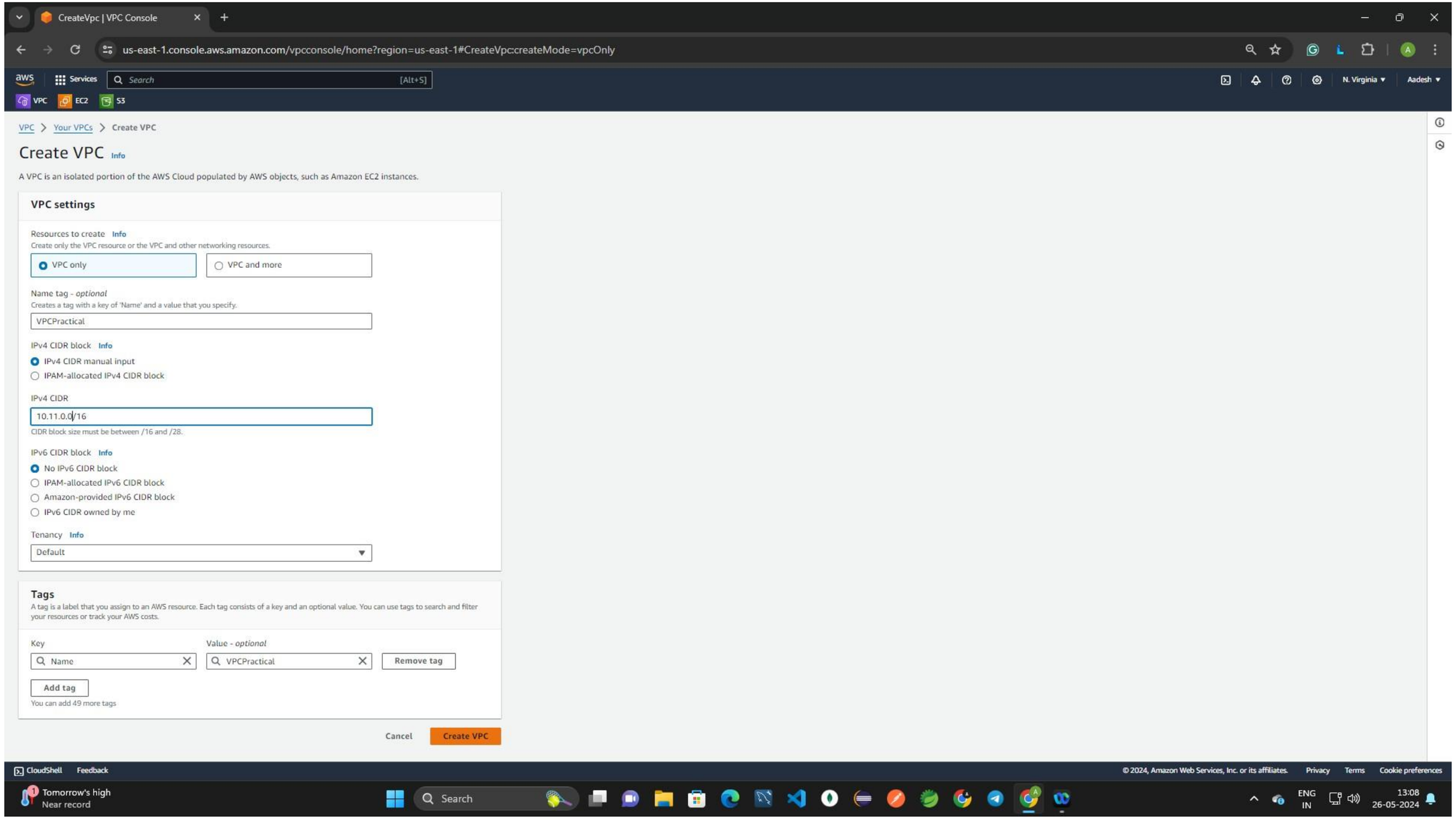
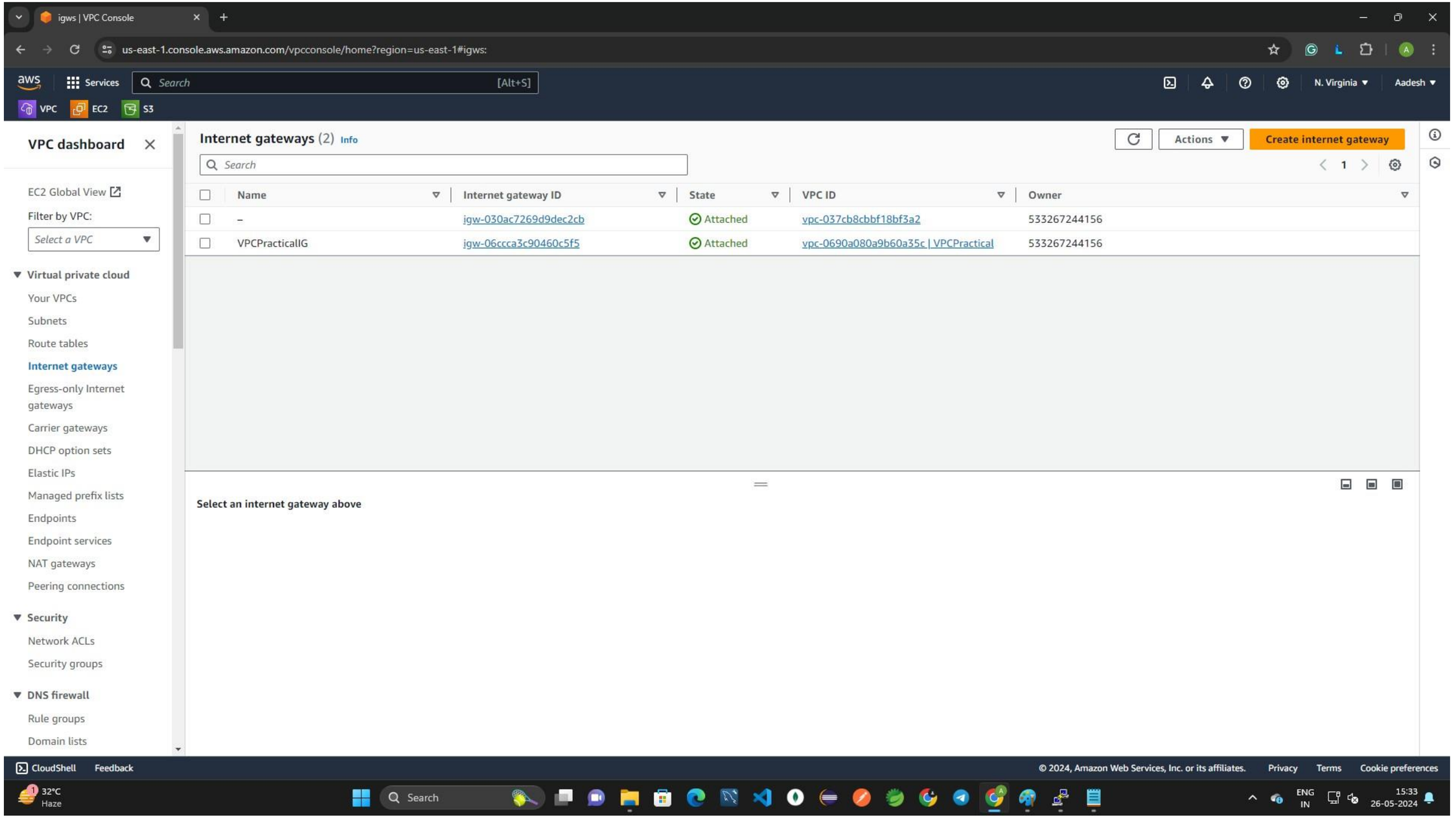
VPCProject

