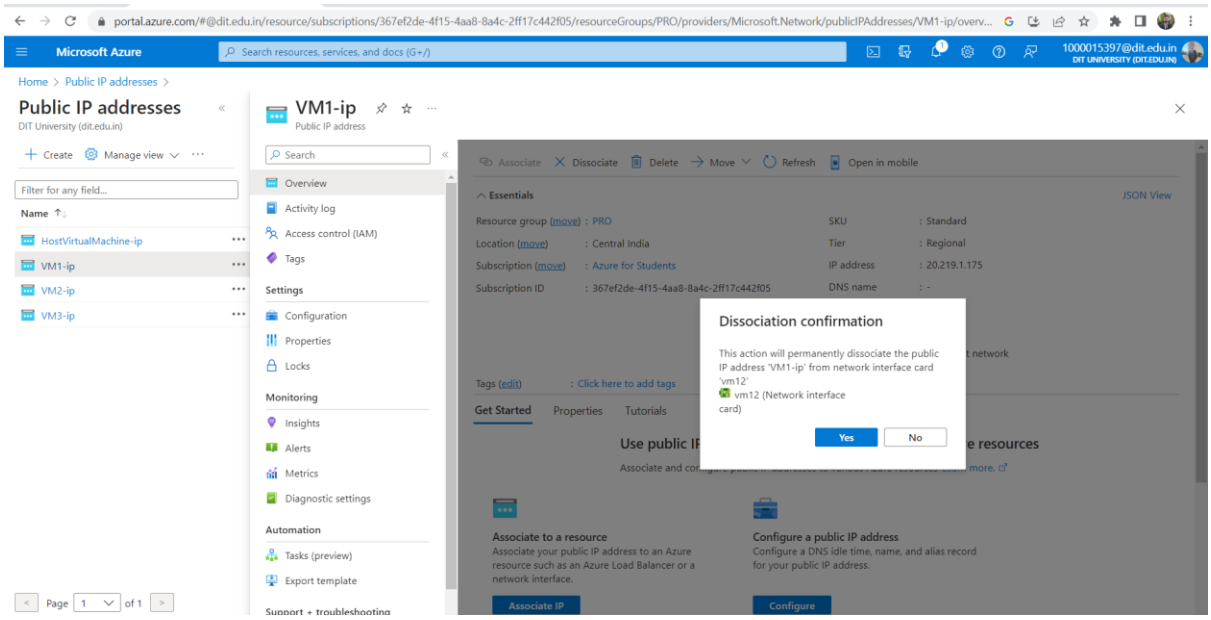


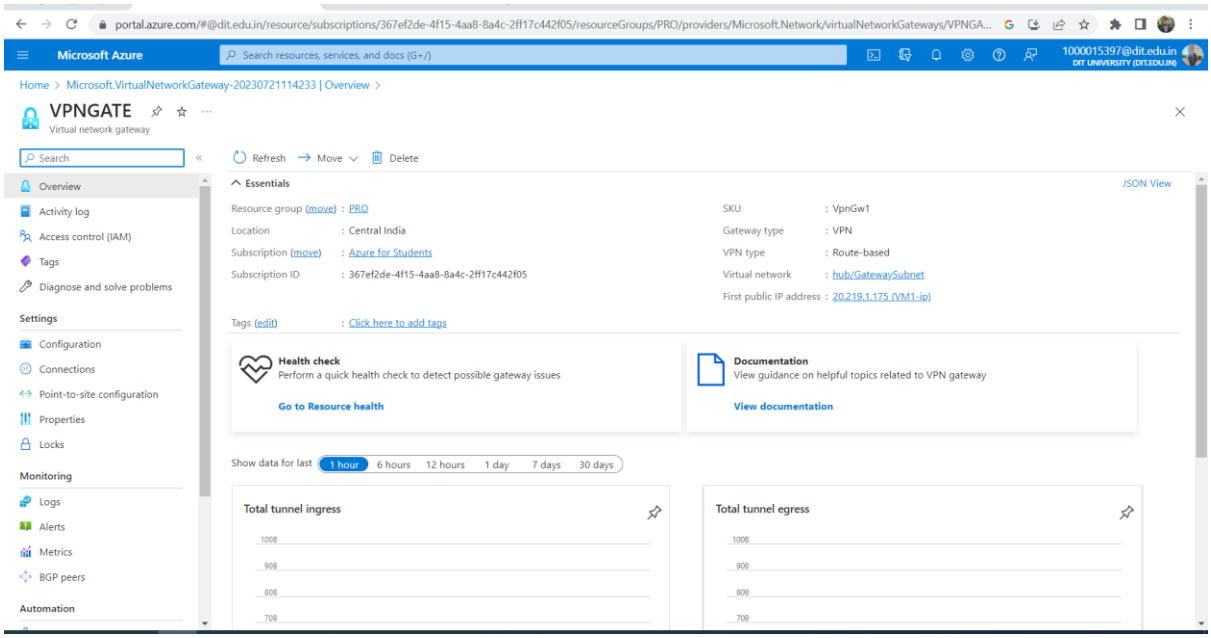


Step4-Configure VPN Gateway for Hub VNet:In the Hub VNet, create a Virtual Network Gateway (VPN Gateway). Choose the "Route-based" (also known as "Dynamic Routing") option



