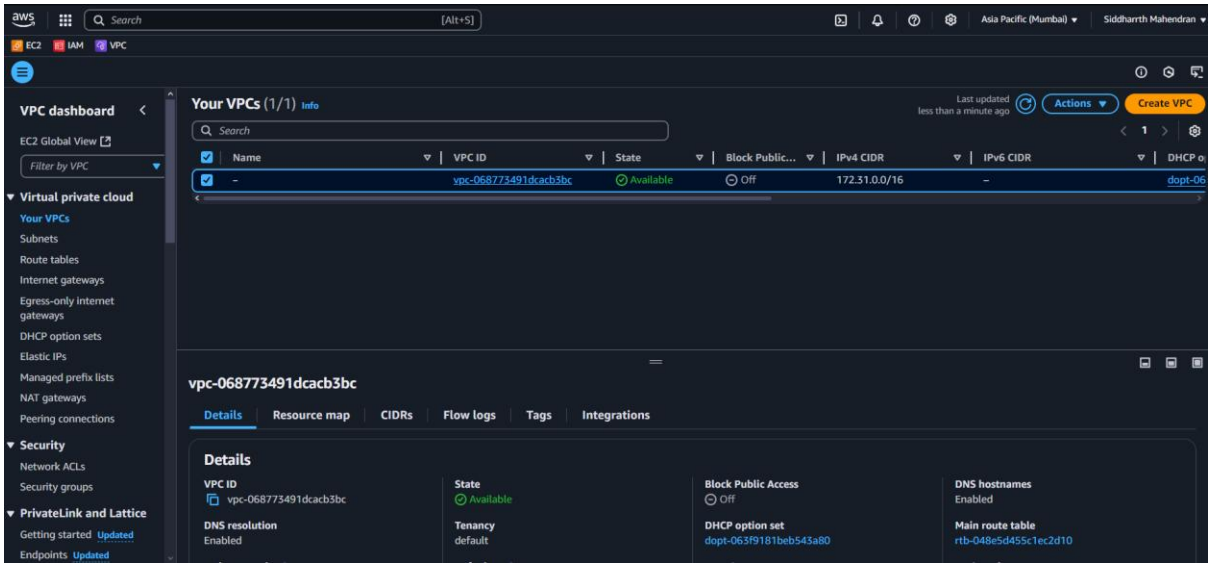
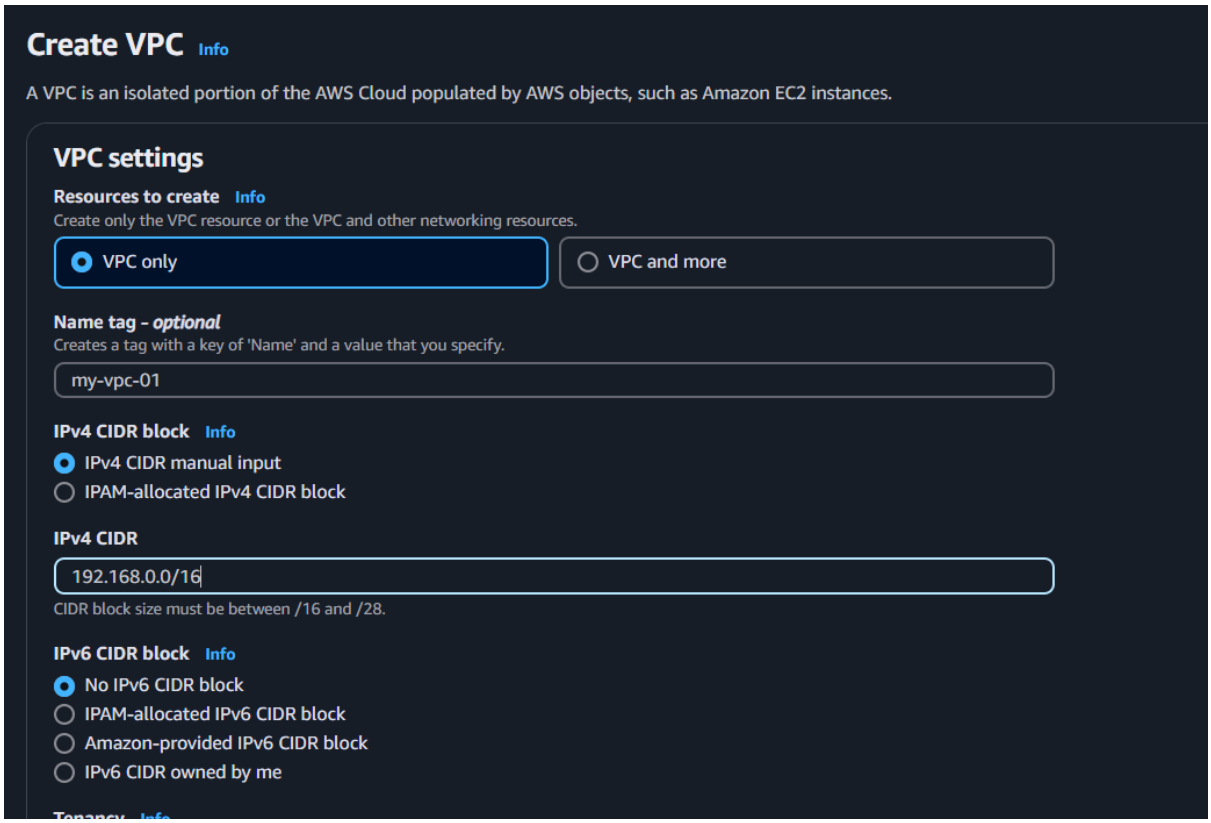
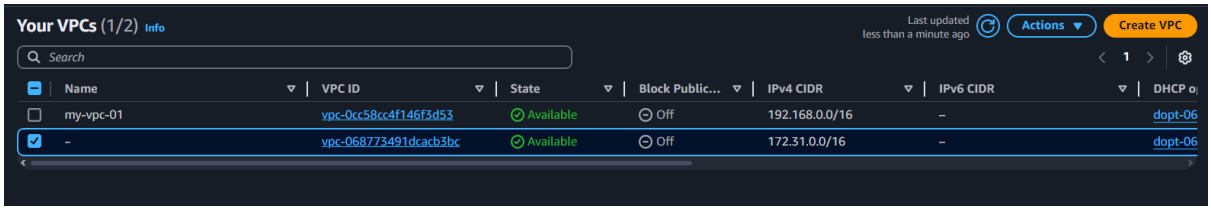
VPC