-Swaraj Bhoite

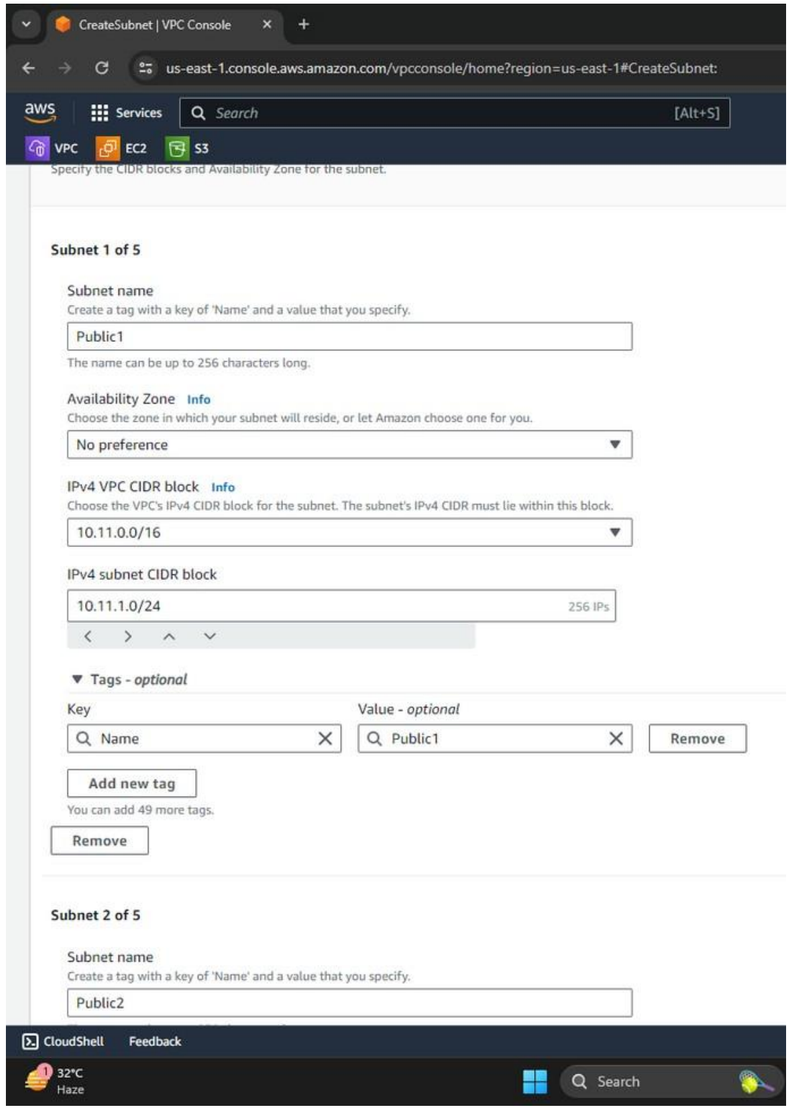
Step 1- Create VPC



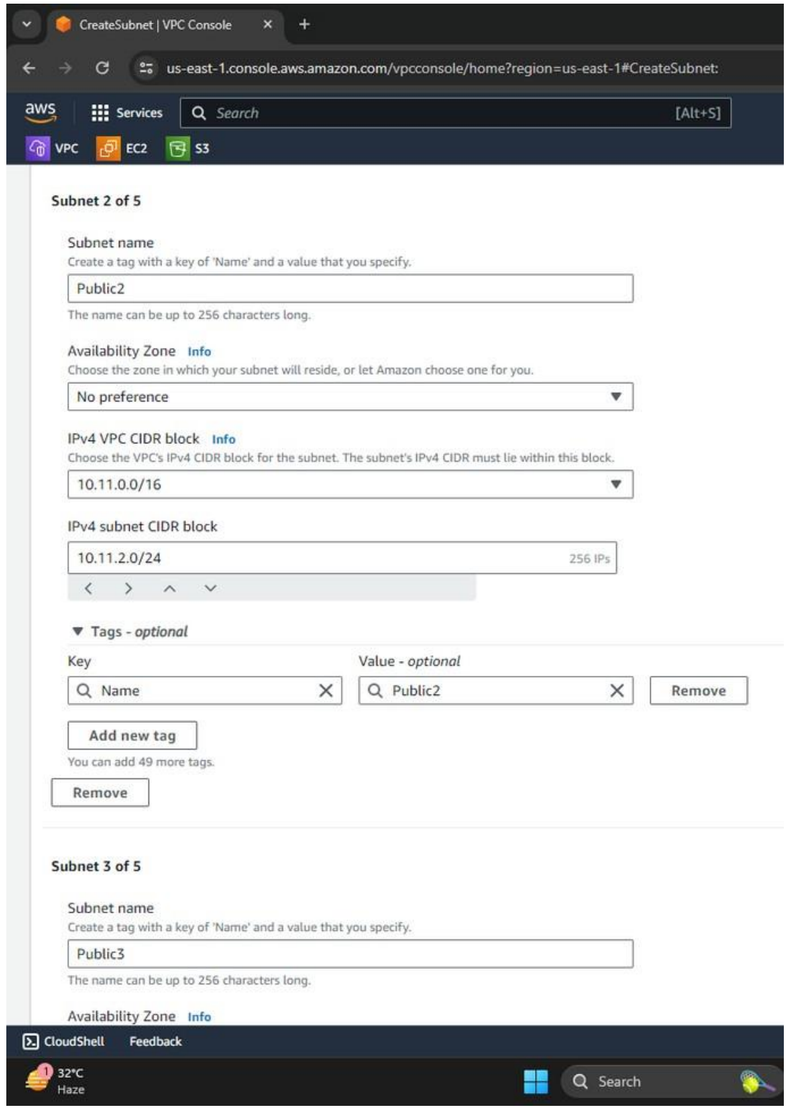
Step 2 - Create Internet gateway and attach to VPC



