REVA UNIVERSITY
Bengaluru, India
REVA Academy for Corporate Excellence (RACE)

Name: Chaitra N

SRN: R24TF014

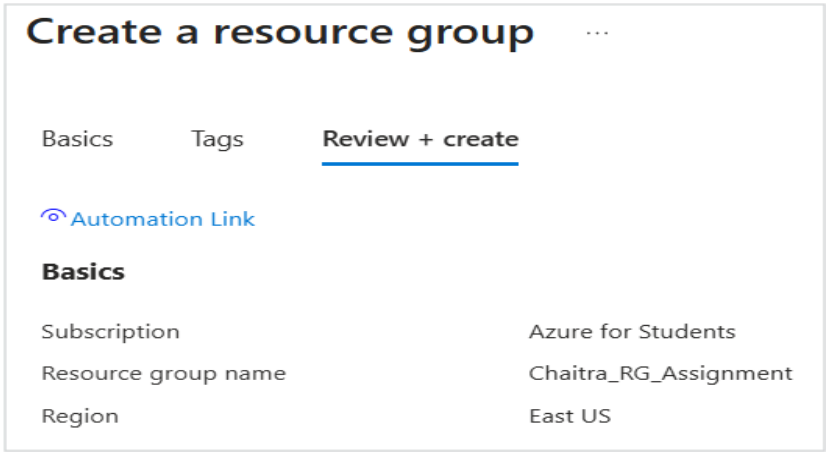
Date: 11-07-2025

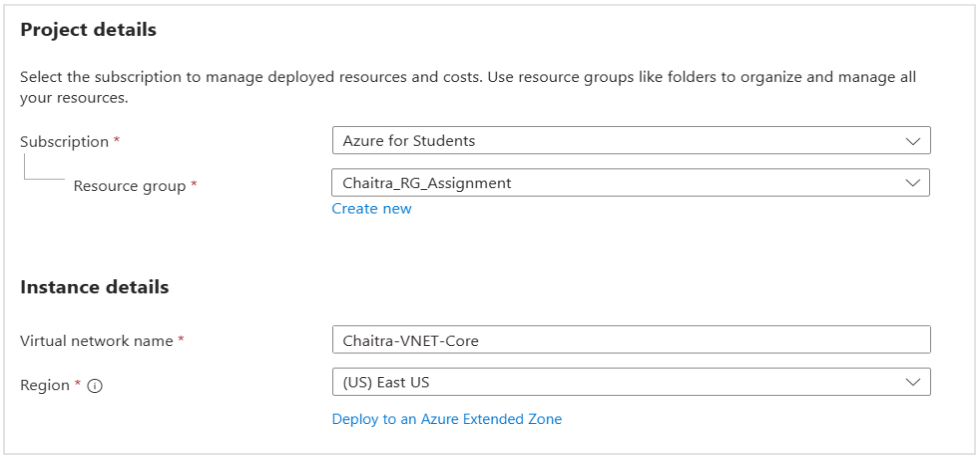
Module Name: Fundamentals of Cloud Az-900

Deployment of Azure Infrastructure

1. Create Resource Group and Virtual Network

1.1 Create the Resource Group – Chaitra_RG_Assignment at EastUS region and create First VNET Chaitra-VNET-Core with CIDR 192.168.0.0/16 at EastUS region.





Click on Next to Assign CIDR with 192.168.0.0/16 and create two subnets as:

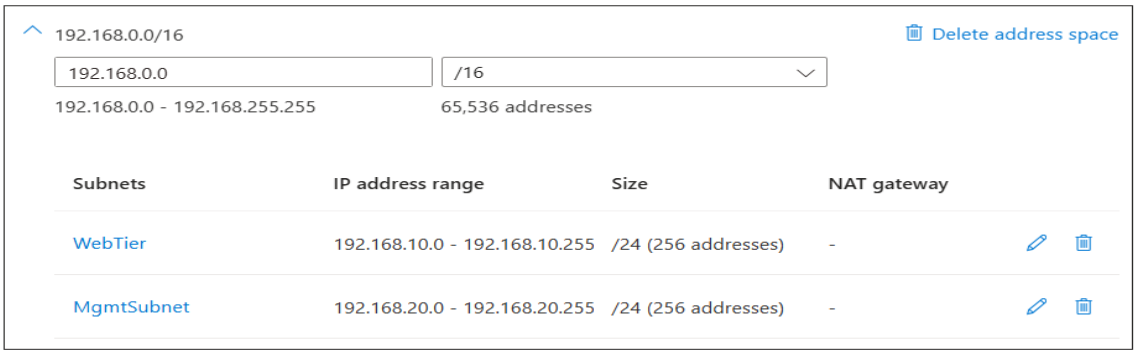
- WebTier subnet: 192.168.10.0/24
- MgmtSubnet subnet: 192.168.20.0/24