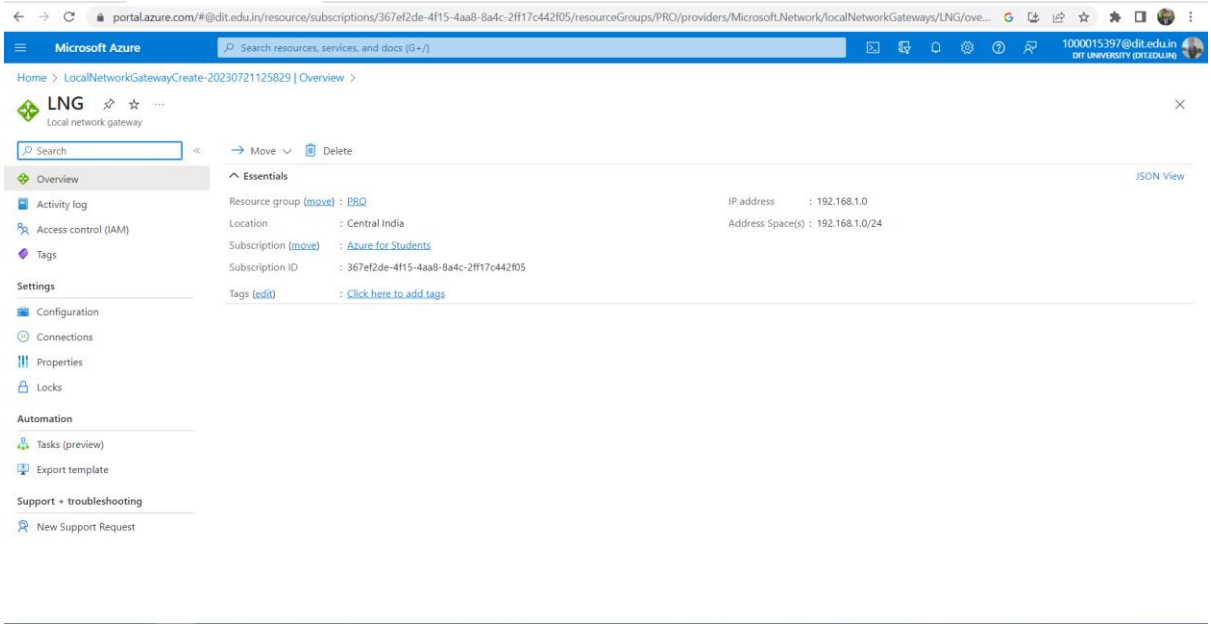
While Creating VPN Gateway inside hub it raise error of 3 ip address limit is exceed so now to resolve this issue we have to deassociate the ip adress of other .