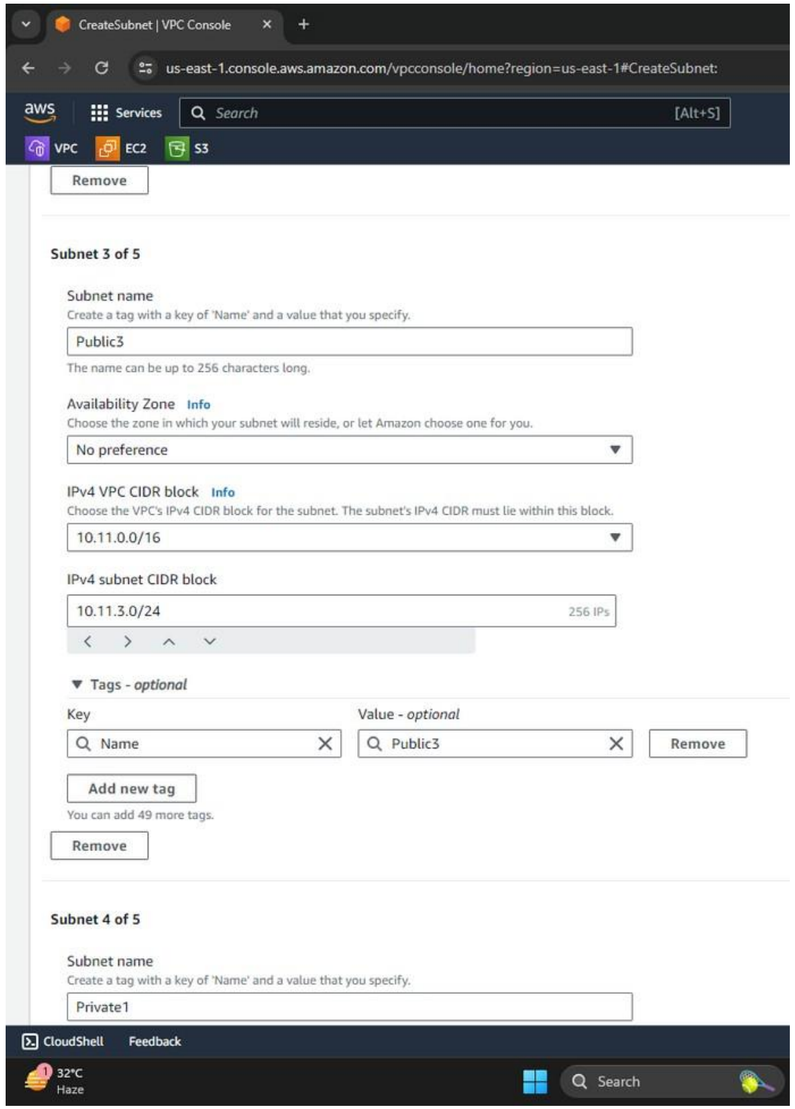
Step 3 - Create 3 Public and 2 Private Subnets