Name: Chaitra N

SRN: R24TF014

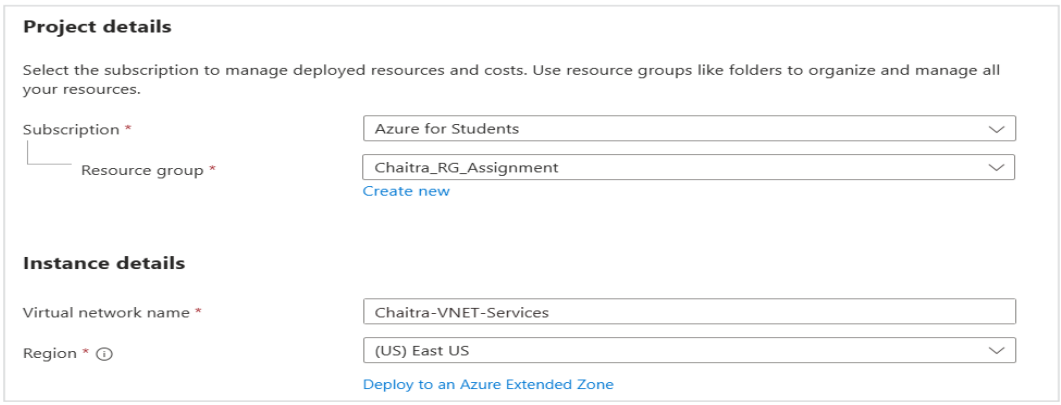
Date: 11-07-2025

Module Name: Fundamentals of Cloud Az-900



Click Next to review and create

1.2 Create the Second VNET in the Name of Chaitra-VNET-Services with CIDR 10.10.0.0/16



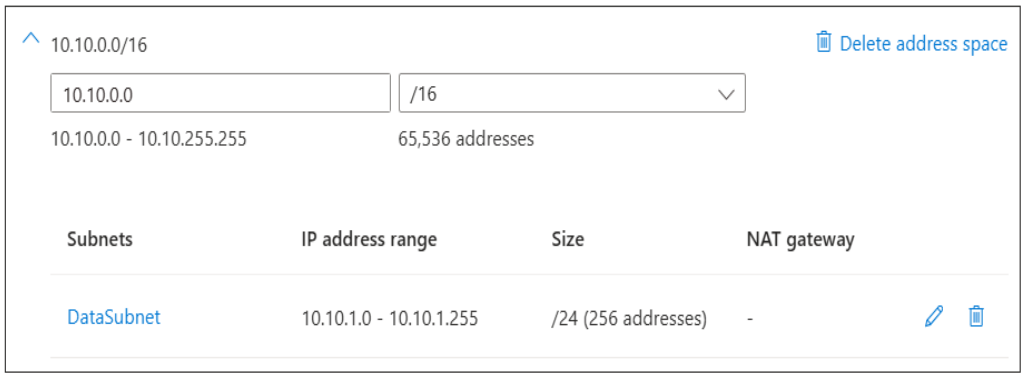
Name: Chaitra N

SRN: R24TF014

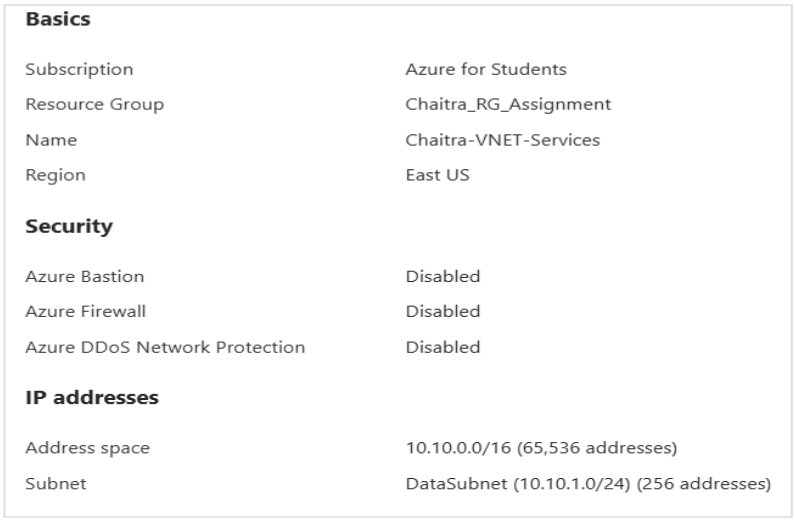
Date: 11-07-2025

Module Name: Fundamentals of Cloud Az-900

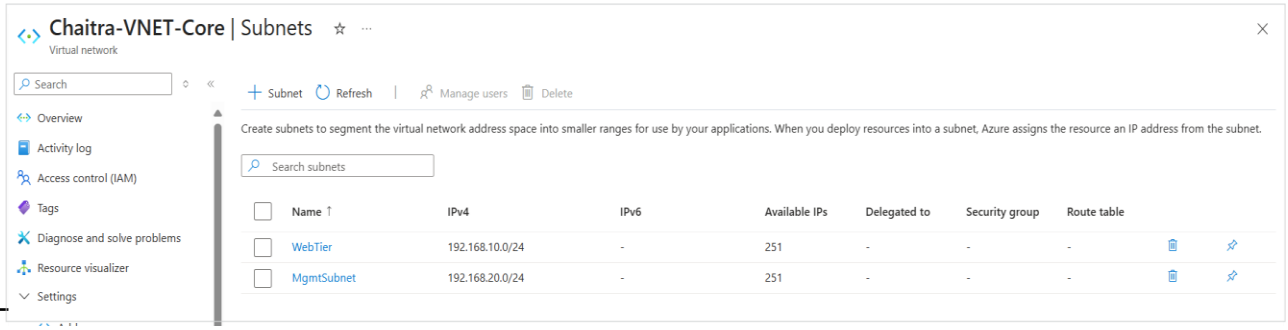
Click on Next to Assign CIDR with 10.10.0.0/16 and DataSubnet subnet: 10.10.1.0/24

