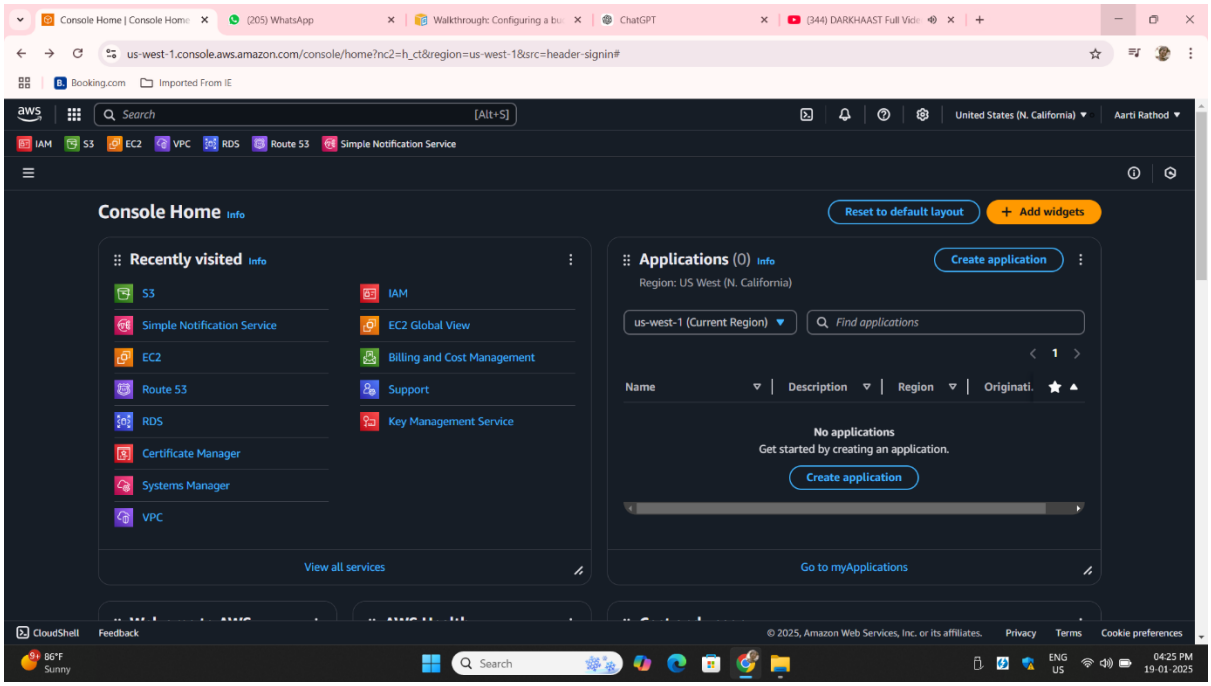
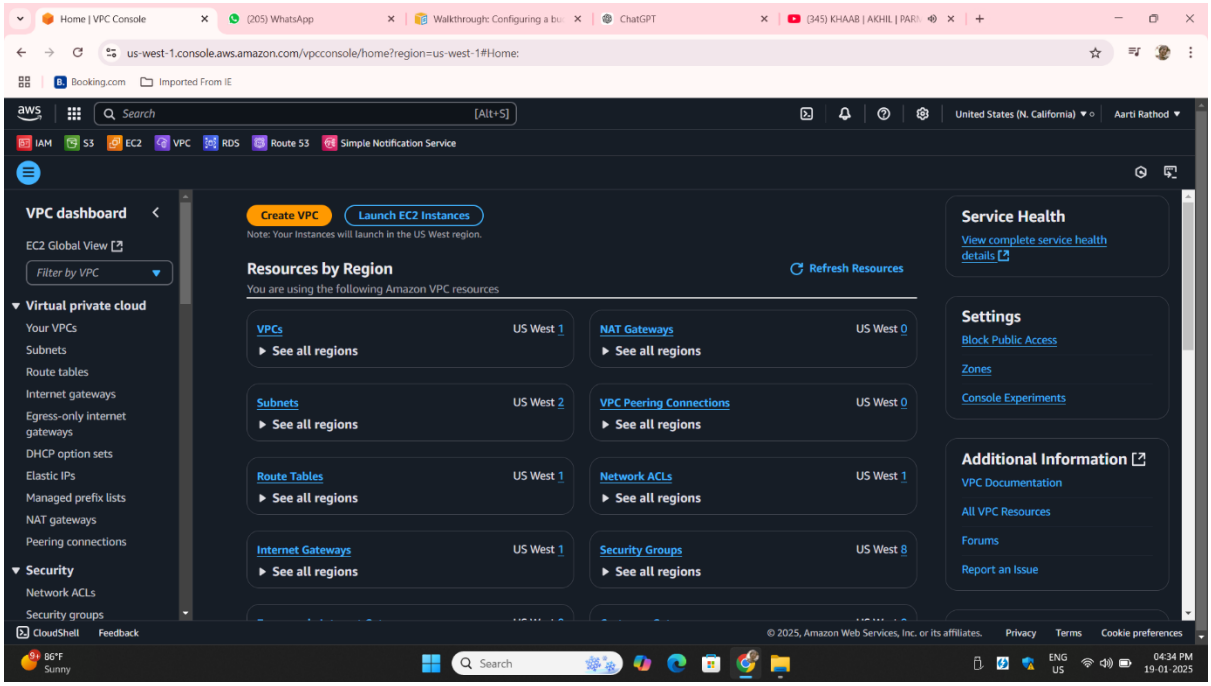
Steps for Setting Up VPC Peering and Instance Access via Jump Server

Step1: Log In to AWS Console:

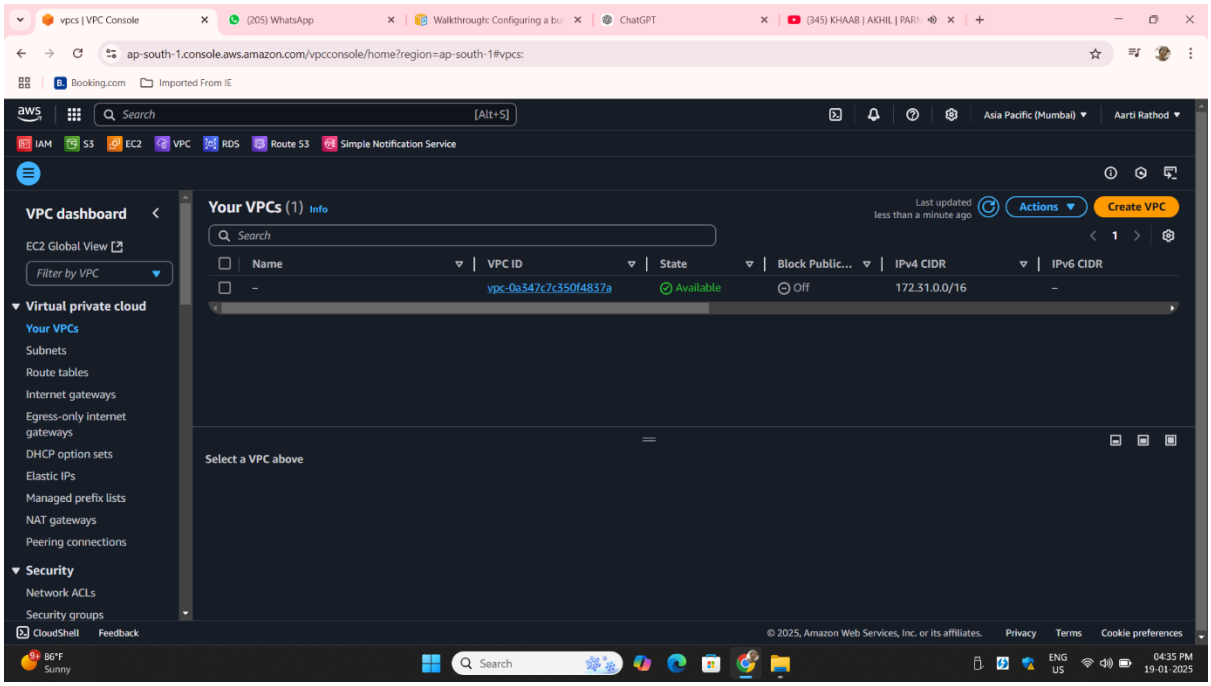
Open your web browser and navigate to the [AWS Management Console](#).



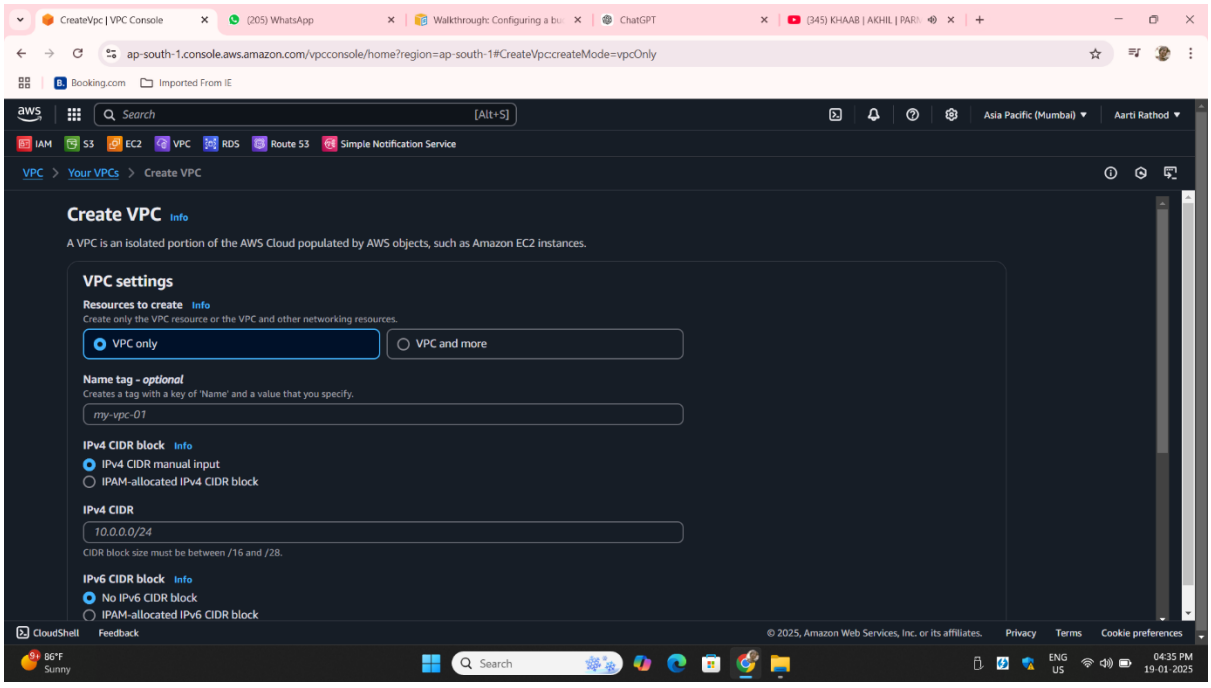
Step2: Mumbai Region Setup: Select the VPC Service:From the search results, click on VPC (Virtual Private Cloud).



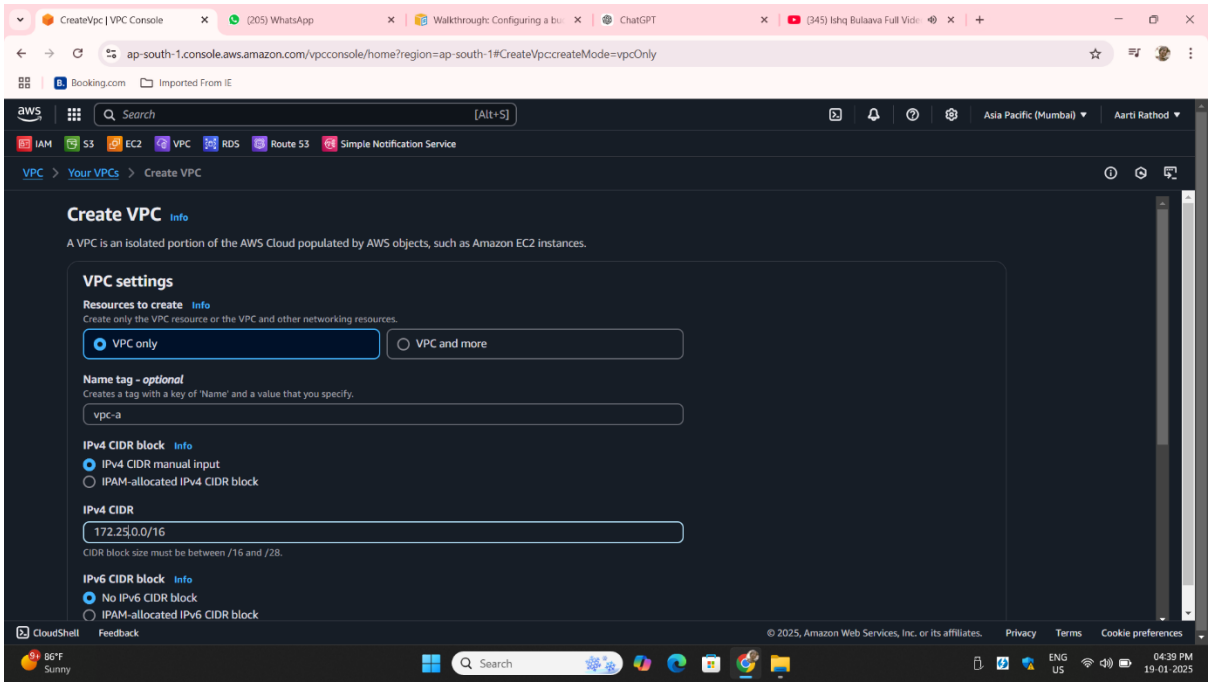
Step3 : Go to your VPC click on create VPC



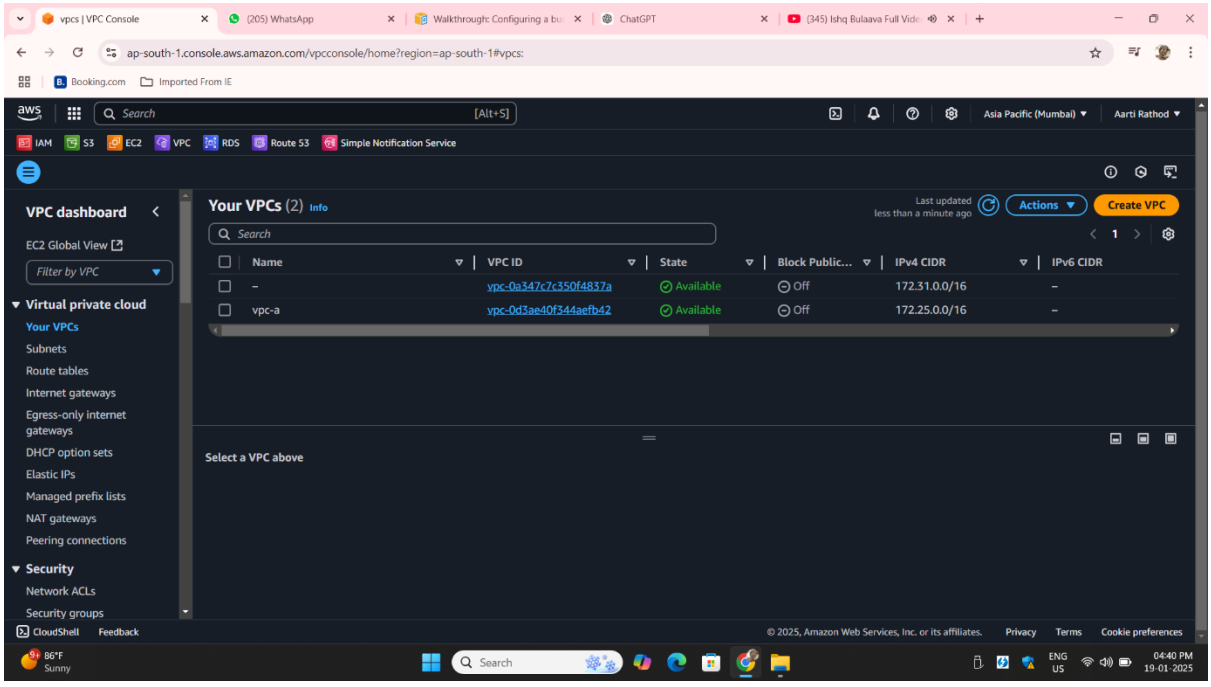
Step5: Select VPC only or VPC and more based on your needs. For simplicity, choose VPC only.



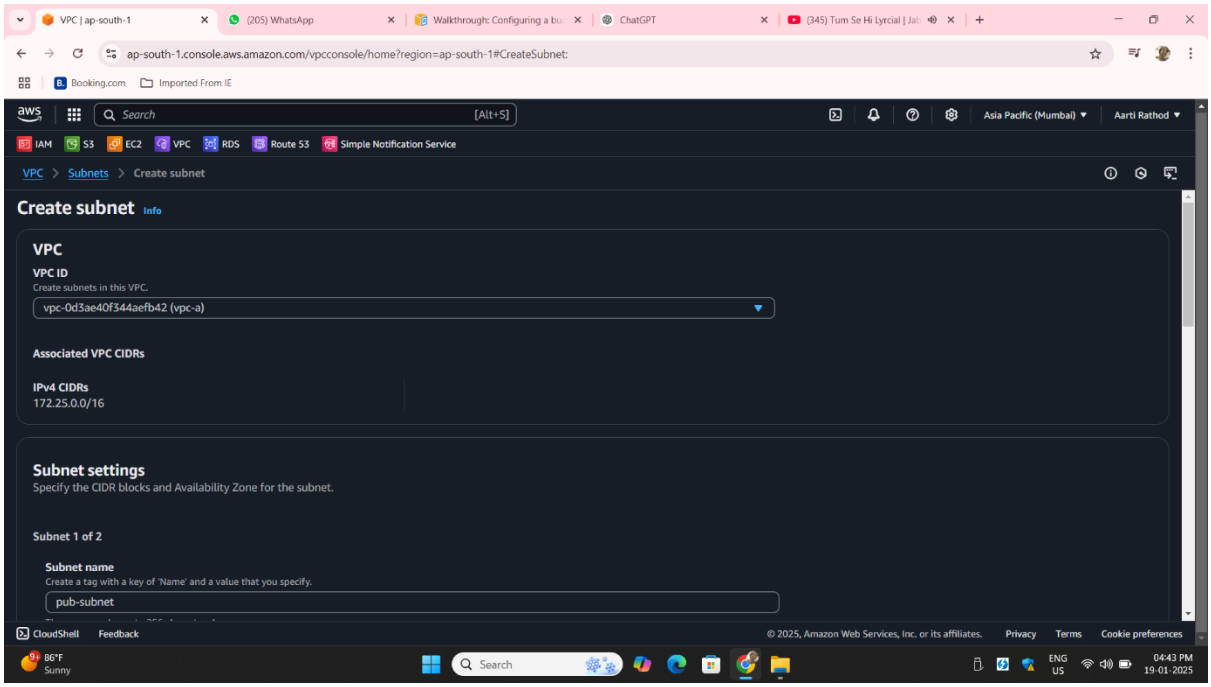
Step6: Name tag: Enter a name for your VPC vpc a
IPv4 CIDR block: Define the CIDR range for your VPC 172.25.0.0/16 Click on create VPC



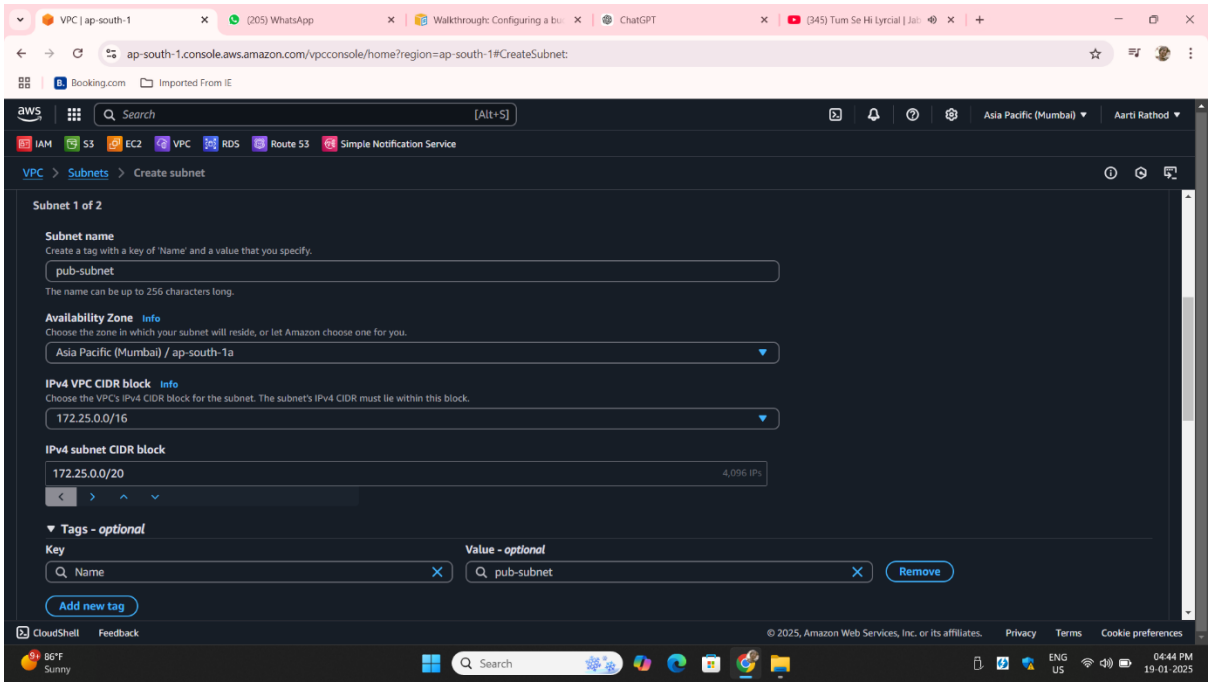
Step7: Here your vpc is created



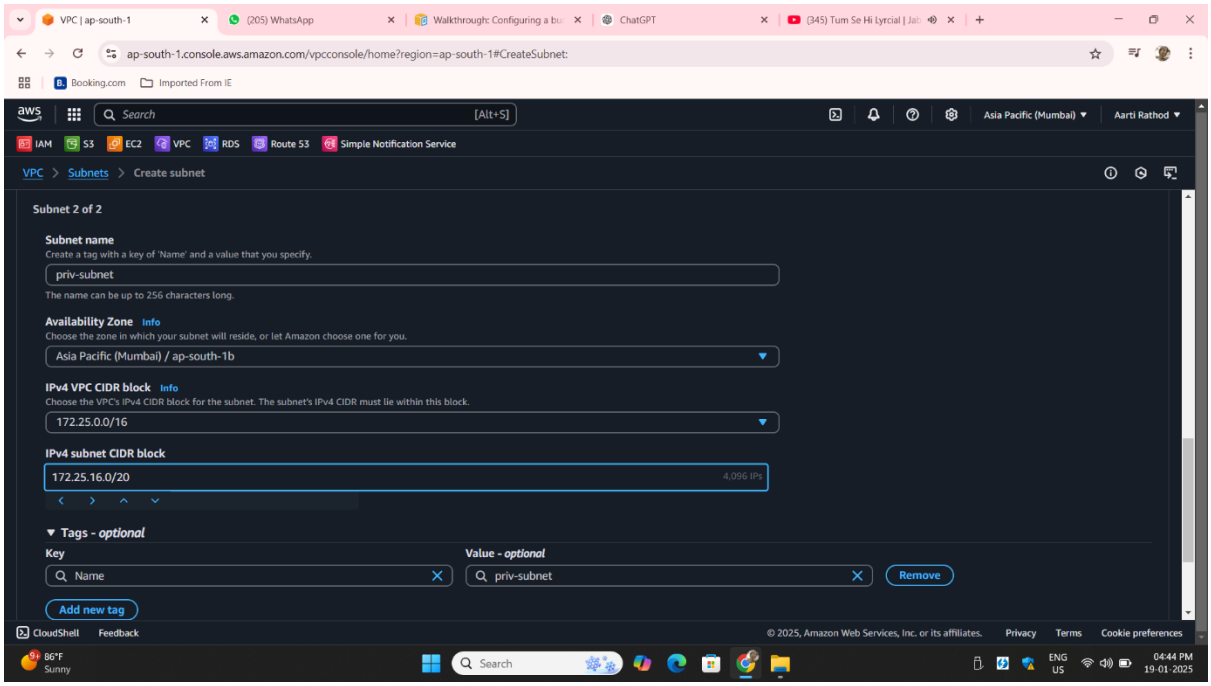
Step 8:Create Subnets:Public and private subnets within the VPC.Select the VPC you want to create the subnet in give a subnet name pub-subnet.



