Steps to Deploy Azure Firewall in Hub VNet

Step 1: Create a Firewall Subnet in Hub V Net

Go to **Virtual Networks** → select your **v net-hub**

In the left menu, click **Subnets**

Click **+ Subnet**:

Name: Azure Firewall Subnet (must be exactly this)

Address range: Example – 10.0.1.0/24

Click **Save**

This is a special subnet required for Azure Firewall.

Step 2: Create Azure Firewall

Go to **Home** → click **Create a resource**

Search for **Azure Firewall** → click **Create**

On the **Basics** tab:

Subscription: Azure for Students

Resource group: rg-hub

Name: e.g., fw-hub

Region: Central India

Click **Next**

On the **Firewall Management** tab:

Select **Use a firewall policy** or create new if needed

(You can skip policy for now if not using centralized rule management)

On the **Network** tab:

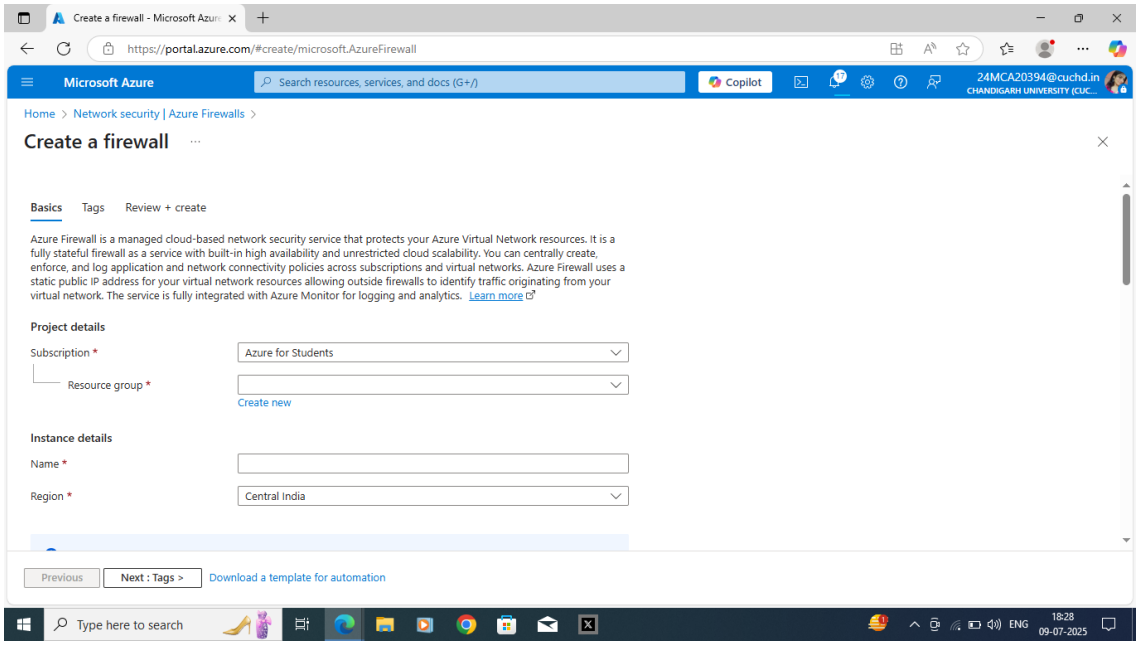
Virtual Network: Select vnet-hub

Firewall Subnet: It auto-selects Azure Firewall Subnet

Public IP address: Click **Create new**

Name it e.g., fw-hub-pip

Click **Review + create** → then click **Create**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Create a firewall
Basics
Tags
Review + create
Azure Firewall is a managed cloud-based network security service that protects your Azure Virtual Network resources. It is a fully stateful firewall as a service with built-in high availability and unrestricted cloud scalability. You can centrally create, enforce, and log application and network connectivity policies across subscriptions and virtual networks. Azure Firewall uses a static public IP address for your virtual network resources allowing outside firewalls to identify traffic originating from your virtual network. The service is fully integrated with Azure Monitor for logging and analytics. Learn more
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Name *
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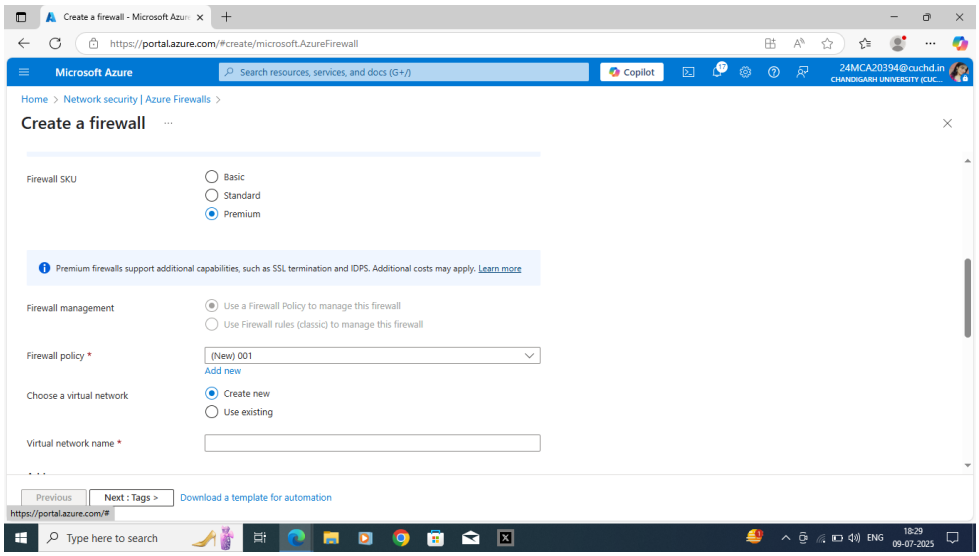
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Standard
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Premium firewalls support additional capabilities, such as SSL termination and IDPS. Additional costs may apply. Learn more
Firewall management
Use a Firewall Policy to manage this firewall
Use Firewall rules (classic) to manage this firewall
Firewall policy *
(New) 001
Add new
Choose a virtual network
Create new
Use existing
Virtual network name *
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Step 3: Create a Route Table for Spokes

1. Go to **Home** → **Route tables** → **+ Create**

2.Enter:

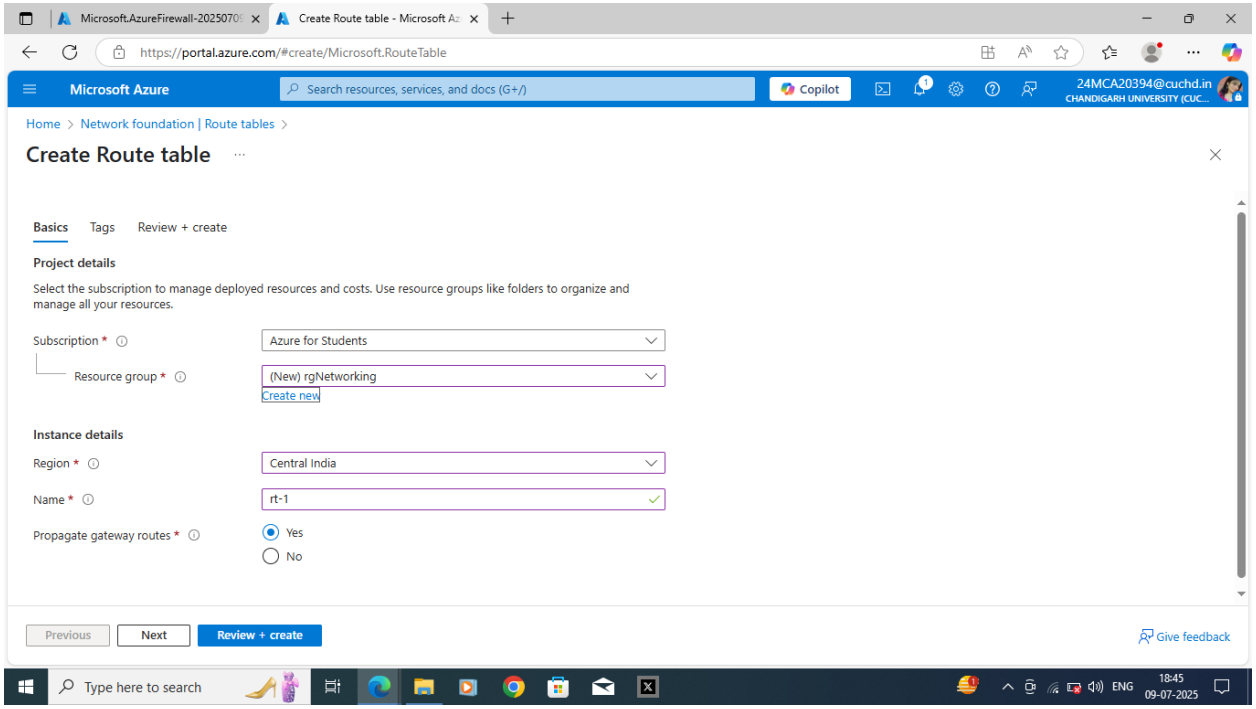
Name: rt-spokestorage

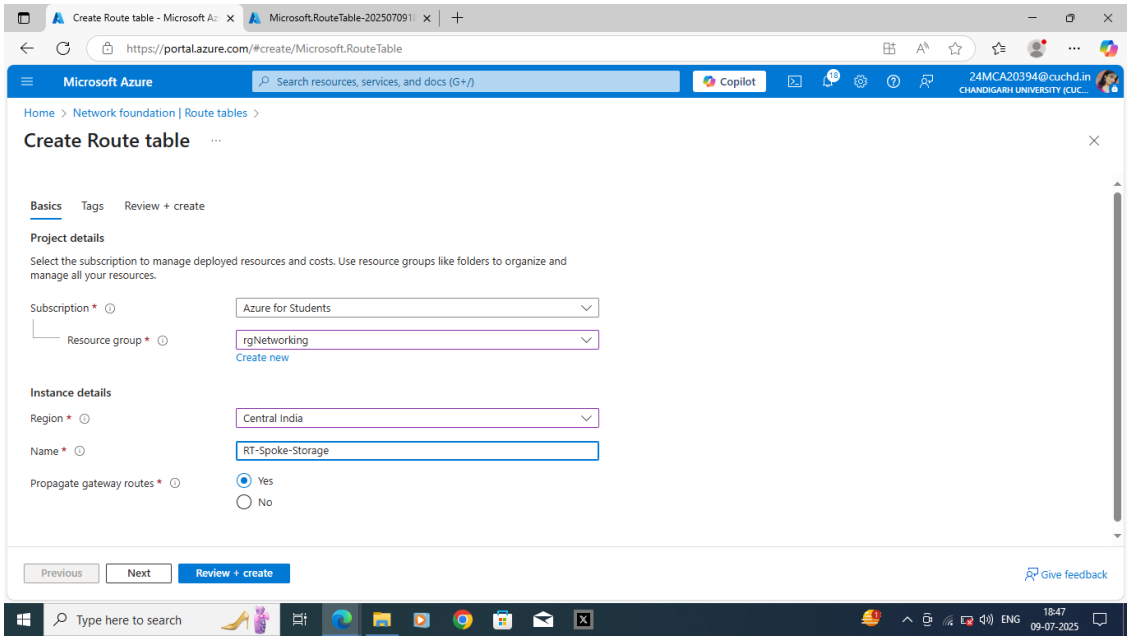
Resource Group: rgnetworking

Region: Central India

2. Click **Create**

Repeat for Spoke2: rt-spoke2 under rg-spoke-storage





step 4: Add Route to Send All Traffic to Firewall

After route table is created, open it → go to **Routes** → click **+ Add**

Enter:

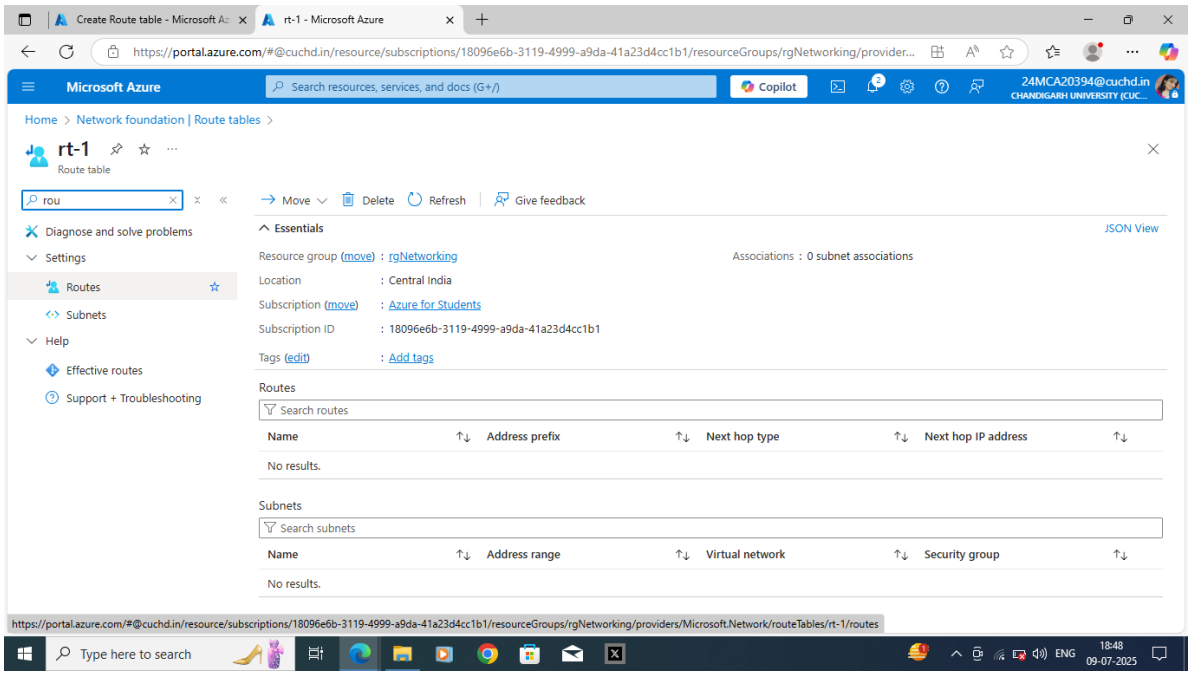
Route name: default-to-firewall

Address prefix: 0.0.0.0/0 (means all traffic)

Next hop type: **Virtual appliance**

Next hop address: Firewall's private IP (find it from Firewall Overview page)