Public 1 Subnet

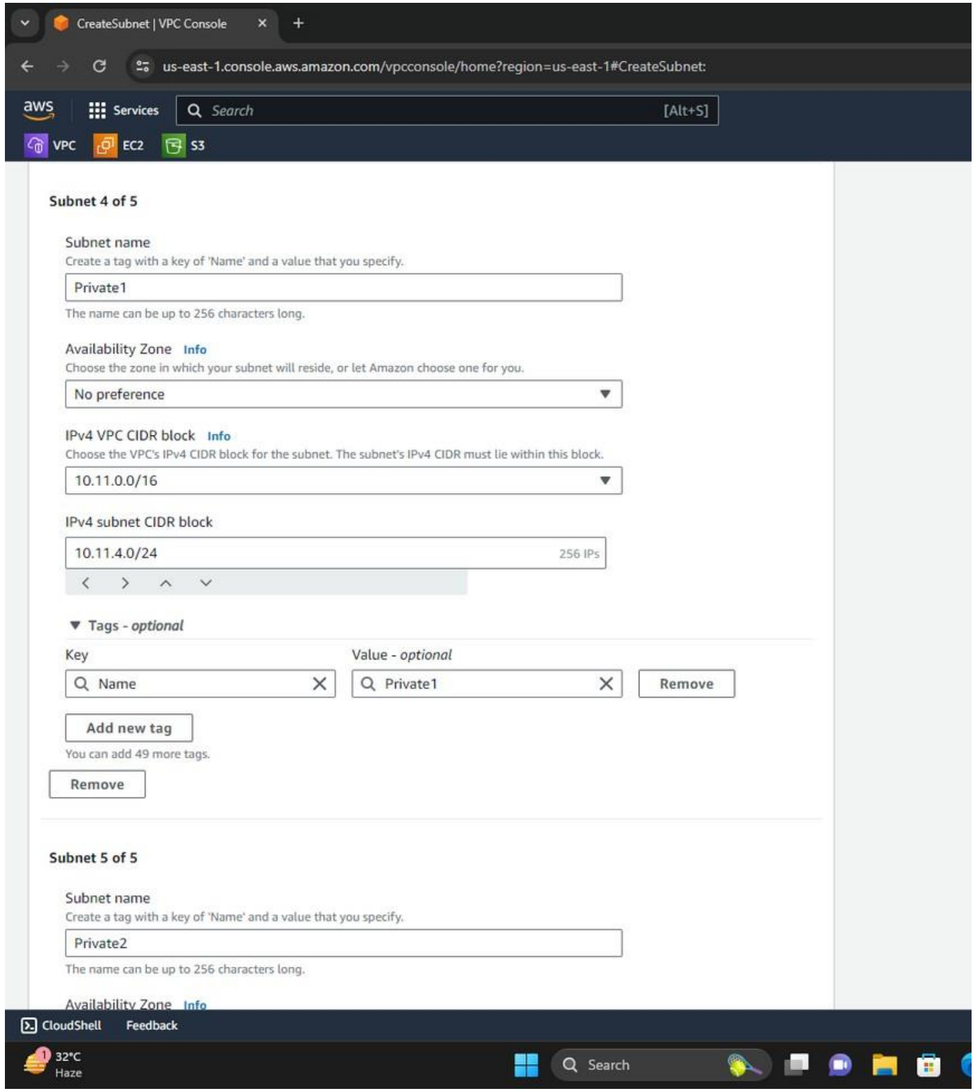


Public 2 Subnet

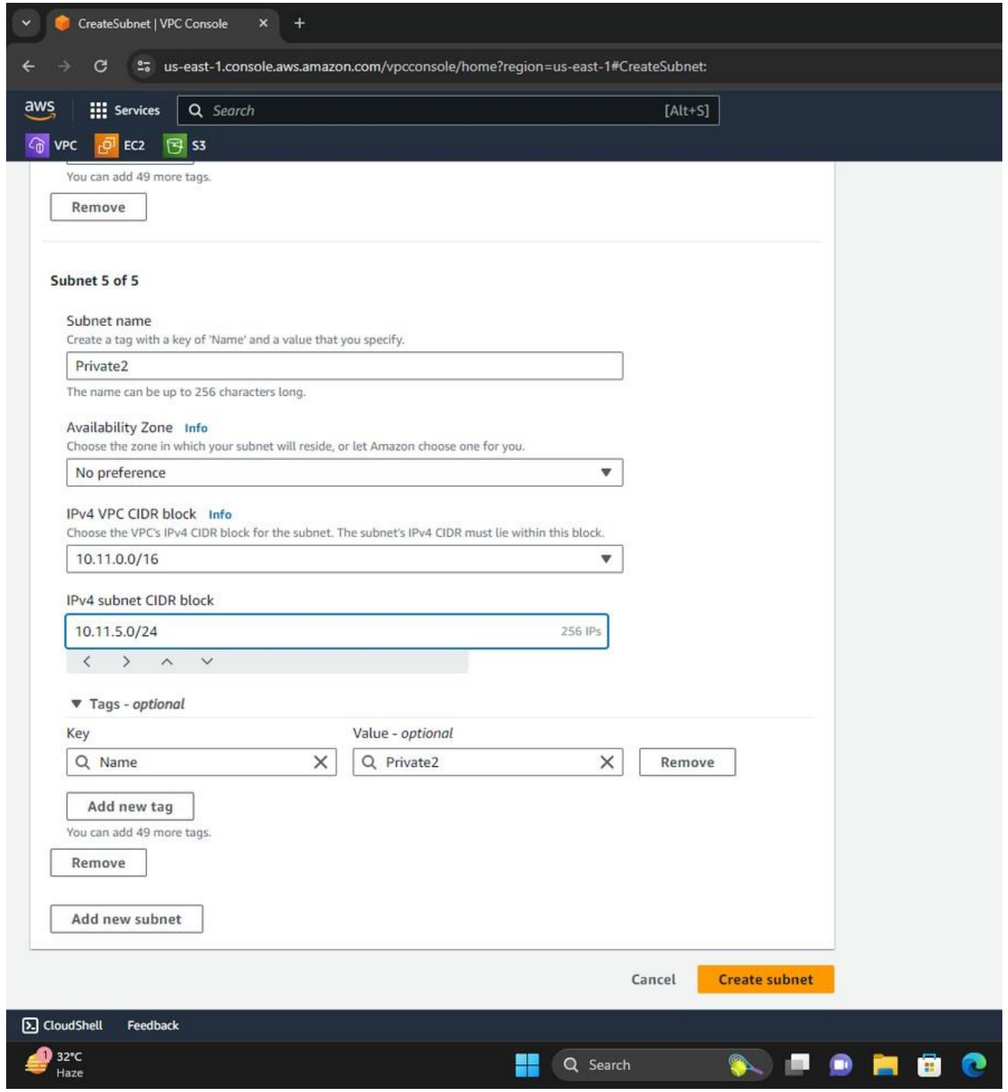


Public 3 Subnet

Step 3 - Create 3 Public and 2 Private Subnets

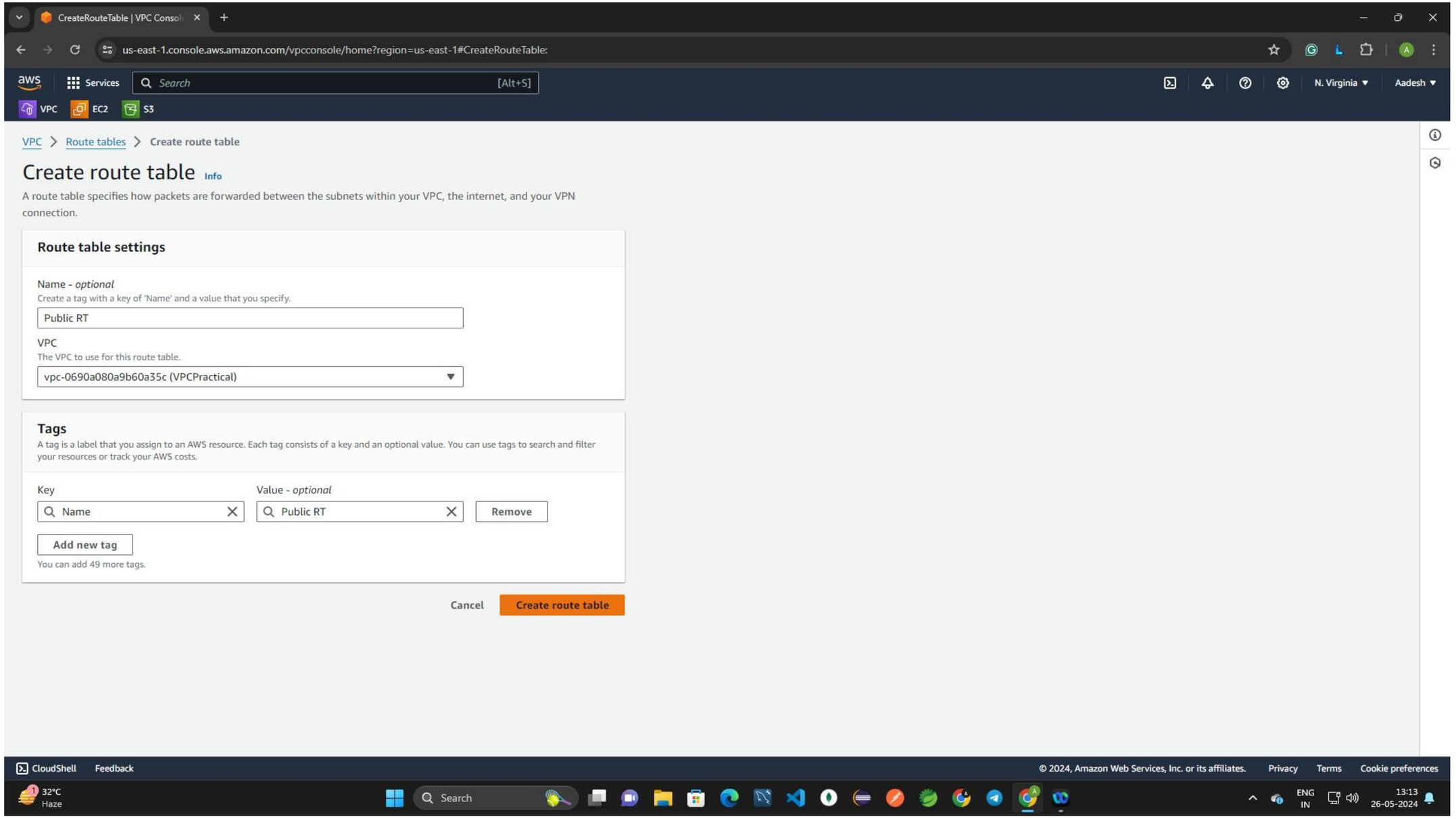


Private1Subnet