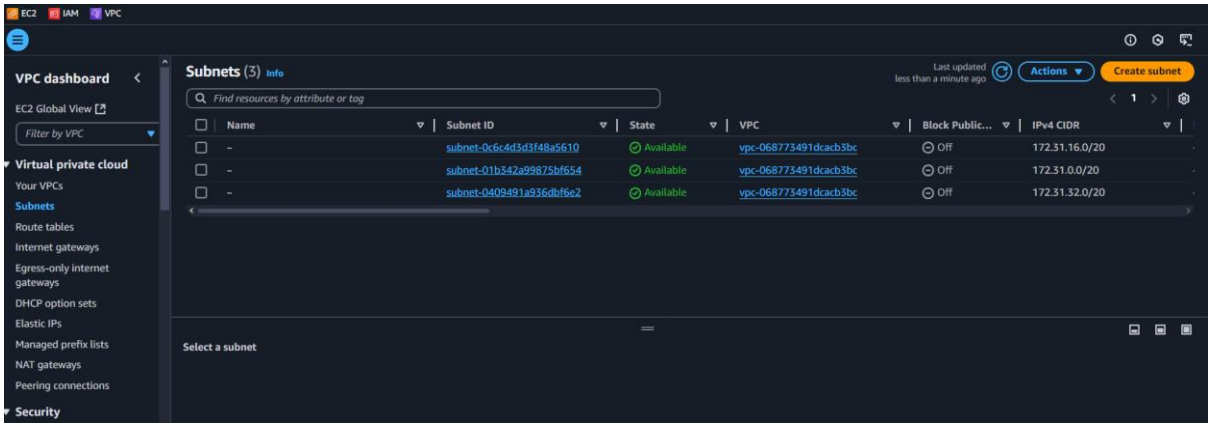
Step-1: Create VPC

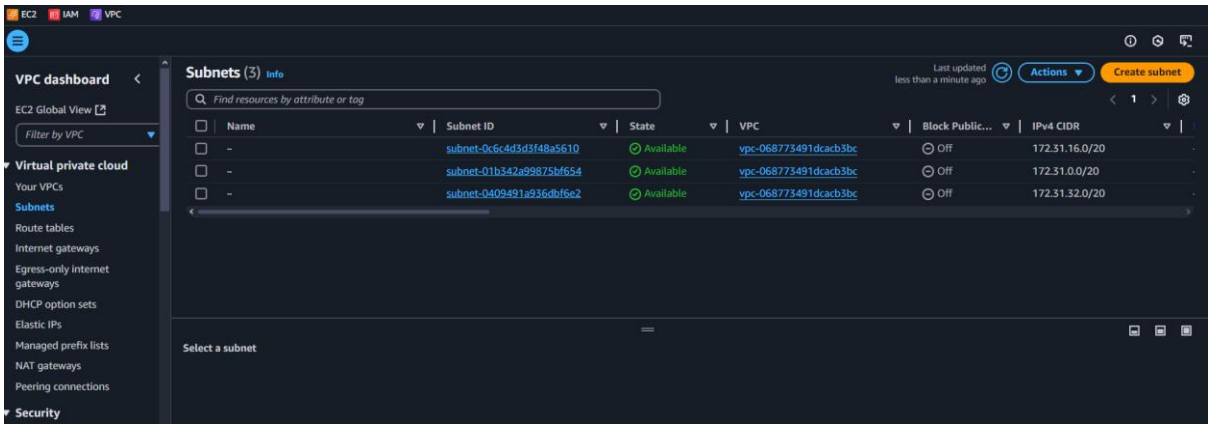


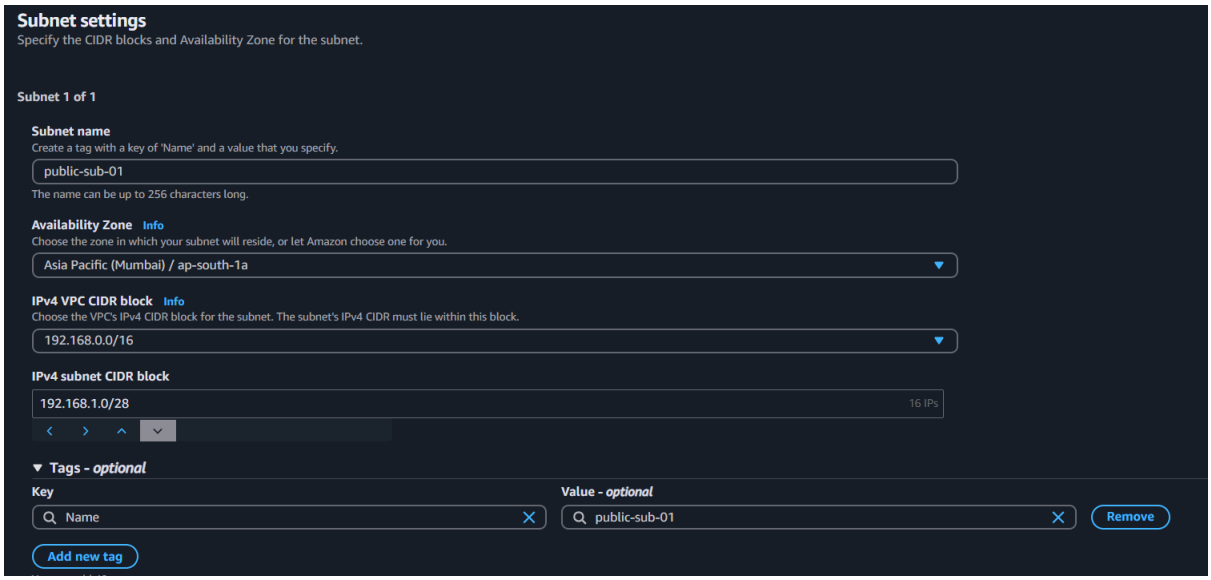




