My Project on Virtual Network Peering

by Lukman Olatunbosun Kolawole

1. What Is Azure VNet Peering?

Azure Virtual Network is used for the Virtual Network Peering which helps users to communicate with virtual networks in Azure network. **Virtual network Peering in Azure** helps the traffic of one virtual network to communicate to another virtual network. This is can be used for database failover, cross-region data replication or disaster recovery.Virtual network Peering provides connection sharing in different regions.

2. Types Of VNet Peering

1. **Regional Virtual Network Peering: This is** connectivity between different Virtual Network within the same region.
2. **Global Virtual Network Peering: This is** connectivity across different regions, the connection is private peering that has low latency with high bandwidth in Azure backbone infrastructure.

3. Importance Of VNet Peering

- VNet peering is similar to an inter-VLAN Routing in VLAN of On-premise networks so it works similarly to inter-VLAN connect to one VLAN to another VLAN for communication.
- In Azure infrastructure, need to connect to virtual networks to each other for sharing traffic which can be applications, backup, replication, recovery, or information sharing.
- The virtual machines of virtual network connections to other virtual machines of different Virtual network via connection of VNet Peering in the same region or across the region

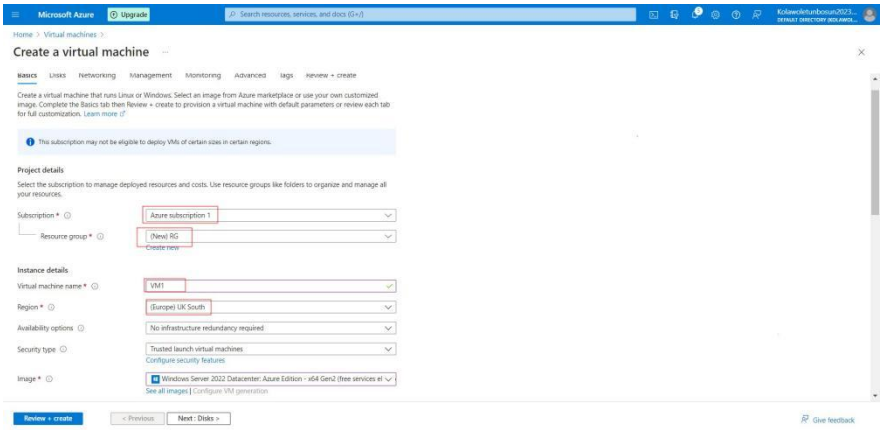
4. Benefits of Vnet peering

- The network traffic of peered Virtual networks will be private.
- It configures the connection with high bandwidth with low latency in the Virtual network region.
- This allows transferring data across Azure deployment models, subscriptions, and other regions.
- virtual network peering has no downtime issue.
- The use of global Virtual network peering has erased the need for Vnet to Vnet peering Azure configuration. It disabled the use of VPN encryption, public internet, or any gateways.
- This is time-saving process that controlling the backup, traffic, sharing from different regions and cost-effective.

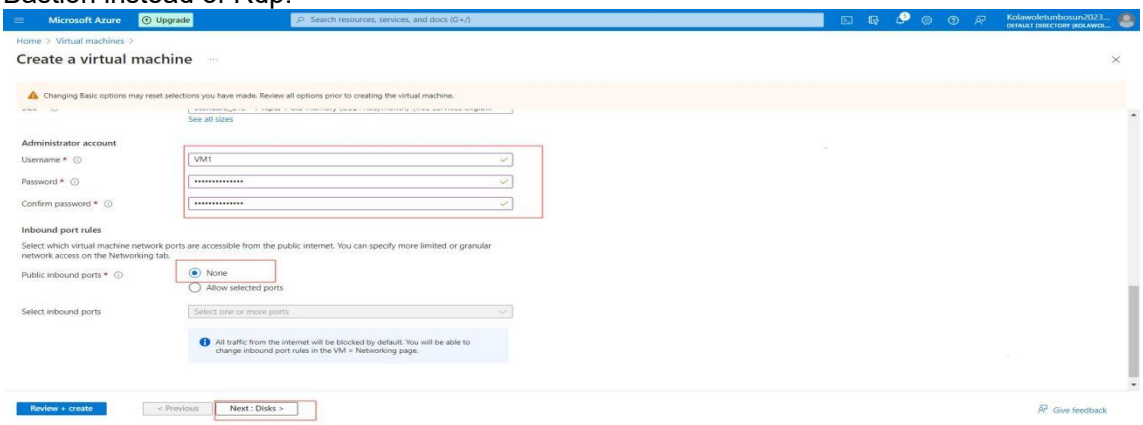
5. Step-by-Step Configuration

1. Log into the Azure portal https://portal.azure.com.. if you don't have an account try to sign-up.
2. Kindly follow this pictures to create two Virtual Machines with two Virtual networks in two Different regions like *Uksouth-**Vnet and UkWest-Vnet.***

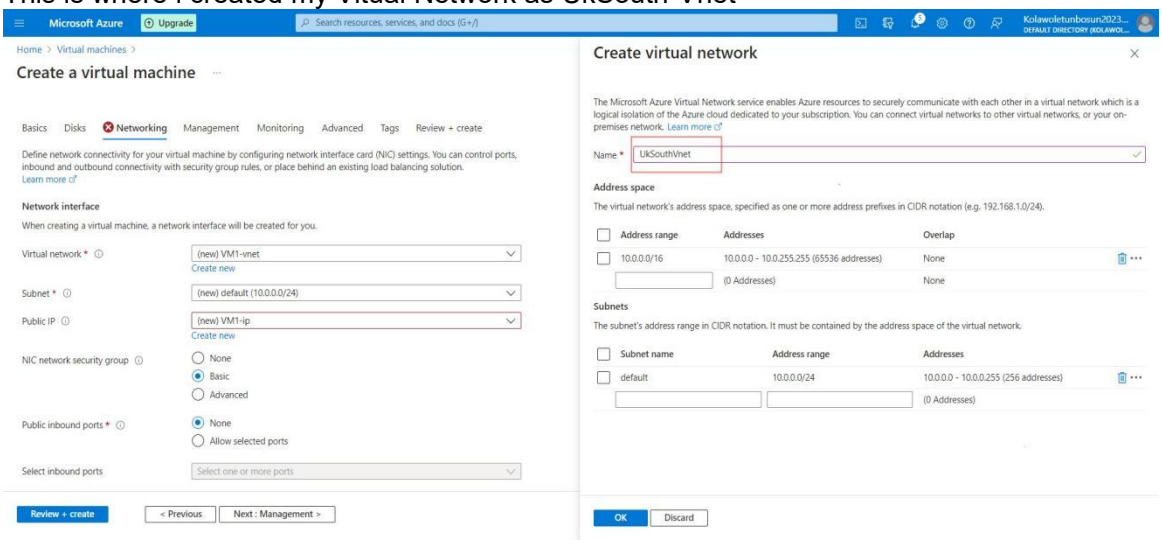
This is my potal page. Here I want to start creating my VM1 and VM2.