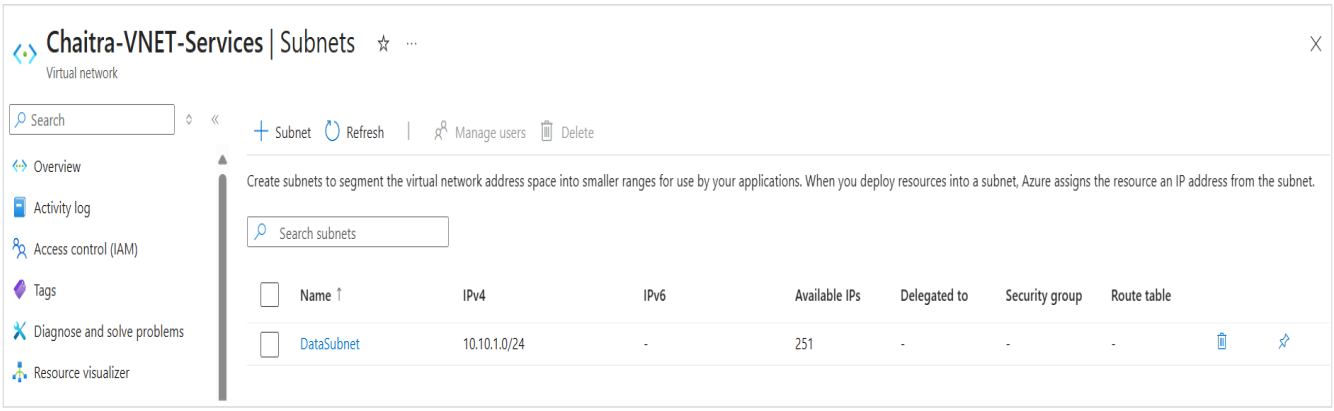


Click Next to review and create



Once the Deployment of both VNET is done, go under the VNets to check Subnets and confirm.

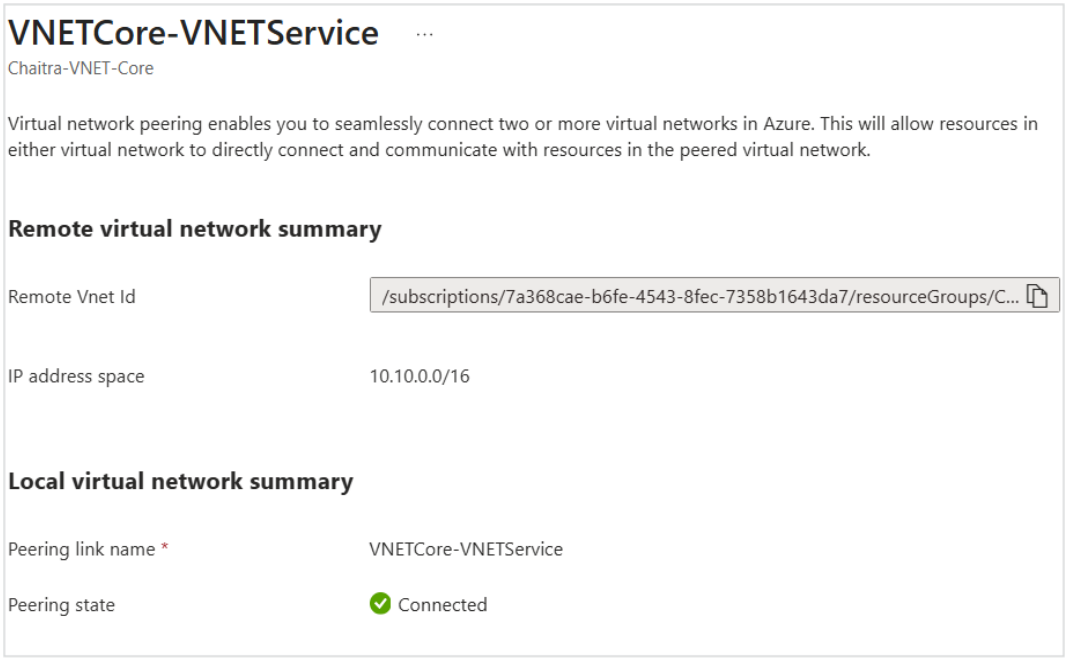




2 VNet Peering

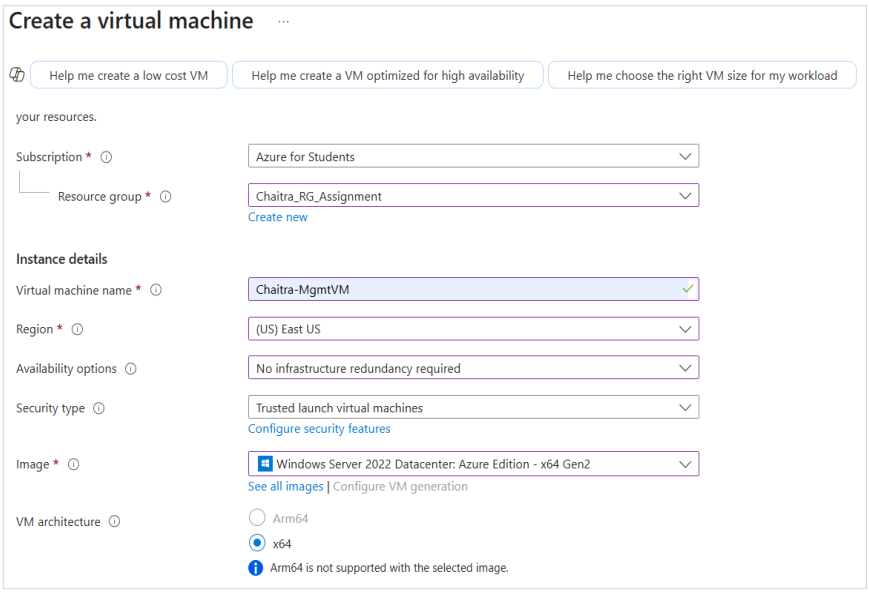
To Establish bidirectional peering between the two VNets.