Step-2: Create subnet

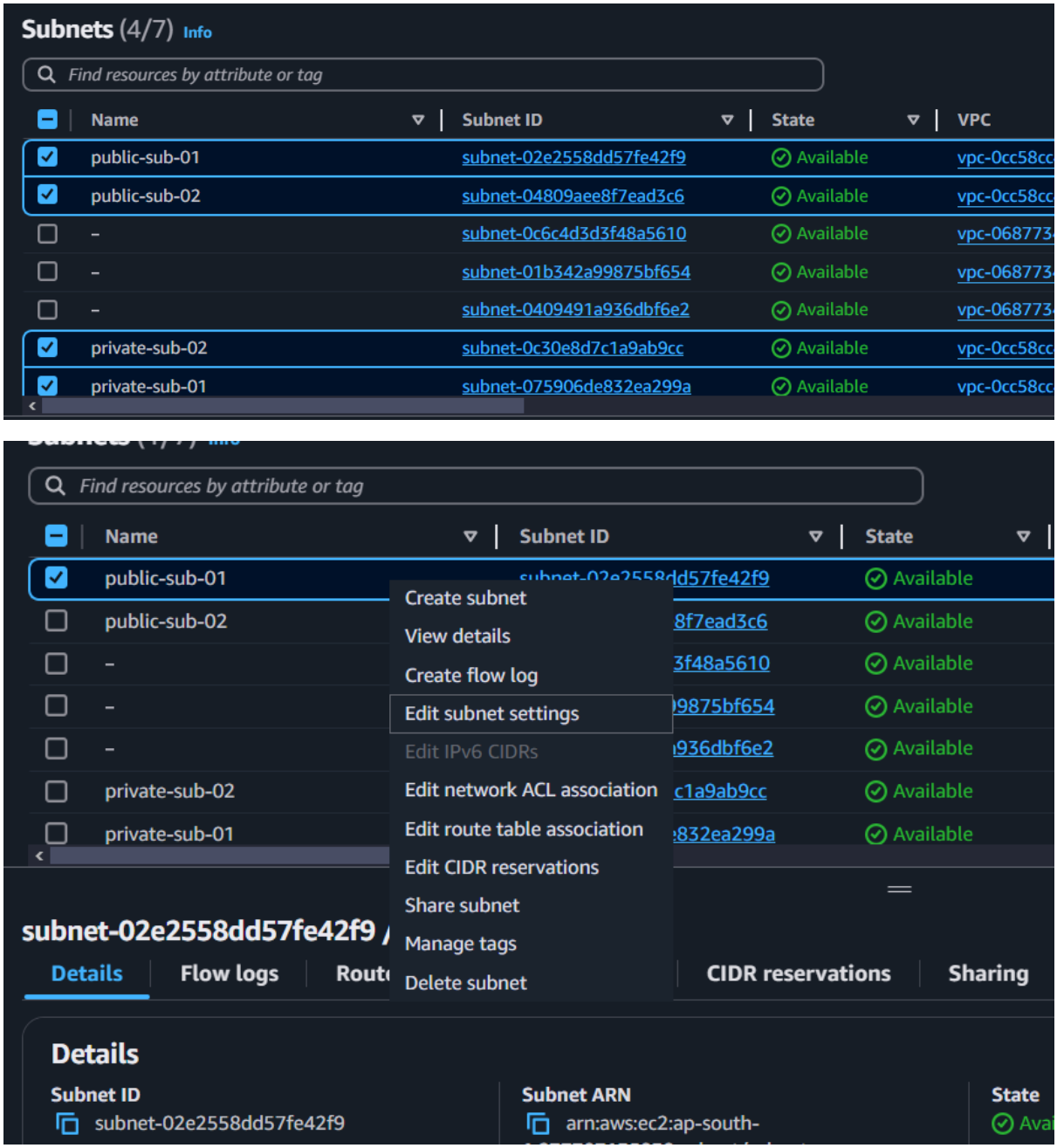




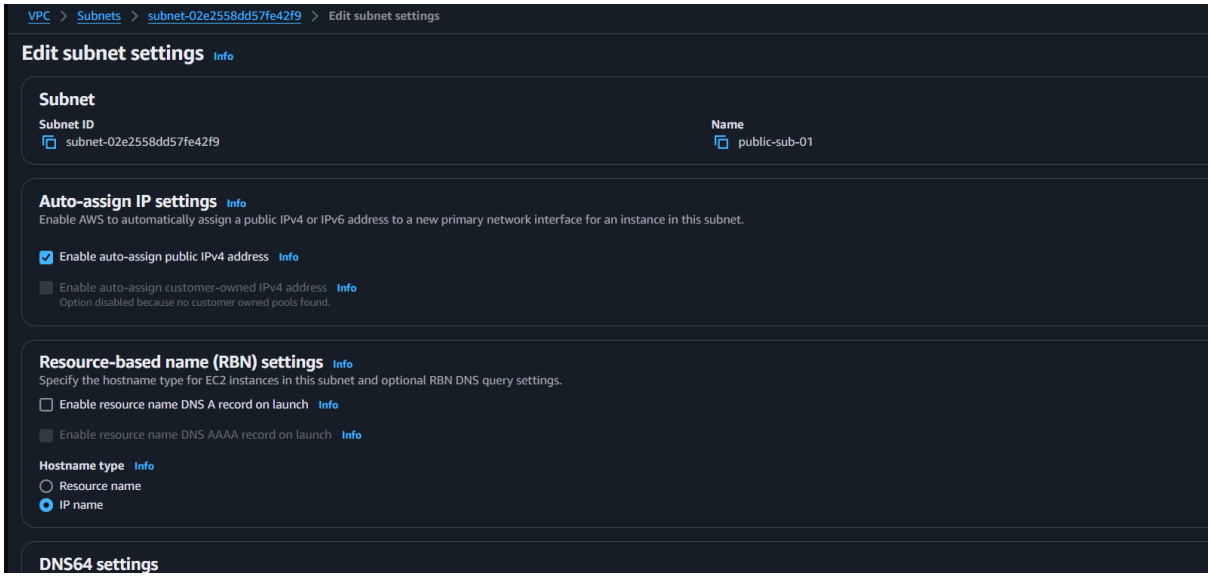


Create 4 subnet