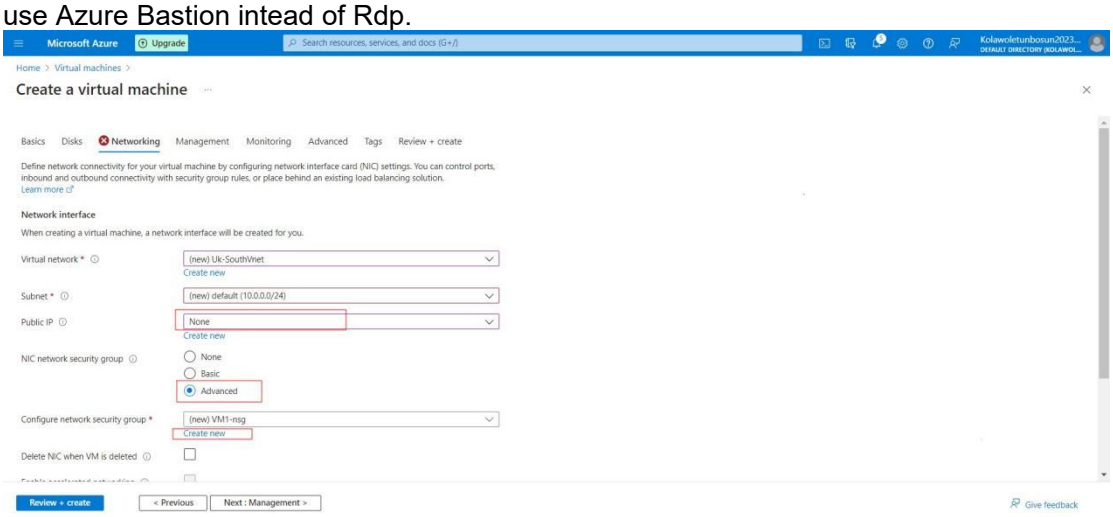
Input your username and password, I choose none because I want to use Azure Bastion instead of Rdp.



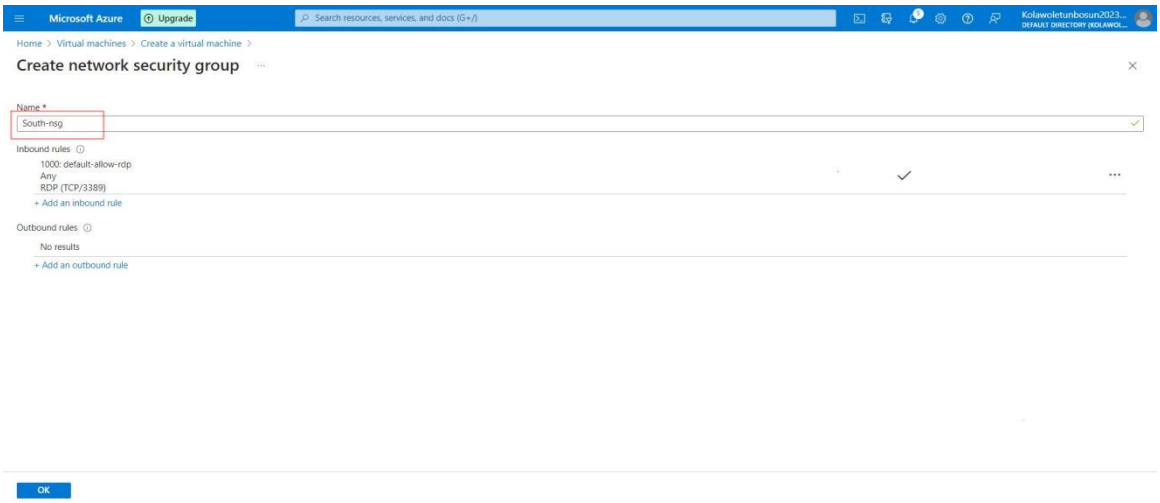
This is where i created my Vitual Network as UkSouth-Vnet



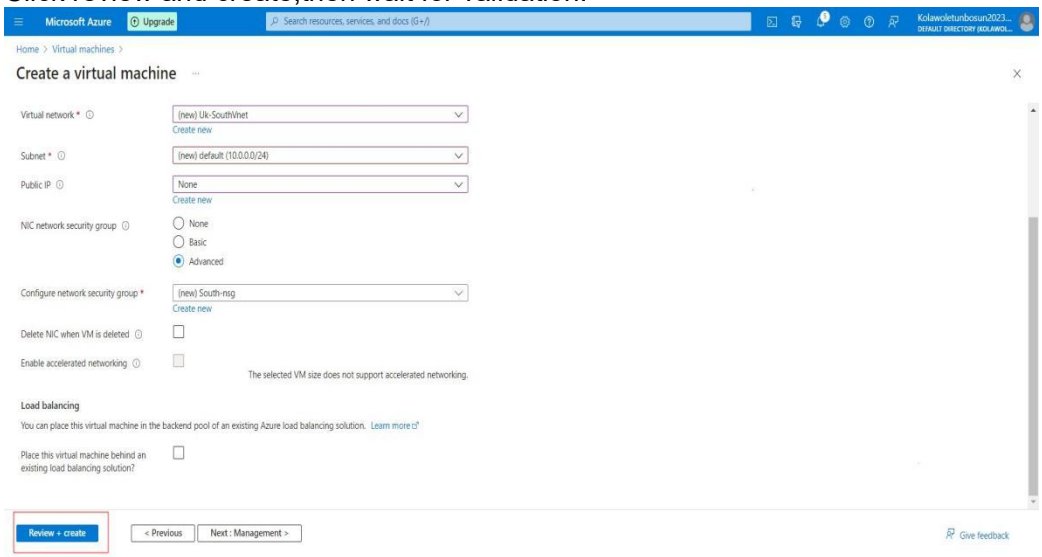
Here I want to use NGS(NETWORK sECURITY GROUP), no Public IP. I want to use Azure Bastion intead of Rdp.