- We need to select any one Vnet that is created.
- Then select Peering option from the service menu.
- Click on Add to Peer a Vnet
- Here peering name is given as “VNETCore-VNETServices”

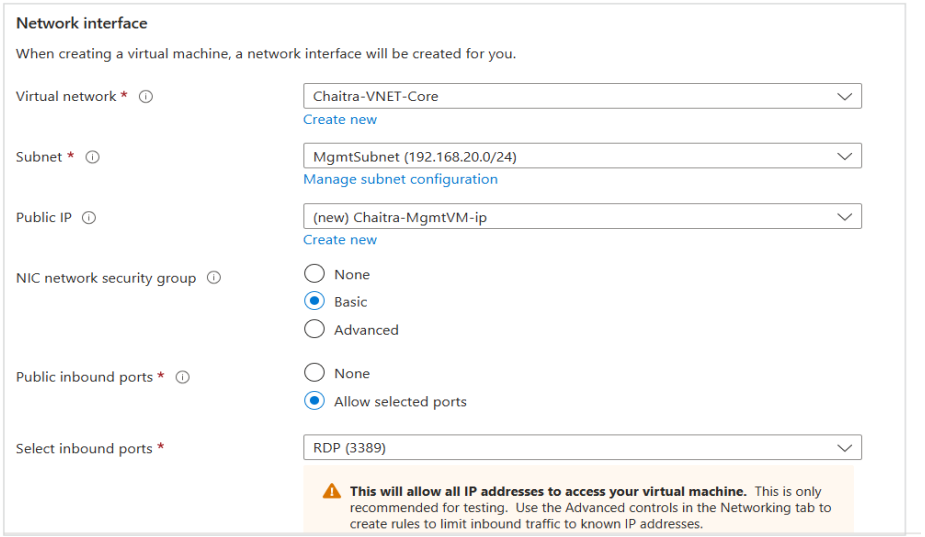


3 Creating VMs

- Create “Chaitra-MgmtVM” in MgmtSubnet:
- Selected Windows Server 2022,
- RDP access only from current public IP



- Click next for selecting mgmt-subnet and new public ip.



- Review and create.