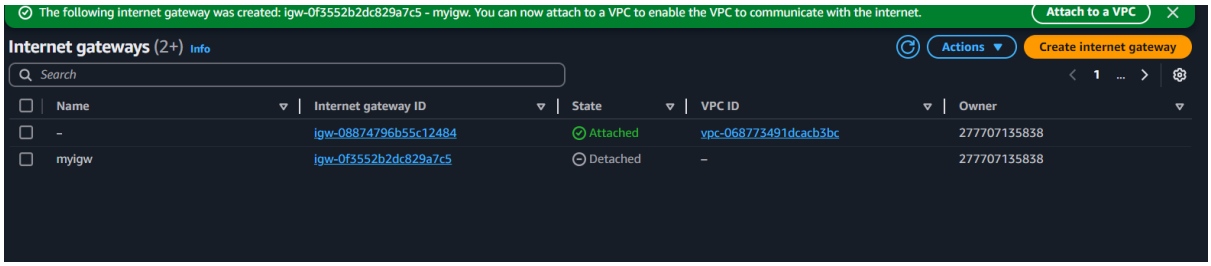
2 public, 2 private

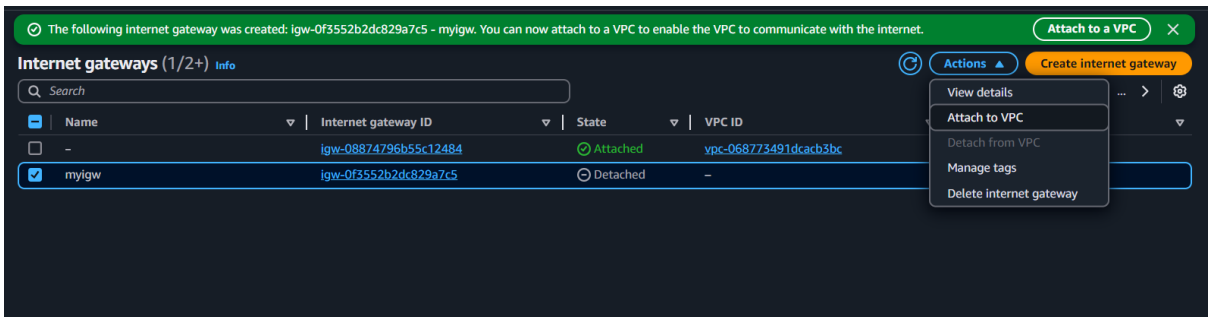


Allow auto-assign IP address to public subnet