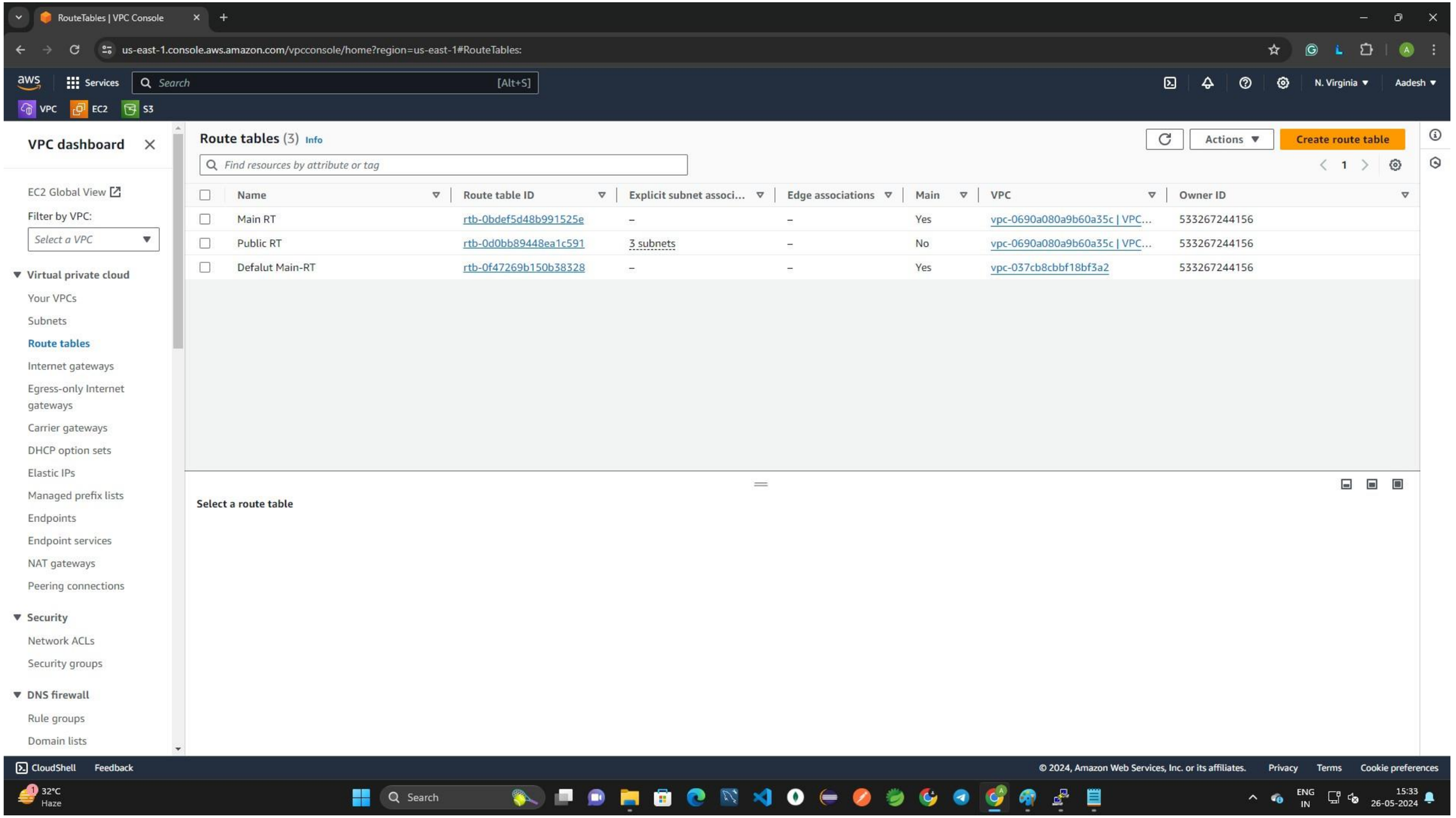


Private2 Subnet

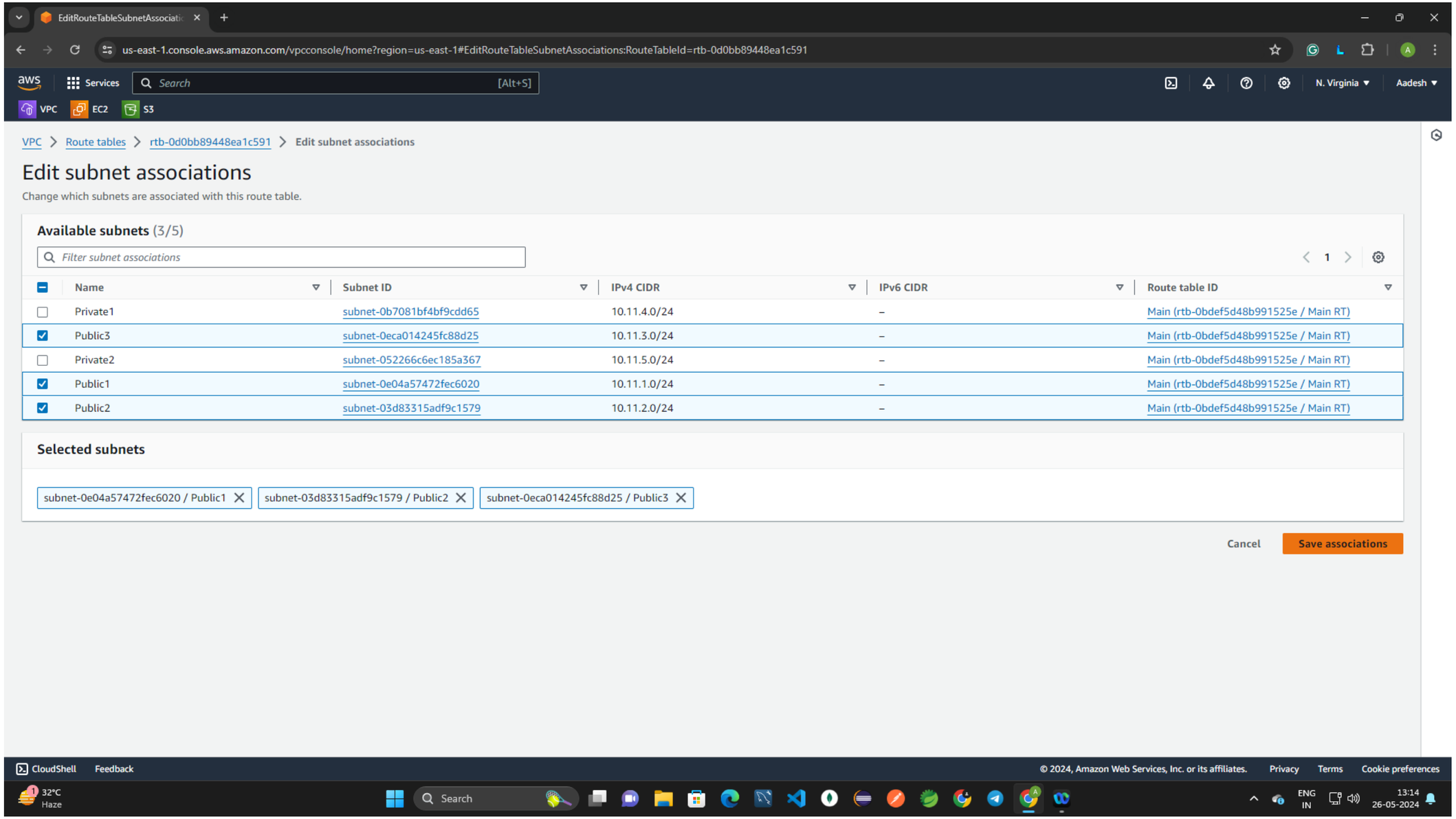
Step 4 - Rename Main RT and Create Public RT



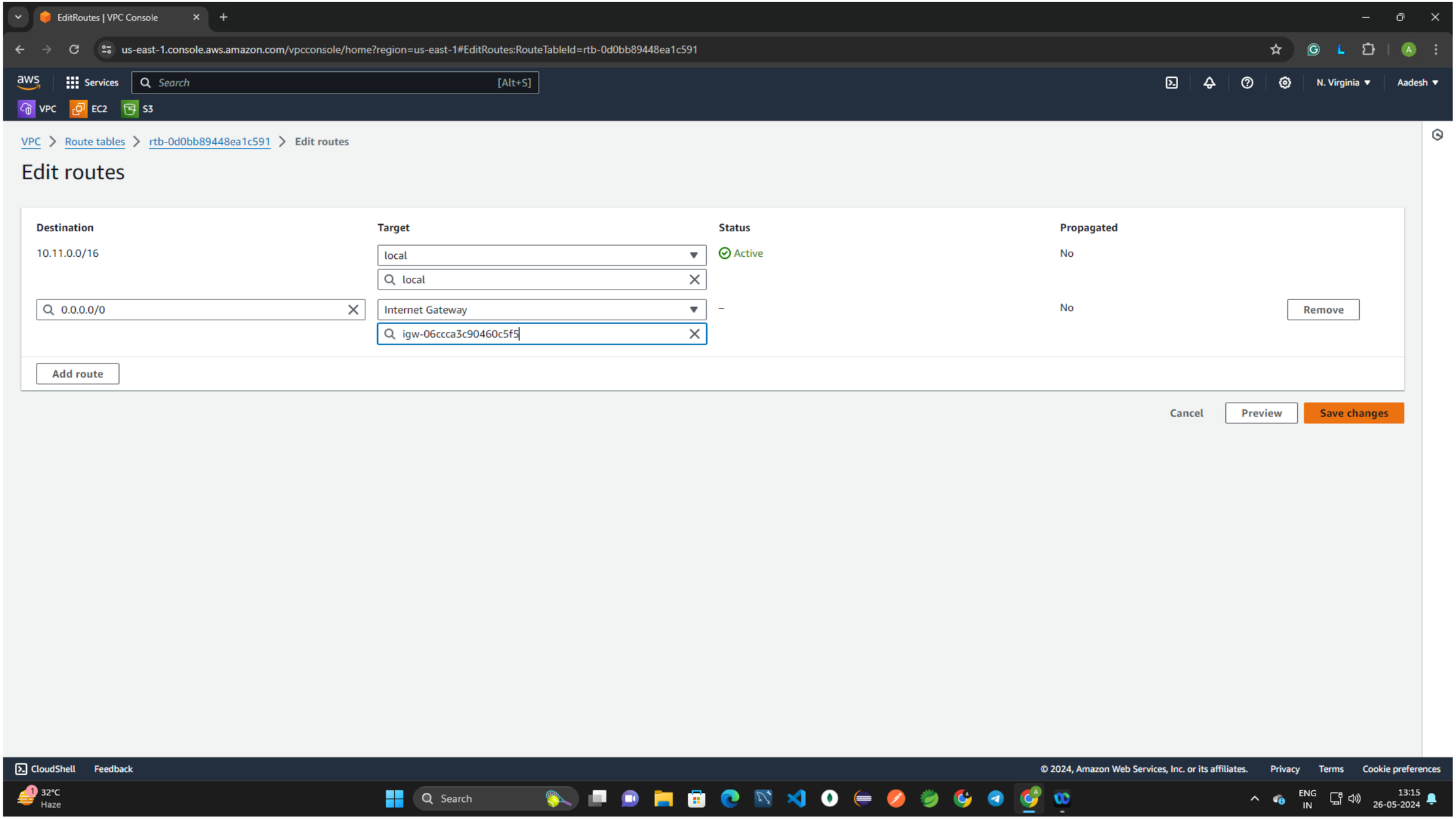
Step 4 - Rename Main RT and Create Public RT -