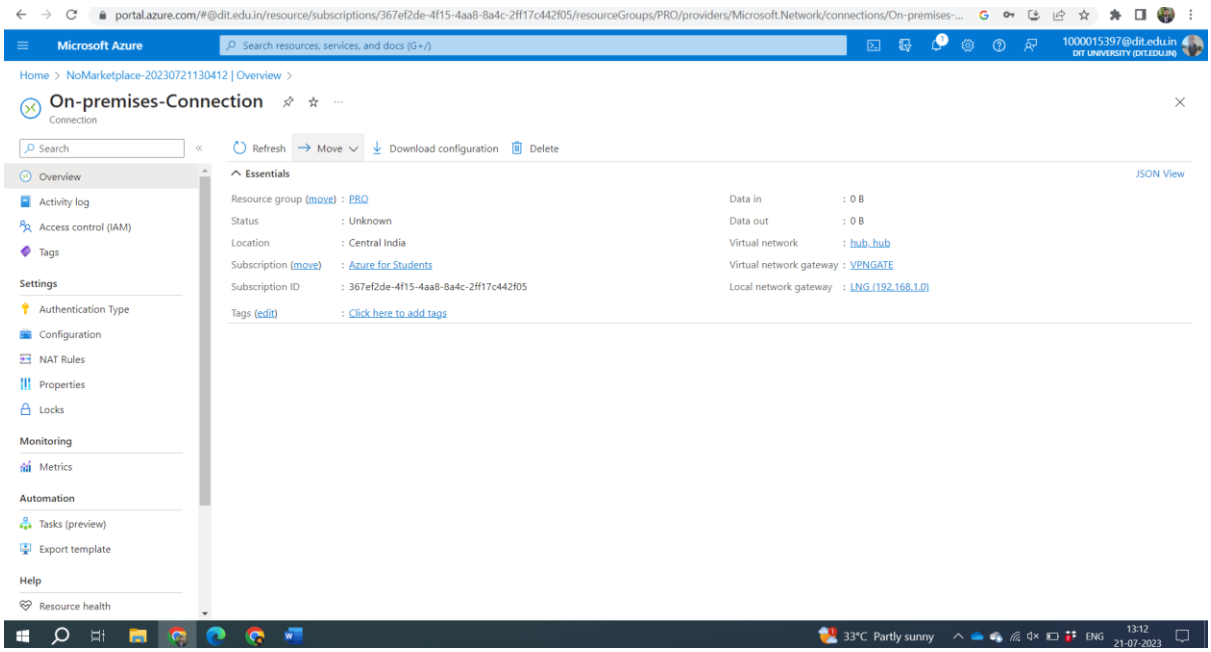


Step5- Create a Local Network Gateway representing your On-premises network. Provide the public IP address and the on-premises address space

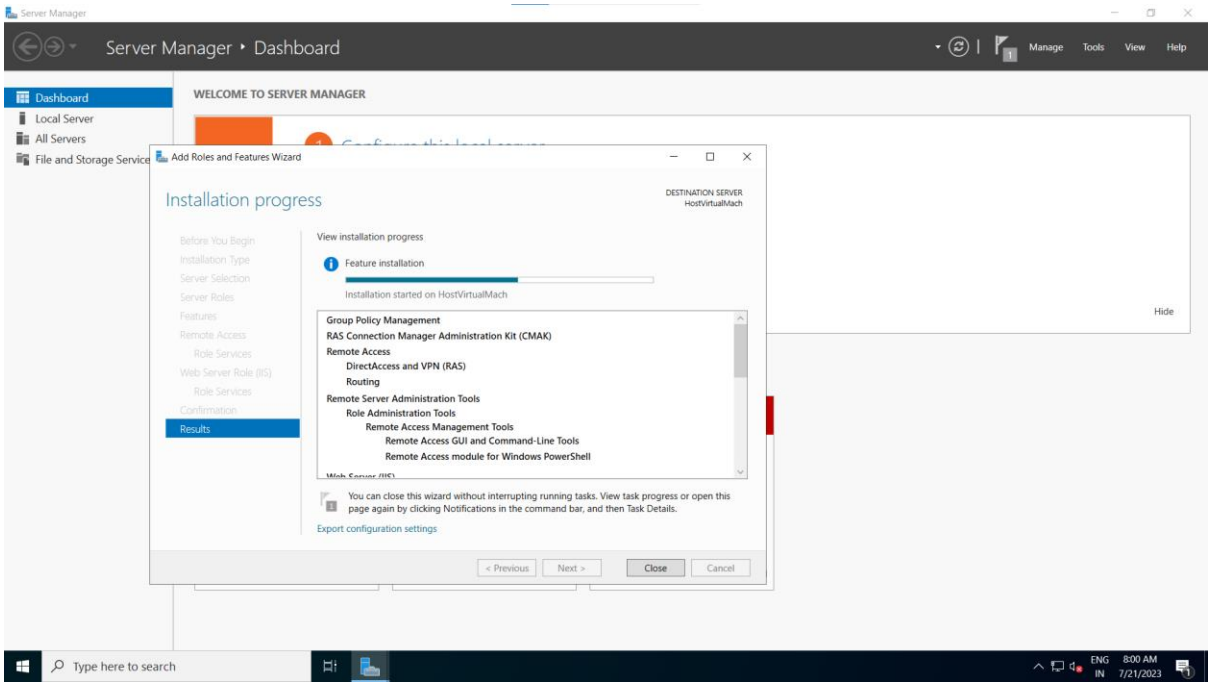
(e.g., 192.168.1.0/24).