Click **Add**



Step 5: Associate Route Table to Subnets

1. Go to Route Table → **Subnets** → **+ Associate**
2. Select:

   Virtual Network: e.g., vnet-spoke1

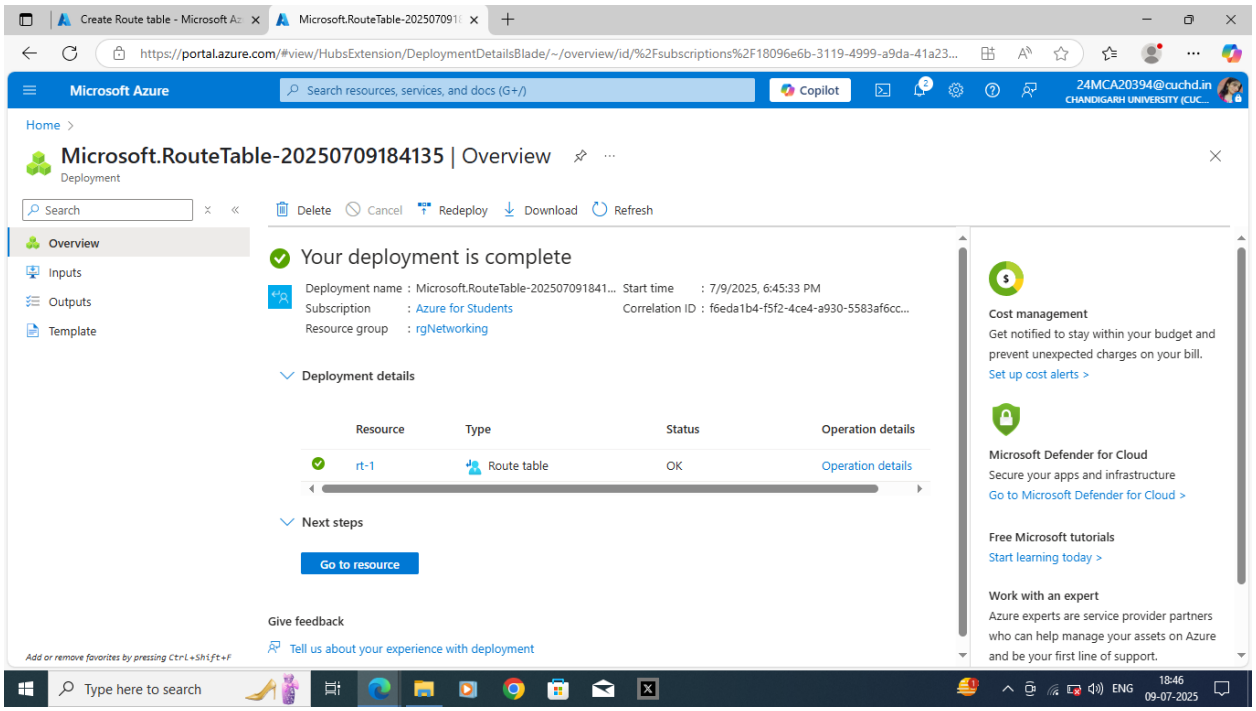
   Subnet: Web App Subnet

2. Click **OK**

Repeat for:

Spoke2’s subnet

Any additional subnets (App Subnet, DNS Subnet, etc.)

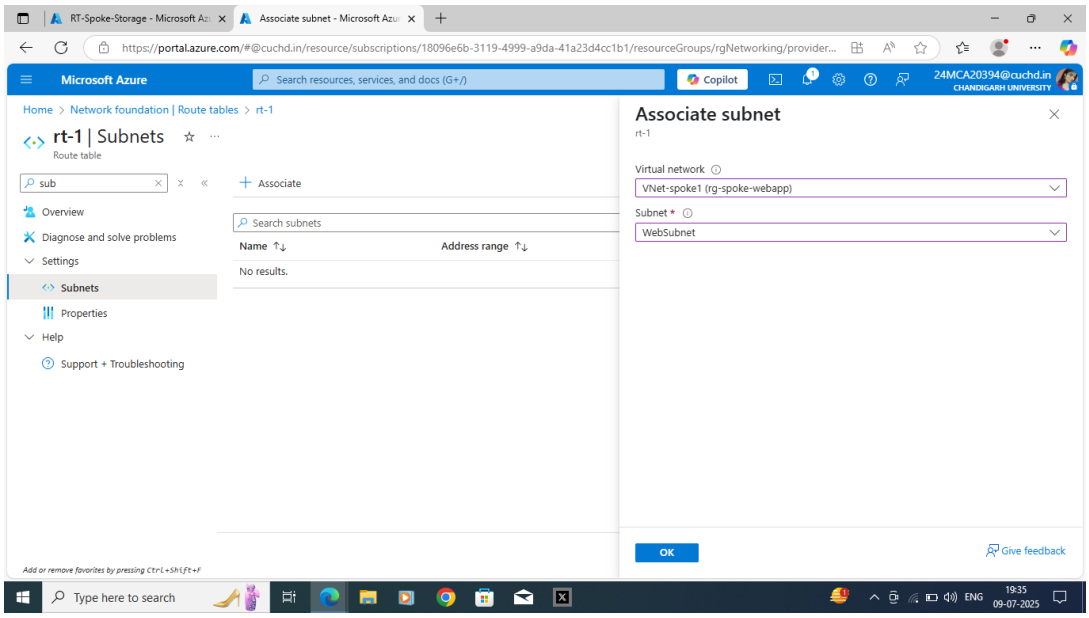


Step 6: Associate Route Tables to Spoke Subnets

You associated route tables to:

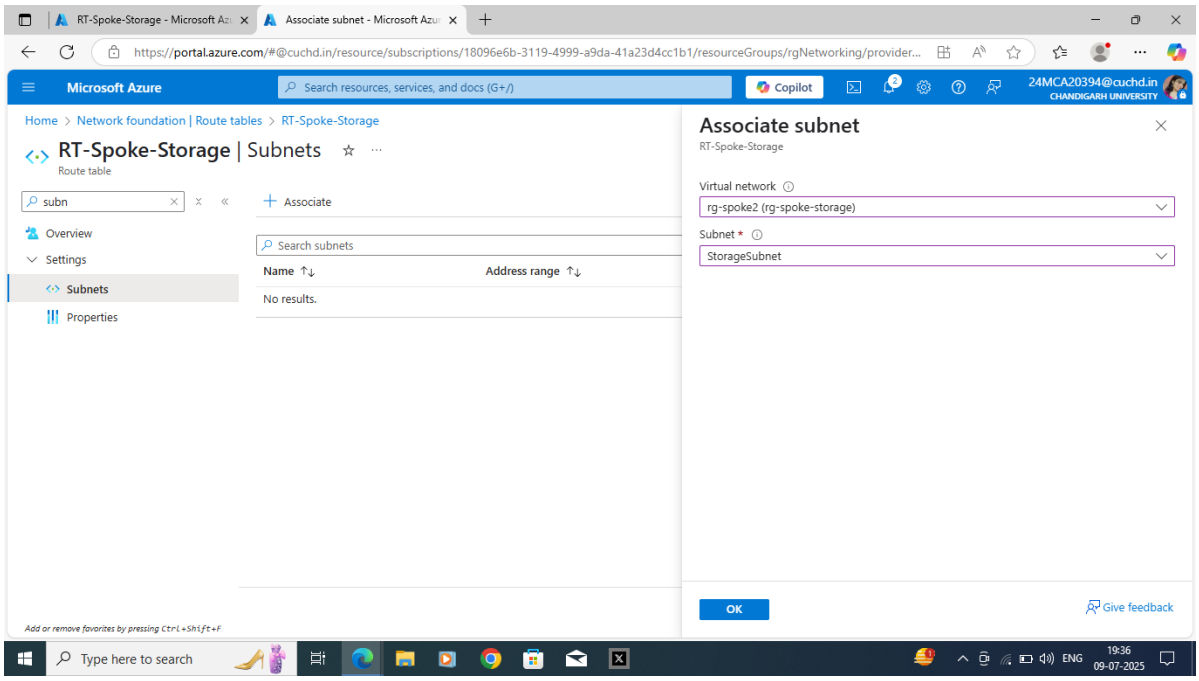
WebSubnet in **VNet-spoke1 (web app)**

StorageSubnet in **VNet-spoke2 (storage)**



rt-1 with WebSubnet

RT-Spoke-Storage with StorageSubnet



Step 7: Add Custom Route to Route Table

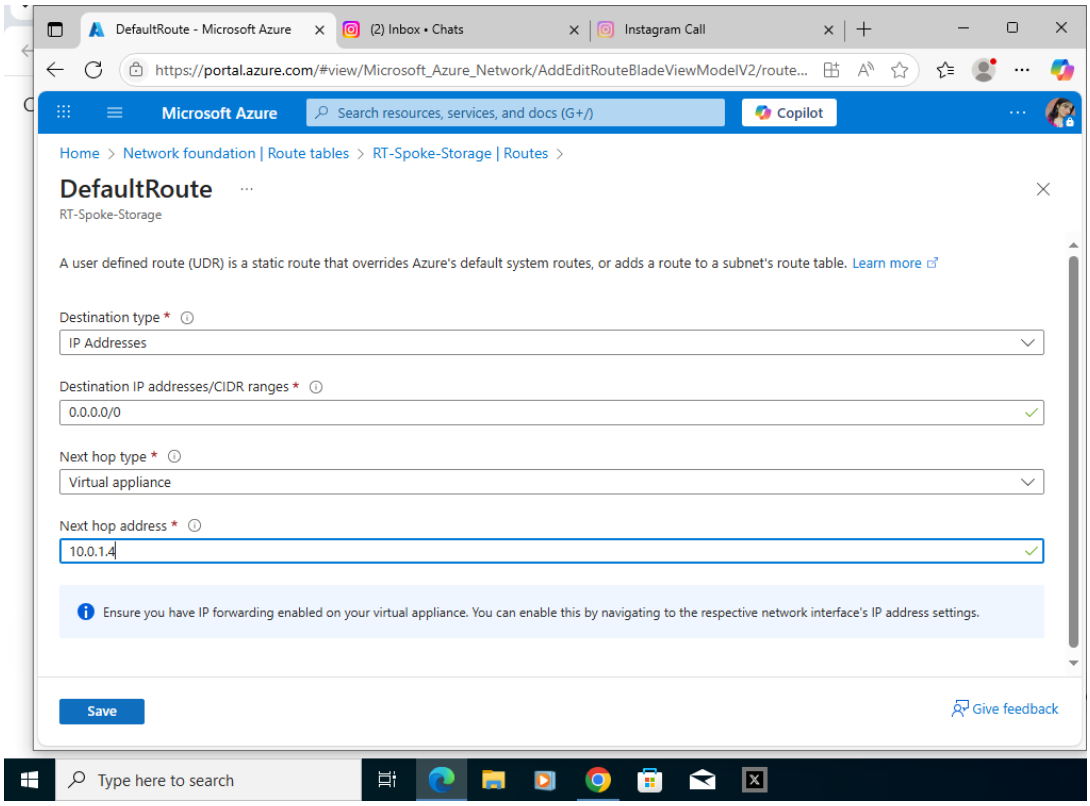
We added a route to send **all traffic** 0.0.0.0/0 to **next hop: virtual appliance** (Firewall or DNS VM).

Fields Used:

Destination IP: 0.0.0.0/0

Next hop type: Virtual appliance

Next hop address: 10.0.1.4 (Assuming DNS VM)



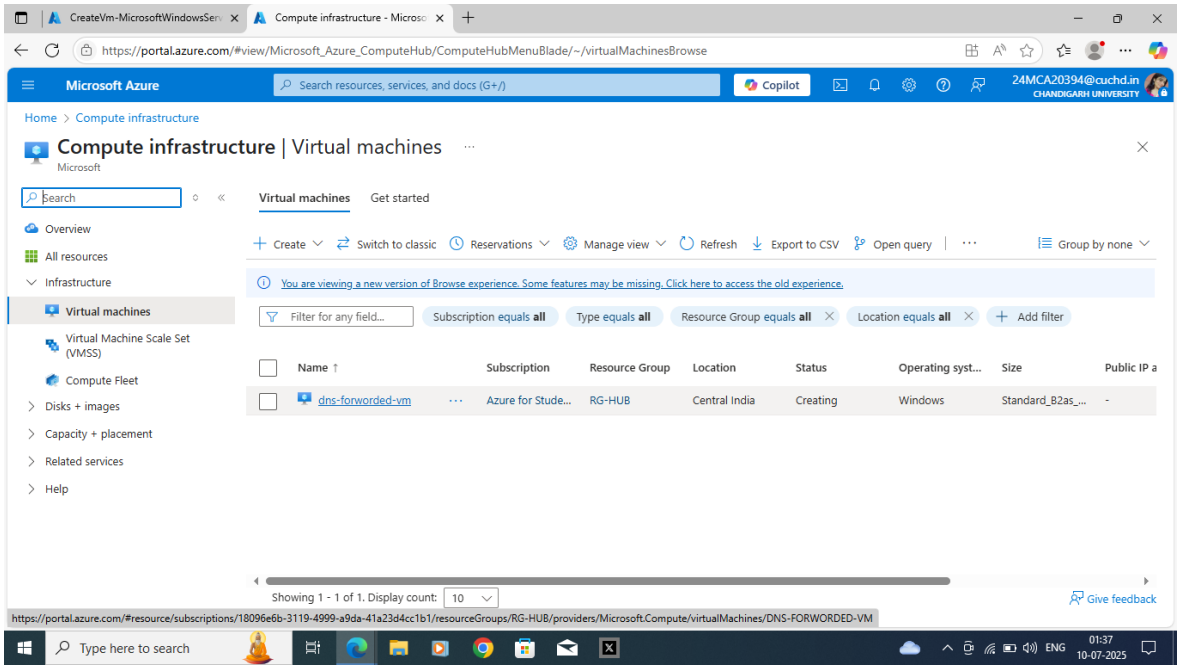
Step 8: Create DNS Forwarder VM in Hub

We created a **Windows VM** in Hub VNet:

Subnet: DNS Subnet (10.0.4.0/24)

No public IP (access via Bastion)