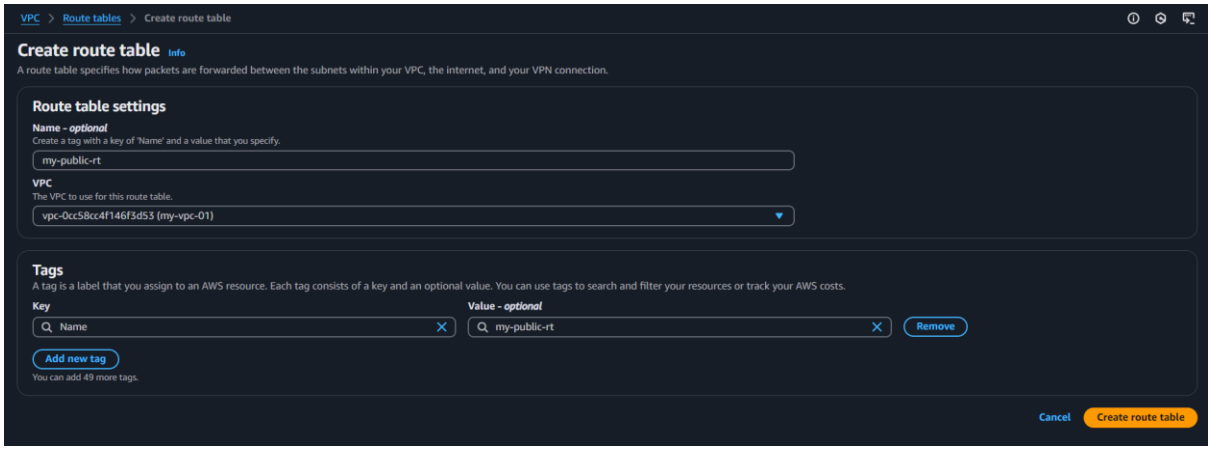
Step-3: Create Internet gateway

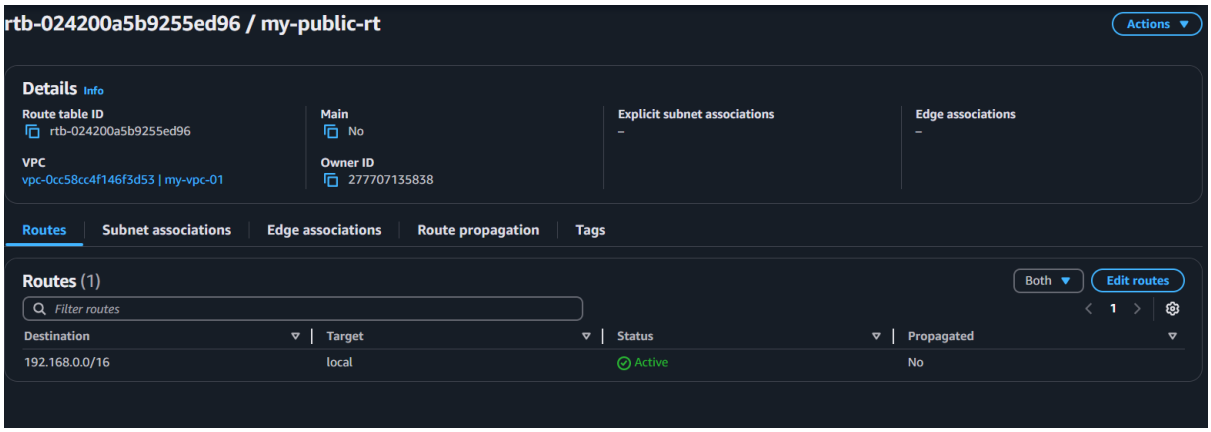