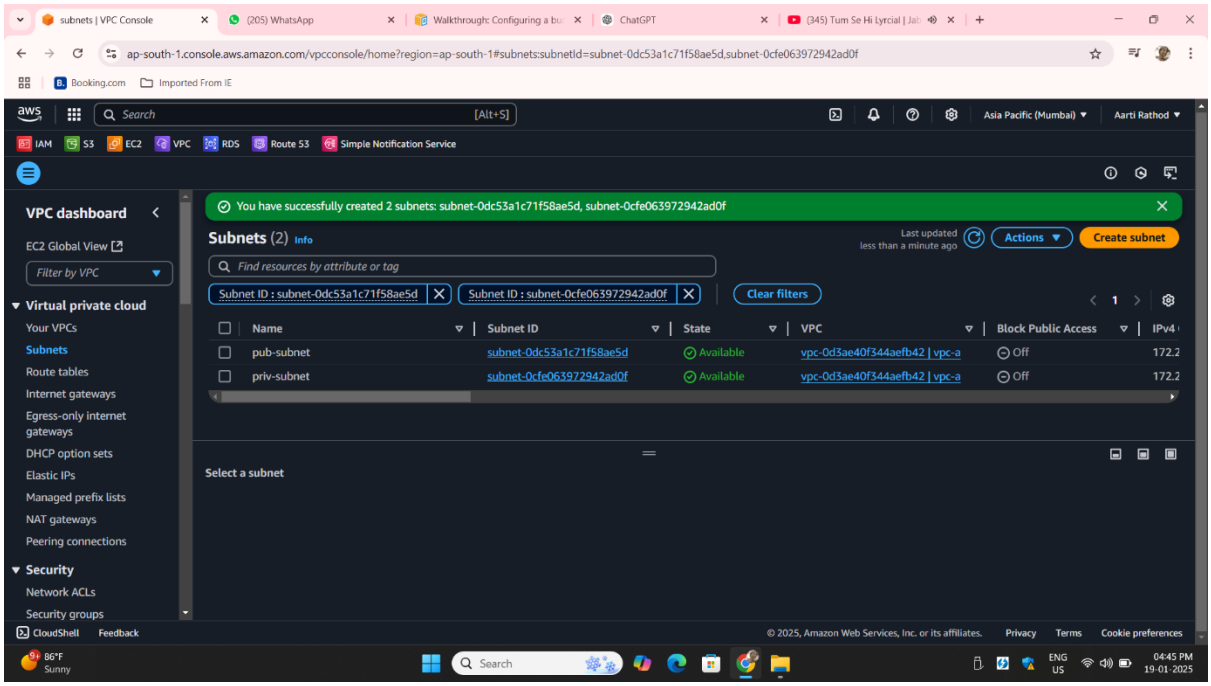
Step 9 : Availability Zone: Choose an availability zone ap-south-1a IPv4 CIDR block: Assign a CIDR block for the subnet 172.25.0.0/20



Step10: give a second subnet name priv-subnet Availability Zone: Choose an availability zone ap-south-1b IPv4 CIDR block: Assign a CIDR block for the subnet 172.25.16.0/20

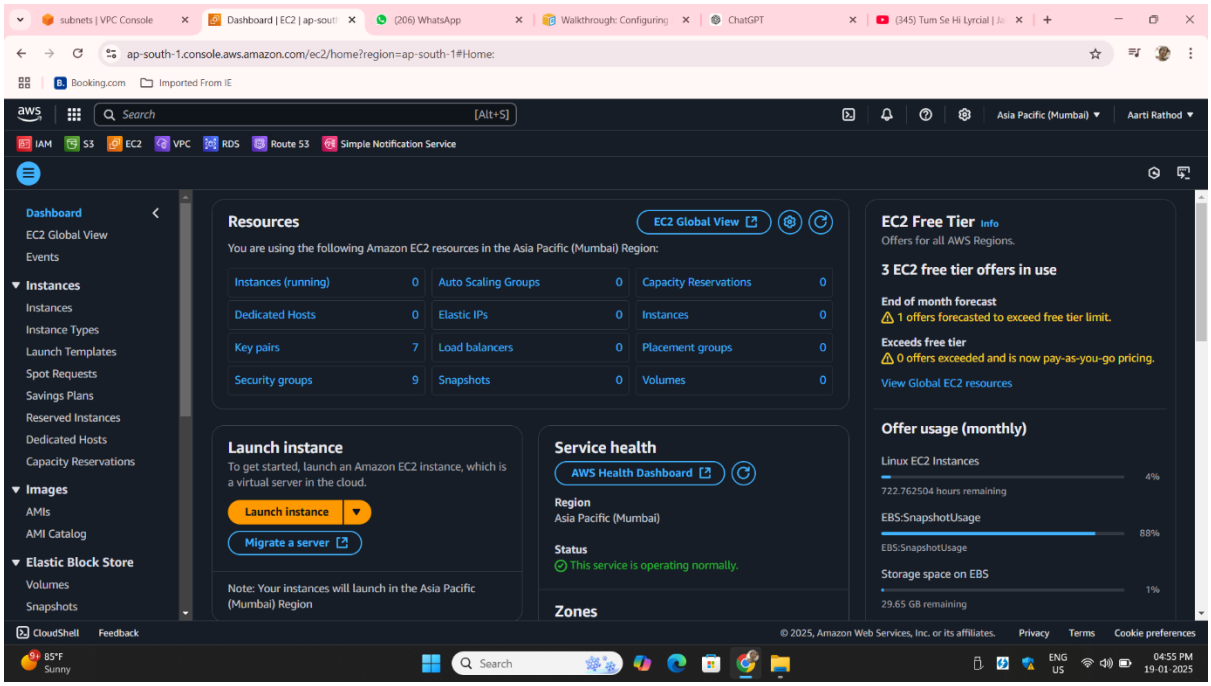


Step10 : Here your two subnet is created public and private

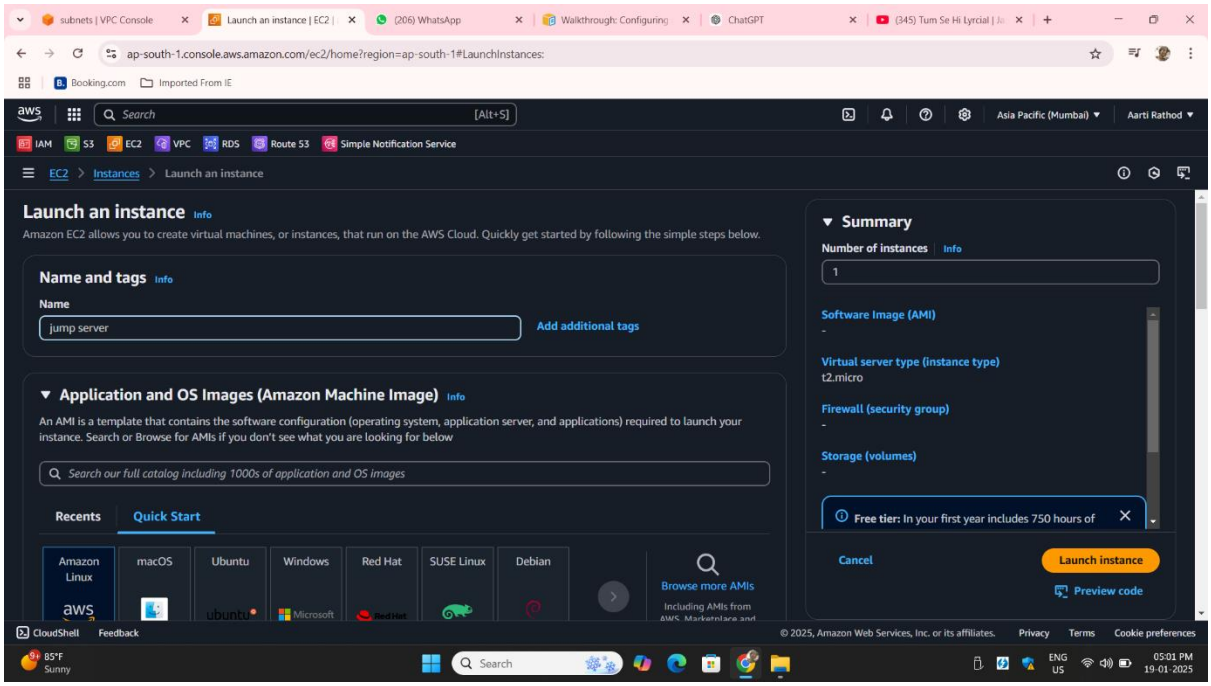


Step 11: Go to EC2 Dashboard in the AWS Management Console.

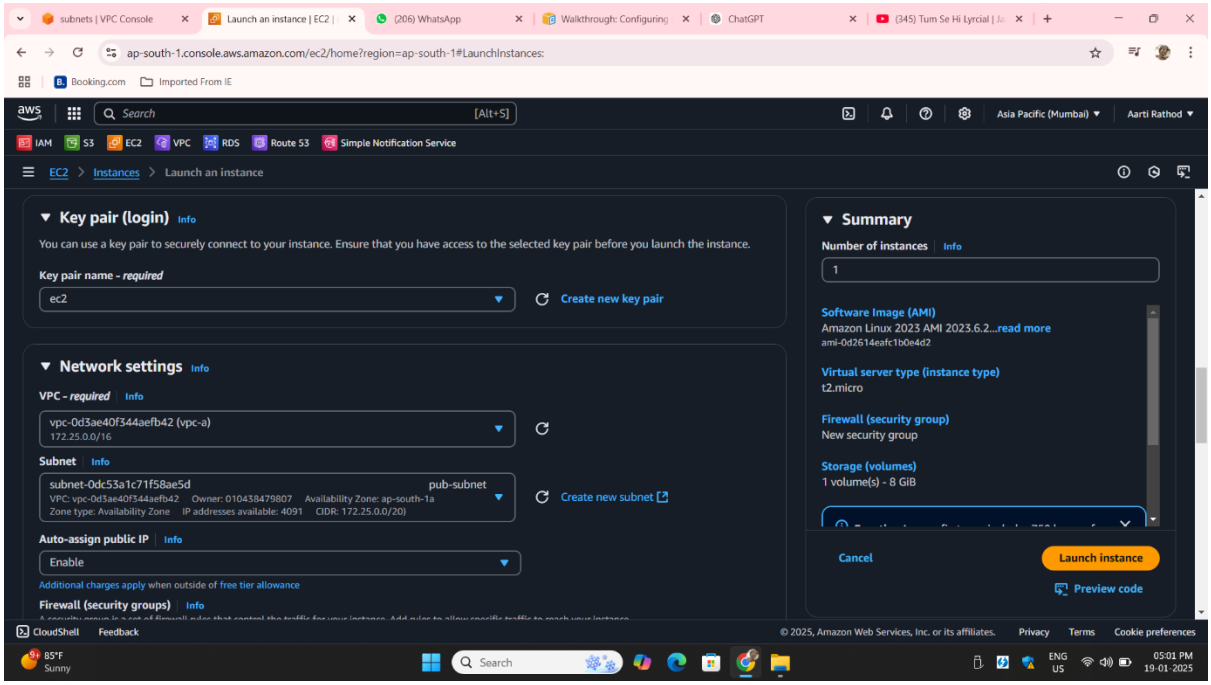
Click on Launch Instance



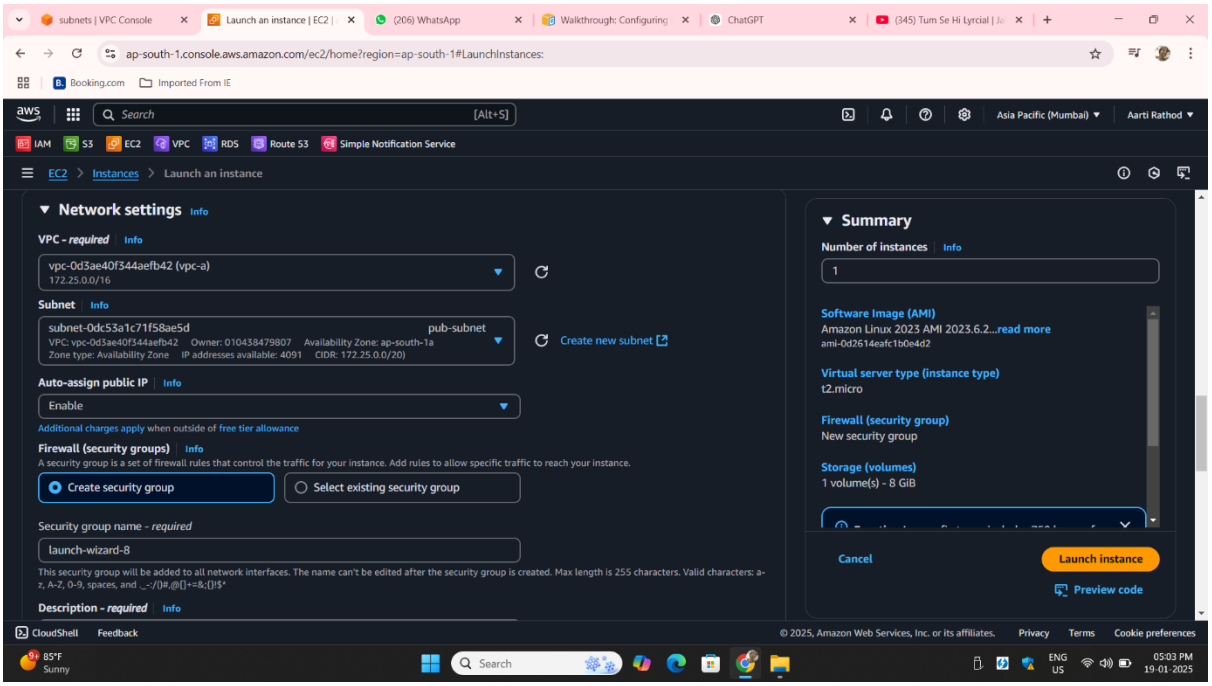
Give a name jump server(public instance)



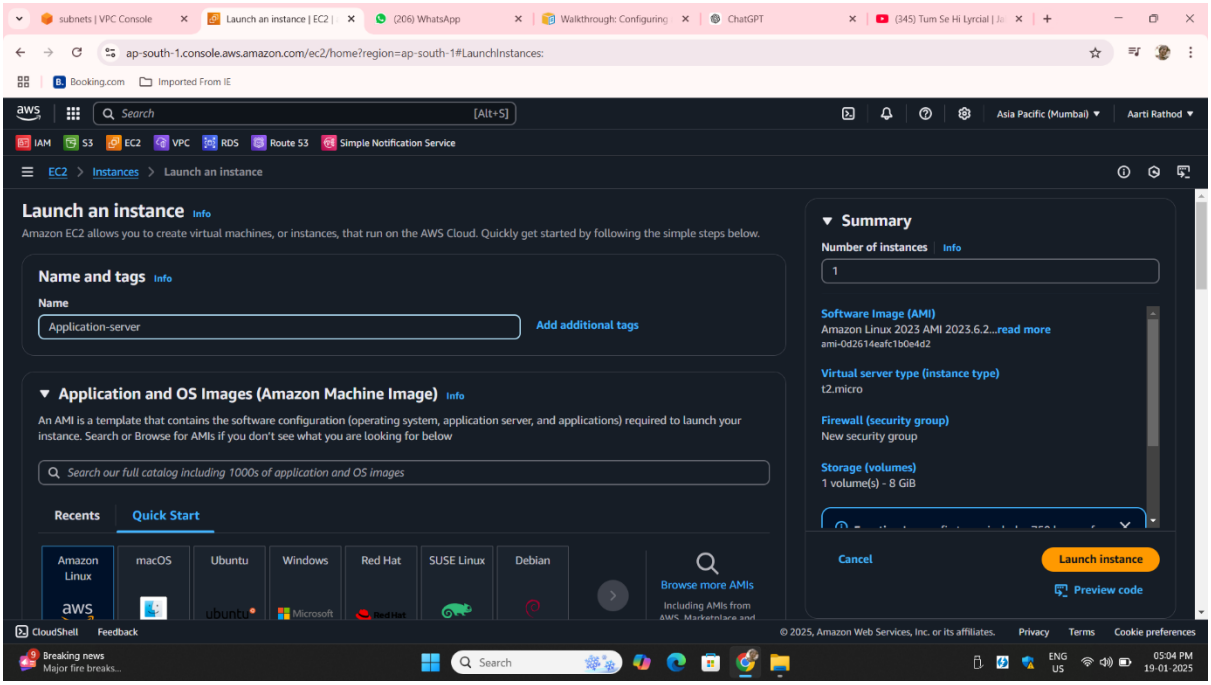
Step: Select key pair go to network setting select your vpc public subnet then enable auto assing ipcreta



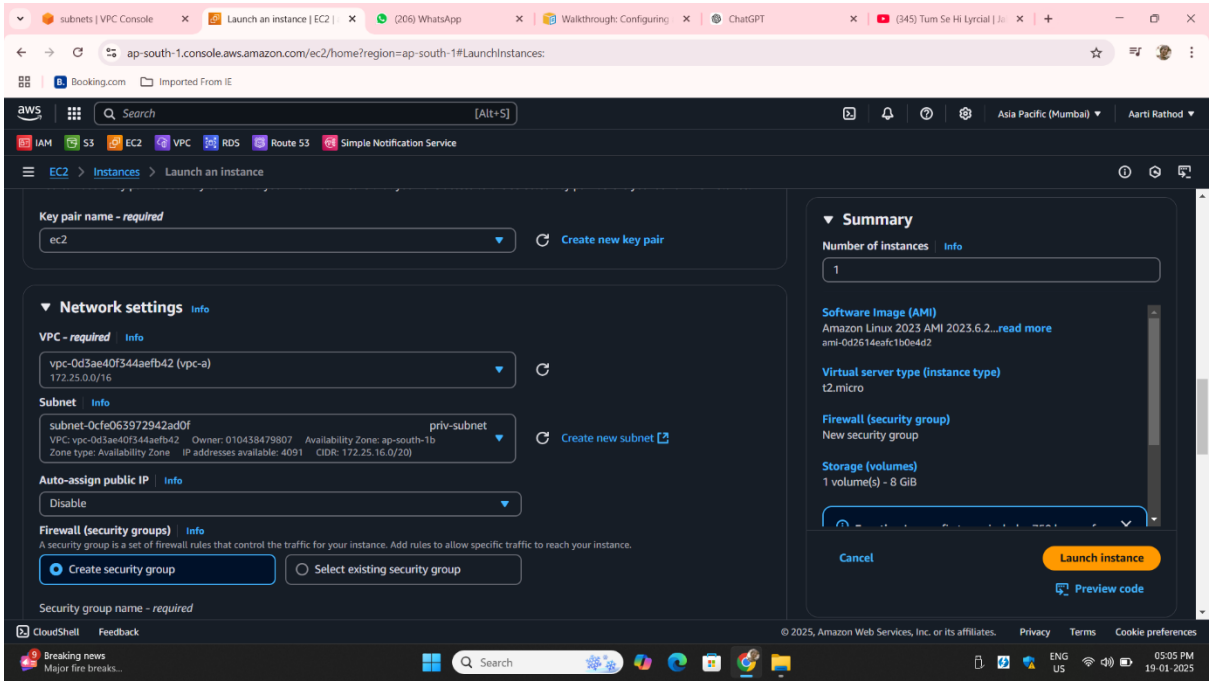
Create security group and click on Launch Instance