To be used for custom DNS resolution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Virtual machines
Get started
Create
Switch to classic
Reservations
Manage view
Refresh
Export to CSV
Open query
Group by none
You are viewing a new version of Browse experience. Some features may be missing. Click here to access the old experience.
Filter for any field...
Subscription equals all
Type equals all
Resource Group equals all
Location equals all
Add filter
Name
Subscription
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Status
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RG-HUB
Central India
Creating
Windows
Standard_B2as_...
Showing 1 - 1 of 1. Display count: 10
Give feedback
https://portal.azure.com/#resource/subscriptions/18096e6b-3119-4999-a9da-41a23d4cc1b1/resourceGroups/RG-HUB/providers/Microsoft.Compute/virtualMachines/DNS-FORWORDED-VM
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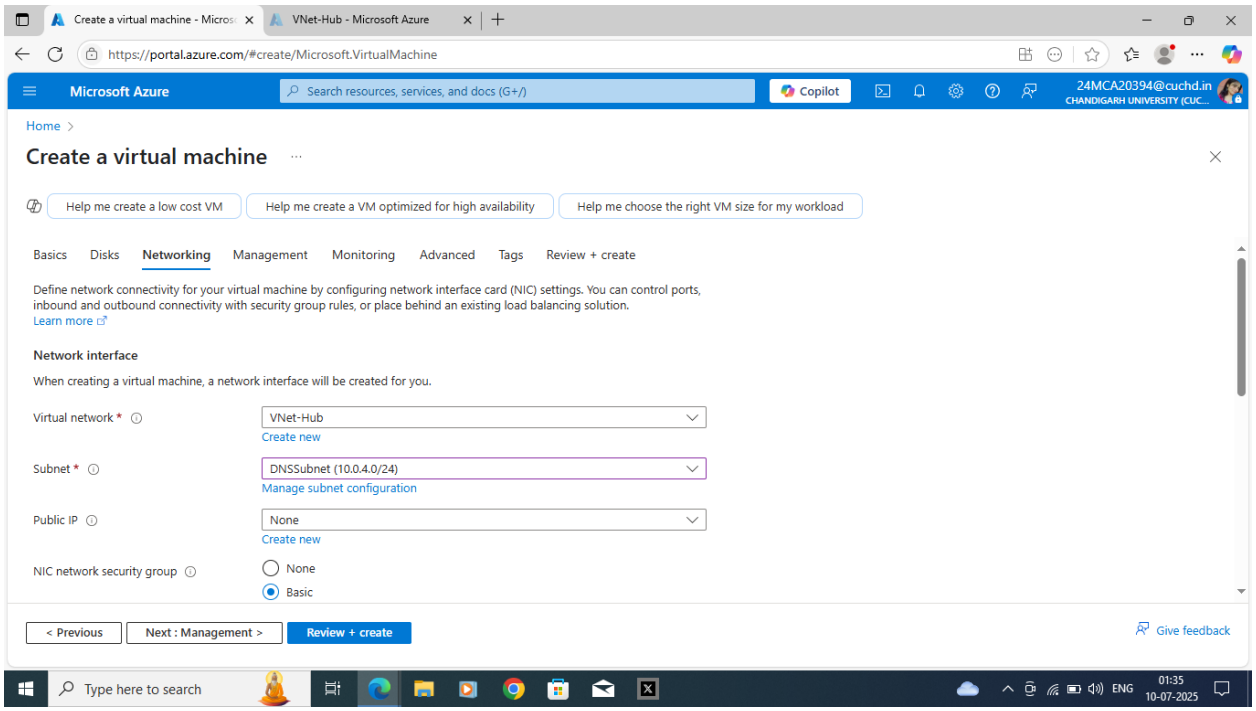
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Define network connectivity for your virtual machine by configuring network interface card (NIC) settings. You can control ports, inbound and outbound connectivity with security group rules, or place behind an existing load balancing solution.
Learn more
Network interface
When creating a virtual machine, a network interface will be created for you.
Virtual network *
VNet-Hub
Create new
Subnet *
DNSSubnet (10.0.4.0/24)
Manage subnet configuration
Public IP
None
Create new
NIC network security group
None
Basic
< Previous
Next : Management >
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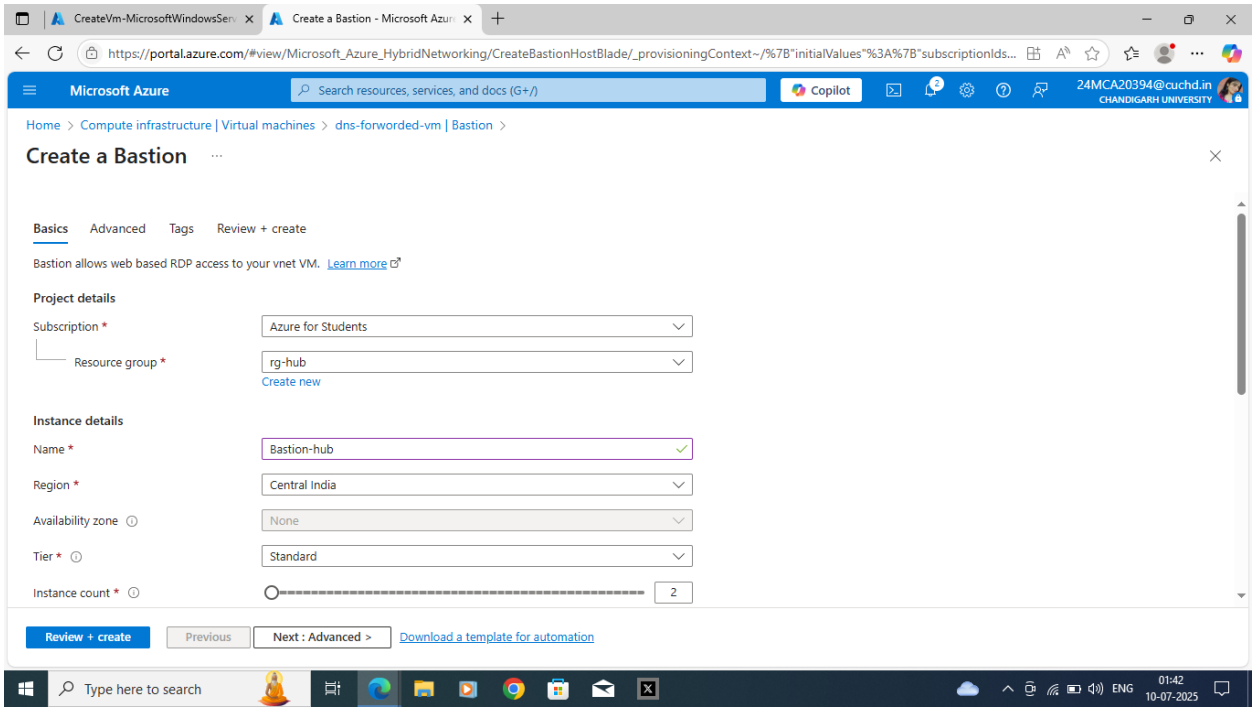
Step 9: Create Azure Bastion for Secure VM Access