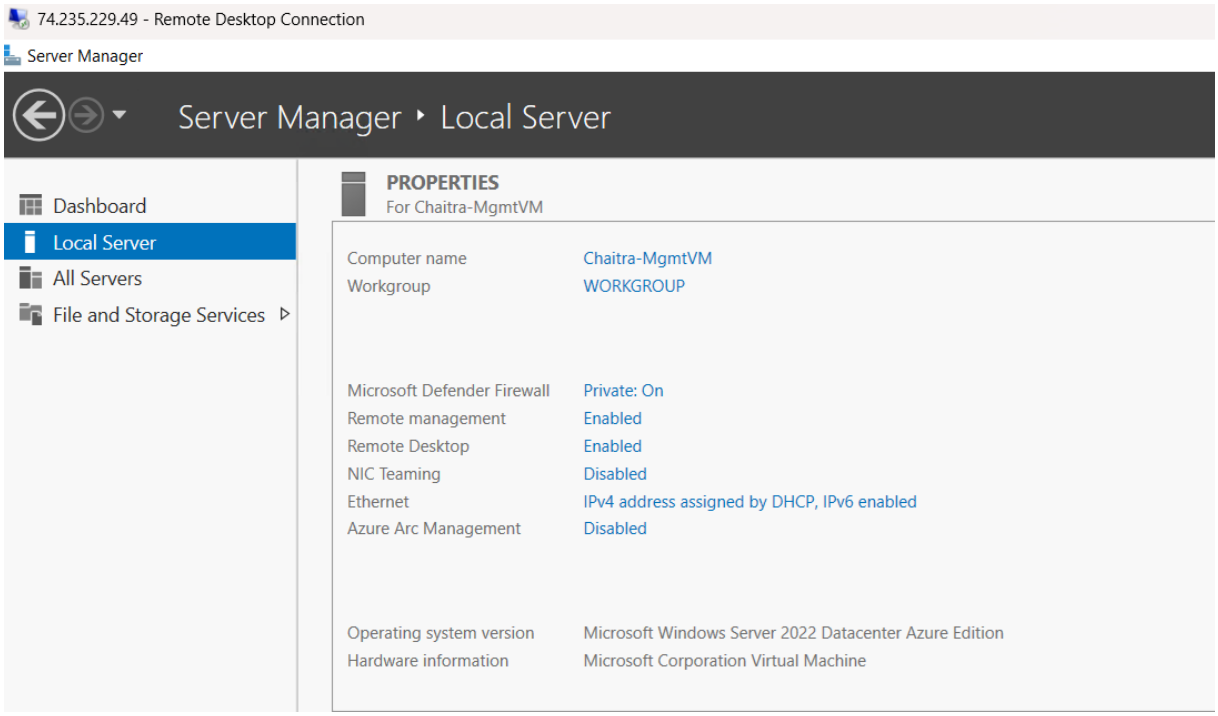
Name: Chaitra N

SRN: R24TF014

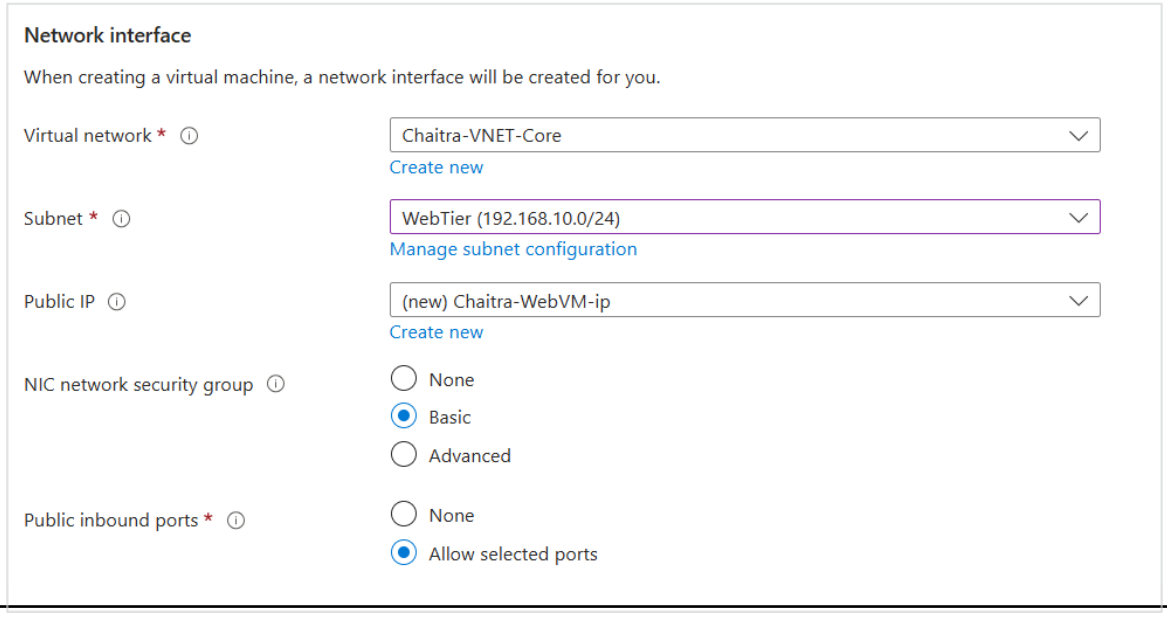
Date: 11-07-2025

Module Name: Fundamentals of Cloud Az-900

Access the VM using Public ip via RDP



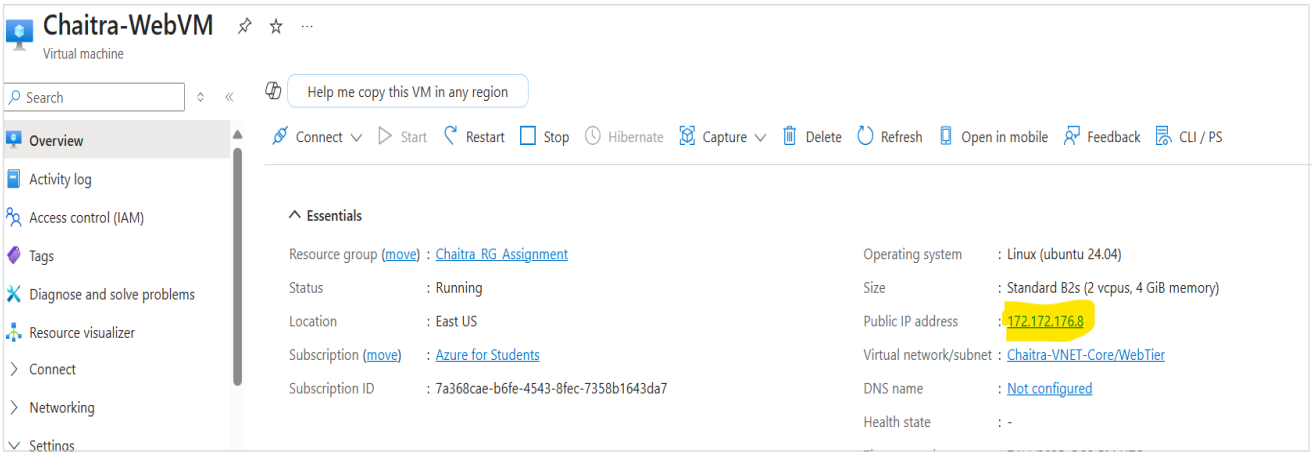
Create second VM Ubuntu with NGINX, No ssh and allow Http and https



- Click next to select webtier subnet and create public ip
- Click on advanced tab to add Custom script data and review and create.
- Below is the script

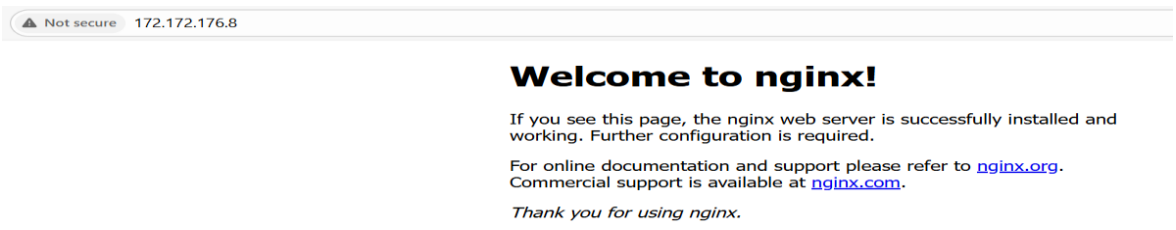
```
#!/bin/bash
# Update package list
sudo apt update
# Install nginx
sudo apt install nginx -y
# Start nginx
sudo systemctl start nginx
```

After the deployment of Ubuntu vm, note the public ip of the VM to access the nginx default website via browser. (172.172.176.8)