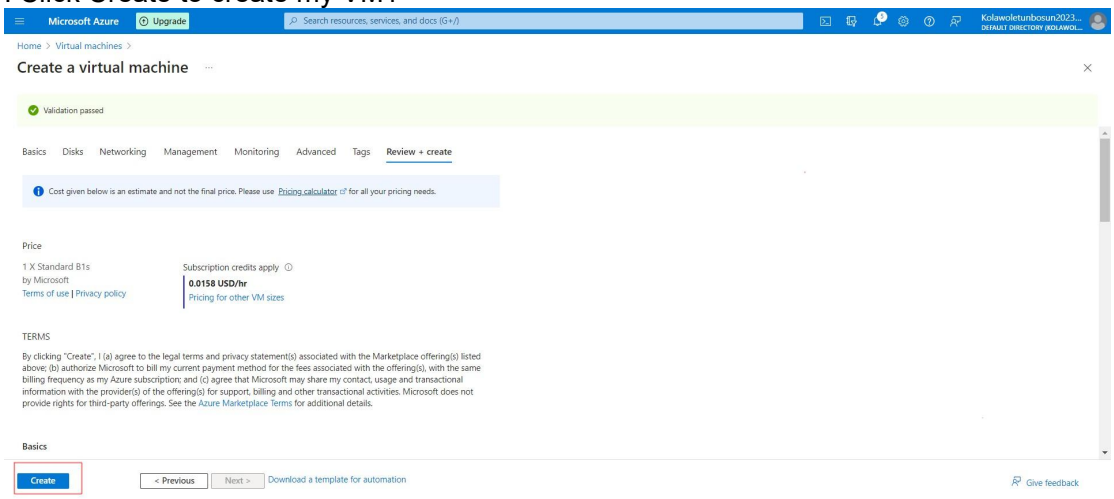
Here I created My NSG as South-NSG



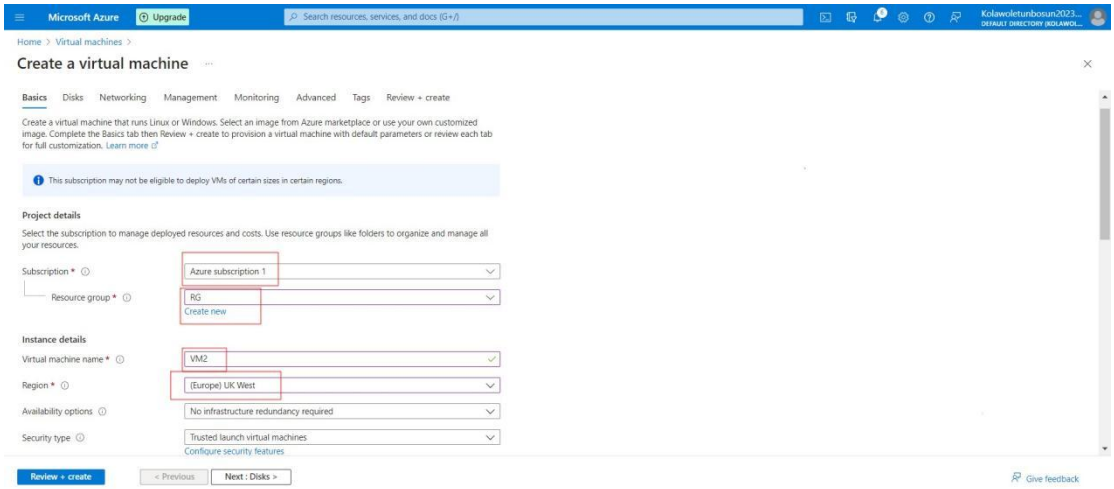
Click review and create,then wait for validation.



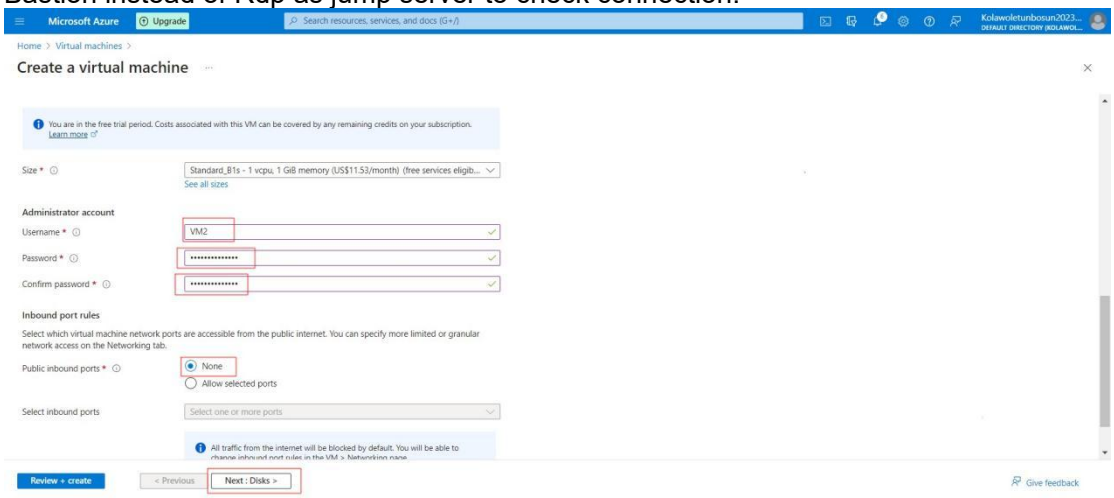
I Click Create to create my VM1



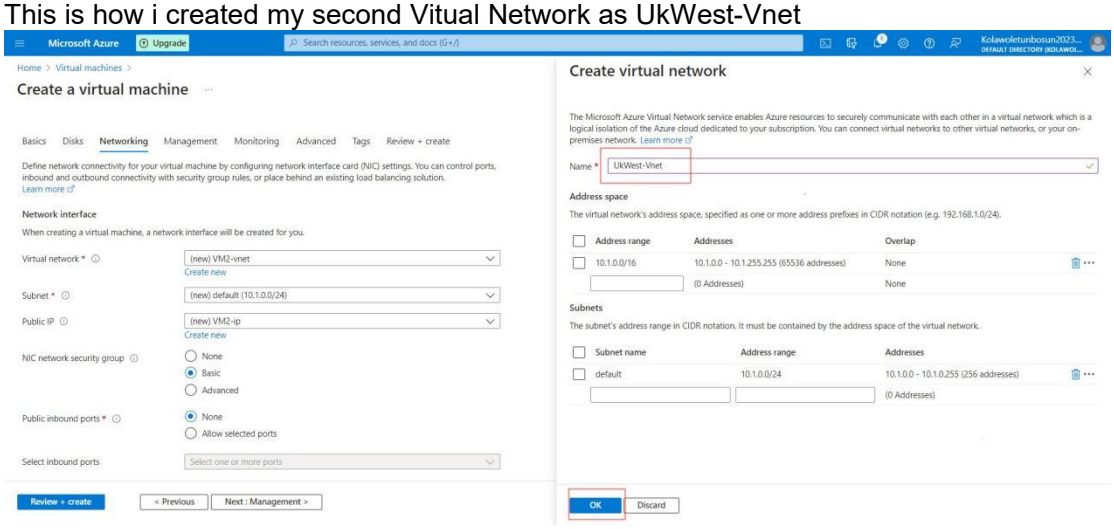
To create VM2 Just follow the same step on how we created VM1