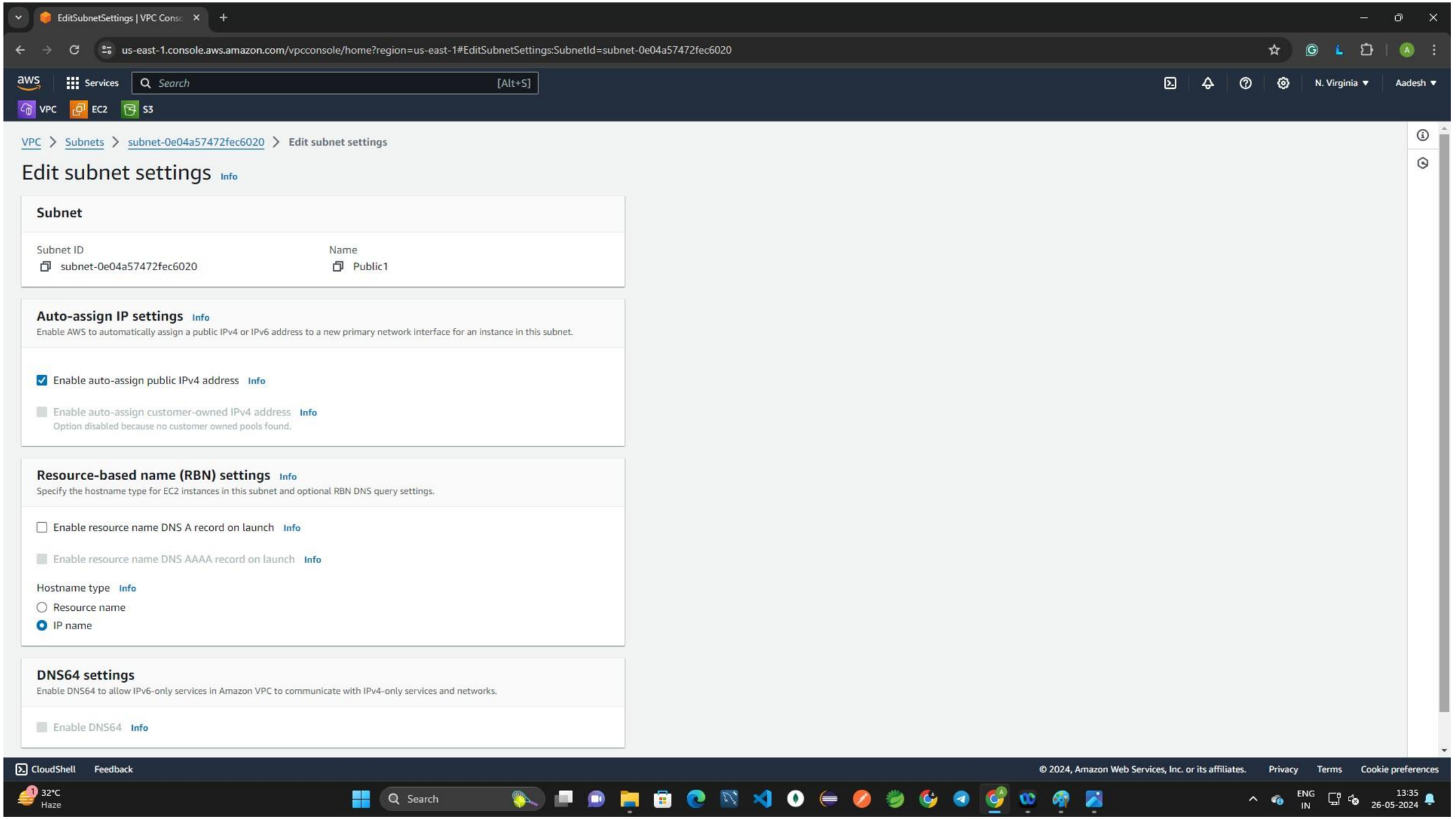
Step 5 - Public RT > Edit Subnet Associations > Select All Public Subnets > Save association