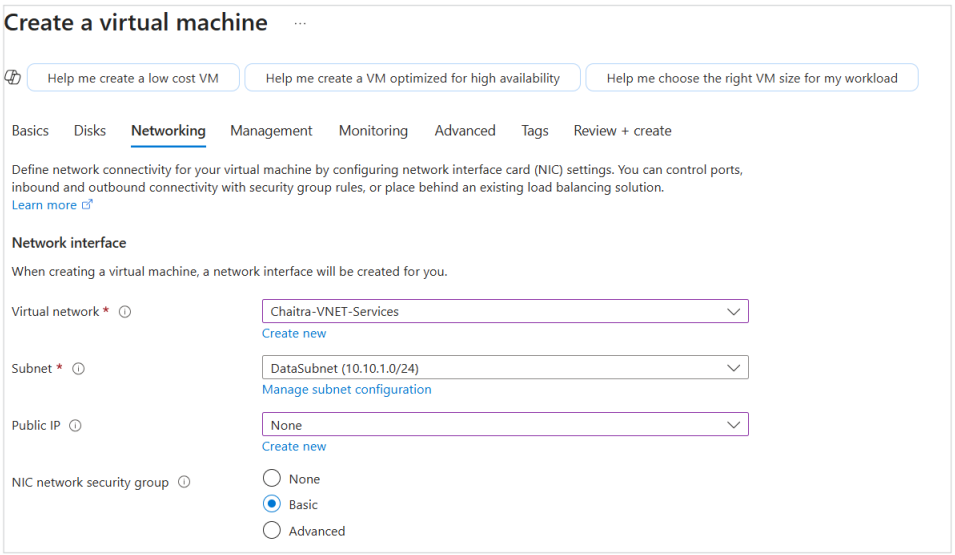
Go to NSG “chaitra-webvm-nsg” and add inbound security rules -> add ->allow http(80) and https(443)

Lets access the nginx default website from a browser via public ip. <172.172.176.8>



Create third VM(Ubuntu), without public ip

- In the networking tab, disable public ip and select the Vnet as Chaitra-VNET-Services and the subnet DataSubnet

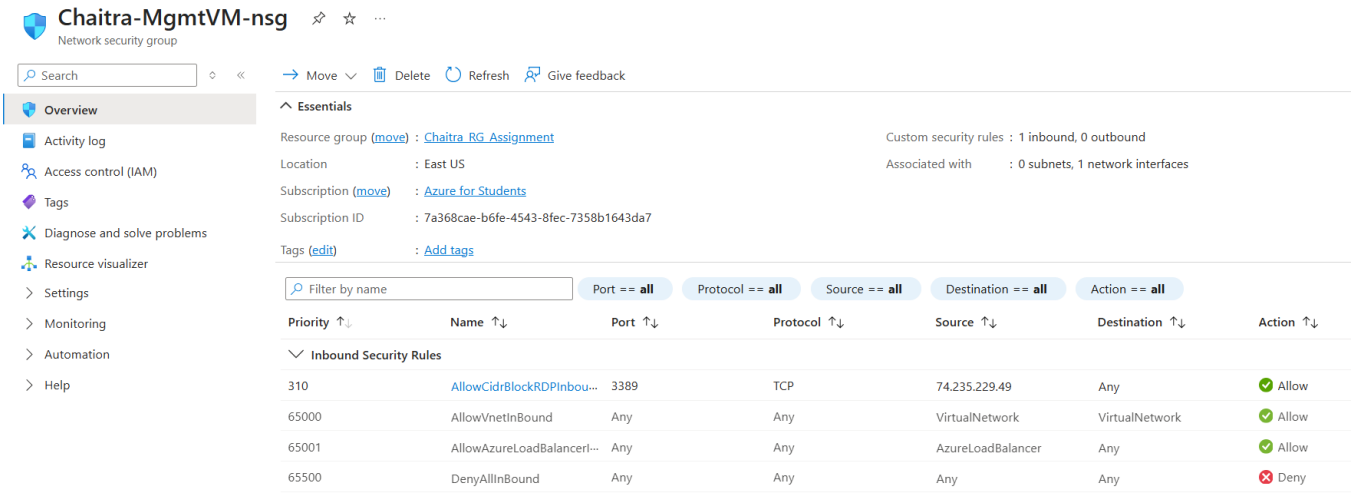


- Review and create.

4 Creating NSG

Go to NSG settings of mgmtvm ->click inbound security rules ->add

Select source ip and enter public ip, select destination port as 3389(RDP) and ADD.