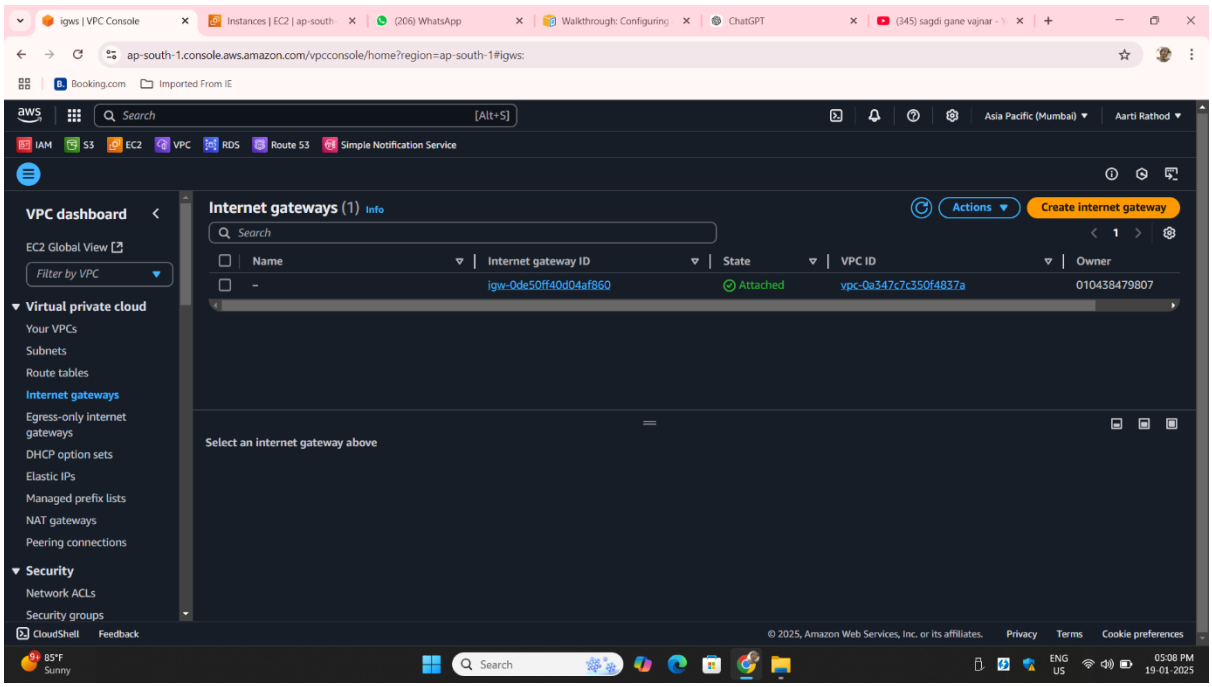
Create another instace gove a name application server (private instace)



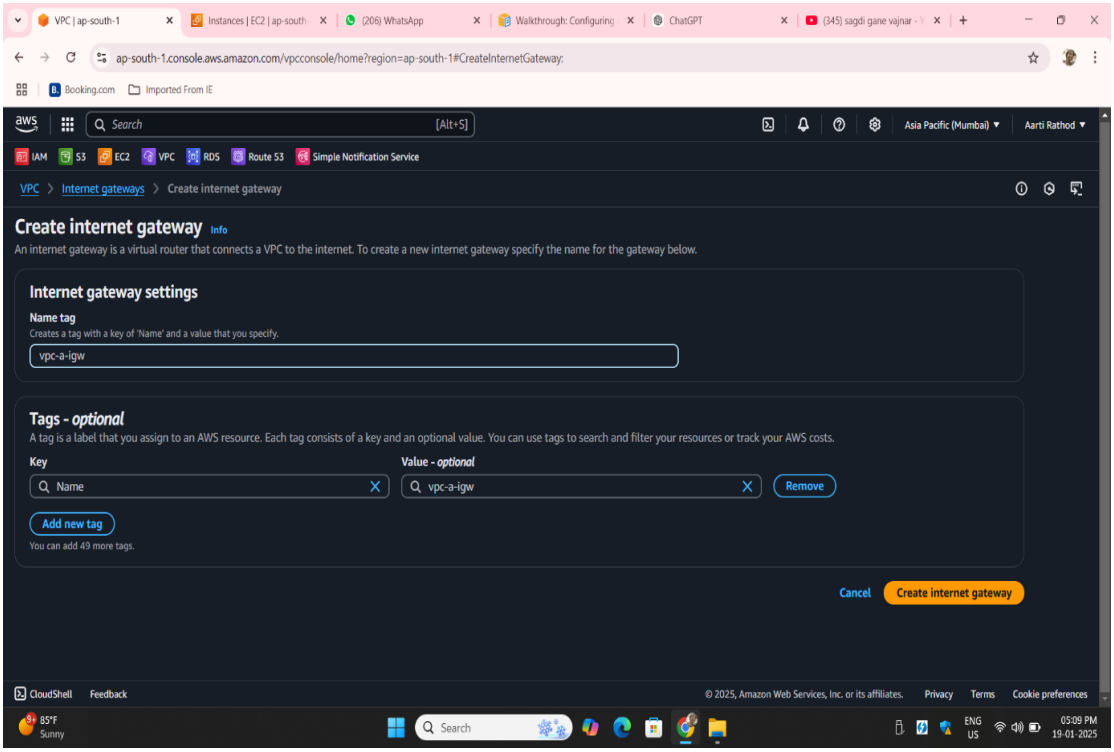
Select key pair go to network settings edit select vpc private subnet create security group and click on launch instance



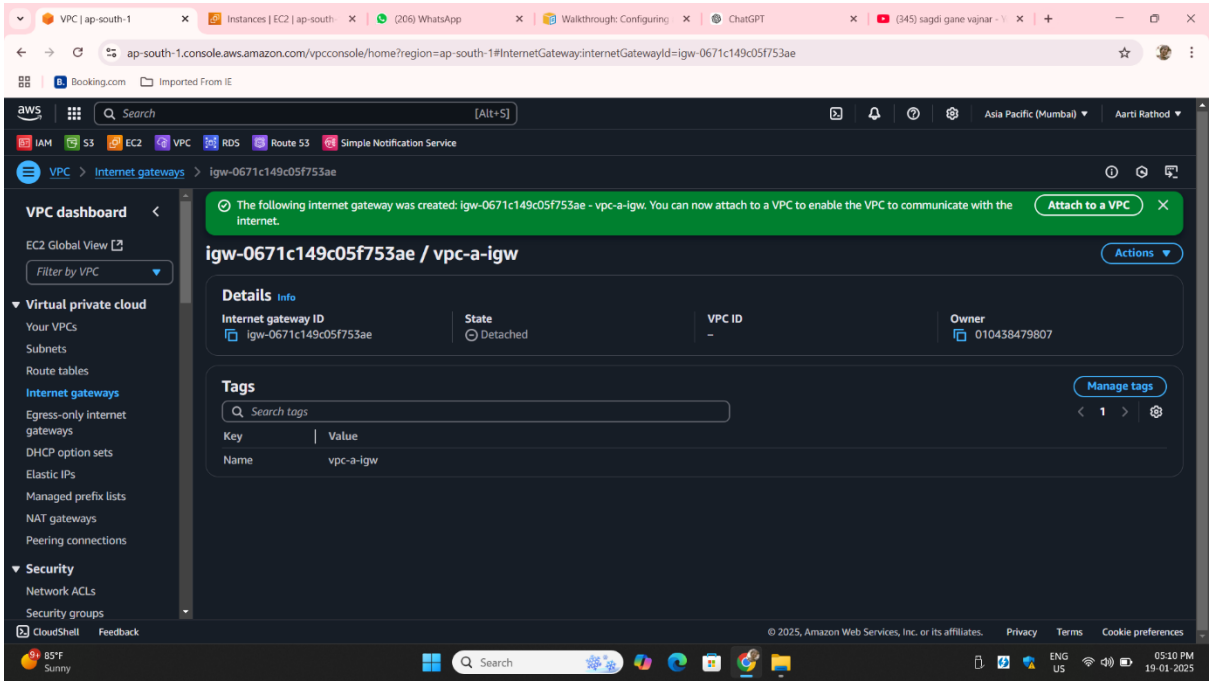
Go to vpc In the left-hand menu, click on Internet Gateways.Click the Create Internet Gateway button.



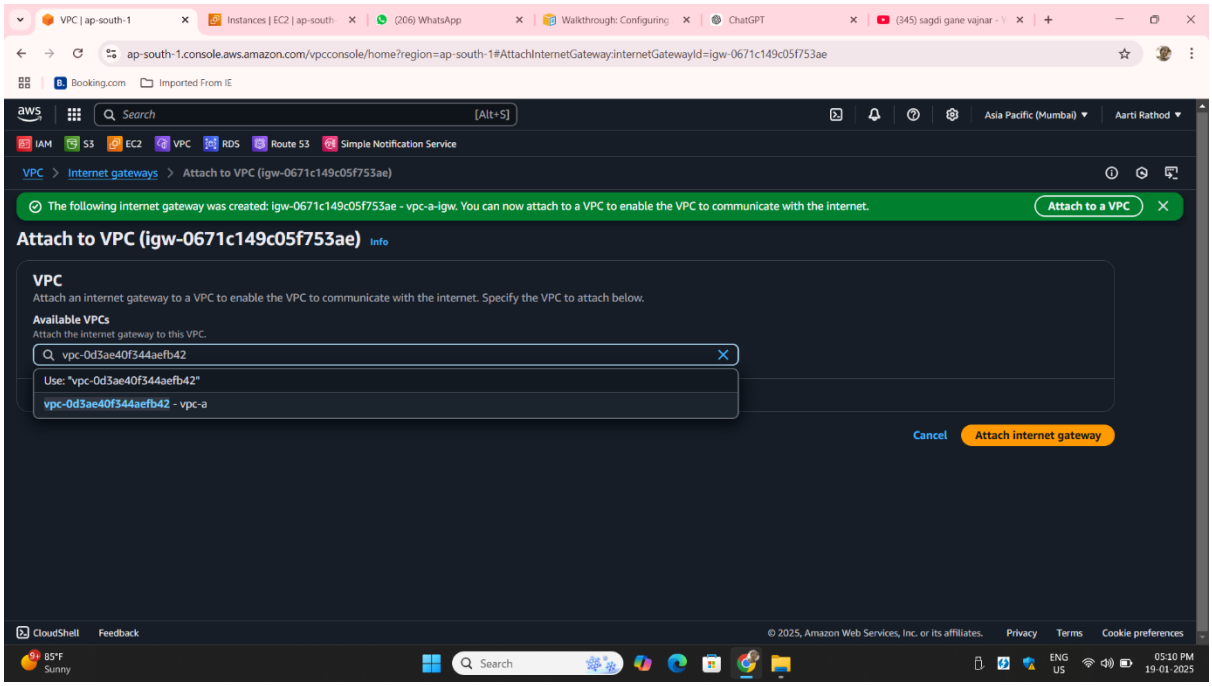
Step 14: Provide a Name tag vpc-a-igw Click Create Internet Gateway.



Step 15: Attach the Internet Gateway to a VPCOnce the IGW is created, click the Actions dropdown next to the IGW.Select Attach to VPC.

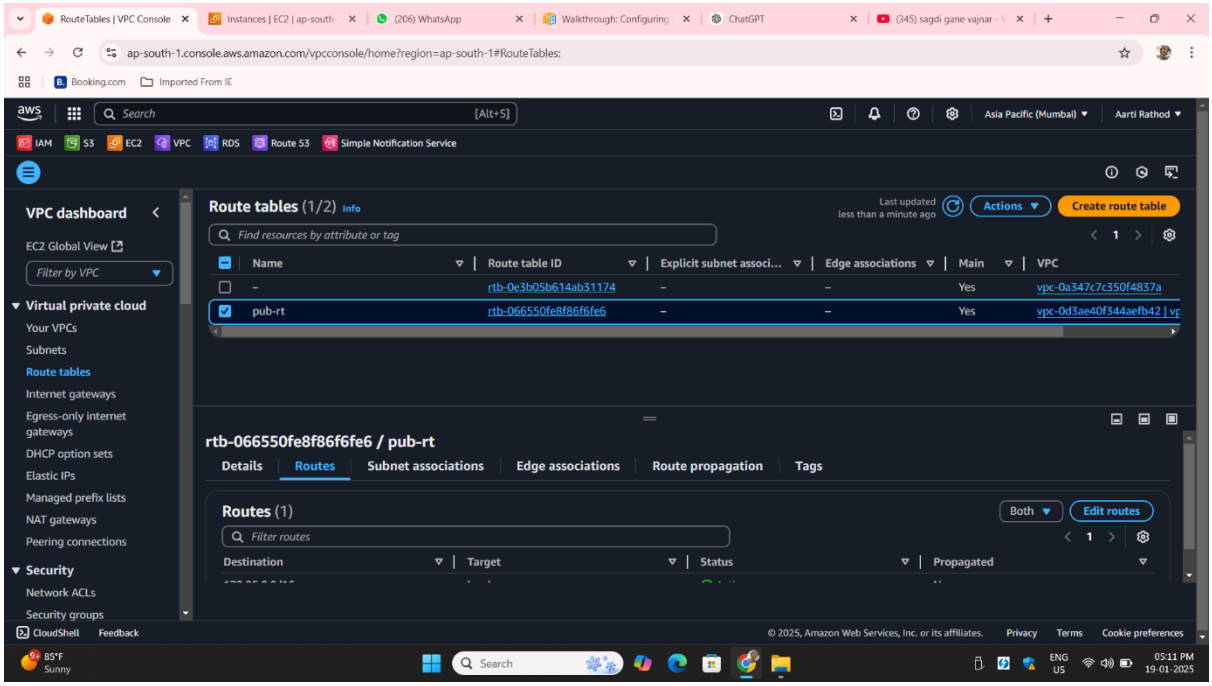


Step 16: Choose the VPC you want to attach the IGW to. Click Attach Internet Gateway.Go to the Route Tables section in the VPC Dashboard.

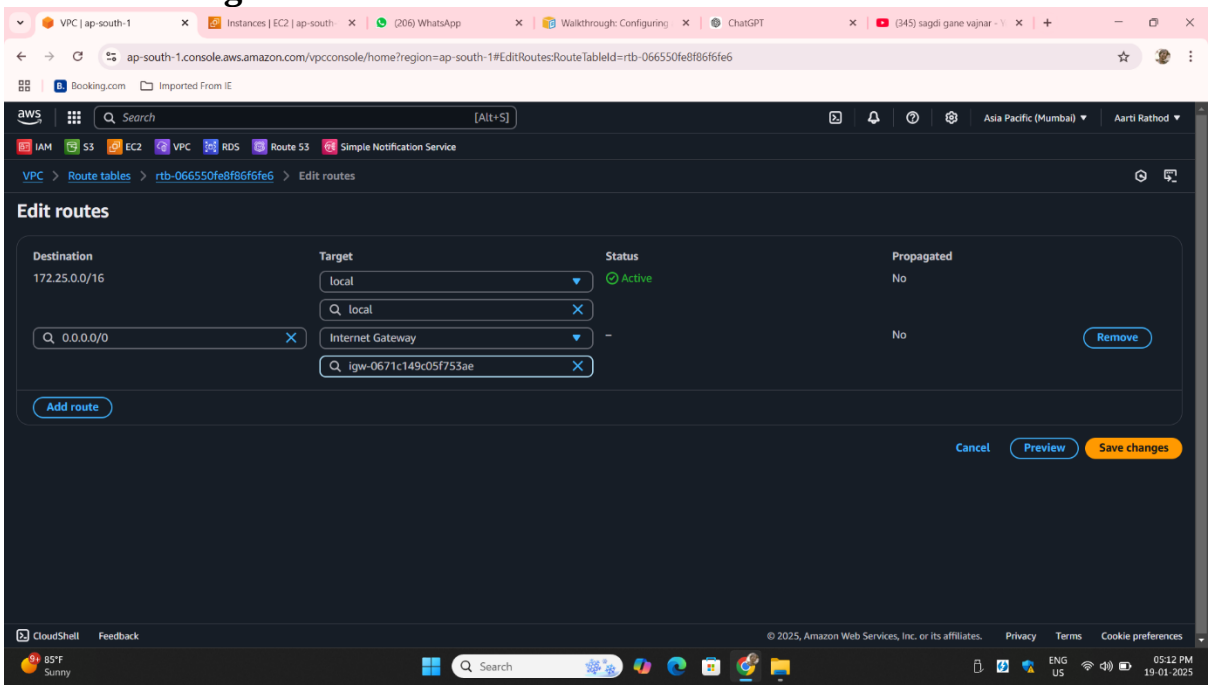


By

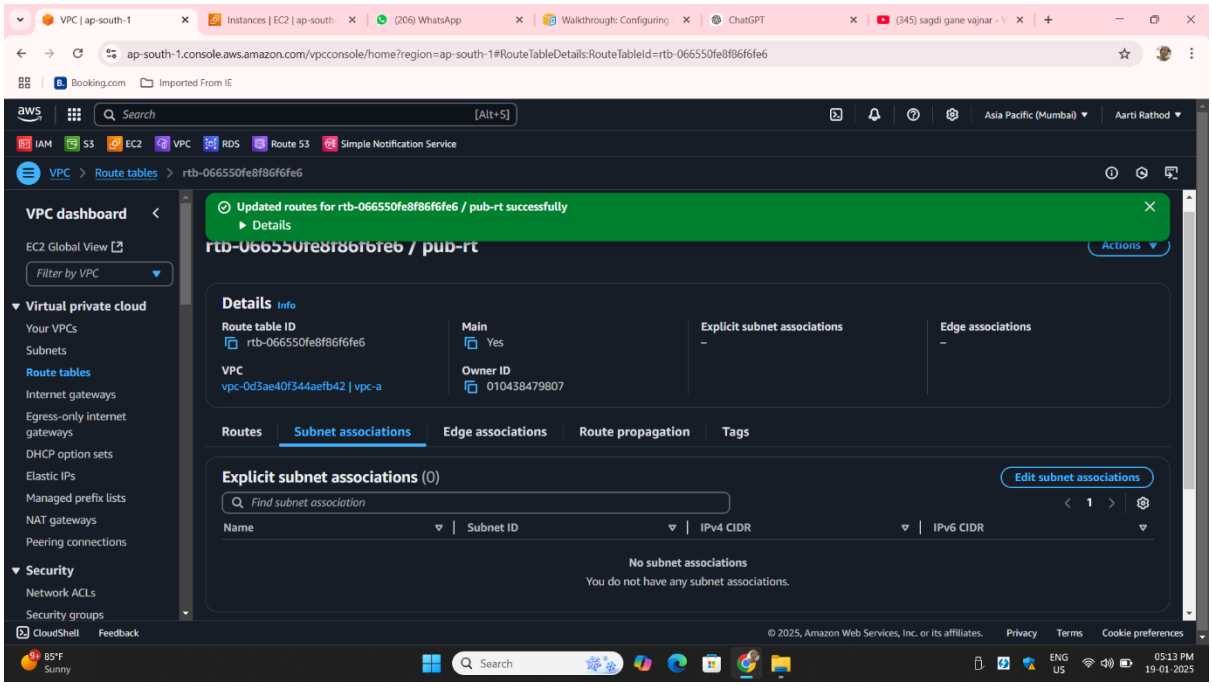
default one route table is created giva a name pub-rt. Select the route table and go to route.



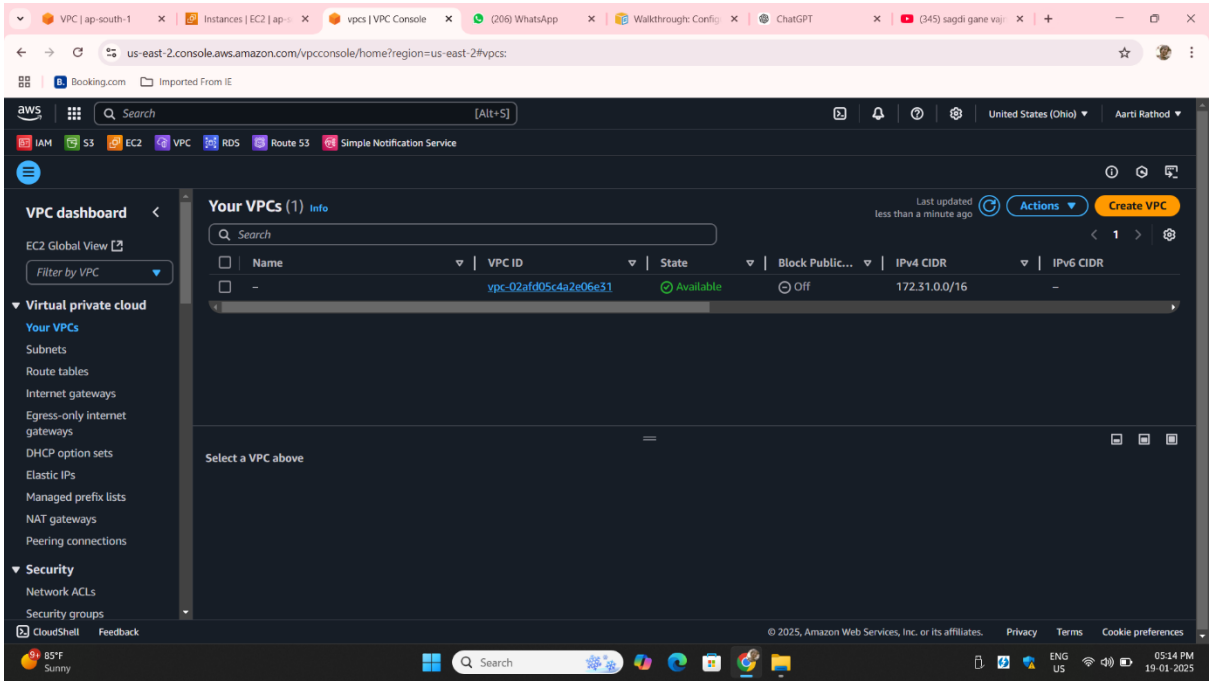
Add a new route Destination: 0.0.0.0/0Target: Select the Internet Gateway Save the changes.



After that go to subnet association edit subnet association select public subnet and save changes.