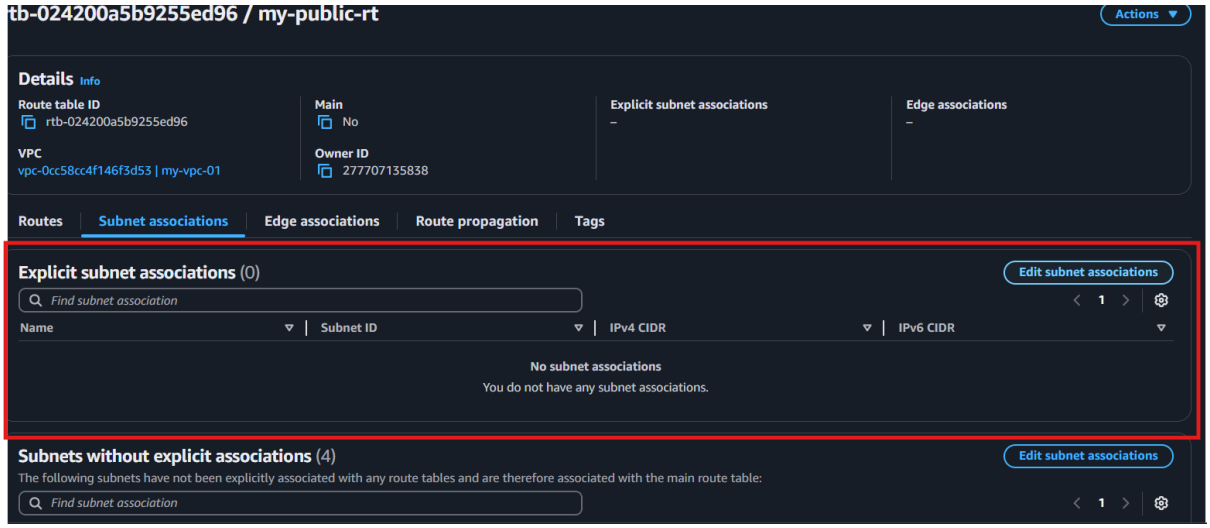
Attach to VPC

Step-4: Create route table

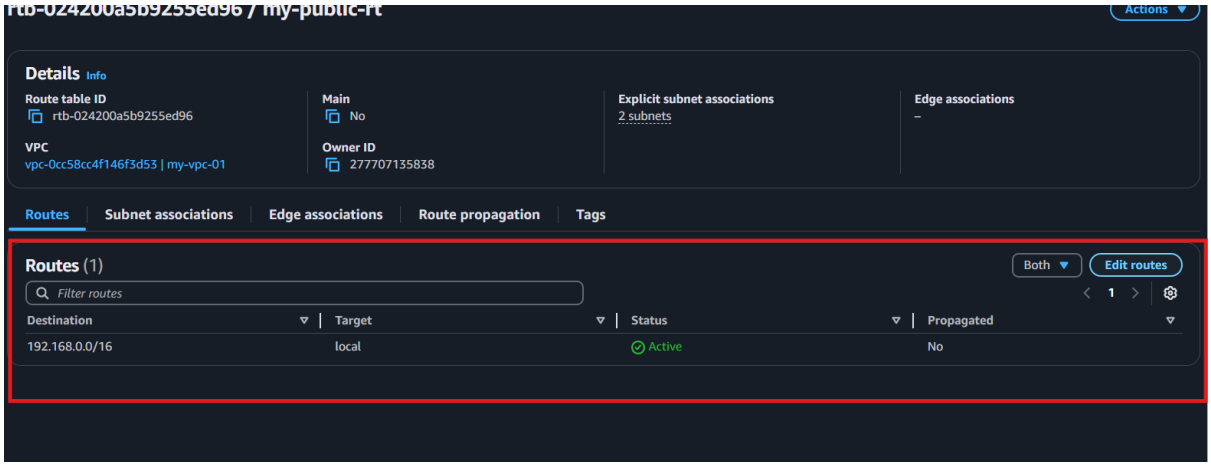