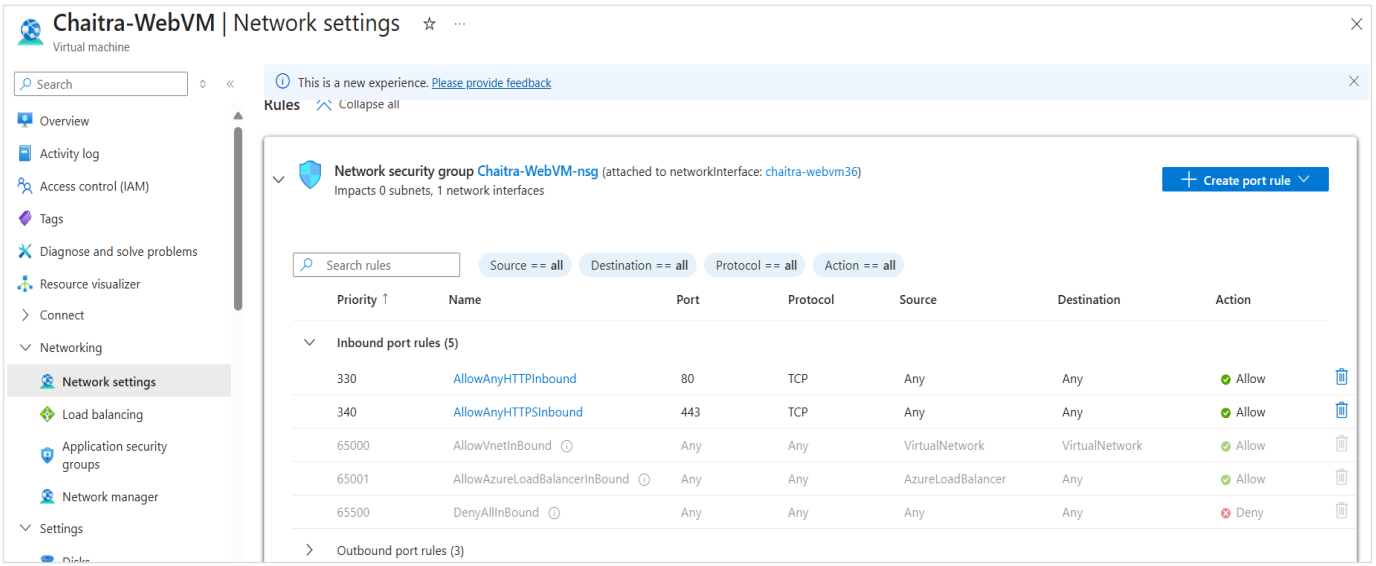
Name: Chaitra N

SRN: R24TF014

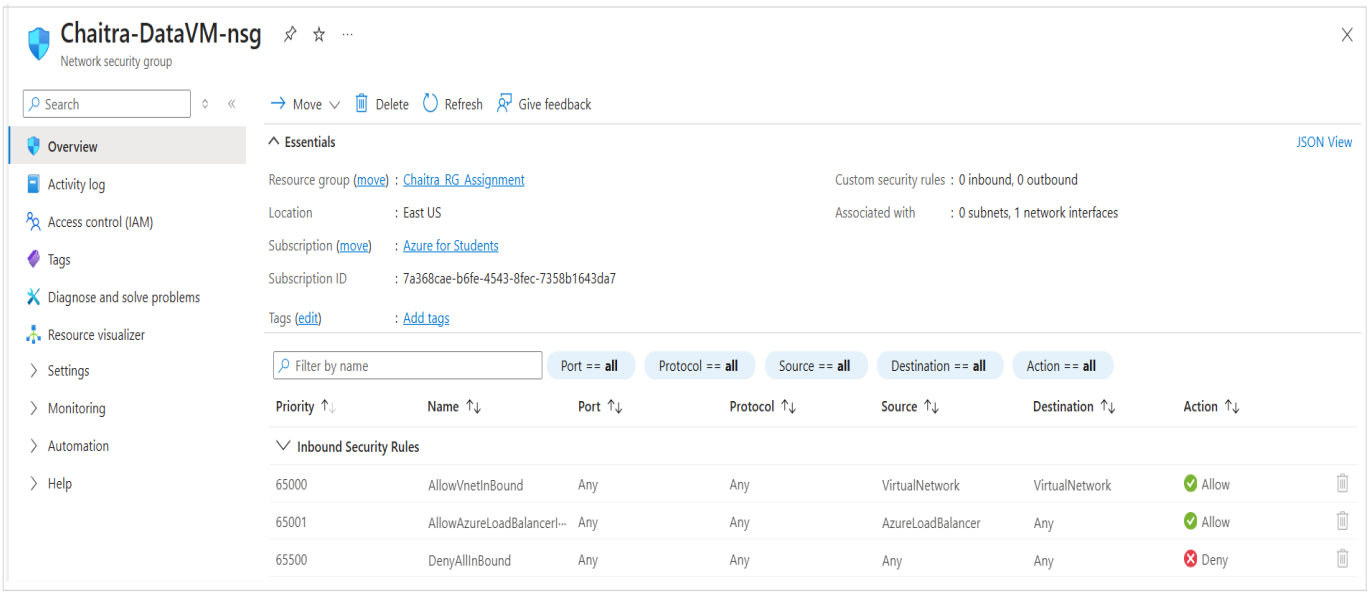
Date: 11-07-2025

Module Name: Fundamentals of Cloud Az-900

Go to Ubuntu(nginx) NSG settings and allow only http and https



Data VM NSG settings



Name: Chaitra N

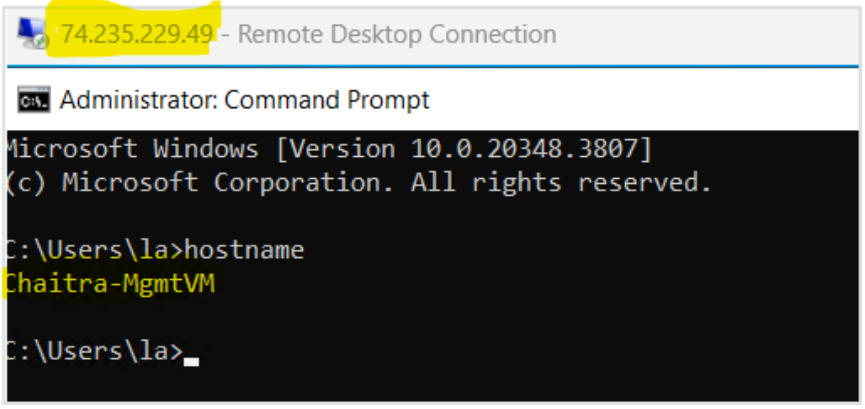
SRN: R24TF014

Date: 11-07-2025

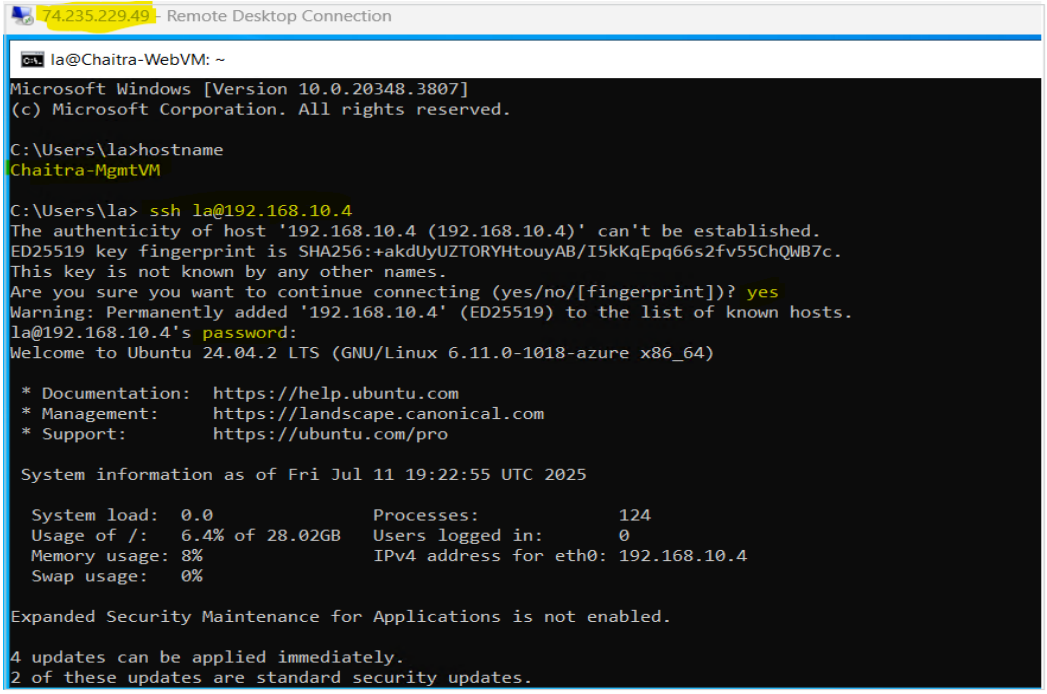
Module Name: Fundamentals of Cloud Az-900

FINAL OUTPUT

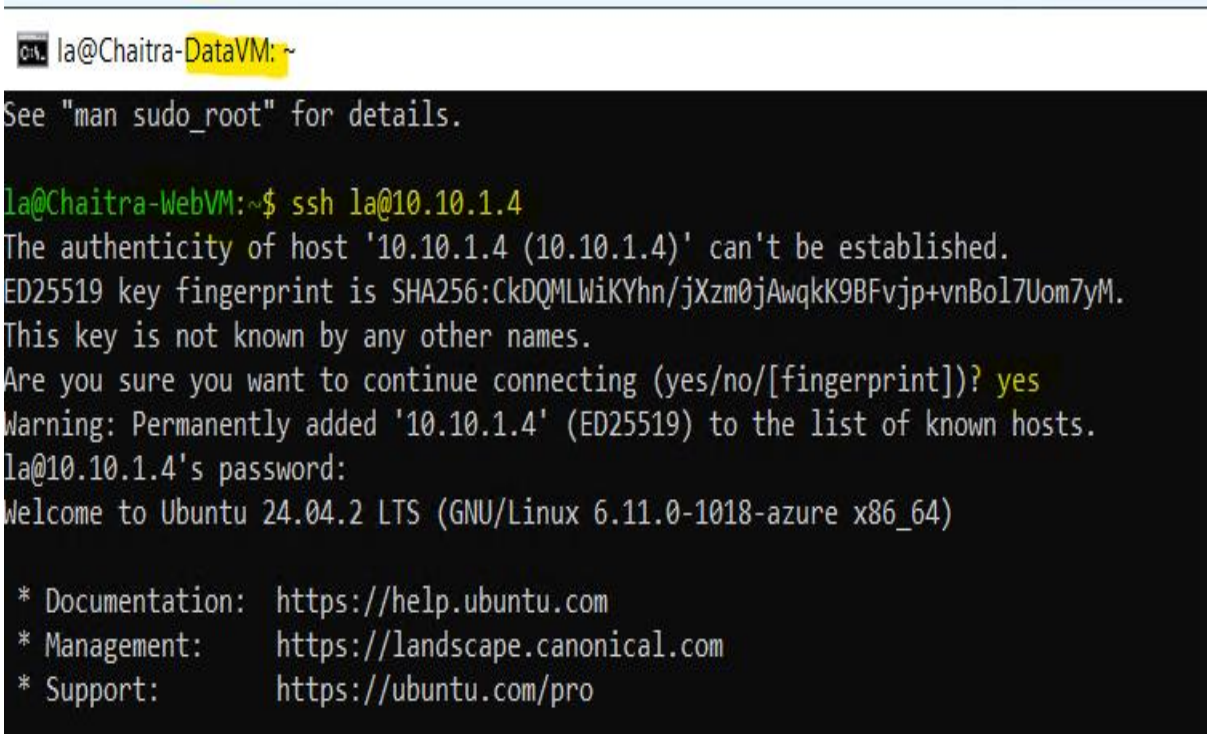
- Accessing Chaitra-MgmtVM via RDP by using public ip
- Enter Username and Password to login, login successful



- SSH access to Chaitra-WebVM is performed internally from Chaitra-MgmtVM using the VM's private IP address (192.168.10.4). This confirms that internal connectivity is functioning correctly, while public SSH access remains restricted as per the configured NSG rules.
- Open Poweshell in MgmtVM RDP and Type the command ssh la@192.168.10.4, enter the password and login



- SSH access to Chaitra-DataVM is performed internally from Chaitra-WebVM using the VM's private IP address (192.168.10.4). This confirms that internal connectivity is functioning correctly via NSG rules.
- Enter the Username and Password for the VM and login



- Accessed DataVM via private ip through SSH from the WebVM.

SSH access to **Chaitra-WebVM** was successfully tested from **Chaitra-MgmtVM** using its **private IP address**, confirming internal network connectivity. Since SSH access is **blocked via public IP** as per the NSG rules, this validates that access is only permitted through the internal VNet.
Additionally, connectivity from **Chaitra-WebVM** to **Chaitra-DataVM** using its **private IP** was successful, confirming that the Data VM is securely isolated from public networks and accessible only through internal tiers.