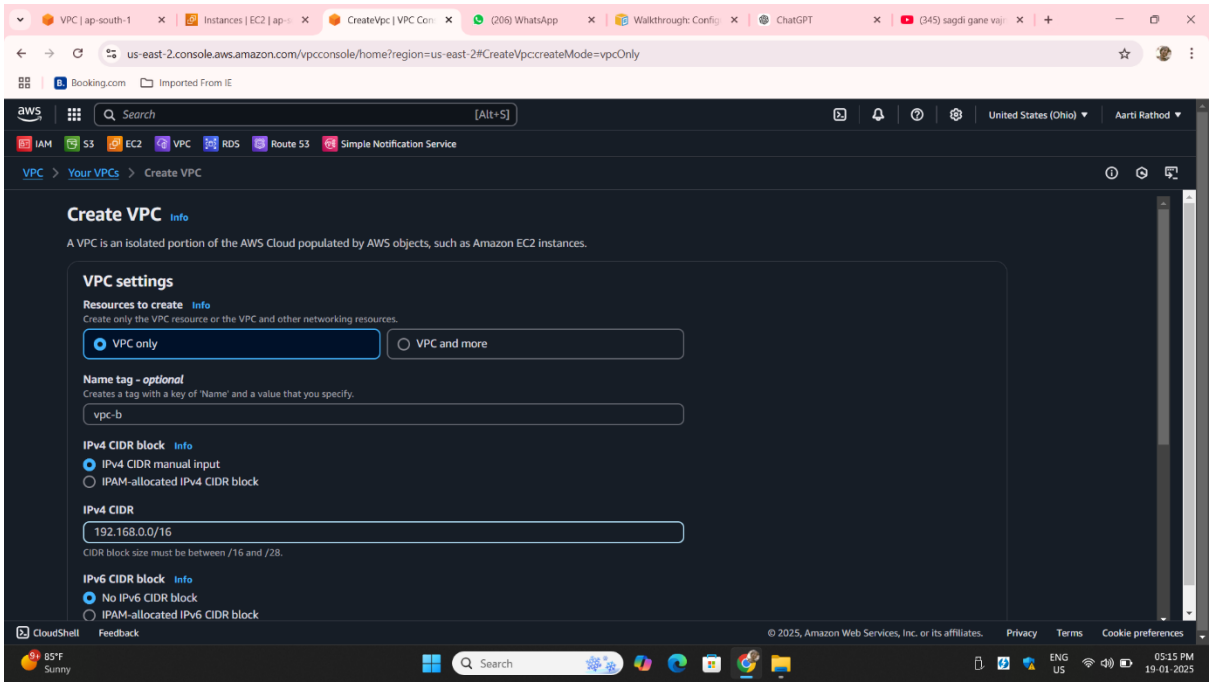


Ohio Region Setup: Select the VPC Service:

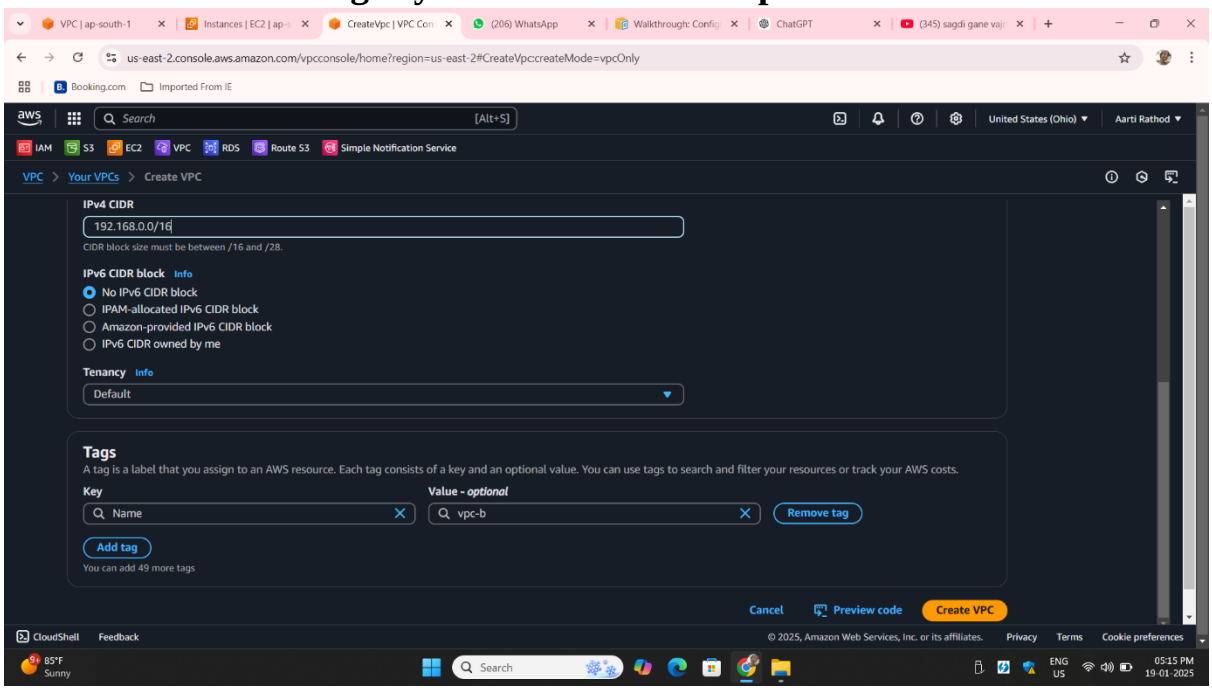


Click on create vpc

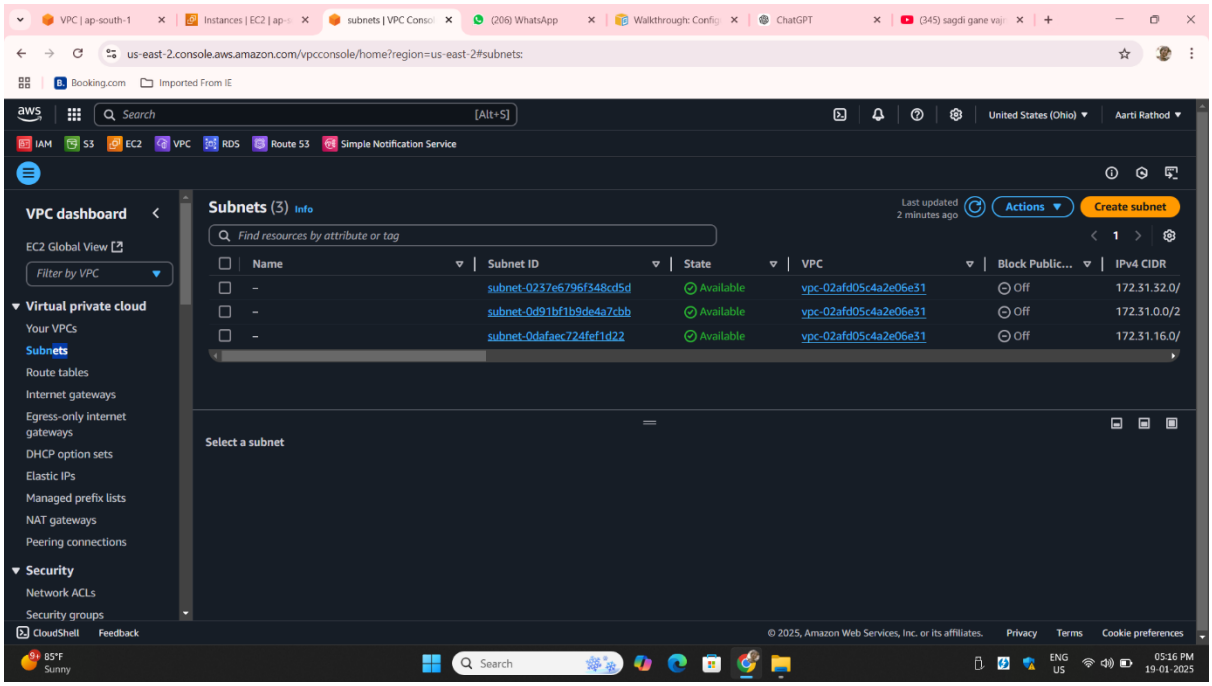
Select VPC only or VPC and more based on your needs. For simplicity,



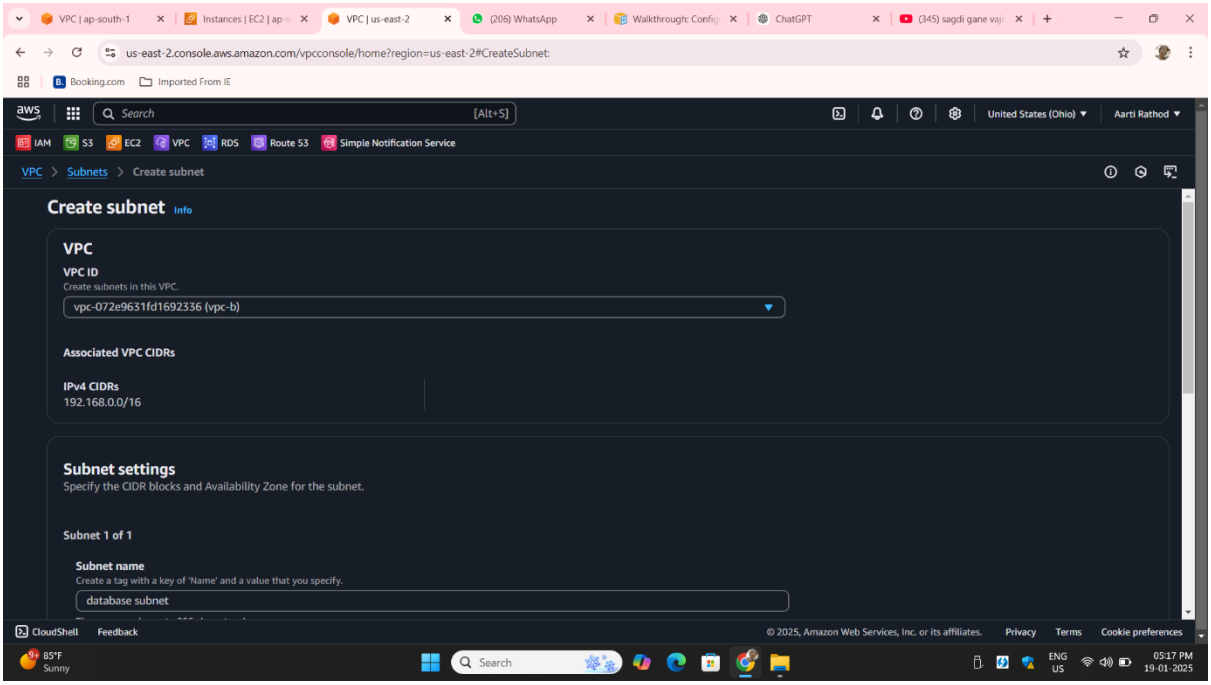
choose VPC only. Give a name tag vpc-b give a CIDR range 192.168.0.0/16 Leave the other settings by default and create vpc.



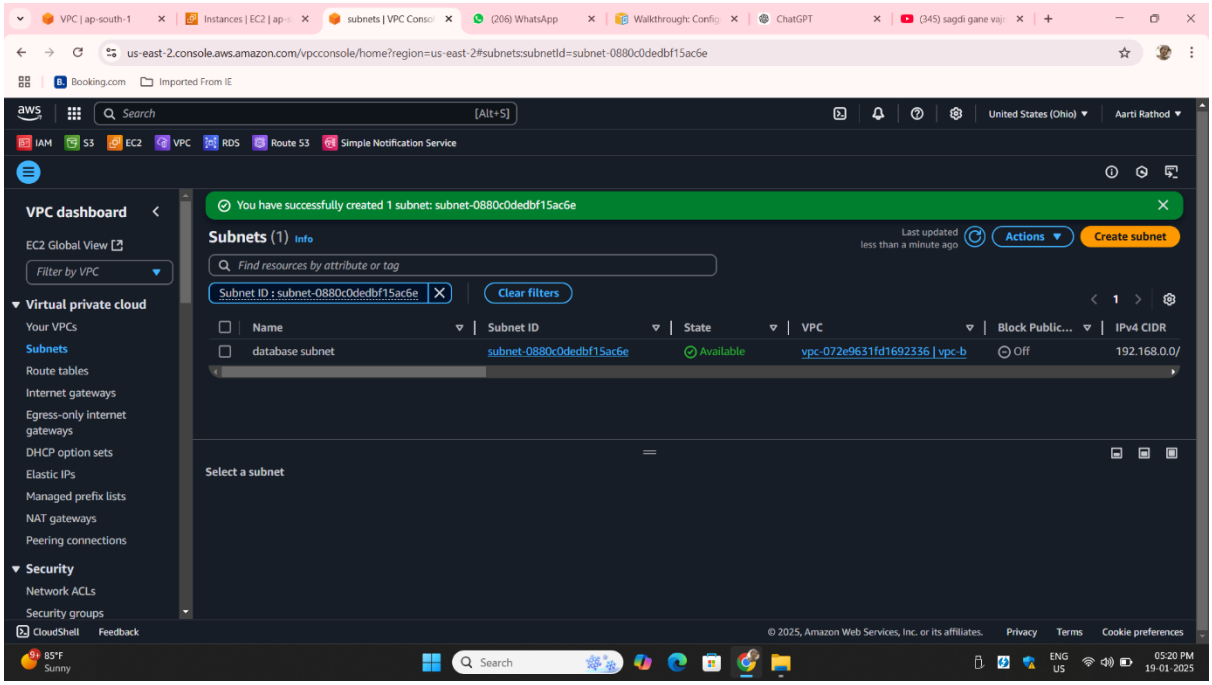
Go to subnet click on create subnet



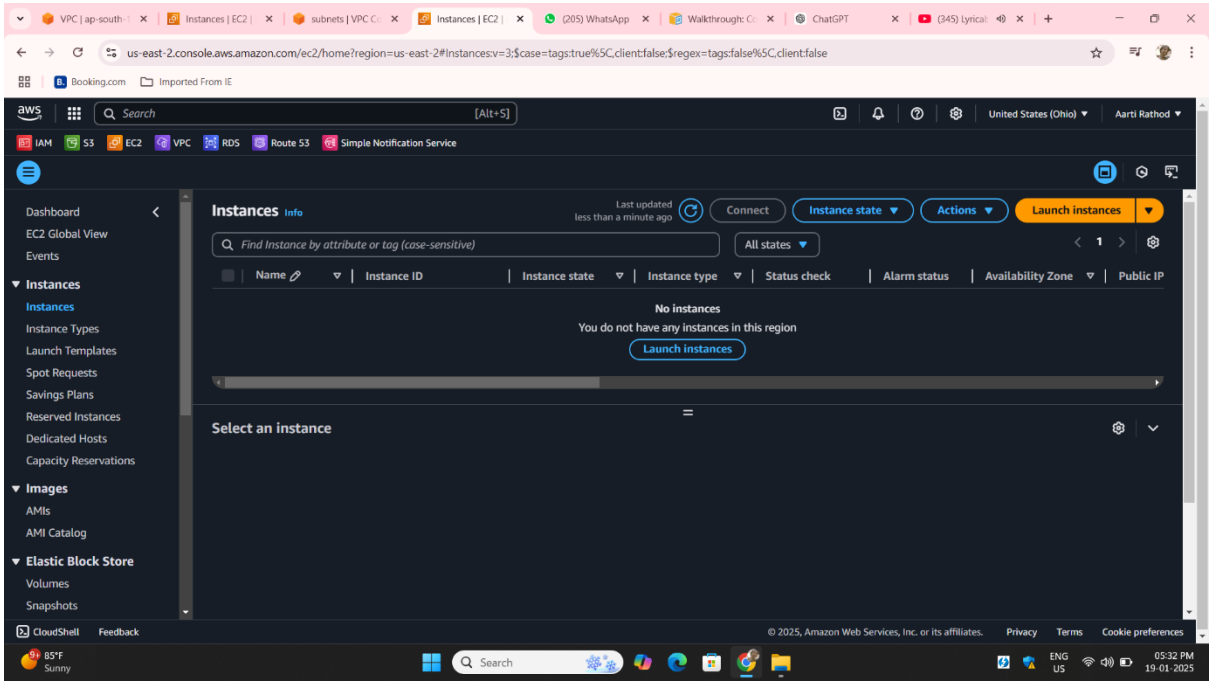
Select your vpc give a name to your vpc database subnet give the CIDR range 192.168.0.0/20



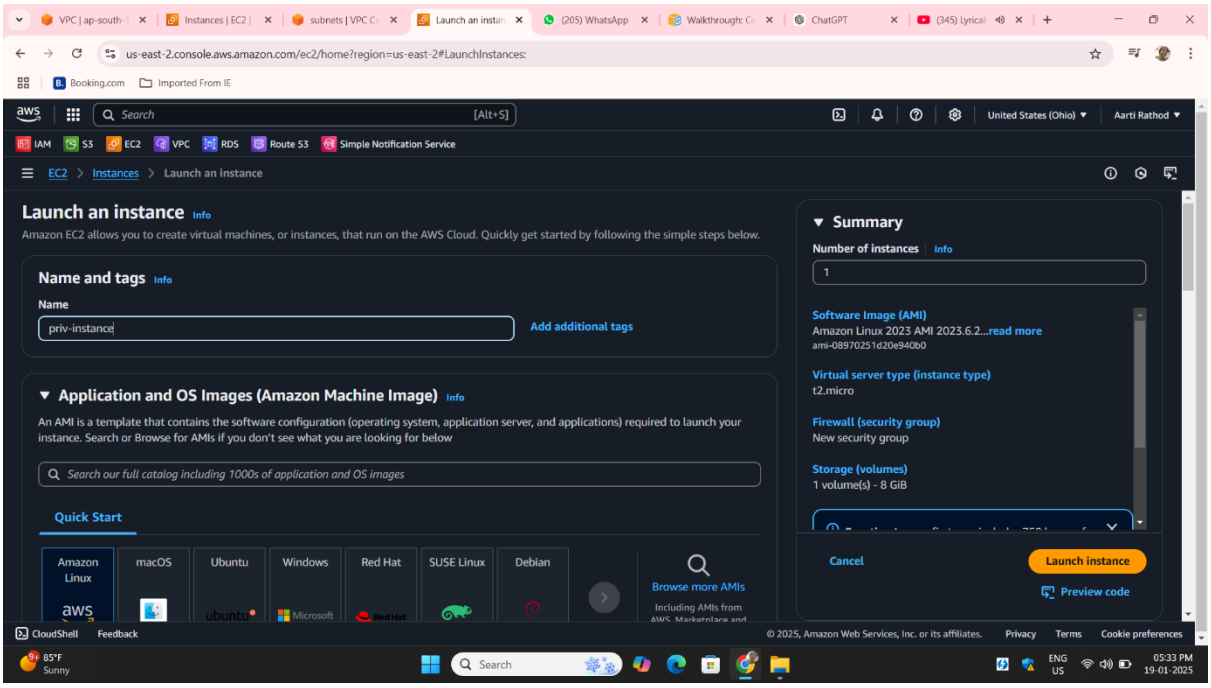
Here your subnet is created



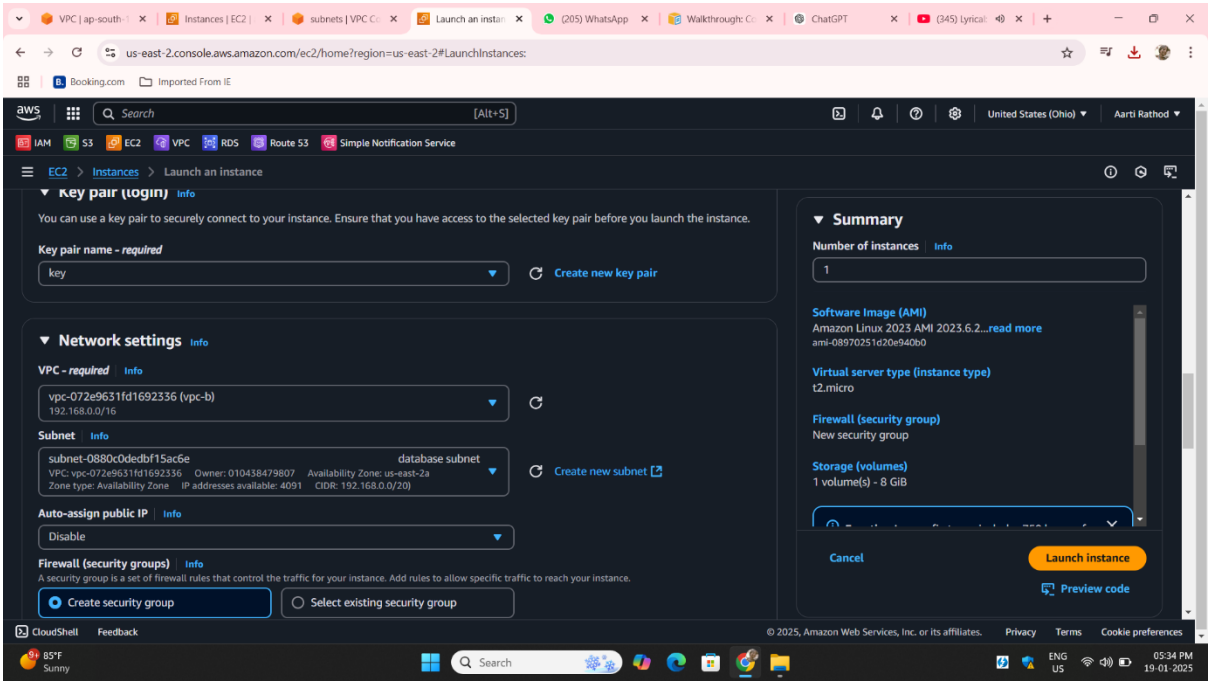
Go to ohio ec2 service click on launch instance