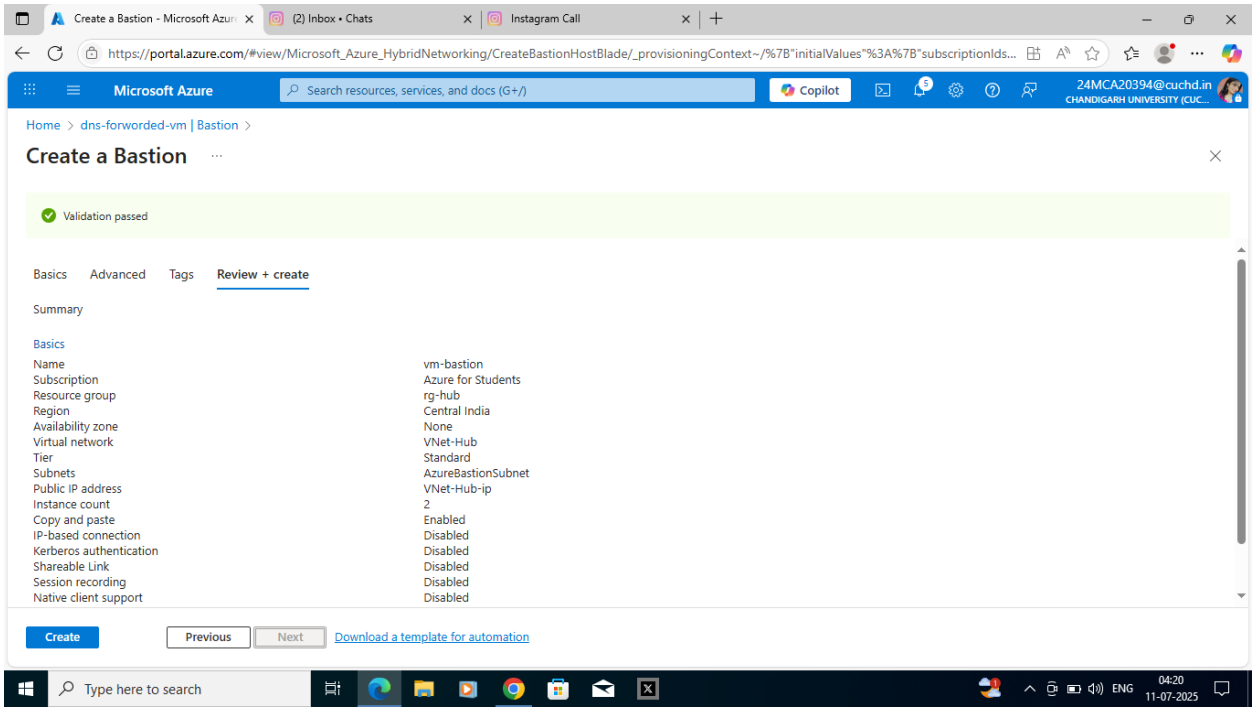
You created **Bastion** in rg-hub:

Name: Bastion-hub

Virtual network: VNet-Hub

Public IP: VNet-Hub-ip





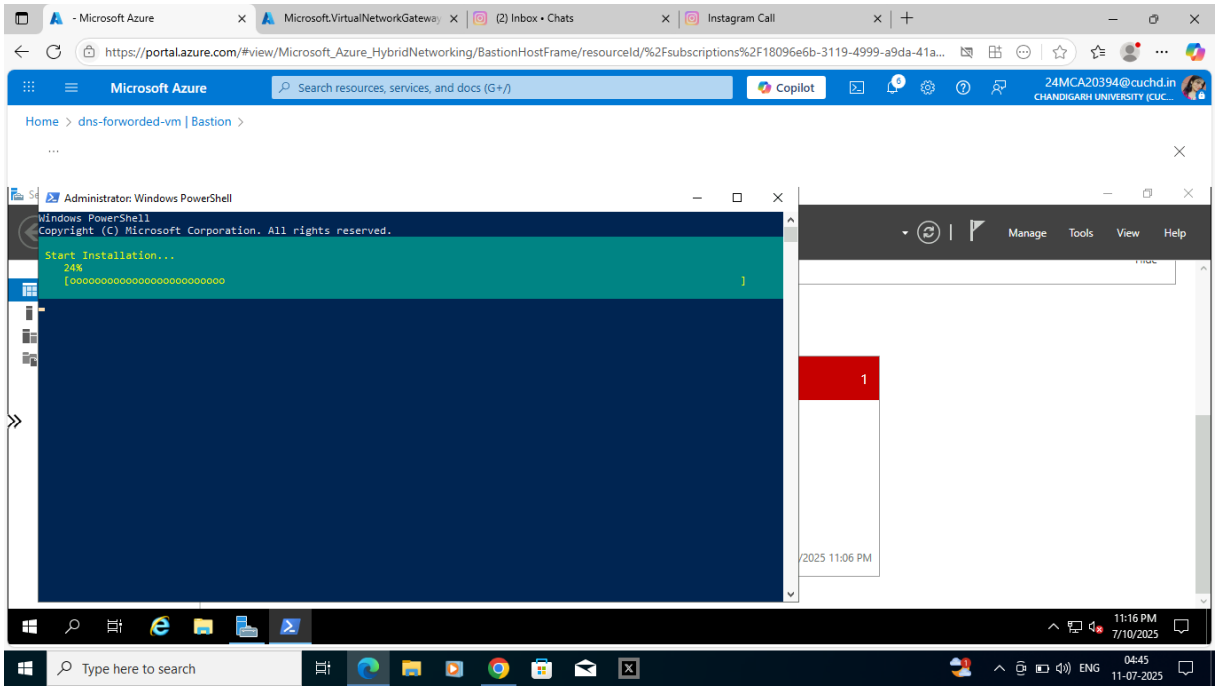
Step 10: Access DNS VM and Configure DNS

We accessed the DNS VM via **Azure Bastion** and:

Opened **PowerShell** and began installation

Opened **DNS Manager**

Verified DNS resolution with nslookup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Home > dns-forworded-vm | Bastion >
Administrator: Windows PowerShell
Windows PowerShell
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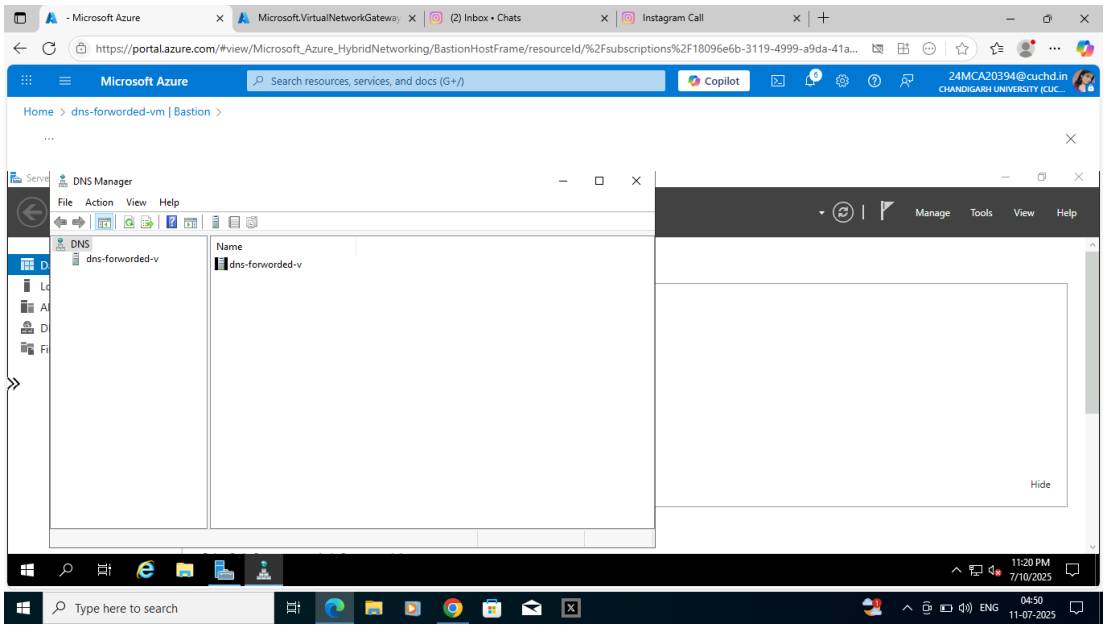
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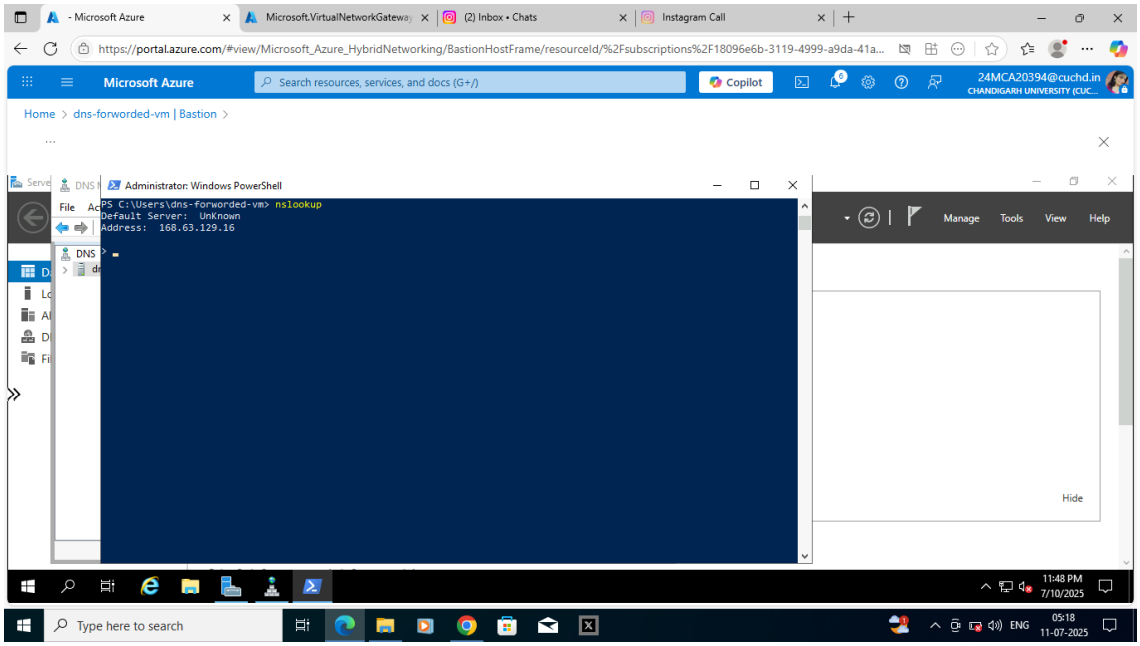