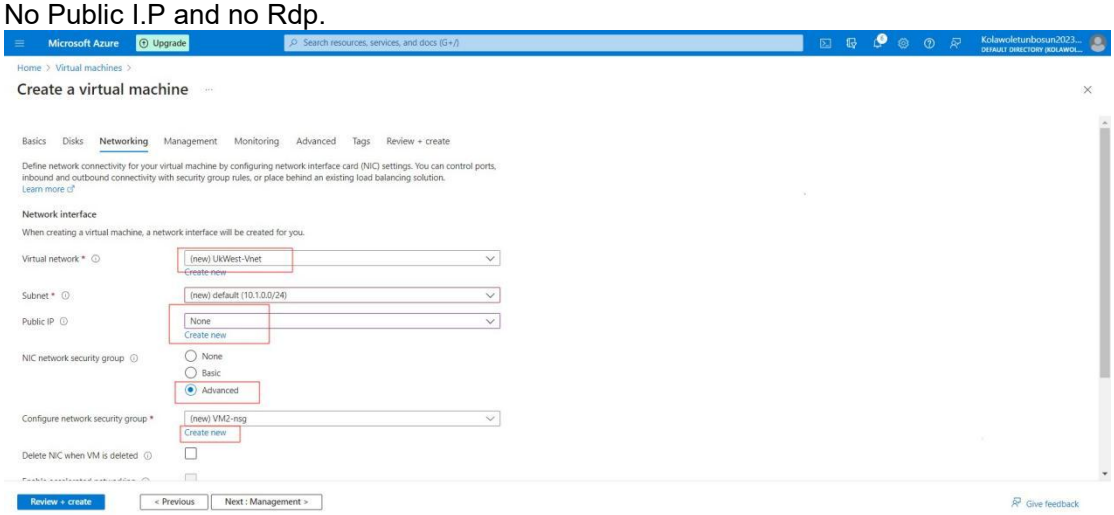
Input your username and password, I choose none because I want to use VM1 Azure Bastion instead of Rdp as jump server to check connection.



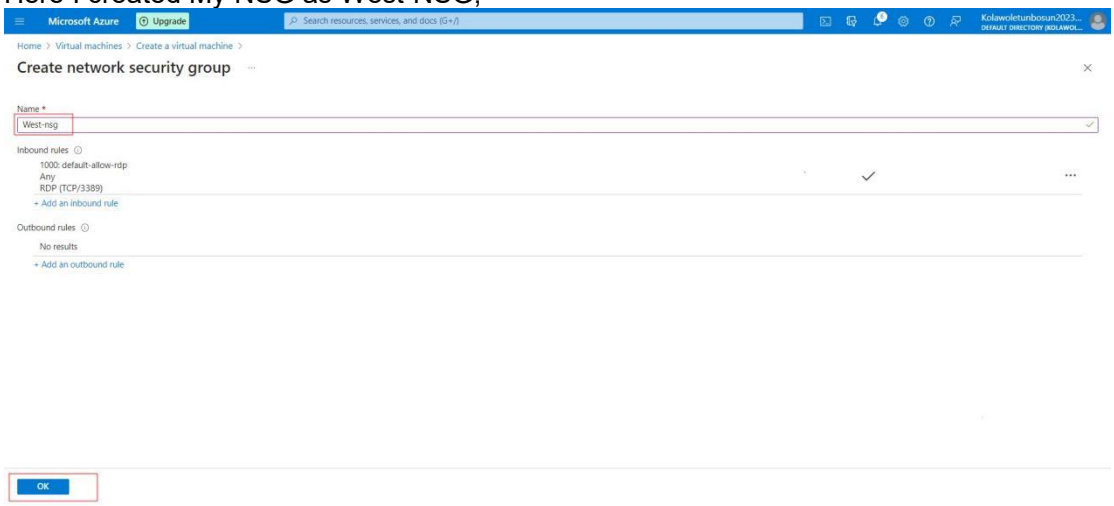
This is how i created my second Vitual Network as UkWest-Vnet



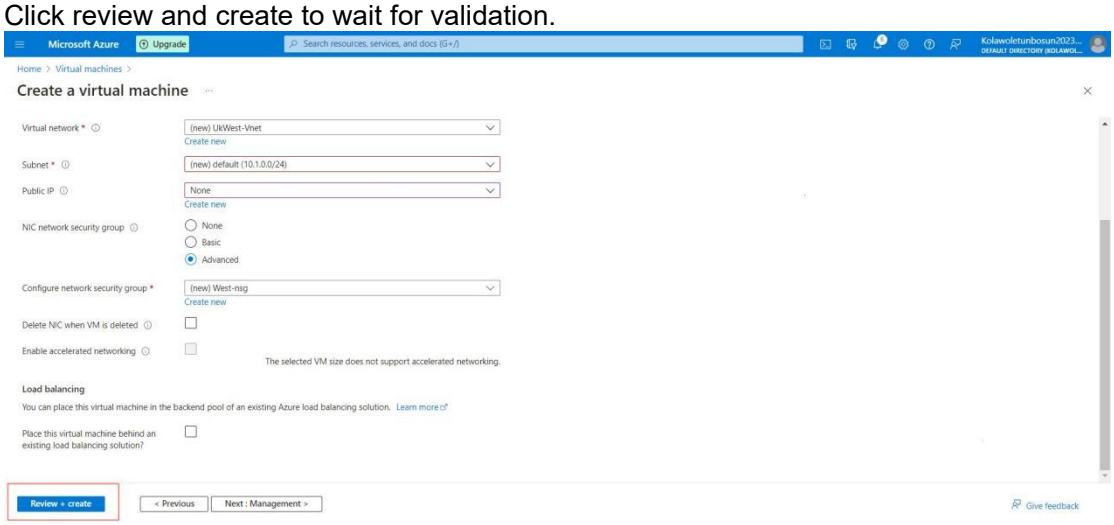
No Public I.P and no Rdp.