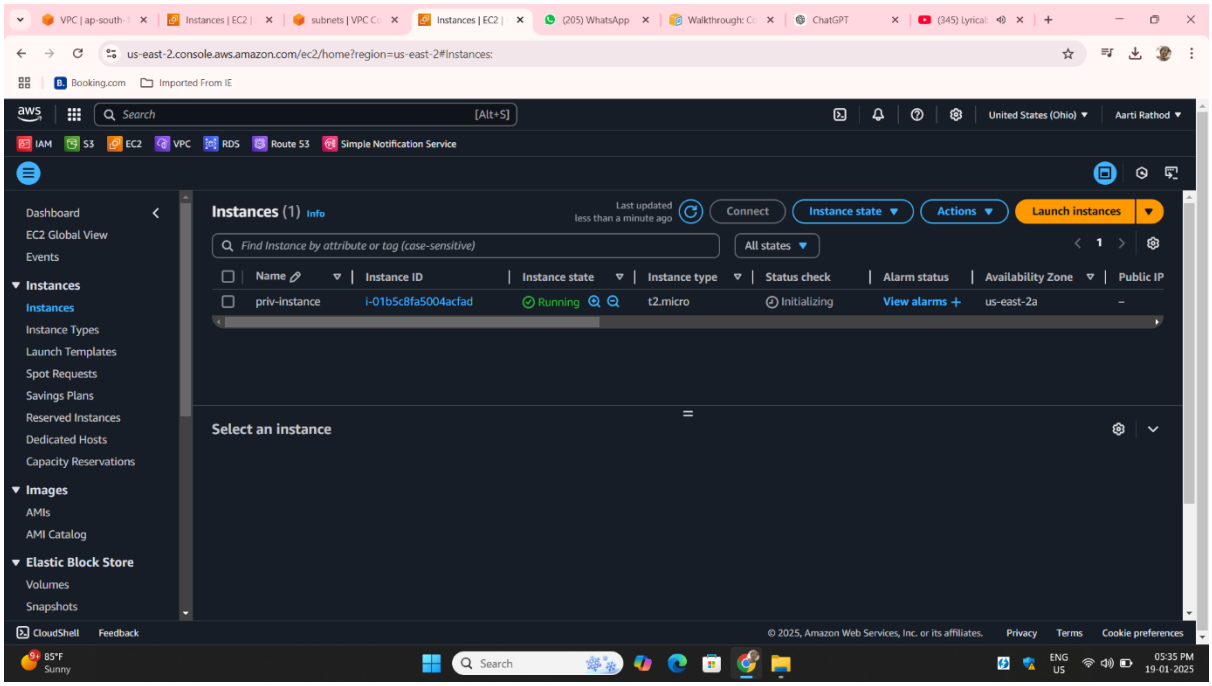
Give a instance name priv-instance



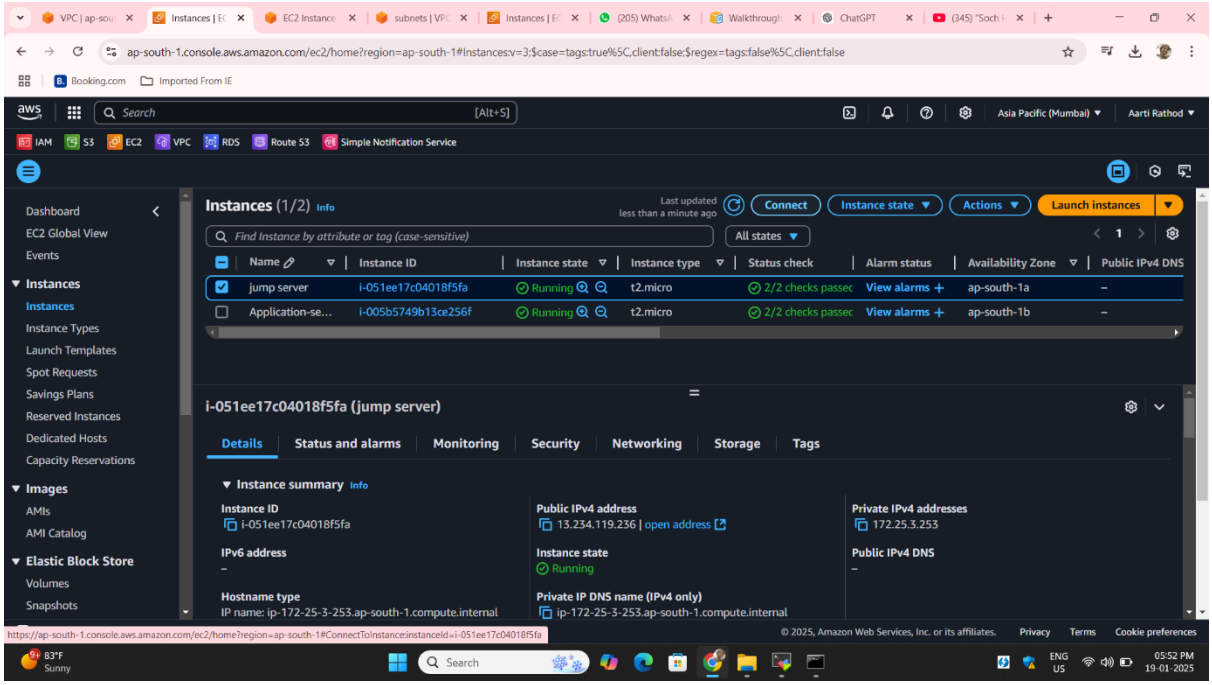
Create new key pair and go to network setting edit select vpc ,subnet leave other settings by default and click on launch instance



Here your instance is created



Go to Mumbai region



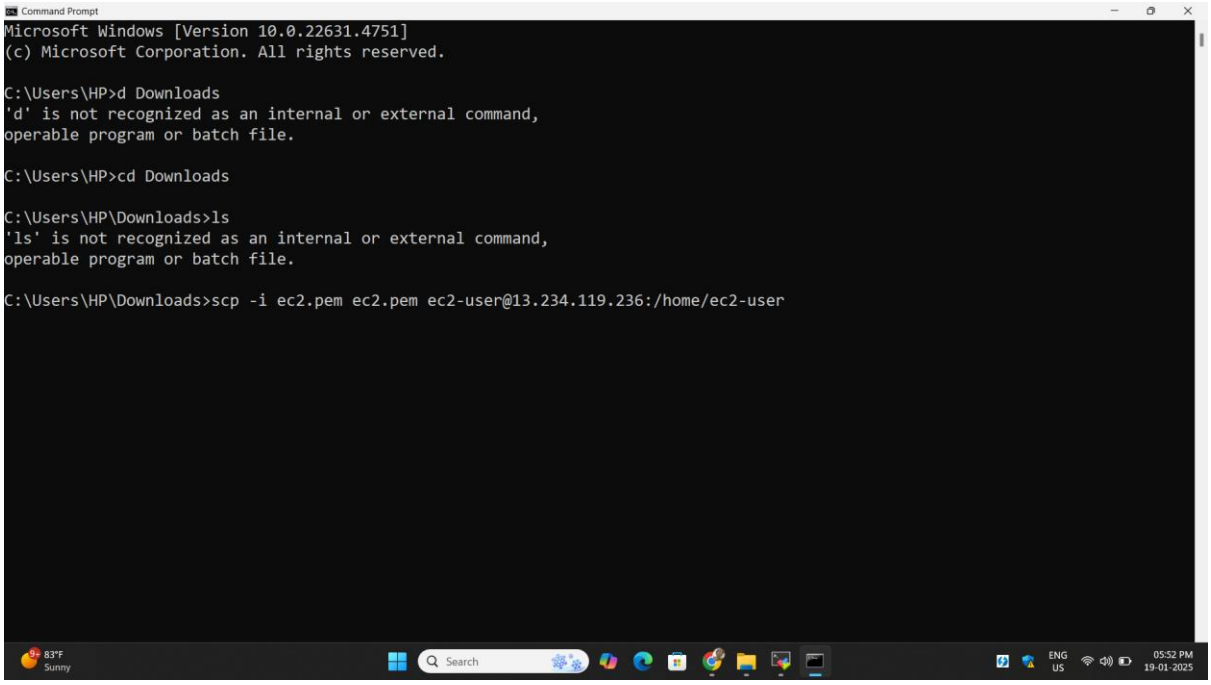
Now we will transfer the key file from your laptop to your public EC2 instance using Command PromptOpen Command Prompt

Navigate to the Key File LocationUse the cd command to navigate to the folder where your key file

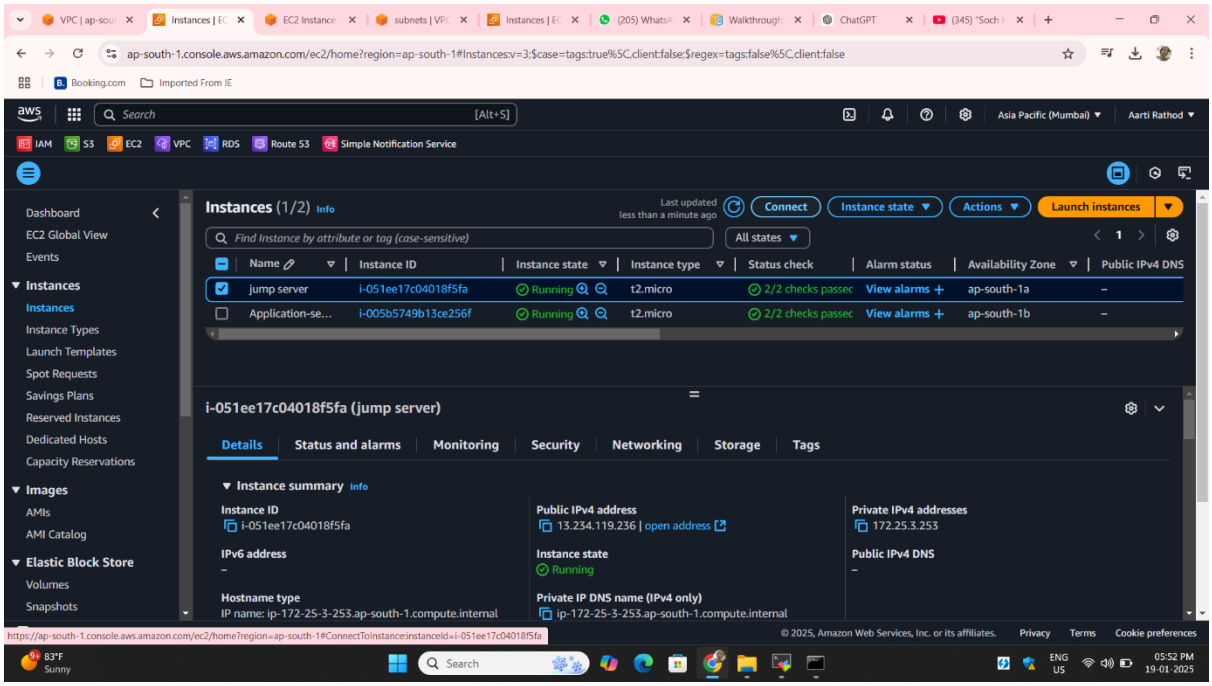
Use SCP to Transfer the Key File Run the following command to securely copy the key file to your public instance

scp -i "your-key.pem" private-key.pem ec2-user@<Public-Instance-Public-IP>:/home/ec2-user/

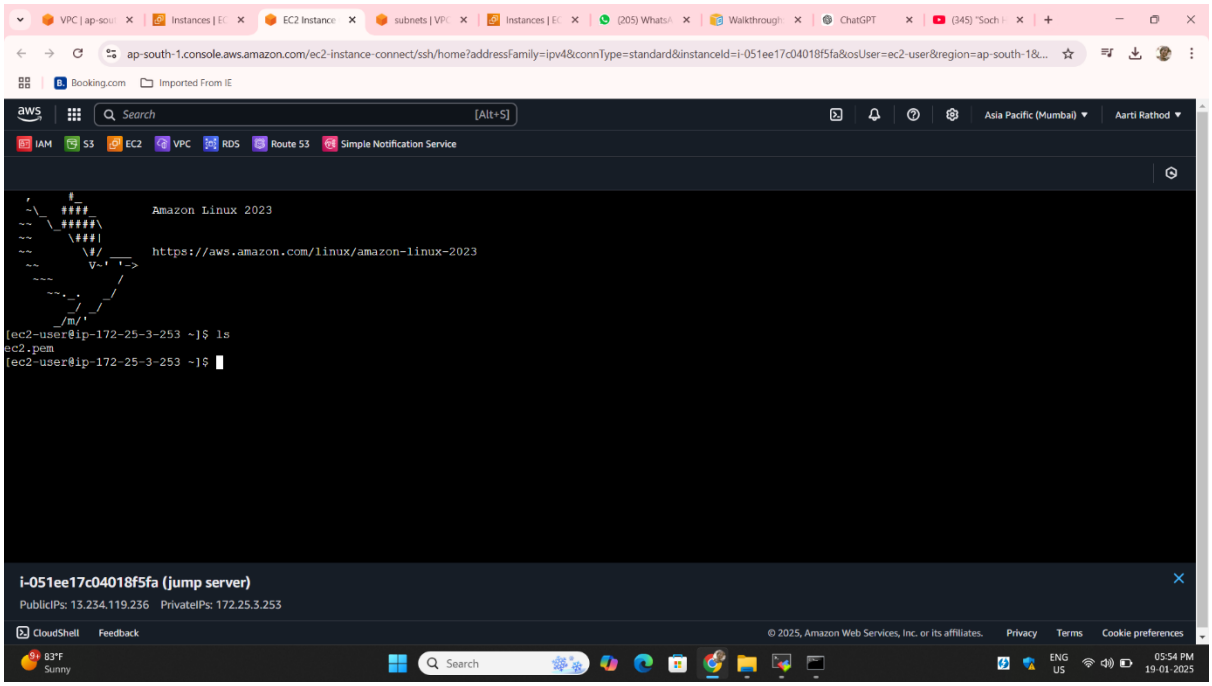
enter the command which will you ask if you want to transfer file write yes/no write yes



Now Go to your instance select public instance click on connect

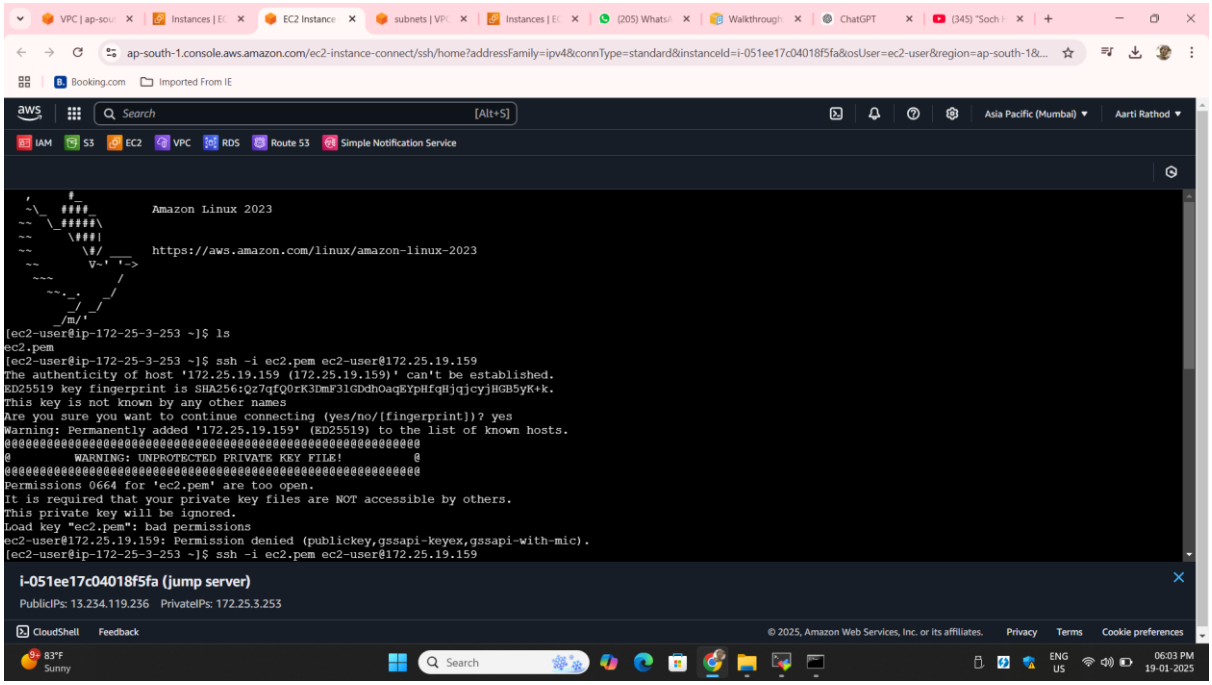


Navigate to the /home/ec2-user/ directory and list the files to verify the transfer: ls You should see the transferred key file ec2.pem



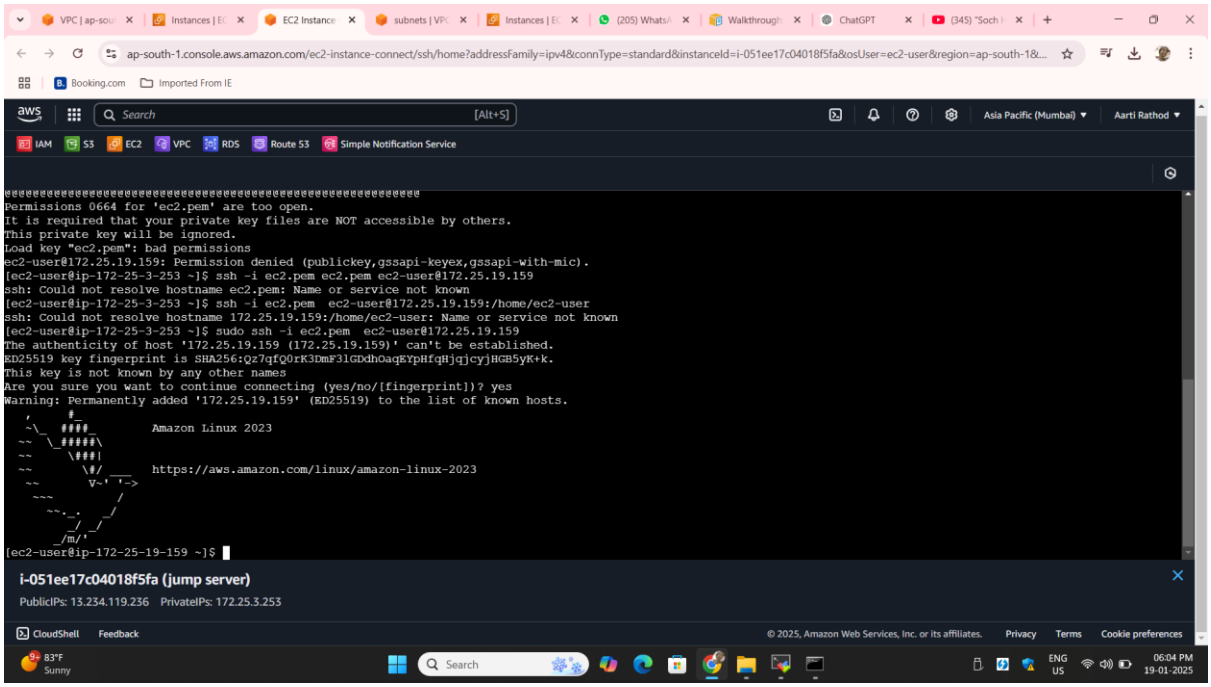
Now from here you have to take access from your public instance to your private instance Use the transferred key file to SSH into the private instance from the public instance:

ssh -i "private-key.pem" ec2-user@<Private-Instance-Private-I

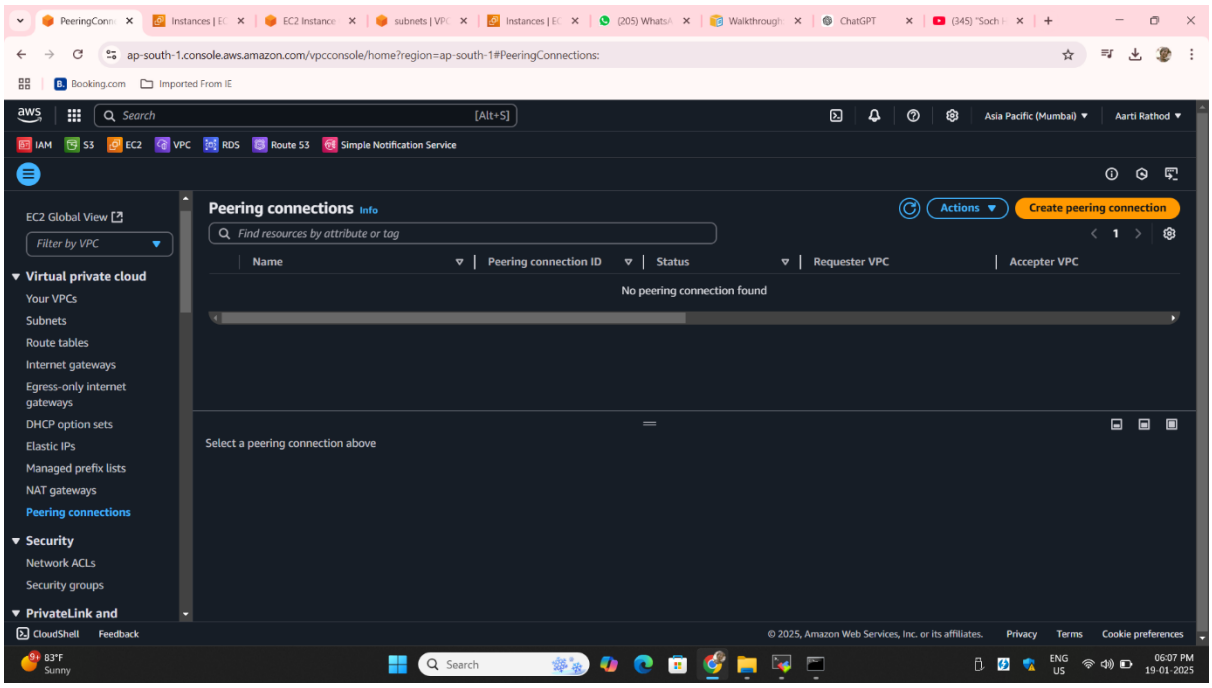


Now give a private instance private ip with command ssh –I ec2.pem ec2-user@172.25.19.159 after this they ask confirmation write yes there