Step11: Create Virtual Network Gateway (VNet Gateway)

Resource Group: rg-hub

Name: vnet-gateway-hub

Region: Central India

Gateway type: **VPN**

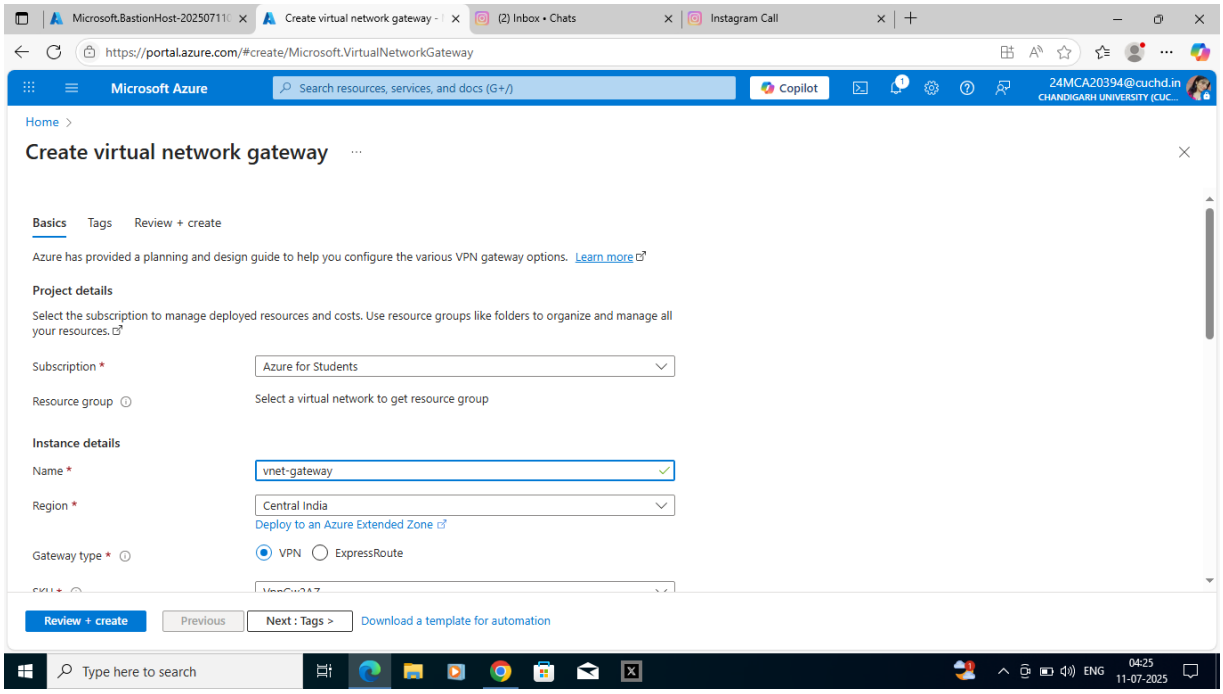
VPN type: **Route-based**

SKU: **VpnGw1**

VNet: VNet-Hub

Subnet: **GatewaySubnet**

Public IP: vnet-gateway-ip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Azure has provided a planning and design guide to help you configure the various VPN gateway options. Learn more
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Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.
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Resource group
Select a virtual network to get resource group
Instance details
Name *
vnet-gateway
Region *
Central India
Deploy to an Azure Extended Zone
Gateway type *
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ExpressRoute
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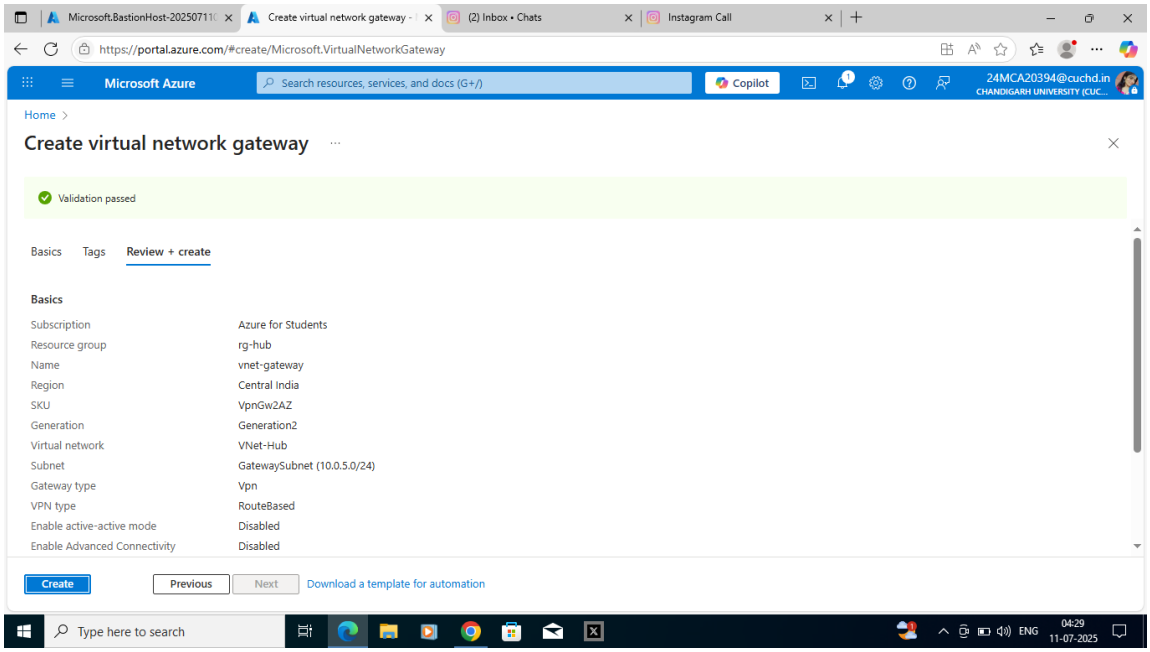
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Subscription Azure for Students
Resource group rg-hub
Name vnet-gateway
Region Central India
SKU VpnGw2AZ
Generation Generation2
Virtual network VNet-Hub
Subnet GatewaySubnet (10.0.5.0/24)
Gateway type Vpn
VPN type RouteBased
Enable active-active mode Disabled
Enable Advanced Connectivity Disabled
Create
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Step 12: Create Local Network Gateway