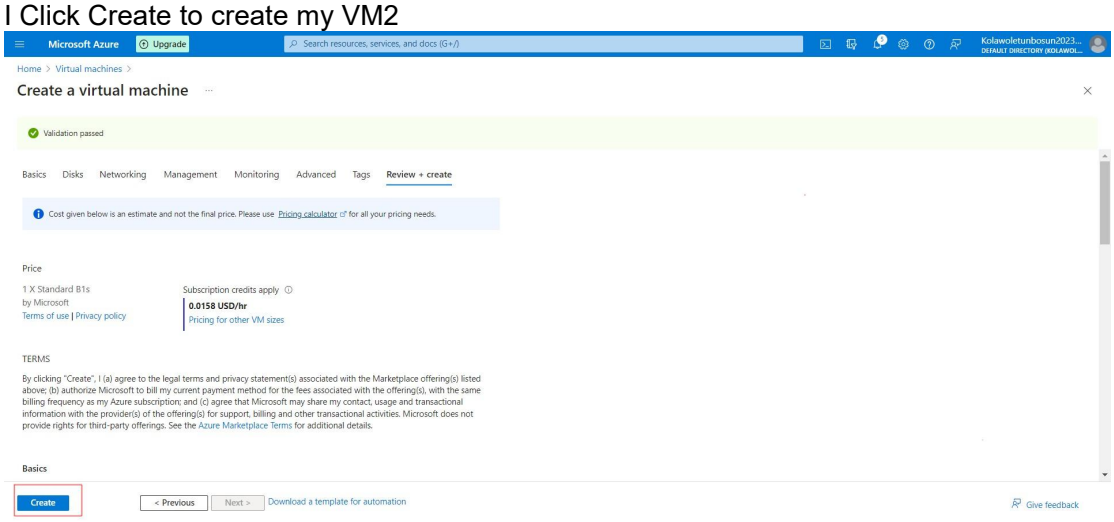
Here I created My NSG as West-NSG,



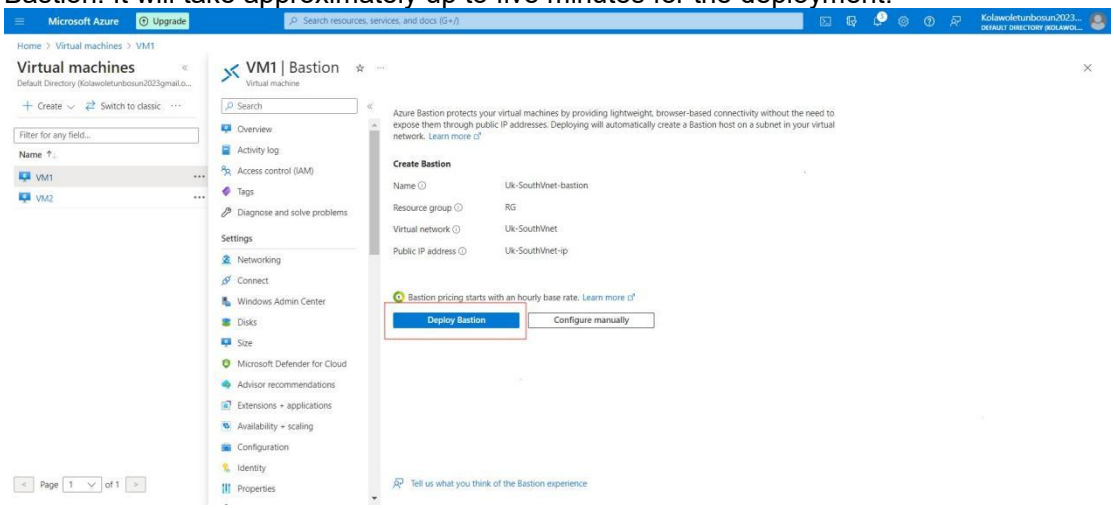
Click review and create to wait for validation.



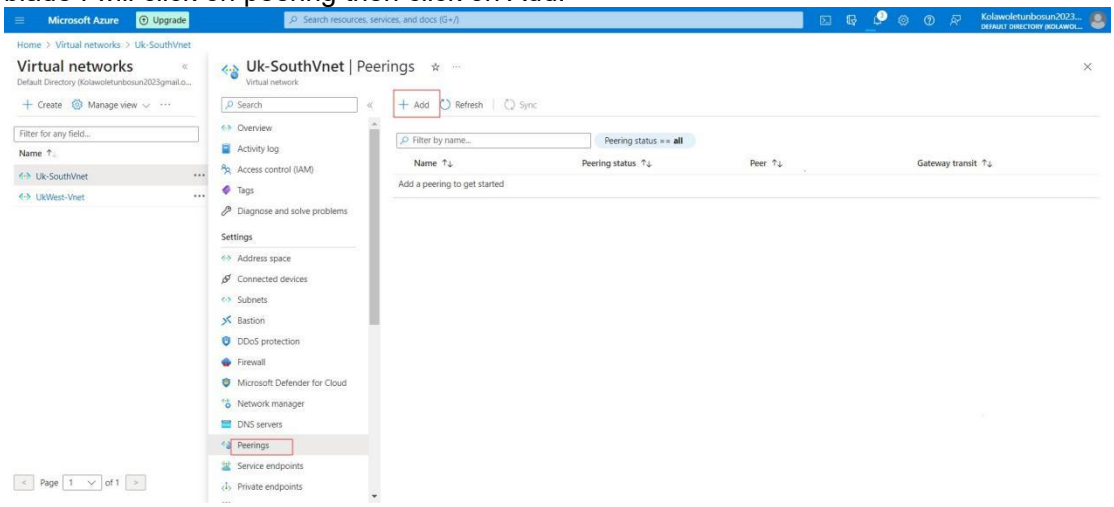
I Click Create to create my VM2



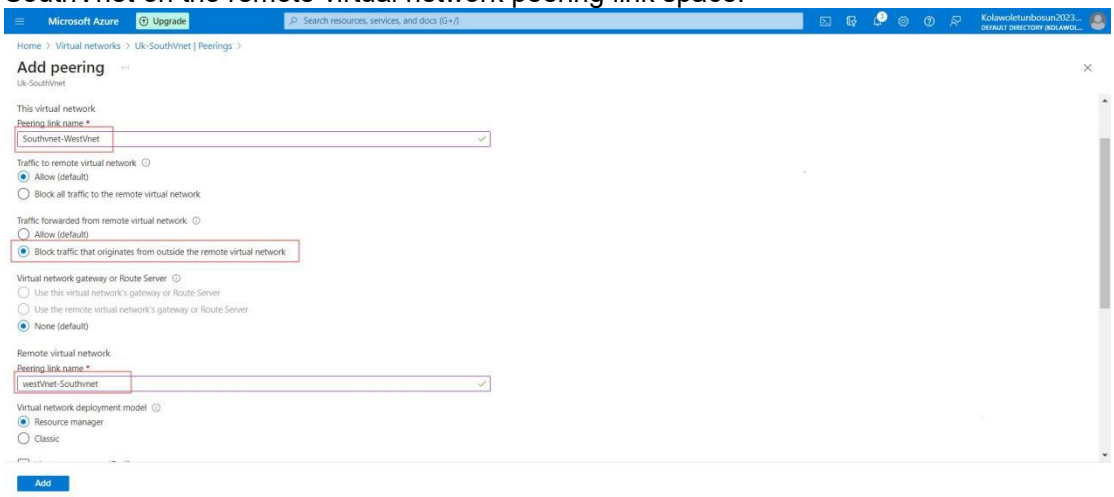
Now that my VMs are ready, I want to use Azure Bastion for more security. I deploy my Bastion. It will take approximately up to five minutes for the deployment.



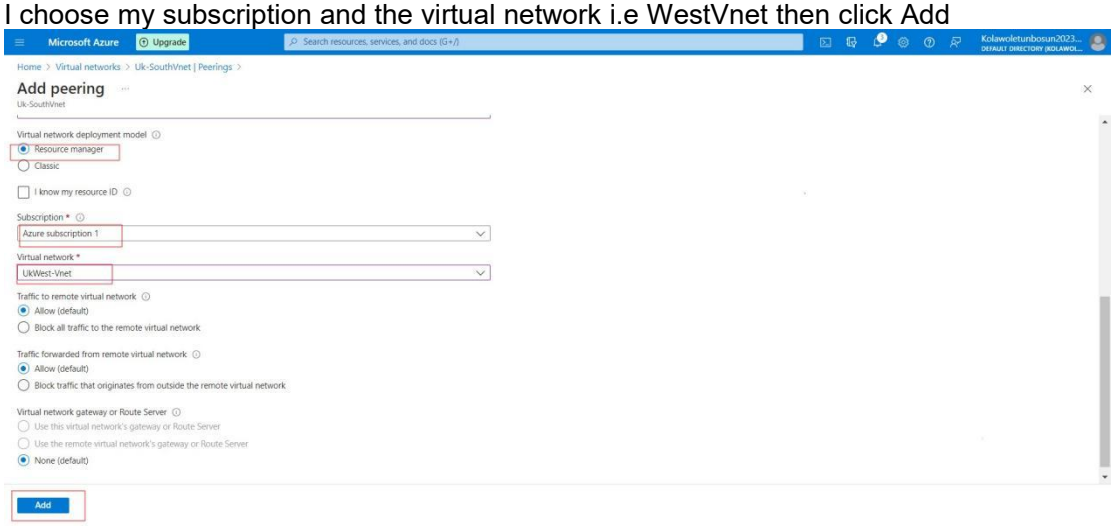
Now go to either of the two **Virtual Networks** and select **Peerings**, from the **Settings blade**, and select **Add.**
Now, I go back to my UkSouth-Vnet to peer it with UkWest-Vnet. On my UkSouth-Vnet blade I will click on peering then click on Add.