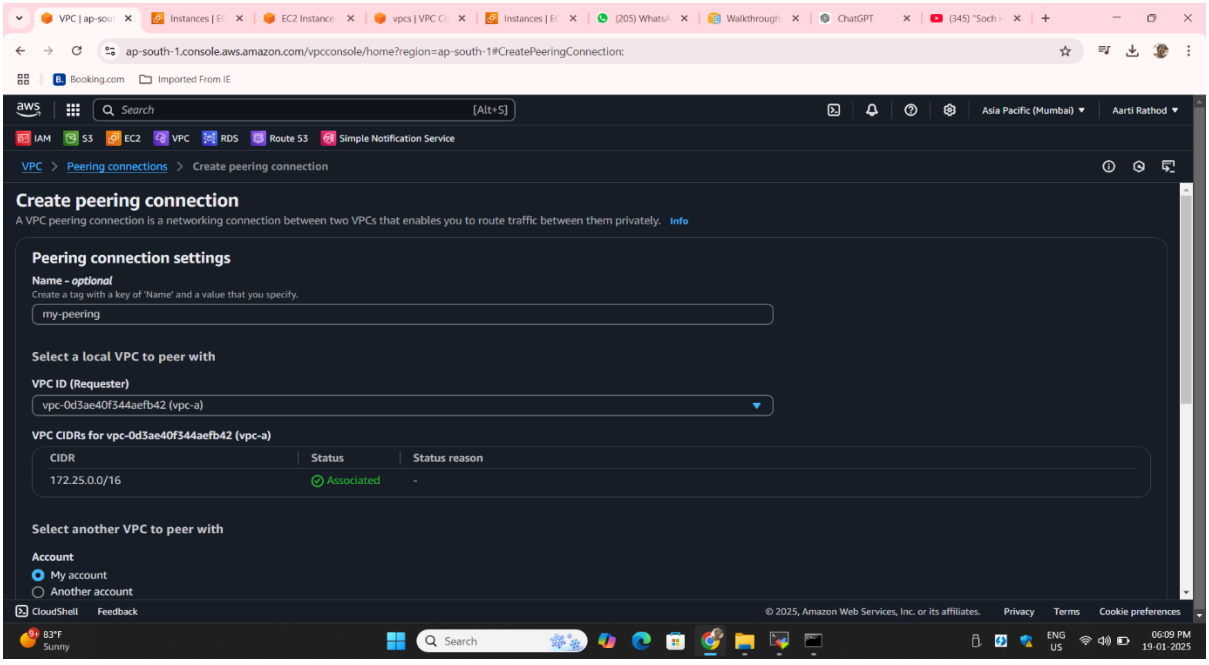
Here your private instance access is get



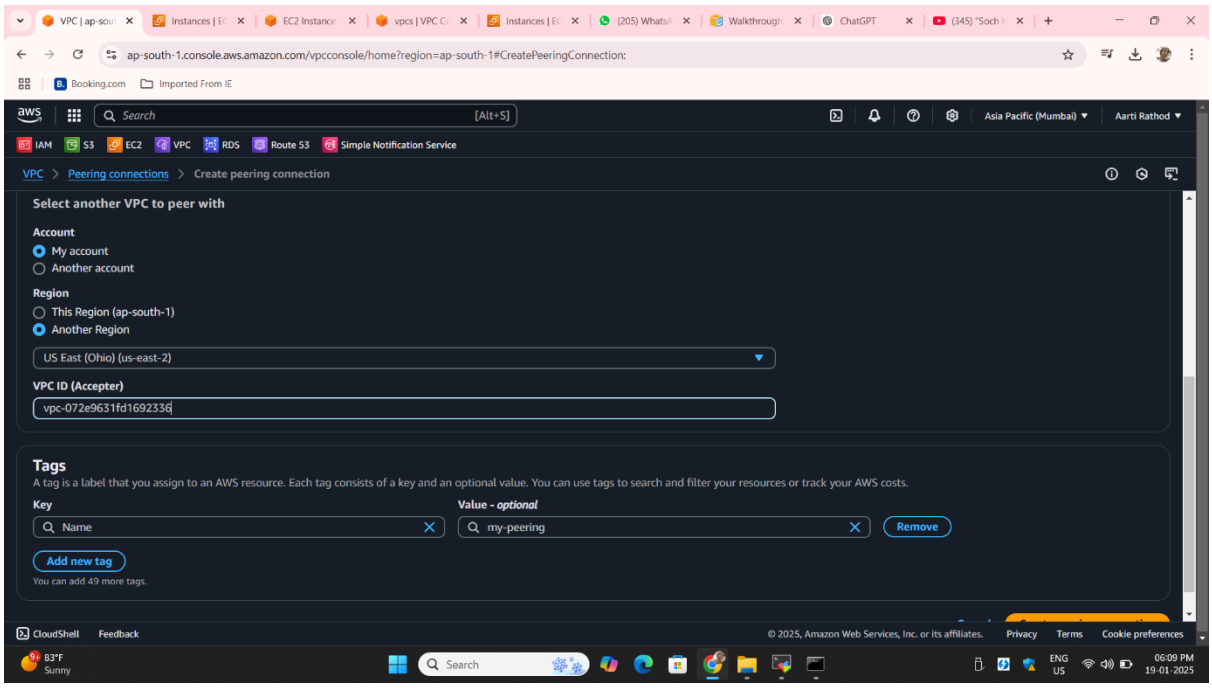
VPC Peering is used to enable private communication between resources in two VPCs across the same or different regions. This allows instances in one VPC to access instances or services in another VPC without using public internet.On the left-hand menu, click Peering Connections.Click the Create Peering Connection button.



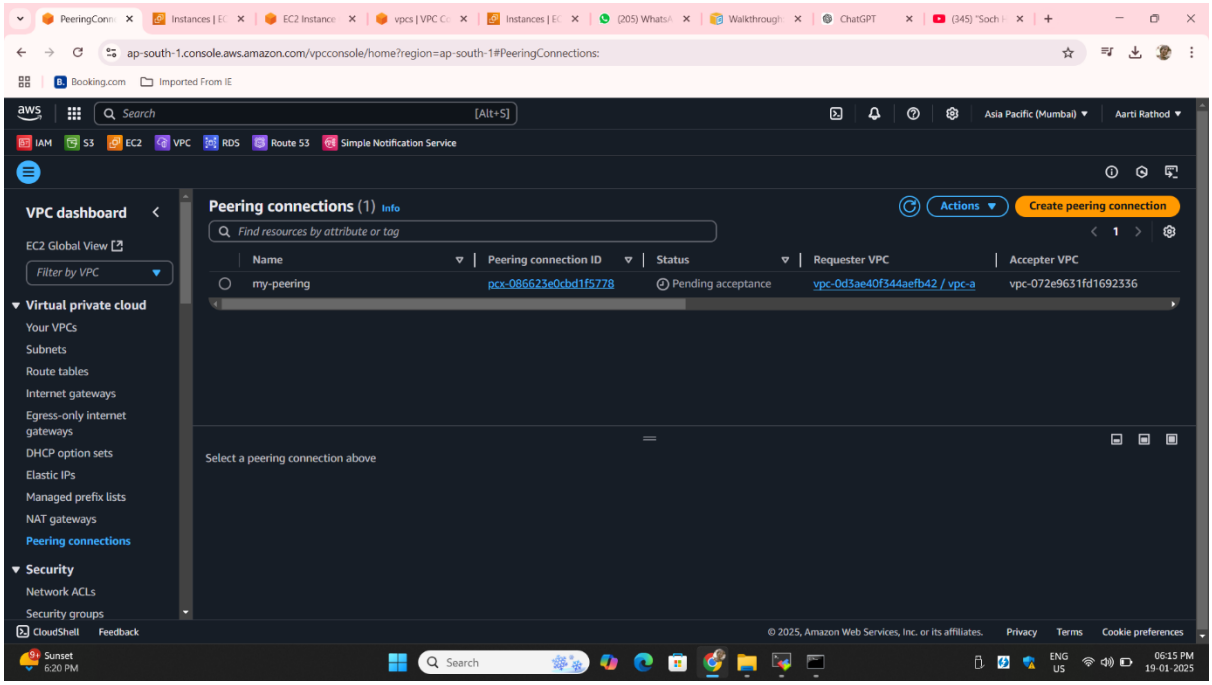
Name tag: Enter a name for the connection my- Peering Requester VPC: Select the VPC you want to peer from vpc-a



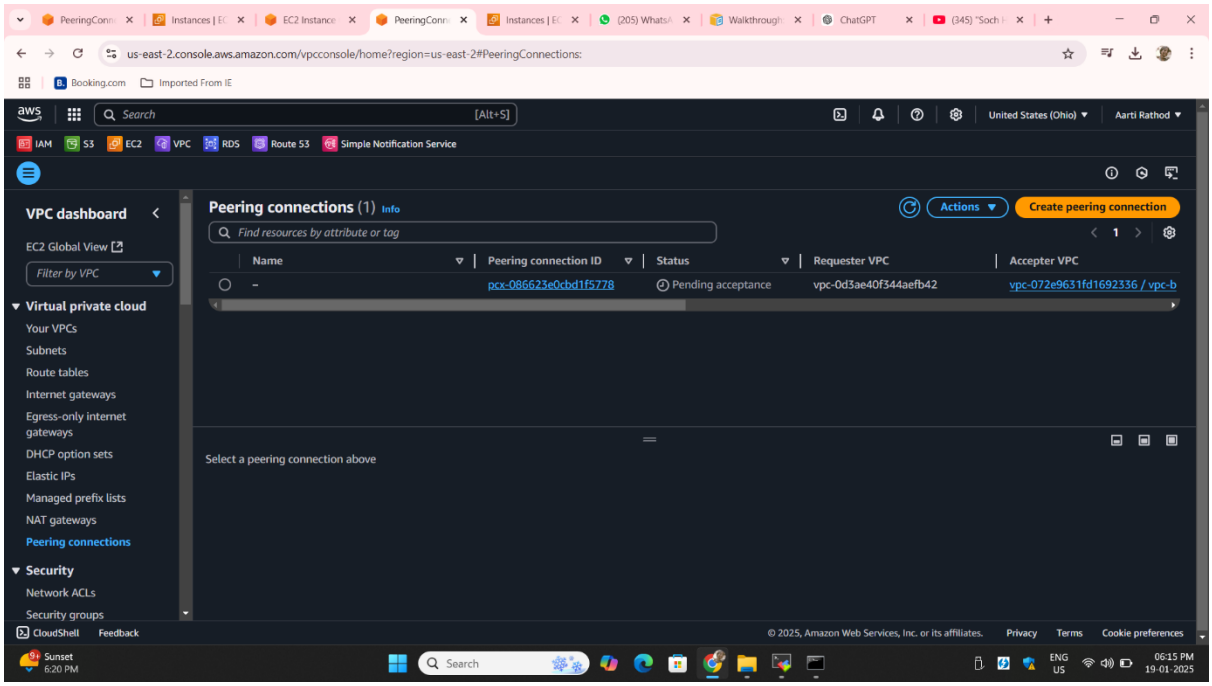
Choose account we want to connect with ohio region so we will Enter the Account ID of the target VPC and select its VPC.Click Create Peering Connection.



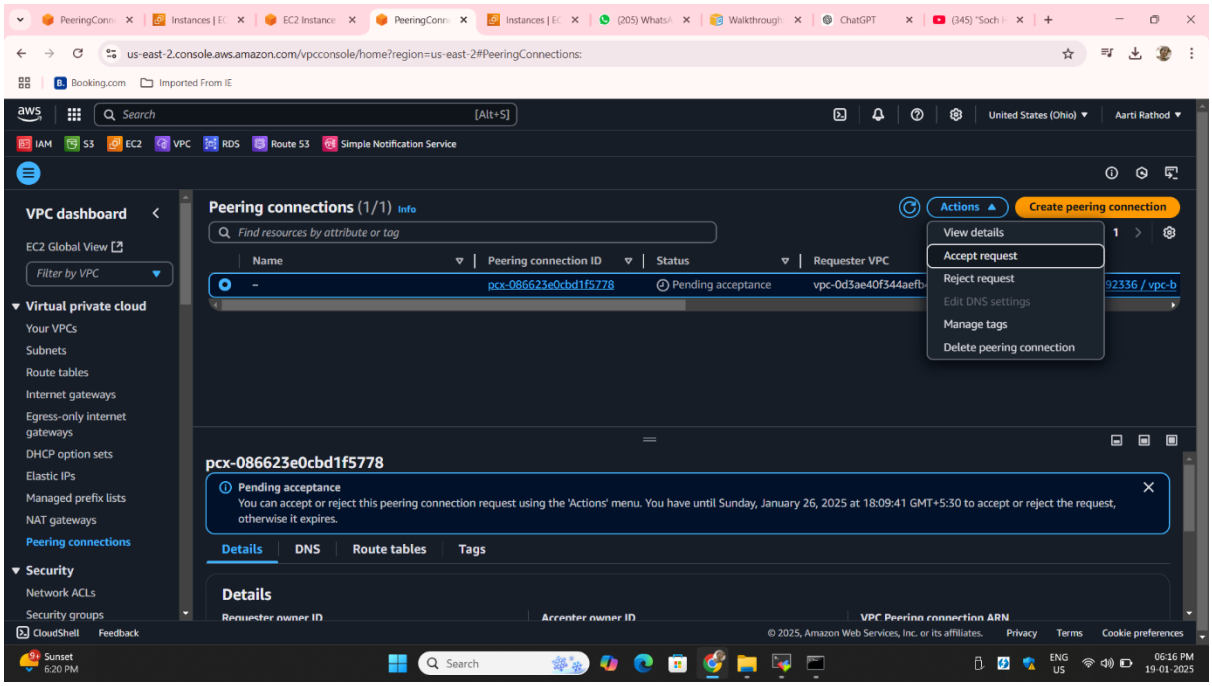
Here you can see the status is pending



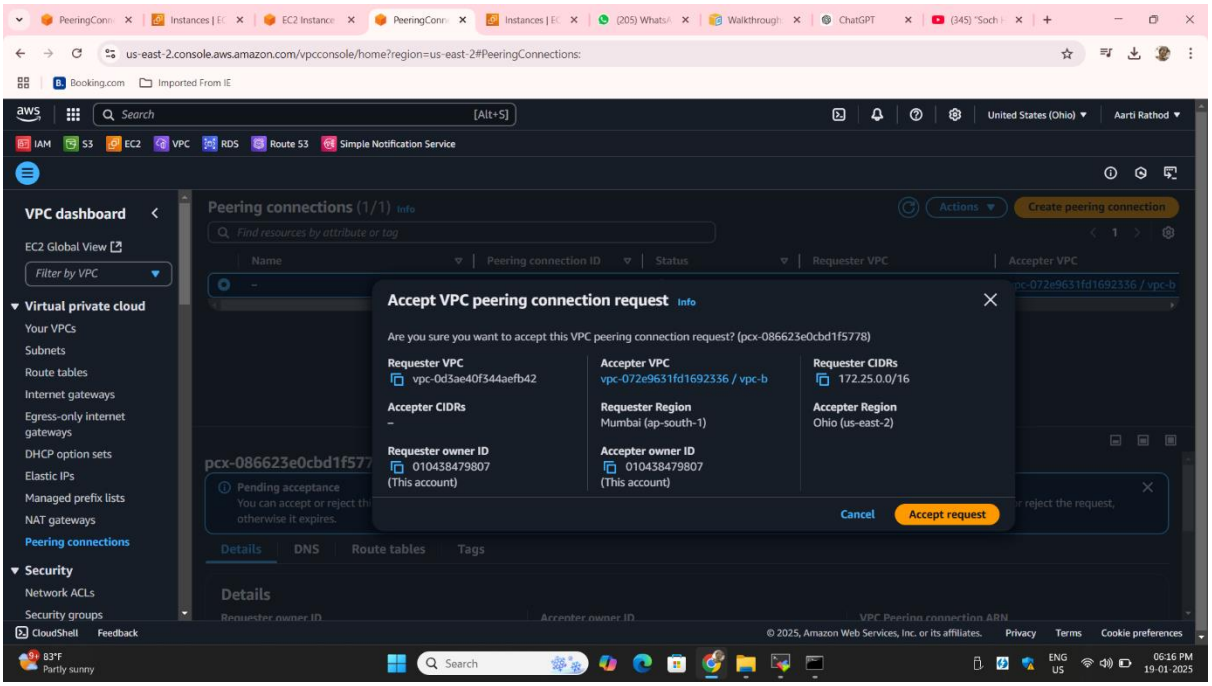
Go to ohio region peering connection



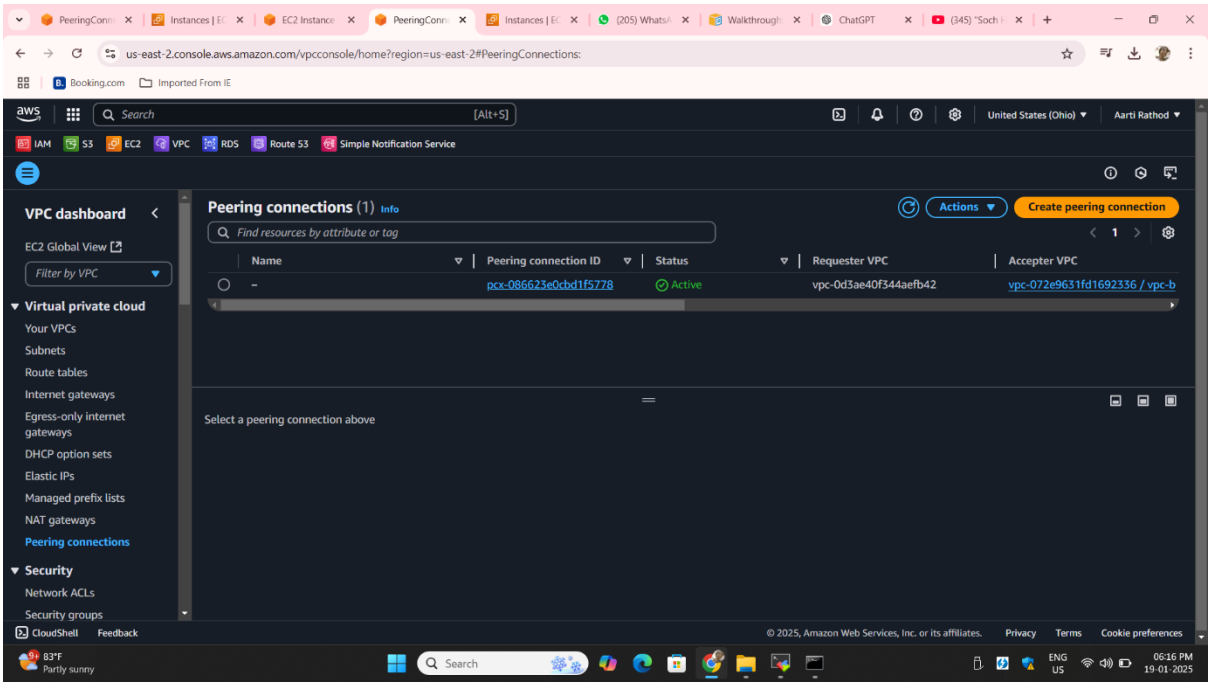
Select peering connection go to action click on accept request



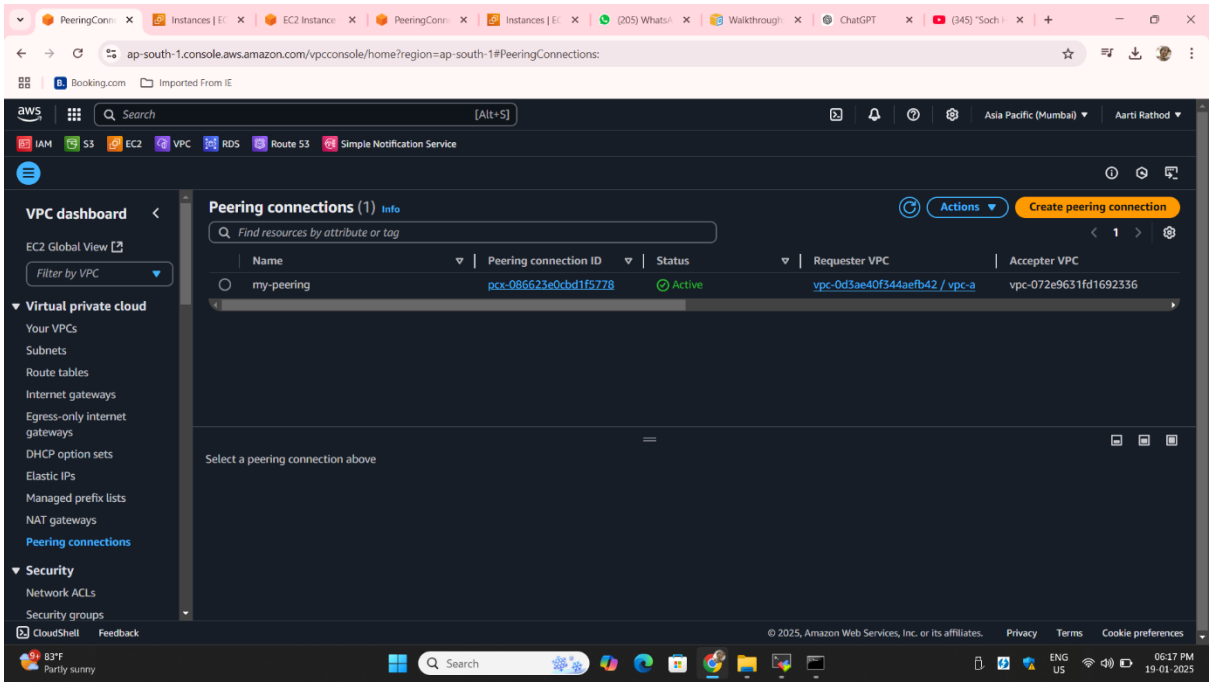
Click on accept request



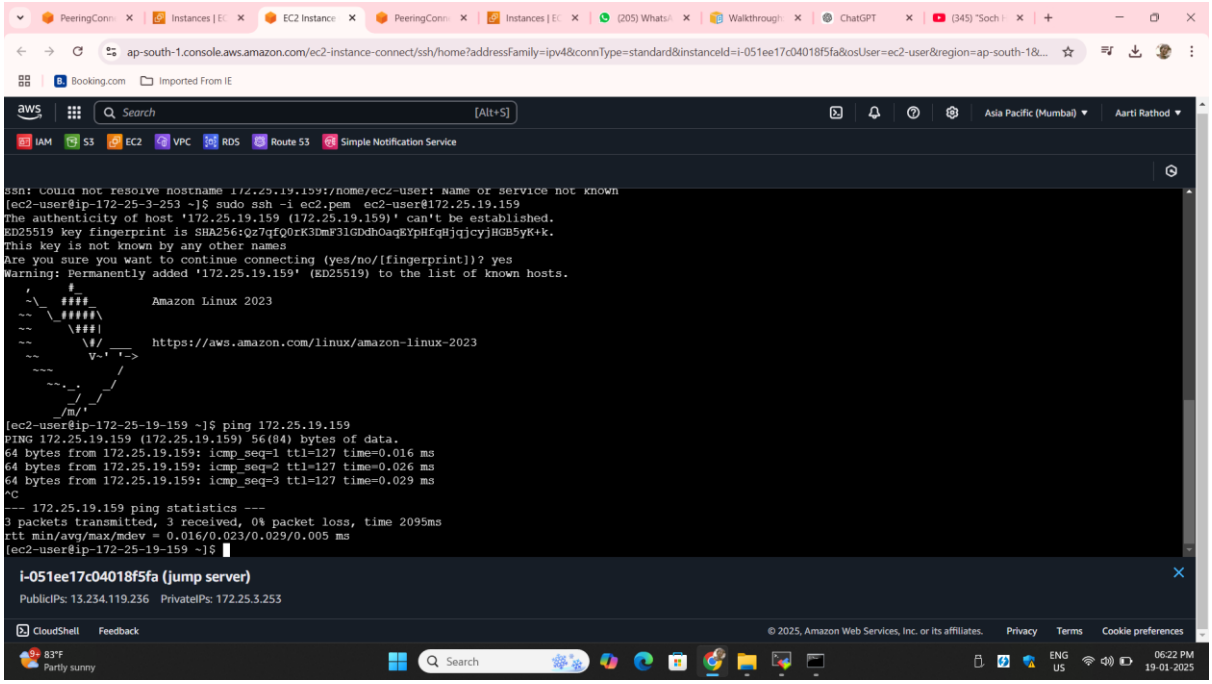
Here the status is active of peering connection the connection is established between them.