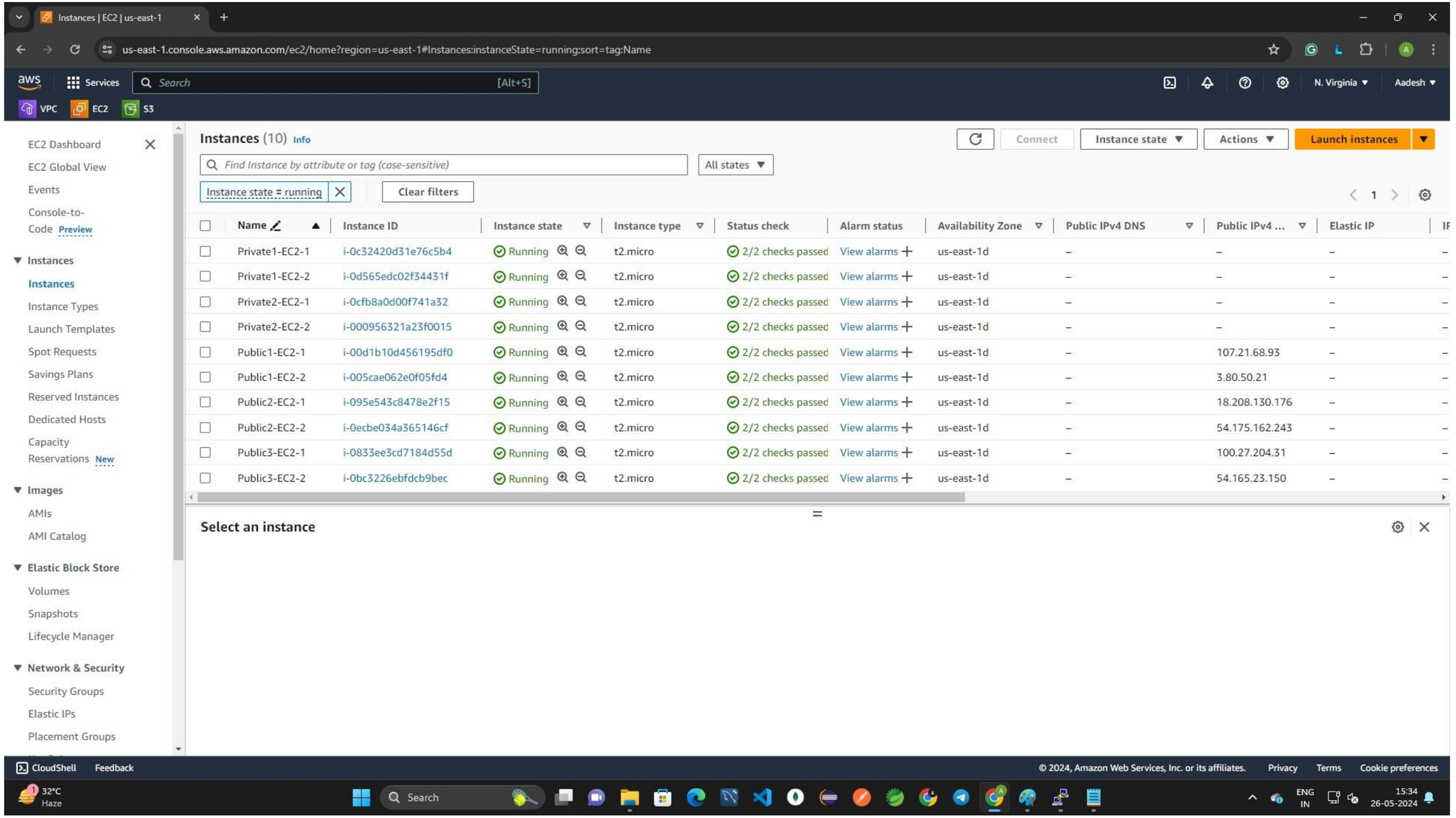
Step 6 - After Creating Public RT - Public RT > Routes > Edit routes > Add Internet gateway route



Step 7 - Select each Public subnets > Edit Subnet Settings > Enable auto-assign public IPv4 address

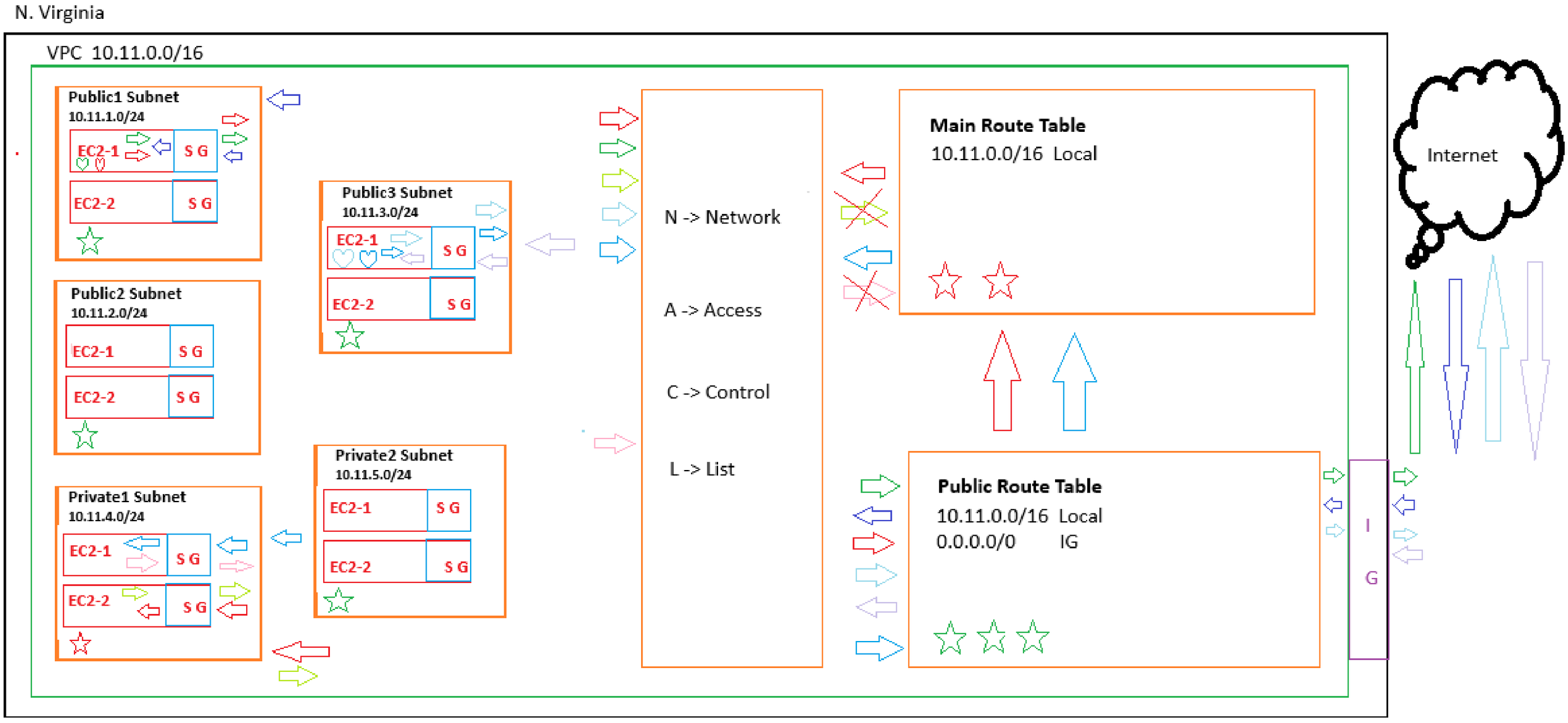


Step 8 - Launch Two EC2 instances for each Subnet



Note - EC2 instance > N/w Settings edit > Selct VPC, Subnet, create Security grp and add All icmp 4 (Anywhere) in Security grp