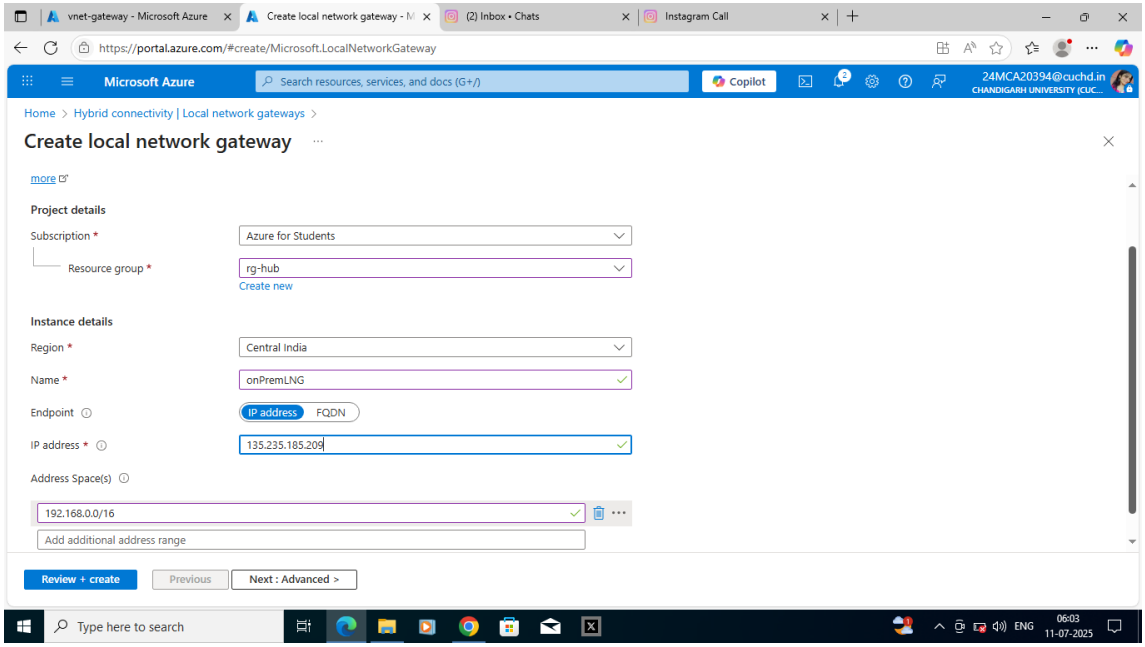
Resource Group: rg-hub

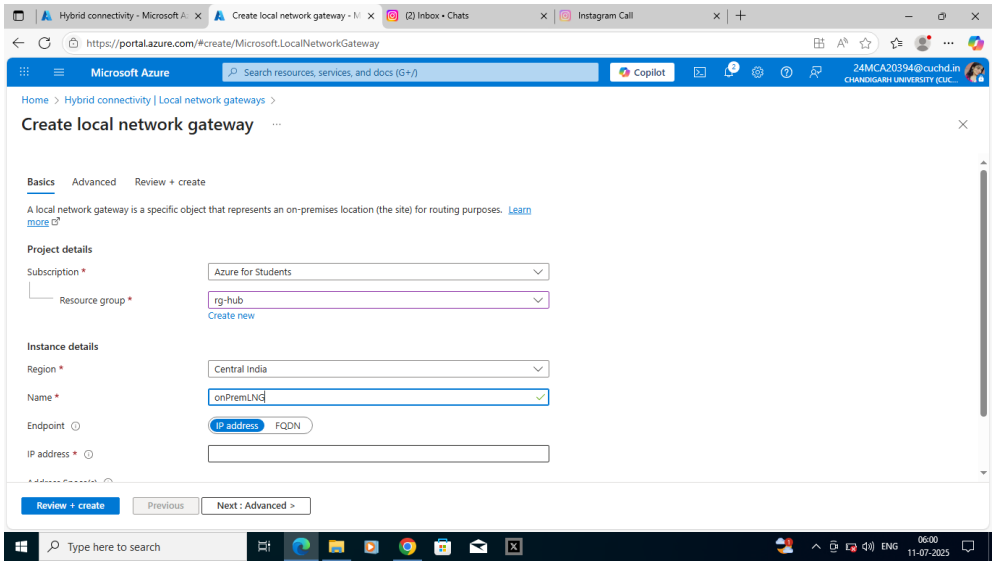
Name: lng-onprem

IP Address: *(Public IP of on-prem simulator or loopback)*

Address Space: as needed

Location: Same region

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Advanced
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Azure for Students
Resource group *
rg-hub
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Instance details
Region *
Central India
Name *
onPremLNG
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IP address
FQDN
IP address *
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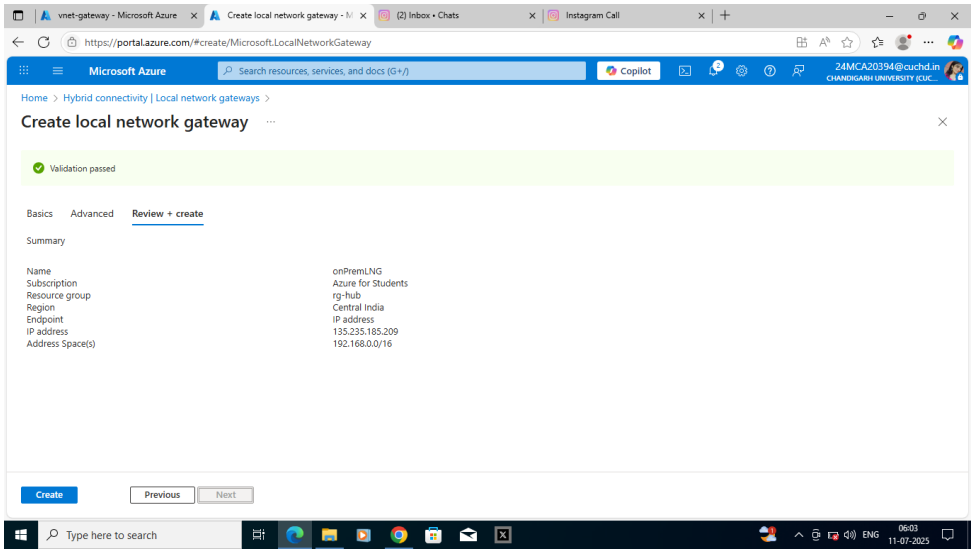
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https://portal.azure.com/#create/Microsoft.LocalNetworkGateway
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Summary
Name
onPremLNG
Subscription
Azure for Students
Resource group
rg-hub
Region
Central India
Endpoint
IP address
IP address
135.235.185.209
Address Space(s)
192.168.0.0/16
Create
Previous
Next
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