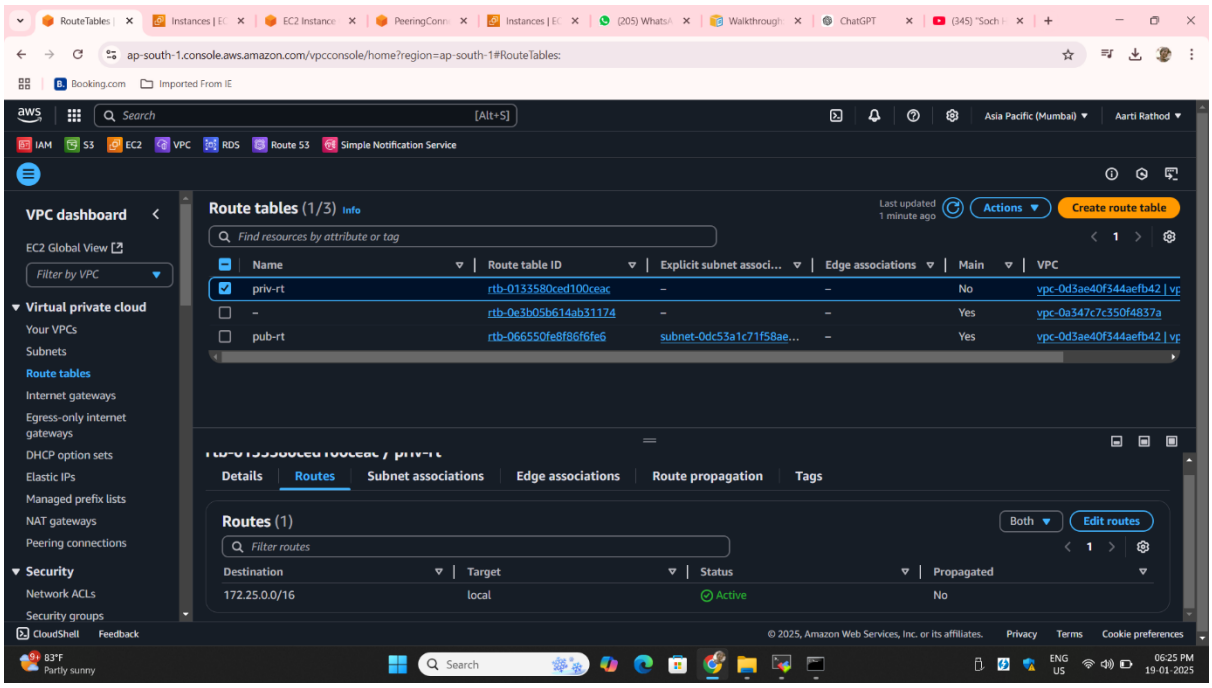
In Mumbai region also status is active



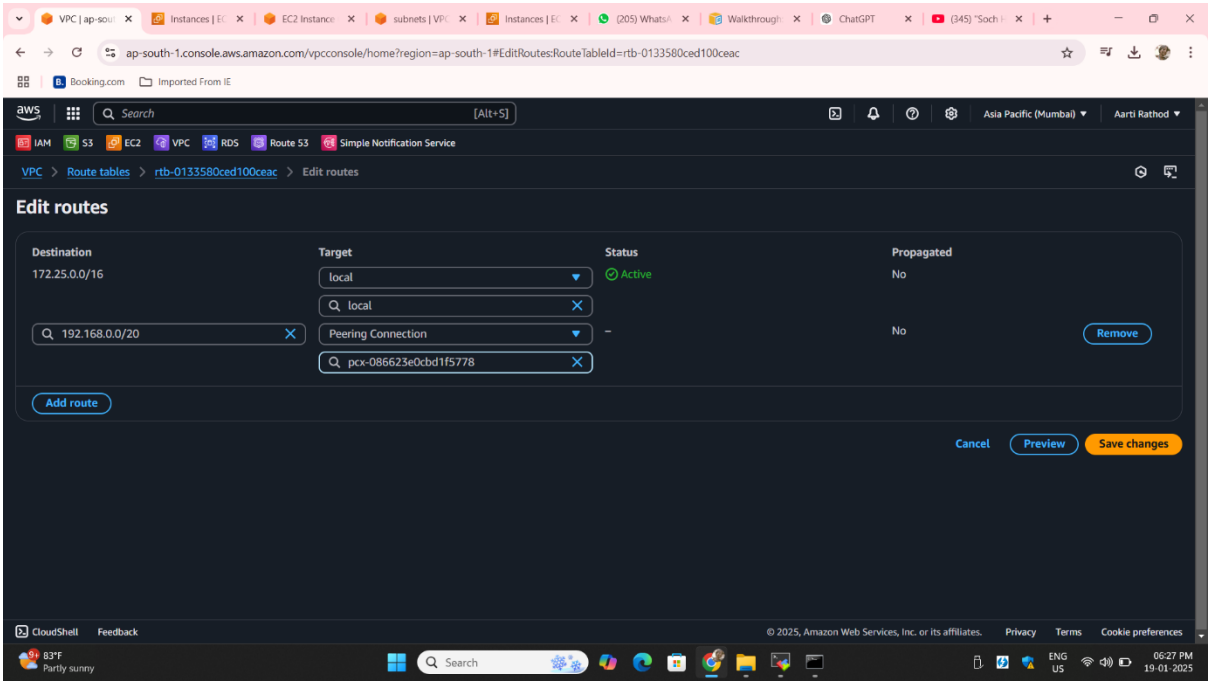
Here you can see when I ping to private instance its ping



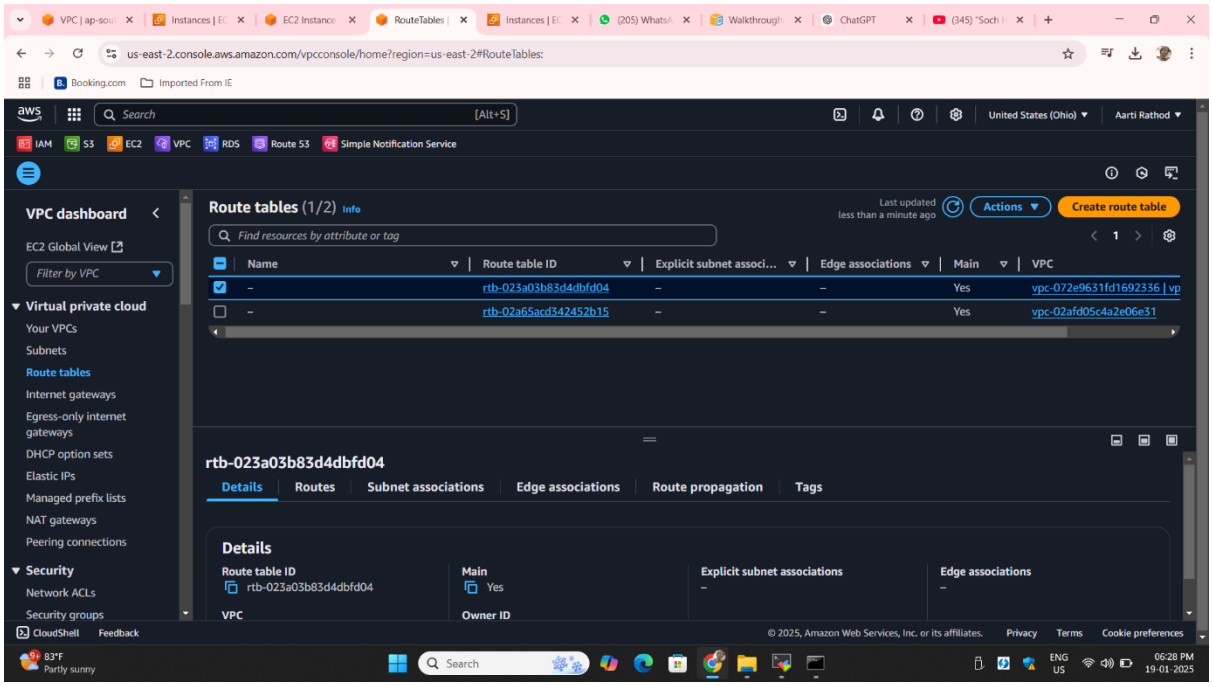
Now go to routes table select private rt go to routes then click edit routes.



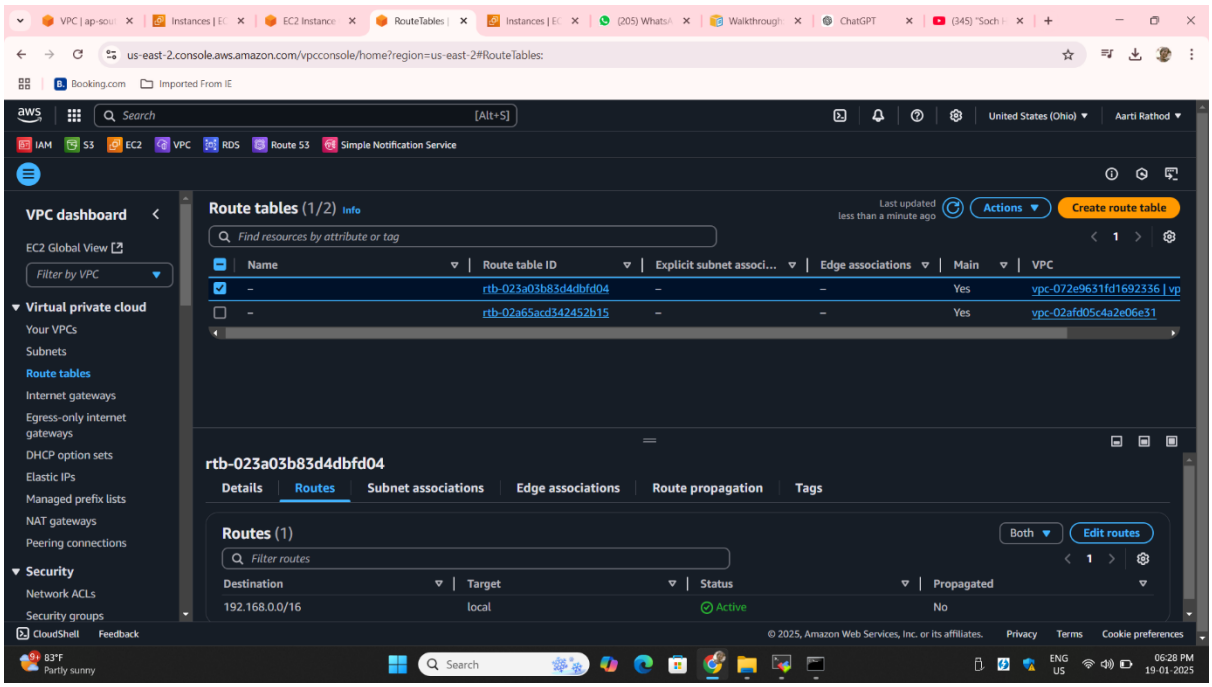
Select the range of ohio region subnet paste here then select peering connectiom select peering connection click on save changes



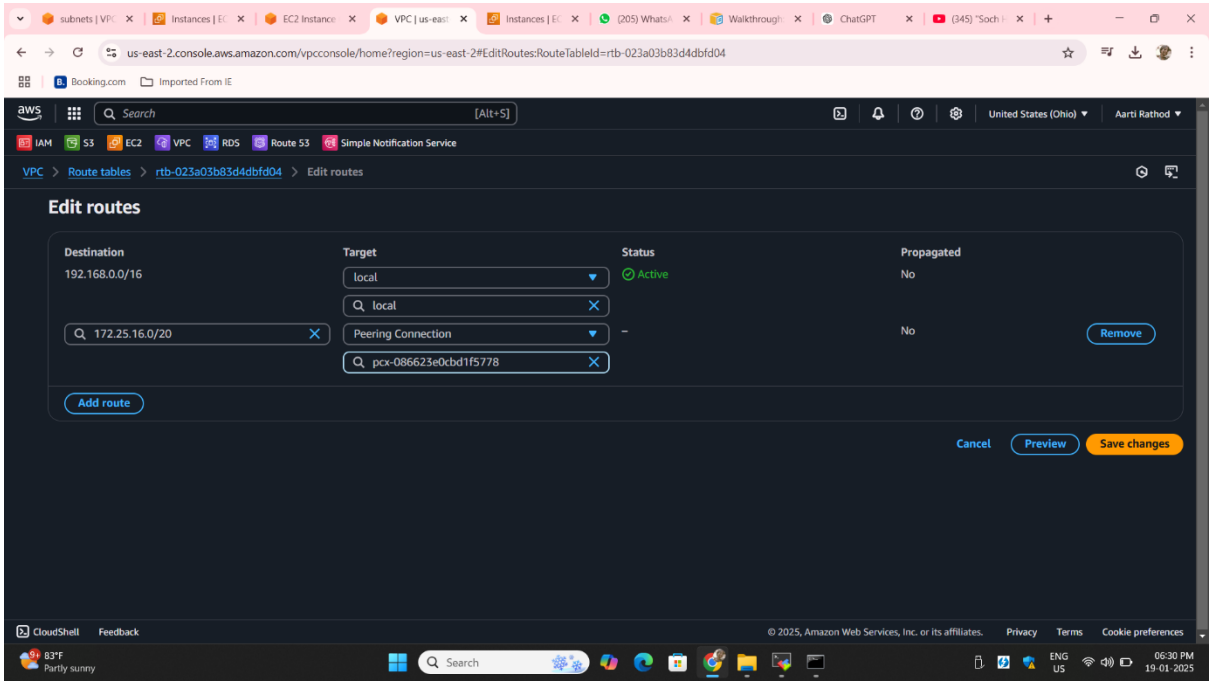
Go to ohio region route table



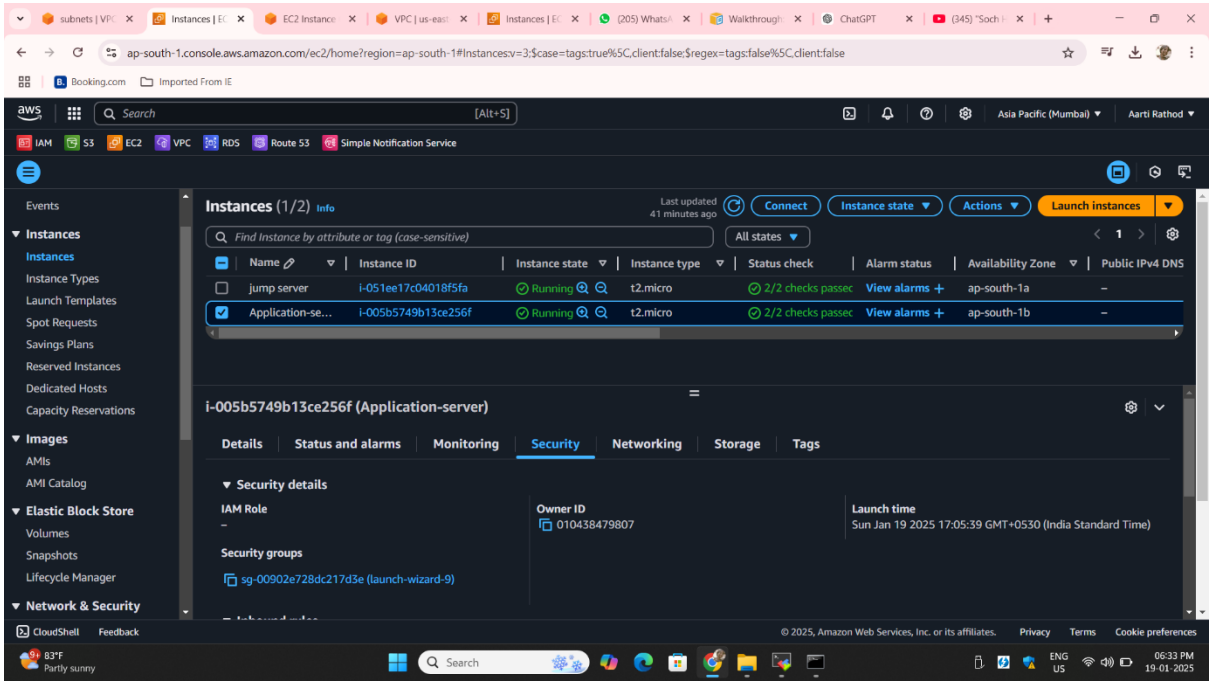
Select route and go to edit routes



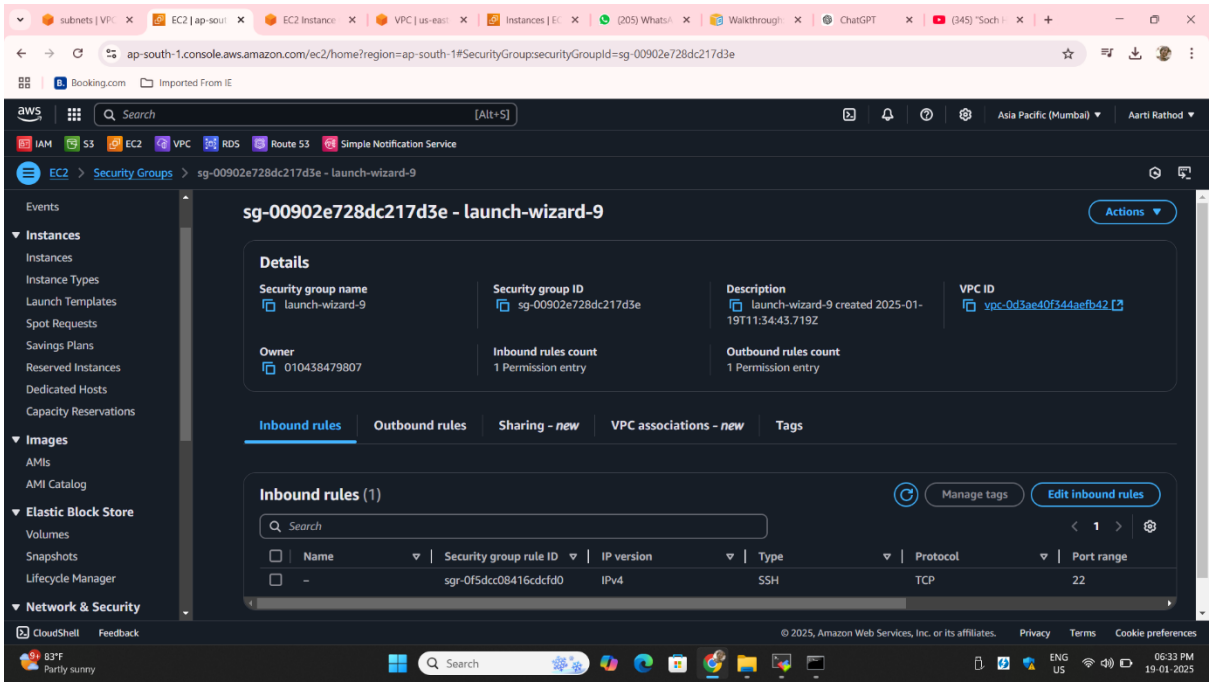
Cpy private subnet cidr range of Mumbai subnet destination select peering connection select your peering connection and click on save changes



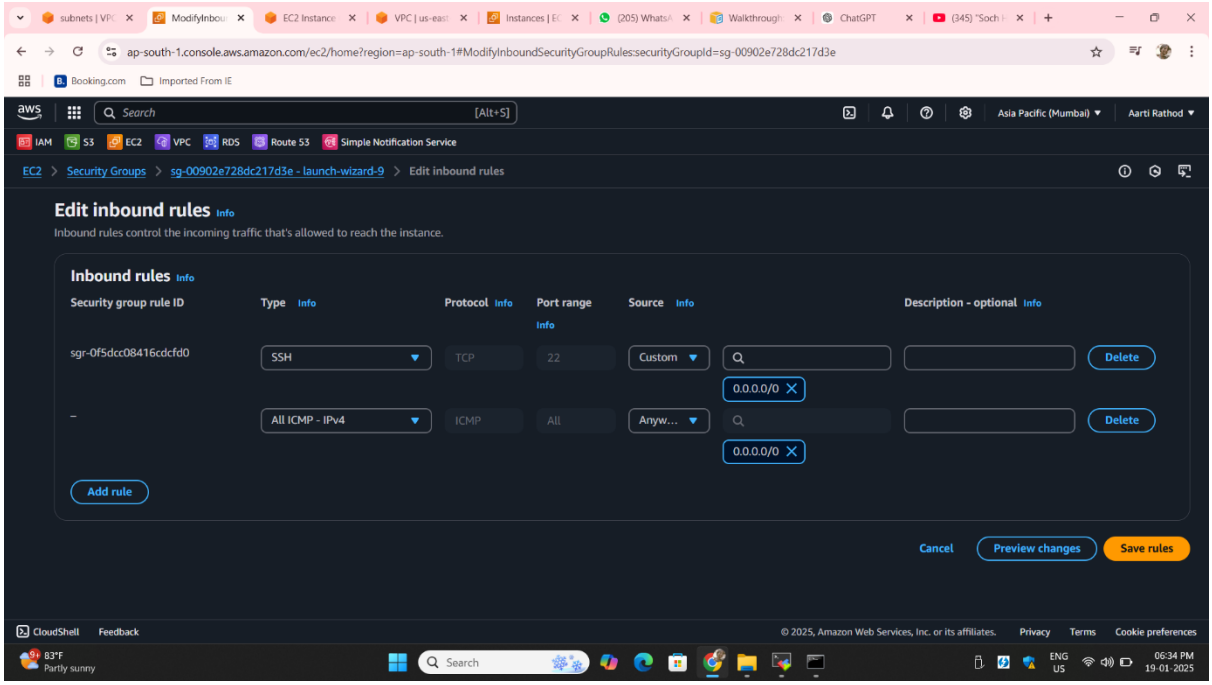
Now go to Mumbai ec2 instance go to security select security group