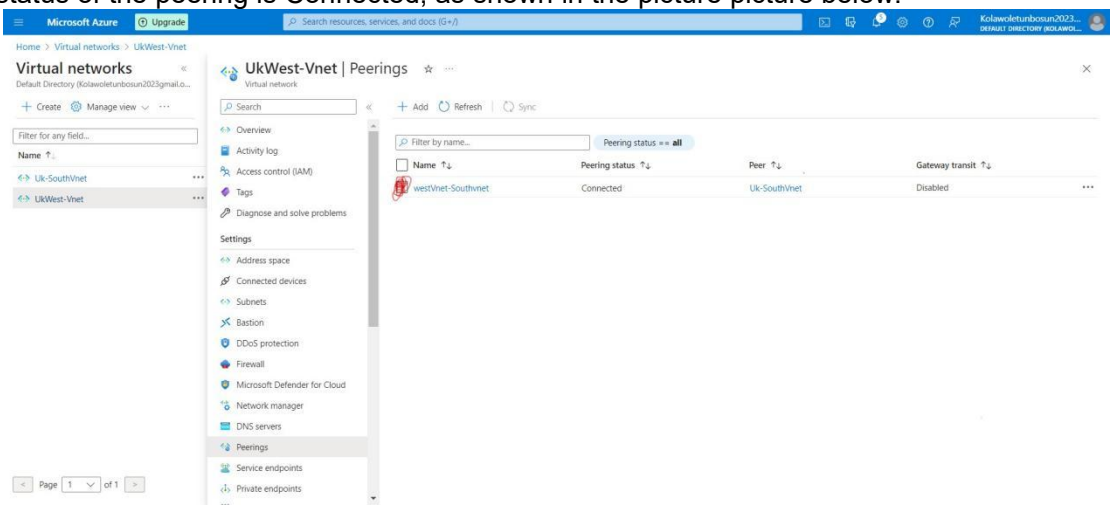
I Add my peering as SouthVnet-WestVnet in the peering link name space and WestVnet-SouthVnet on the remote virtual network peering link space.



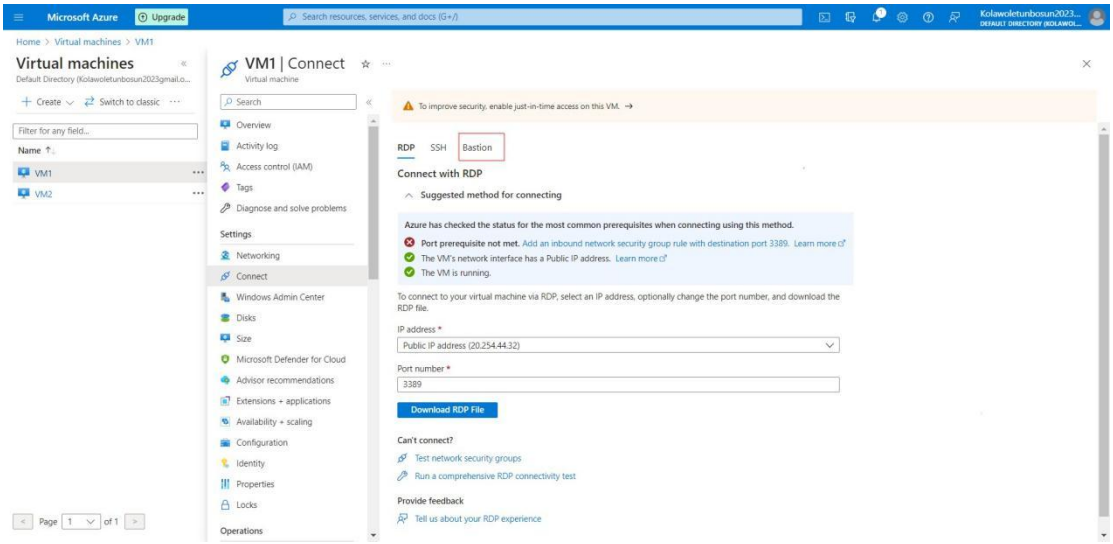
I choose my subscription and the virtual network i.e WestVnet then click Add



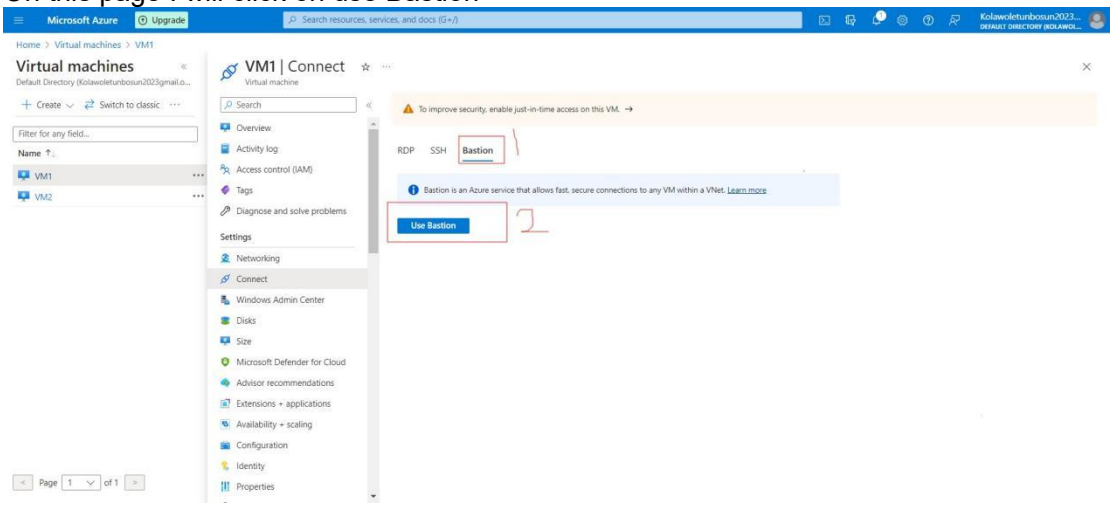
The status of the peering is Connected, as shown in the picture picture below.