Step6-Create a Connection between the VPN Gateway (Hub VNet) and the Local Network Gateway (On-premises). This will establish the S2S tunnel



Step7-Configure RRAS on the On-premises VM:Set up the Routing and Remote Access Service (RRAS) on the On-premises VM to act as the VPN device. Configure it with the necessary settings for the S2S VPN connection.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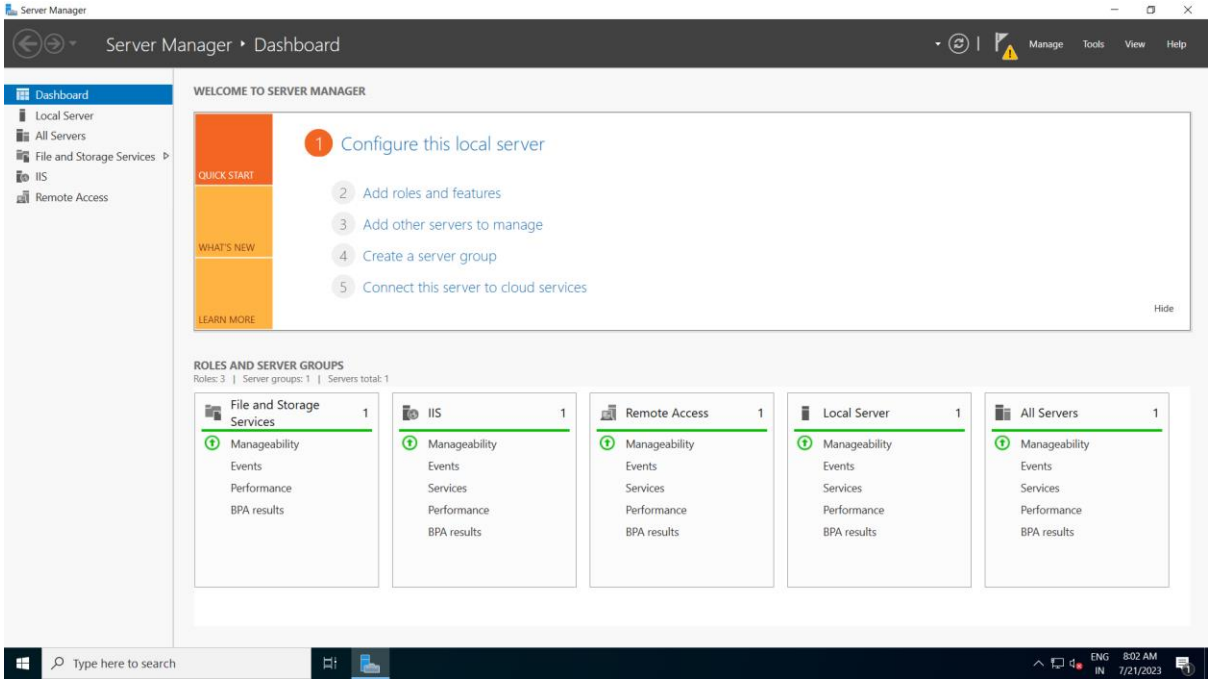
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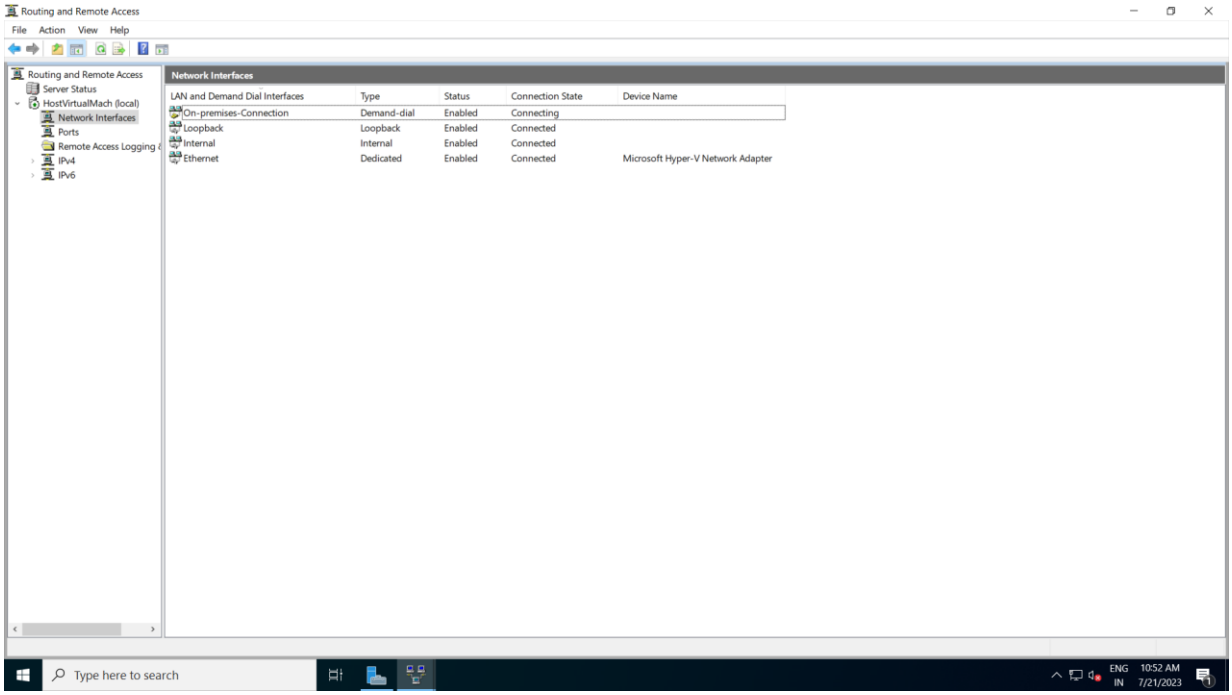
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LAN and Demand Dial Interfaces | Type | Status | Connection State | Device Name
On-premises-Connection | Demand-dial | Enabled | Connecting
Loopback | Loopback | Enabled | Connected