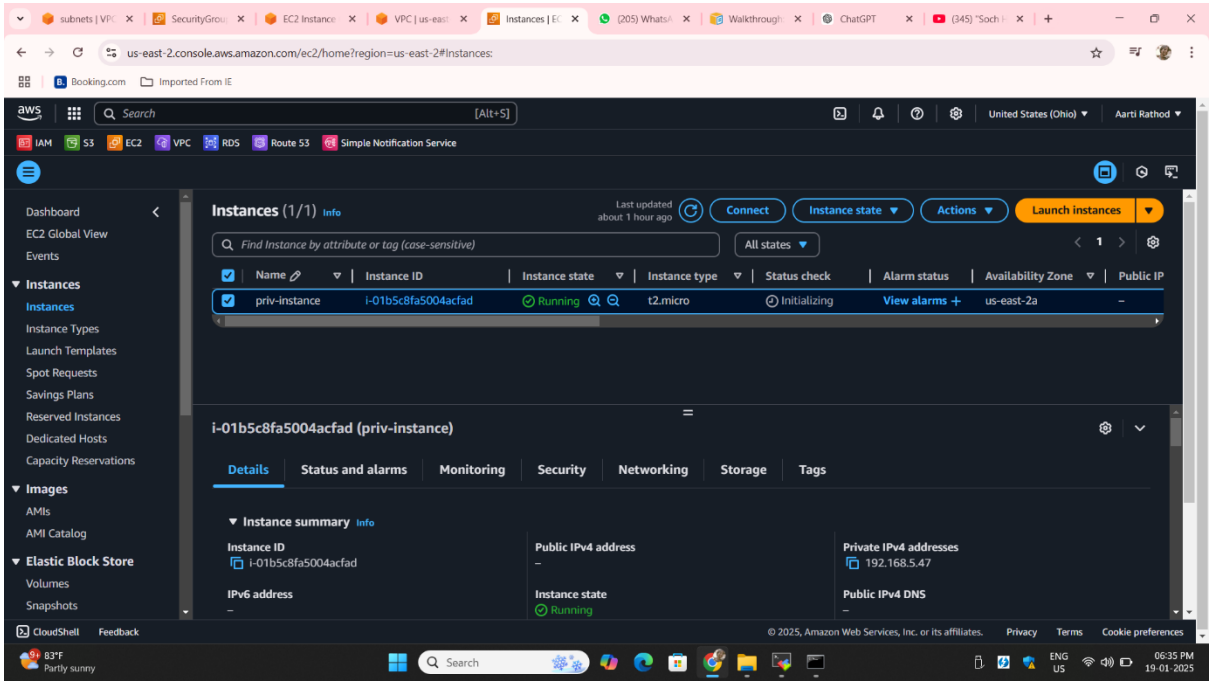
Click on edit enbound rules



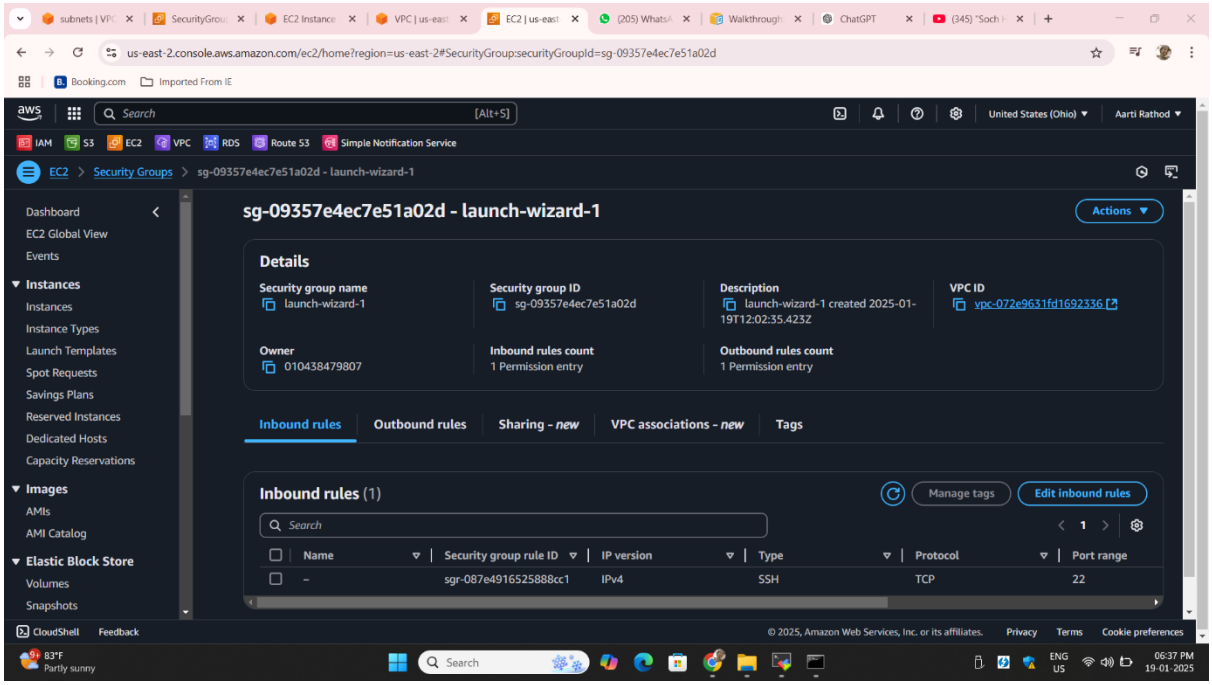
Click add rules select ALL ICMP-IPV4 select source anywhere click on save rules



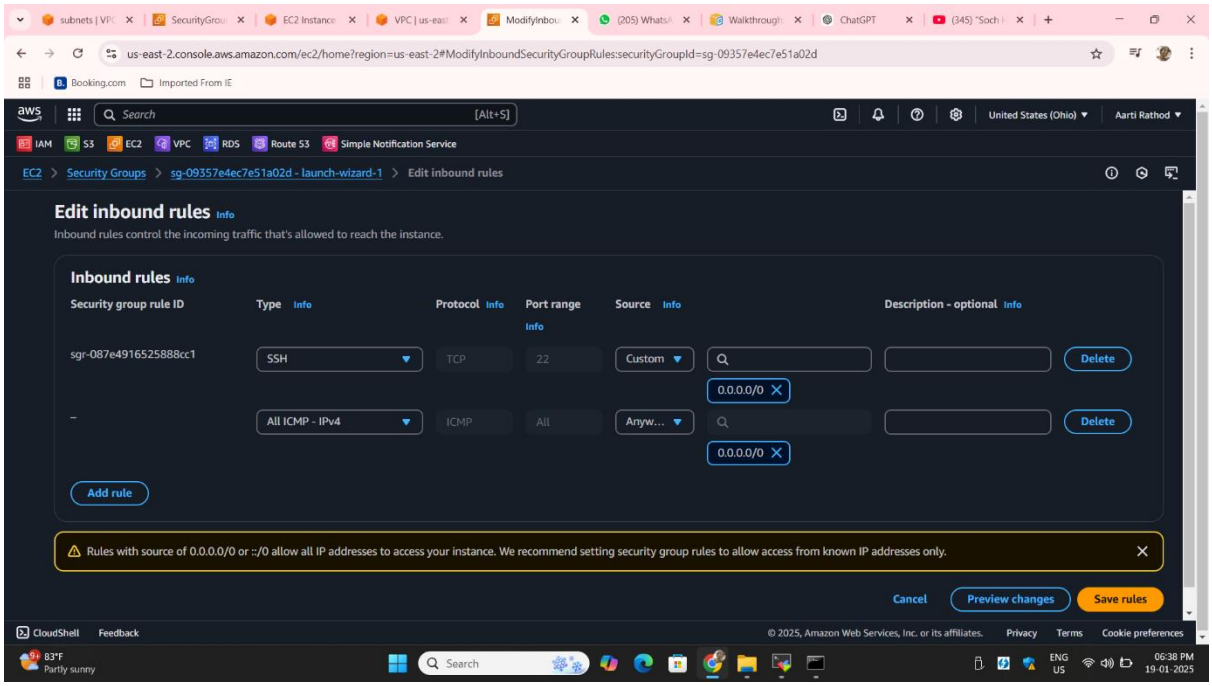
Same thing we have to do with ohio region instance select the instance go to security



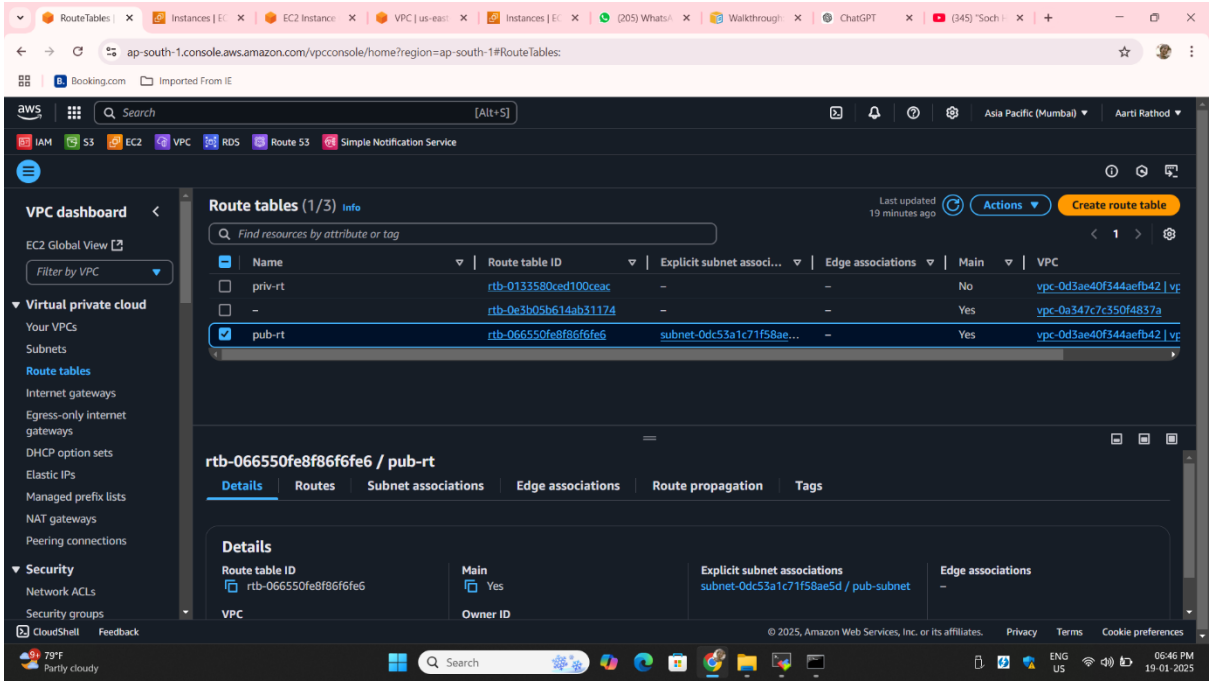
Edit inbound rules



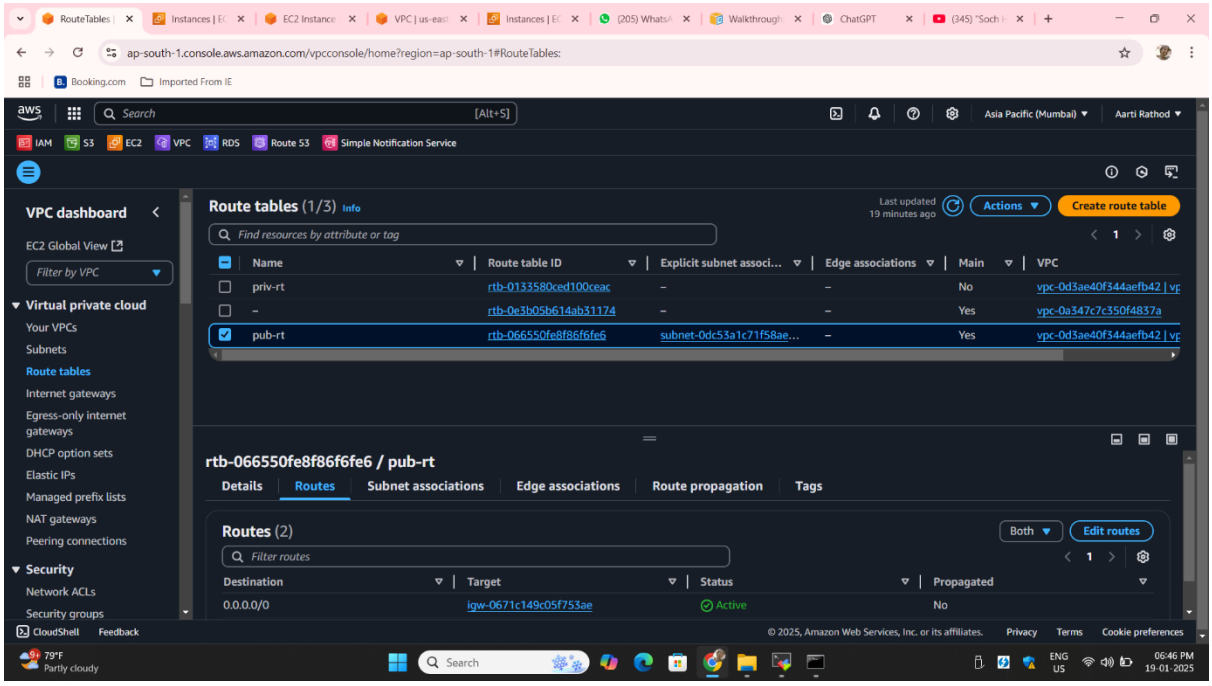
Click add rule type select All ICMP –IPV4 source anywhere and then click on save rules



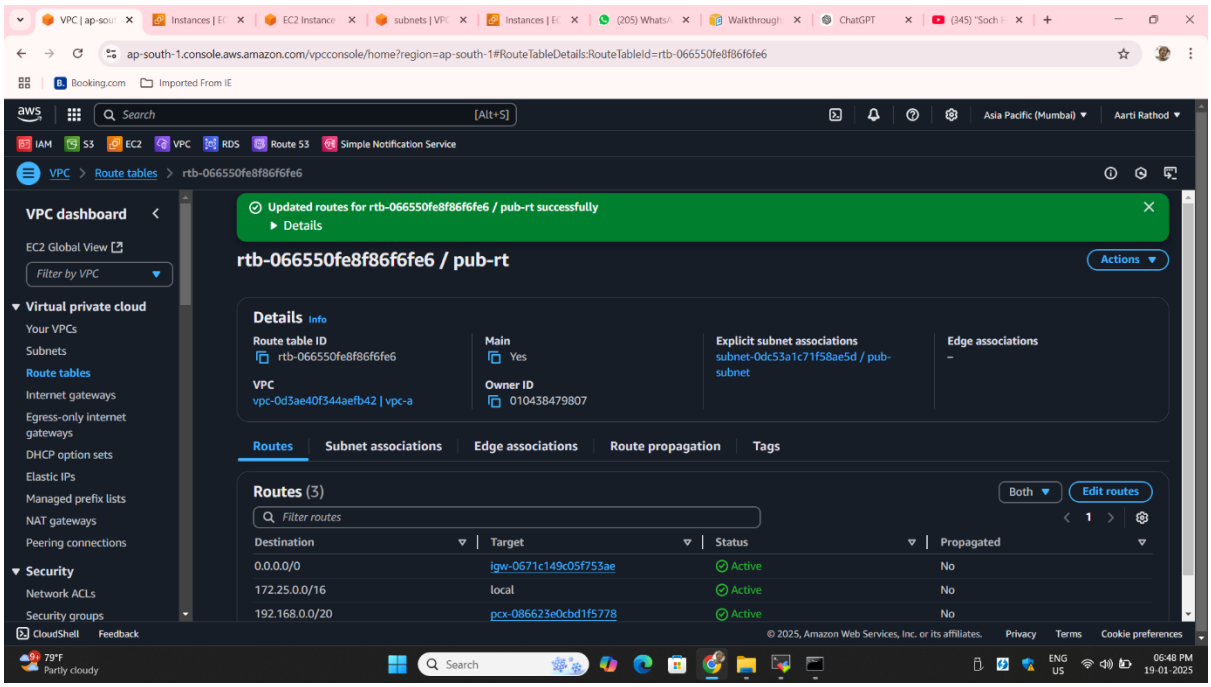
Go to Mumbai rute table pub-rt



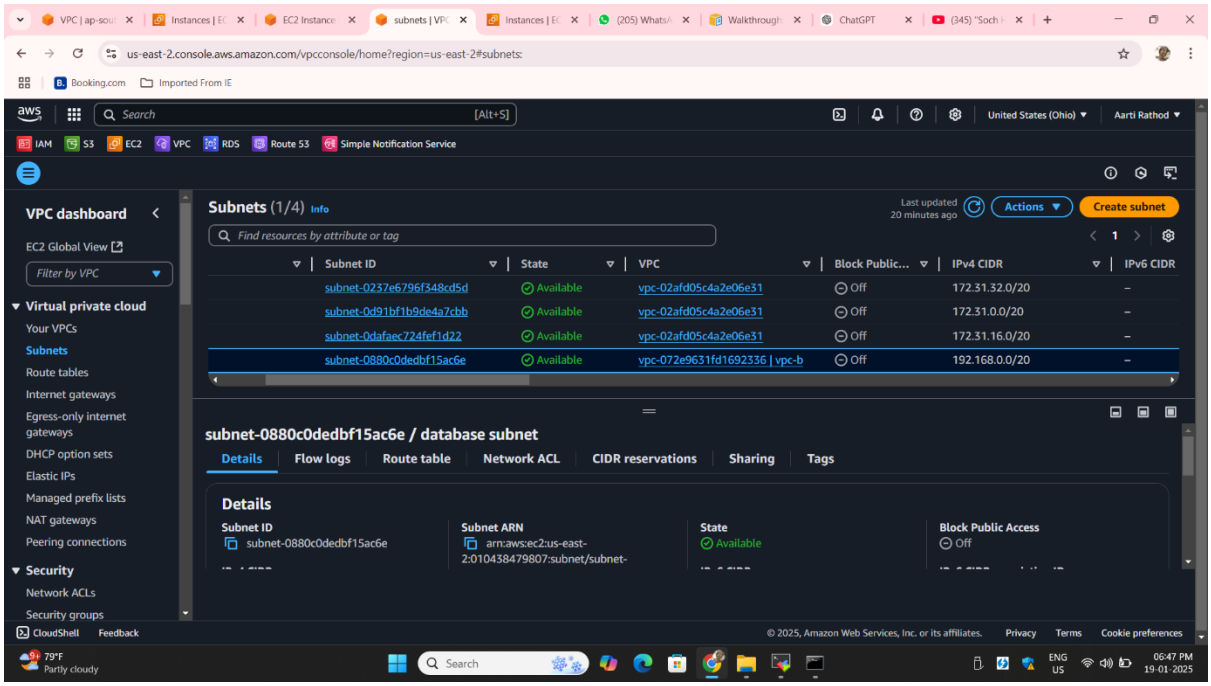
Go to route add one route which is ohio region subnet CIDR range sores peering connection and save changes



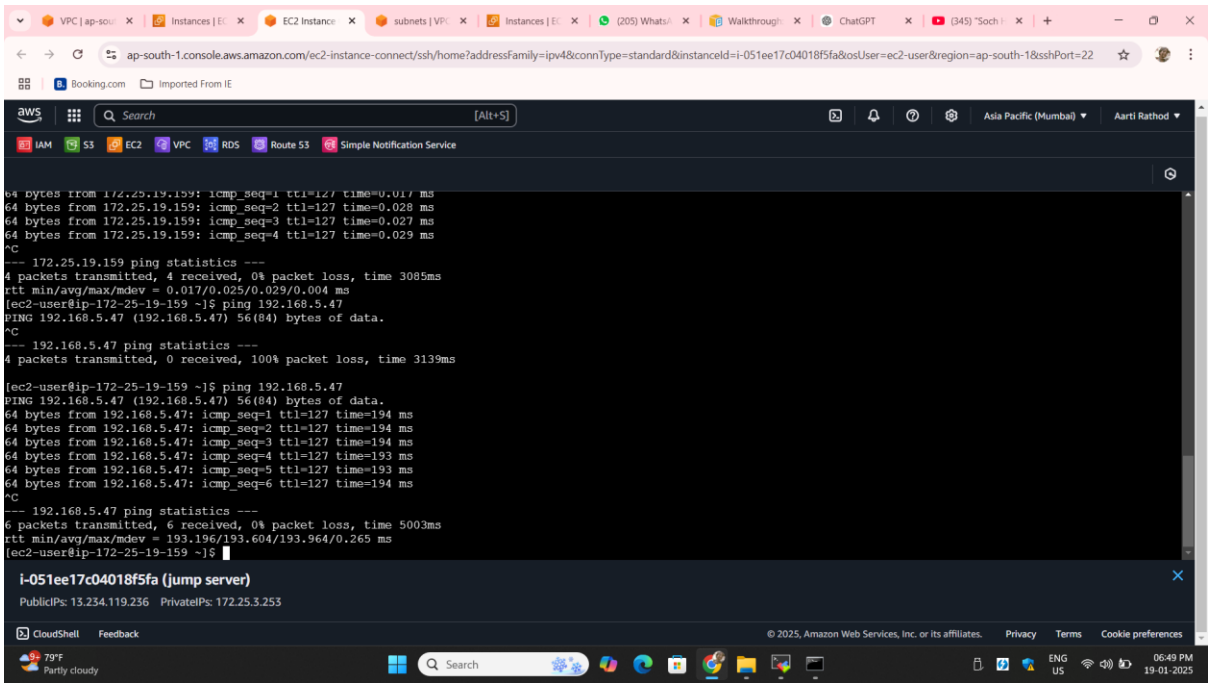
Here you have successfully route the subnet



Here what we have to copy ohio region subnet Cidr range 192.168.0.0/20



Here I take access of database instance which we have present in ohio region with ssh command after that we take access from Mumbai region private instace this way your database is secure



Here when you pin the ip of database instance its ping