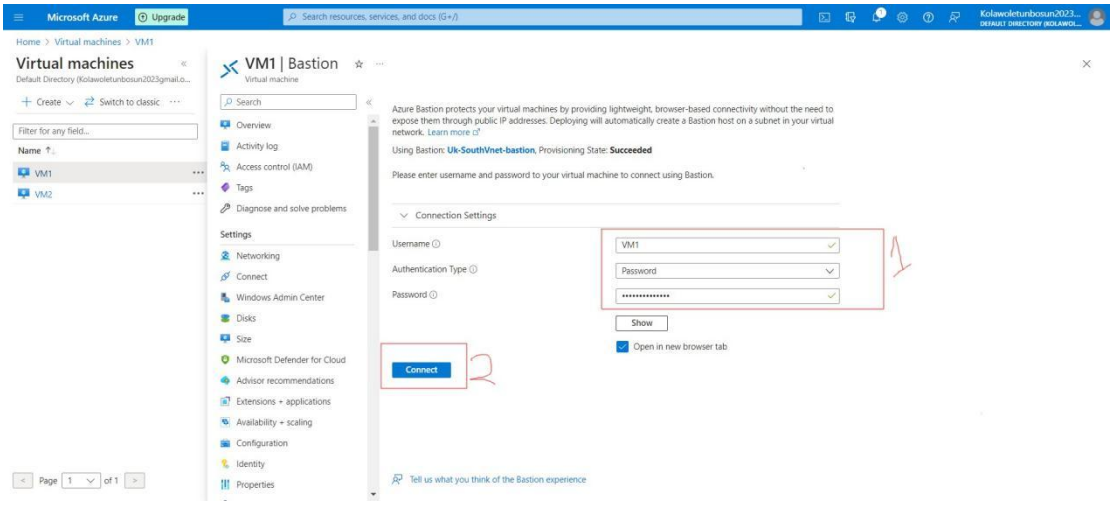
Now that my both Vnet are connected, I need to connect to my VM1 with Bastion already deployed. I will use the Bastion to connect to my VM1 by clicking Use Bastion.



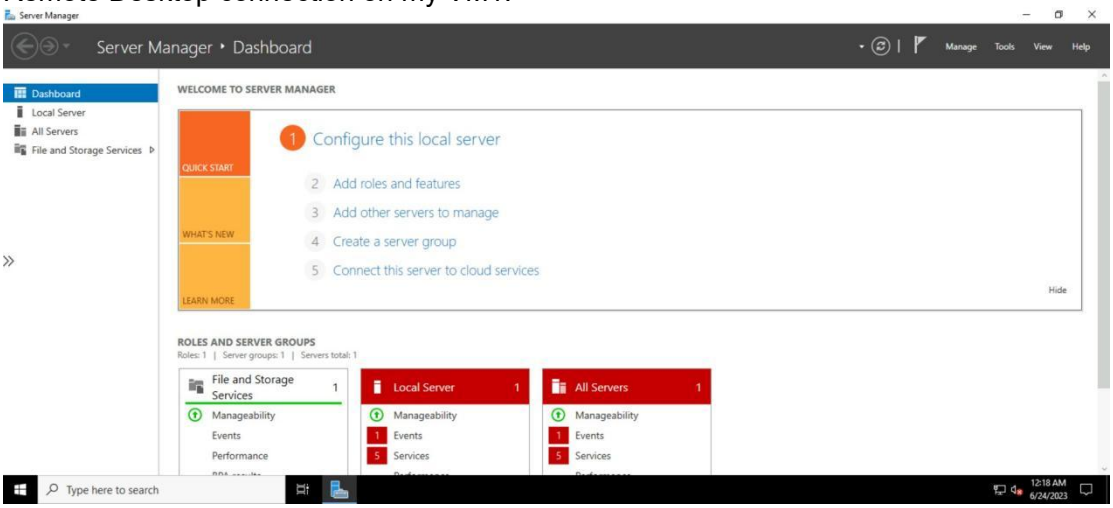
On this page I will click on use Bastion



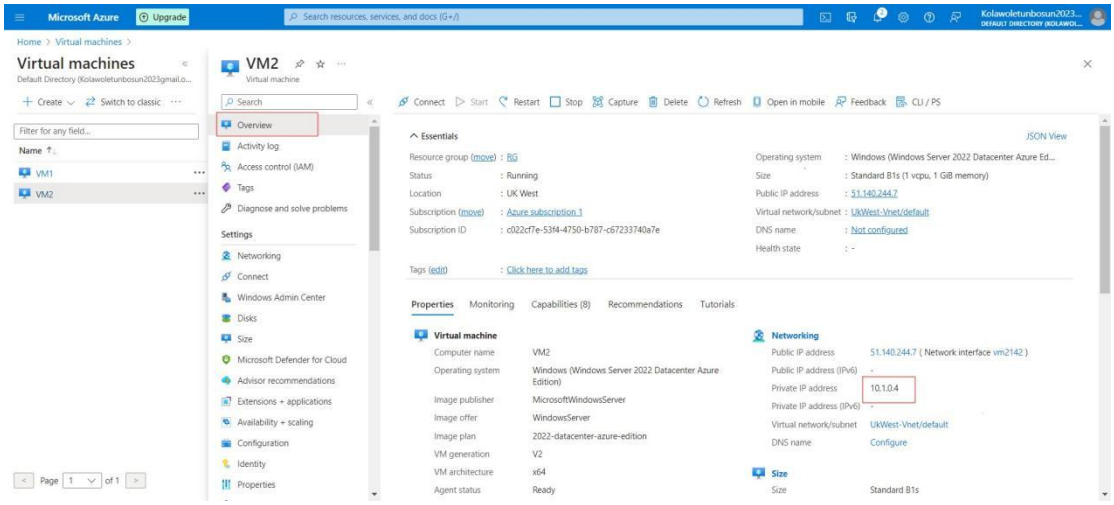
Here the Bastion will give option for username and password then fill it in then I will click connect.



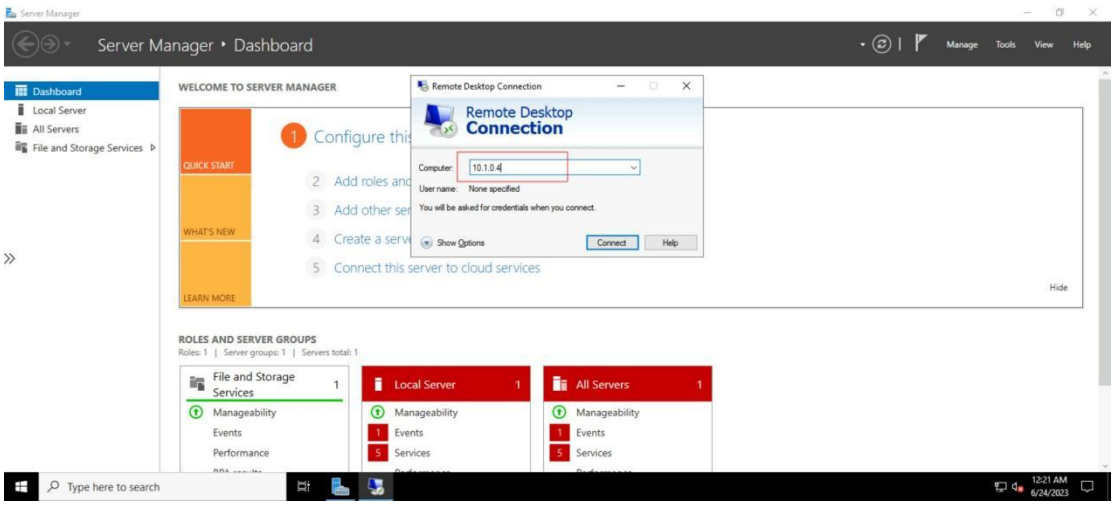
Here is my VM1 after signing in. To show connection to my Ukwest-Vnet I will go to Remote Desktop connection on my VM1.