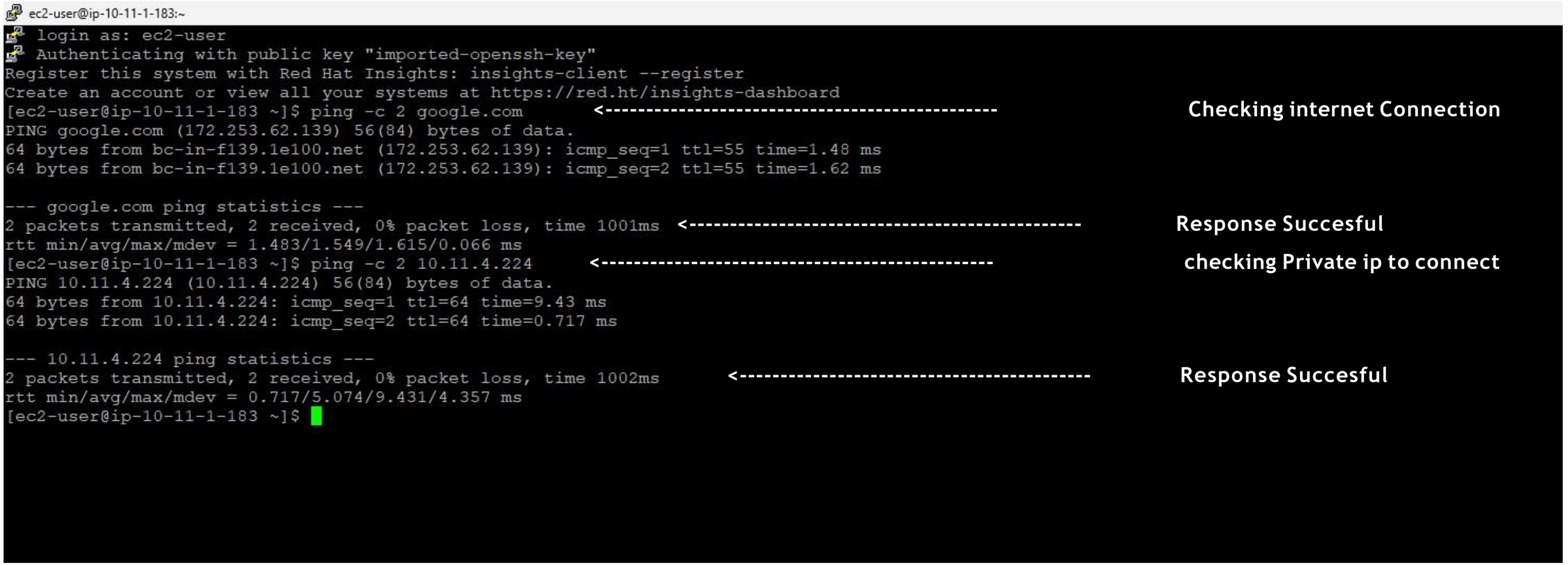
VPC Network Flow Diagram



Note - 1) In this way, we can check internet connection and internal communication with other remaining instances.

2) To check request and response from pc to machine, just open command prompt > ping -c Public_IP > Enter. We will get response from machine to our pc.

Step 9 - Check internet connection



Internet Connection checking and checking private IP availability to connect

Step 10 - Check internal communication

```
ec2-user@ip-10-11-1-183:~
login as: ec2-user
Authenticating with public key "imported-openssh-key"
Register this system with Red Hat Insights: insights-client --register
Create an account or view all your systems at https://red.ht/insights-dashboard
[ec2-user@ip-10-11-1-183 ~]$ ping -c 2 google.com <----------------------------------
PING google.com (172.253.62.139) 56(84) bytes of data.
64 bytes from bc-in-f139.1e100.net (172.253.62.139): icmp_seq=1 ttl=55 time=1.48 ms
64 bytes from bc-in-f139.1e100.net (172.253.62.139): icmp_seq=2 ttl=55 time=1.62 ms

--- google.com ping statistics ---
2 packets transmitted, 2 received, 0% packet loss, time 1001ms <----------------------------------
rtt min/avg/max/mdev = 1.483/1.549/1.615/0.066 ms
[ec2-user@ip-10-11-1-183 ~]$ ping -c 2 10.11.4.224   <-------------------------------------------
PING 10.11.4.224 (10.11.4.224) 56(84) bytes of data.
64 bytes from 10.11.4.224: icmp_seq=1 ttl=64 time=9.43 ms
64 bytes from 10.11.4.224: icmp_seq=2 ttl=64 time=0.717 ms

--- 10.11.4.224 ping statistics ---
2 packets transmitted, 2 received, 0% packet loss, time 1002ms  <---------------------------------------
rtt min/avg/max/mdev = 0.717/5.074/9.431/4.357 ms
[ec2-user@ip-10-11-1-183 ~]$ ssh -i "VPcPractNew.pem" ec2-user@10.11.4.224^C  <--------------
[ec2-user@ip-10-11-1-183 ~]$ vi VPcPractNew.pem
[ec2-user@ip-10-11-1-183 ~]$ chmod 400 VPcPractNew.pem
[ec2-user@ip-10-11-1-183 ~]$ ssh -i "VPcPractNew.pem" ec2-user@10.11.4.224
The authenticity of host '10.11.4.224 (10.11.4.224)' can't be established.
ED25519 key fingerprint is SHA256:P6INLGhfuF3KVesTwV6dUUSGf1lu2G9NczPri1iPtiM.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '10.11.4.224' (ED25519) to the list of known hosts.
Register this system with Red Hat Insights: insights-client --register
Create an account or view all your systems at https://red.ht/insights-dashboard
[ec2-user@ip-10-11-4-224 ~]$ ping -c 2 google.com  <----------------------------------
PING google.com (142.251.167.138) 56(84) bytes of data.

--- google.com ping statistics ---
2 packets transmitted, 0 received, 100% packet loss, time 1010ms  <----------------------------

[ec2-user@ip-10-11-4-224 ~]$ exit
logout
Connection to 10.11.4.224 closed.
[ec2-user@ip-10-11-1-183 ~]$
```

Connected to public1-ec2-1 instance, Checking internet Connection

Response Succesful

checking Private ip to connect

Respose Succesful

Connecting to private1-ec2-2 instance from public ec2 instance

Connected to private1-ec2-2 instance,, Checking internet connection

Response Received 0 because in the Private subnet there is no internet

Internet Connection checking, internal communication (public1-ec2-1 instance and private2-ec2-2 instance)

Step 10 - Check internal communication

ec2-user@ip-10-11-5-233:~

```
[ec2-user@ip-10-11-3-246 ~]$ ping -c 2 amazon.com
PING amazon.com (205.251.242.103) 56(84) bytes of data.
64 bytes from s3-console-us-standard.console.aws.amazon.com (205.251.242.103): icmp_seq=1 ttl=247 time=0.510 ms
64 bytes from s3-console-us-standard.console.aws.amazon.com (205.251.242.103): icmp_seq=2 ttl=247 time=0.534 ms

--- amazon.com ping statistics ---
2 packets transmitted, 2 received, 0% packet loss, time 1001ms
rtt min/avg/max/mdev = 0.510/0.522/0.534/0.012 ms
[ec2-user@ip-10-11-3-246 ~]$ ssh -i "VPcPractNew.pem" ec2-user@10.11.5.233^C
[ec2-user@ip-10-11-3-246 ~]$ vi VPcPractNew.pem
[ec2-user@ip-10-11-3-246 ~]$ chmod 400 VPcPractNew.pem
[ec2-user@ip-10-11-3-246 ~]$ ssh -i "VPcPractNew.pem" ec2-user@10.11.5.233
The authenticity of host '10.11.5.233 (10.11.5.233)' can't be established.
ED25519 key fingerprint is SHA256:YfbQjYFjODI6h2Tvcq8zRI8fxtU8ibYCdesyDCU5yLQ.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '10.11.5.233' (ED25519) to the list of known hosts.
Register this system with Red Hat Insights: insights-client --register
Create an account or view all your systems at https://red.ht/insights-dashboard
[ec2-user@ip-10-11-5-233 ~]$ ping -c 2 100.27.204.31
PING 100.27.204.31 (100.27.204.31) 56(84) bytes of data.

--- 100.27.204.31 ping statistics ---
2 packets transmitted, 0 received, 100% packet loss, time 1048ms

[ec2-user@ip-10-11-5-233 ~]$ ping -c 2 amazon.com
PING amazon.com (54.239.28.85) 56(84) bytes of data.

--- amazon.com ping statistics ---
2 packets transmitted, 0 received, 100% packet loss, time 1040ms

[ec2-user@ip-10-11-5-233 ~]$
```


Internet Connection checking, internal communication (public3-ec2-1 instance and private2-ec2-1 instance)

Note - In this way we can communicate internally with other remaining instances

Step 11- Deletion

Delete EC2 Instances

STEP1

Delete Subnets

STEP2

Delete Route Table

STEP3

Detach and Delete Internet Gateway

STEP4

Delete VPC

STEP4