Internal | Internal | Enabled | Connected
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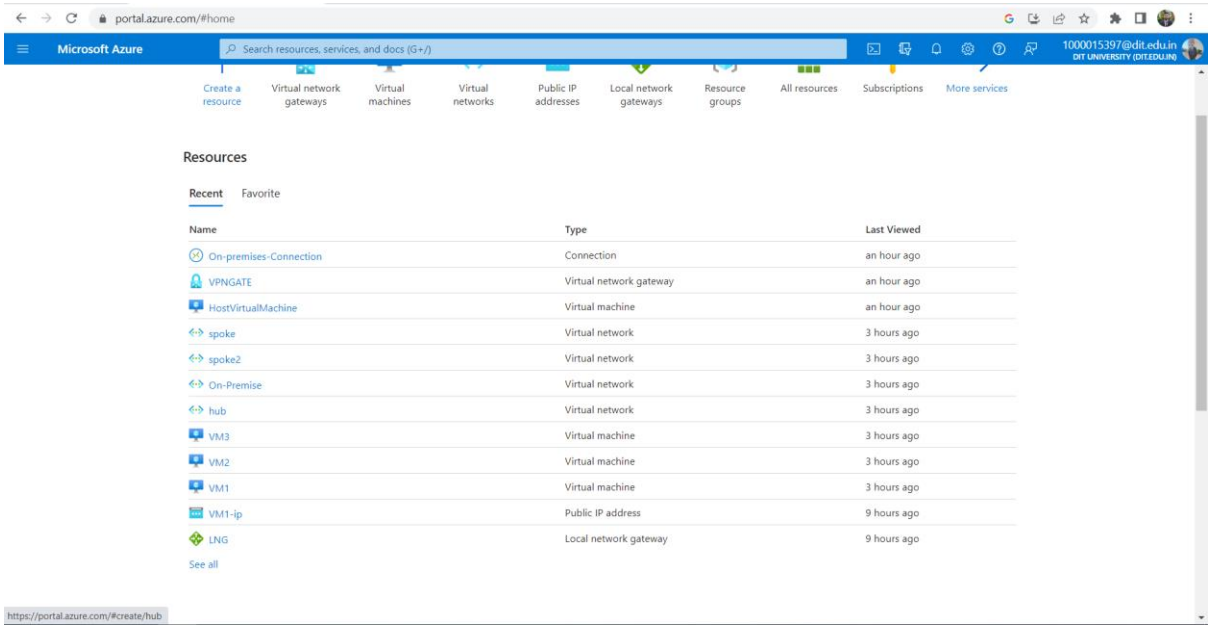
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Name | Type | Last Viewed
On-premises-Connection | Connection | an hour ago
VPNGATE | Virtual network gateway | an hour ago
HostVirtualMachine | Virtual machine | an hour ago
spoke | Virtual network | 3 hours ago
spoke2 | Virtual network | 3 hours ago
On-Premise | Virtual network | 3 hours ago
hub | Virtual network | 3 hours ago
VM3 | Virtual machine | 3 hours ago
VM2 | Virtual machine | 3 hours ago
VM1 | Virtual machine | 3 hours ago
VM1-ip | Public IP address | 9 hours ago
LNG | Local network gateway | 9 hours ago
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