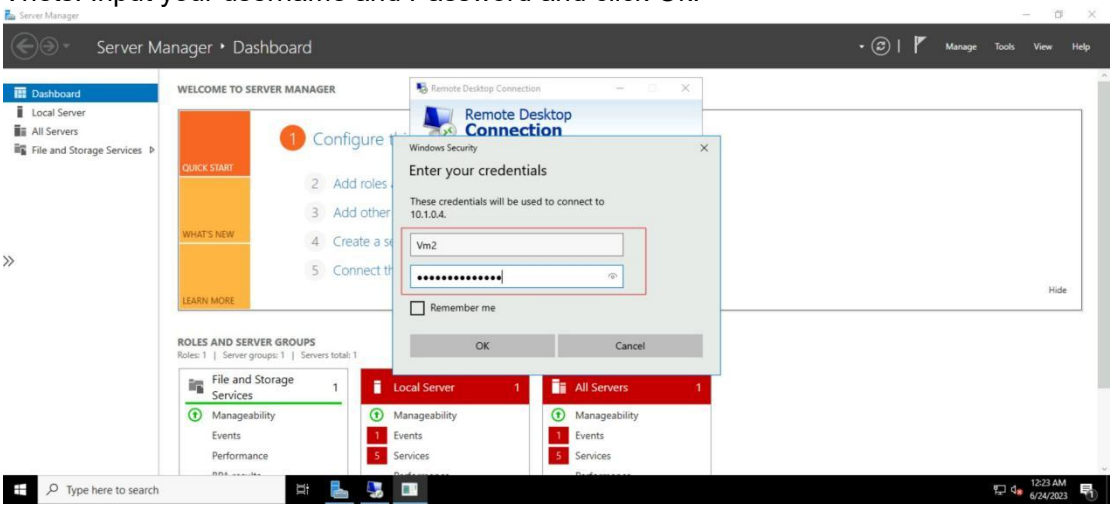
Before I go to Remote Desktop connection on my VM1, I will go to my Vm2 overview to
copy VM2 Private I.P to connect.



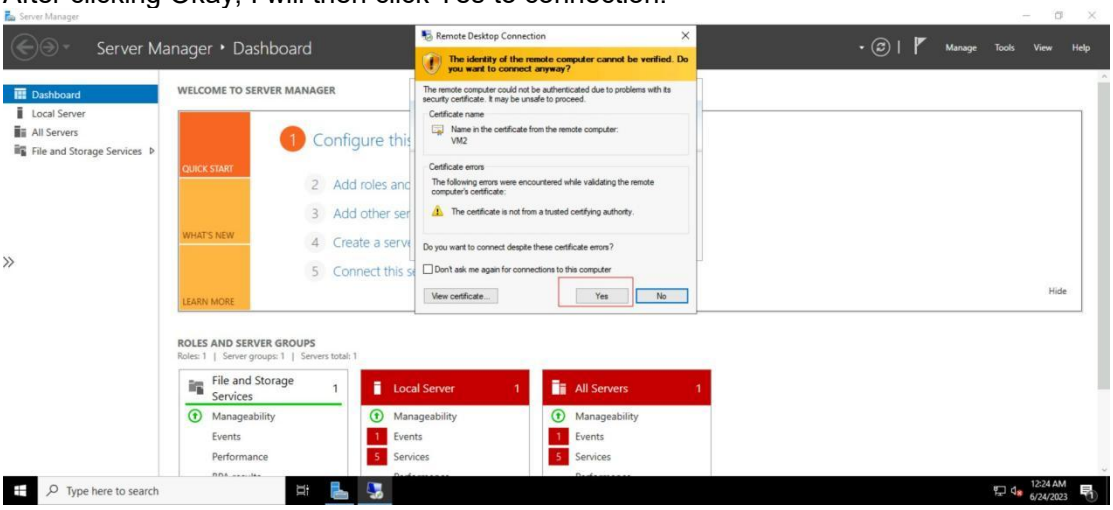
Input my VM2 private I.P into the Remote Desktop connection of my VM1 then click connect.



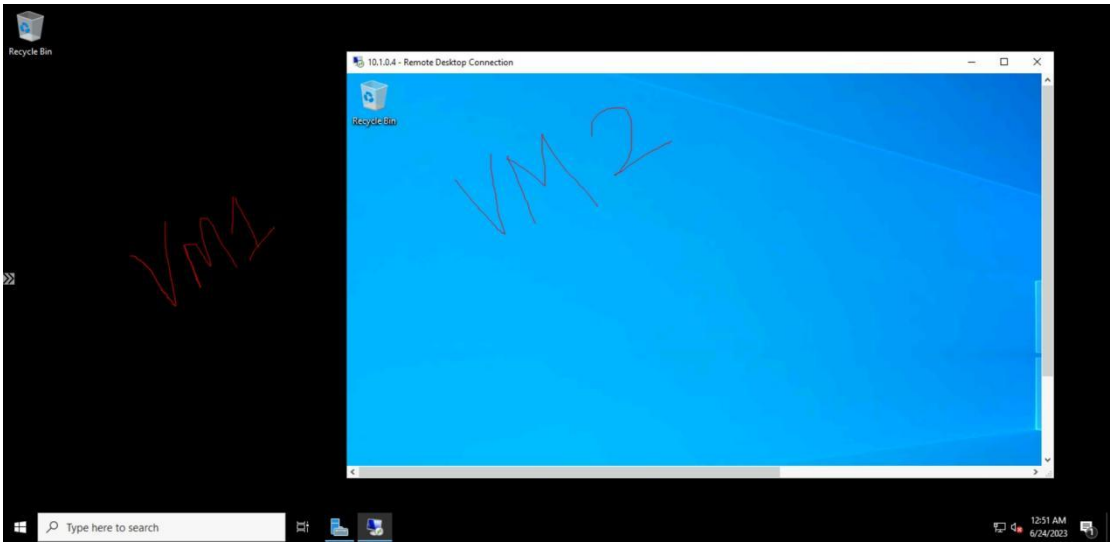
It will prompt for username and password to shows connection between the two Vnets. Input your username and Password and click Ok.



After clicking Okay, I will then click Yes to connection.



Here is my VM1 and VM2



I have successfully configured and tested the **VNet Peering,** I hope you can use the step by step to understand on how configure **VNet Peering in Azure**. The virtual network establishes the connection between two different **Virtual network Peering** (UkSouthVnet-UkWestVnet) but this depends on the condition and requirements.

References.

- Virtual Networks In Microsoft Azure: VNet Peering,
- Microsoft Azure VNet Peering (Microsoft Official)