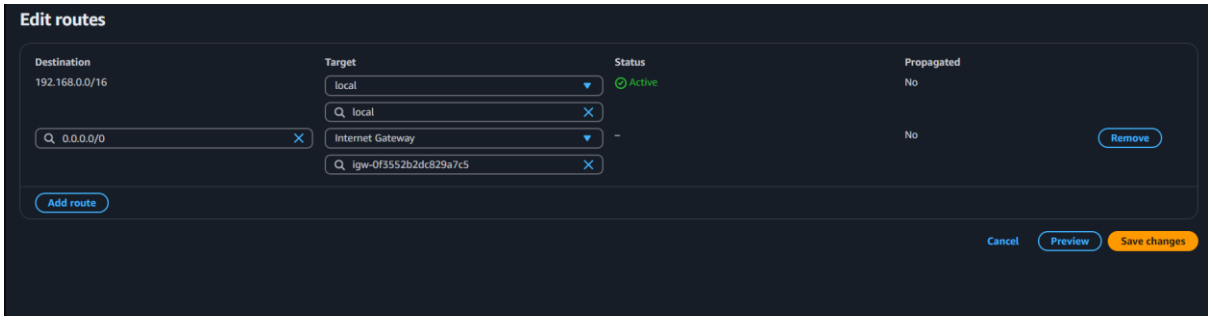


Edit subnet associations

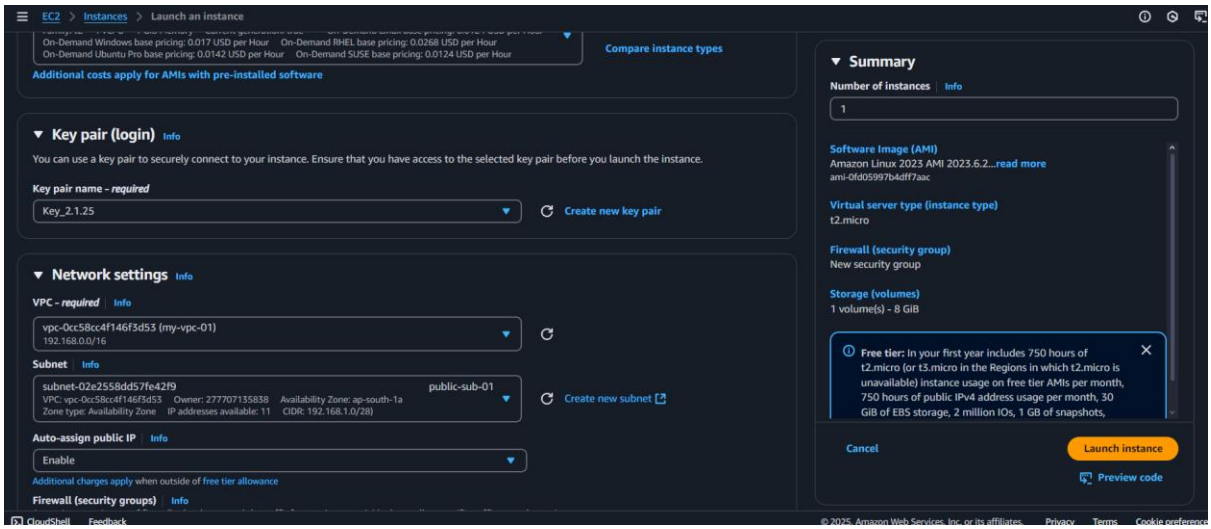


Edit Routes





Create EC2 instance

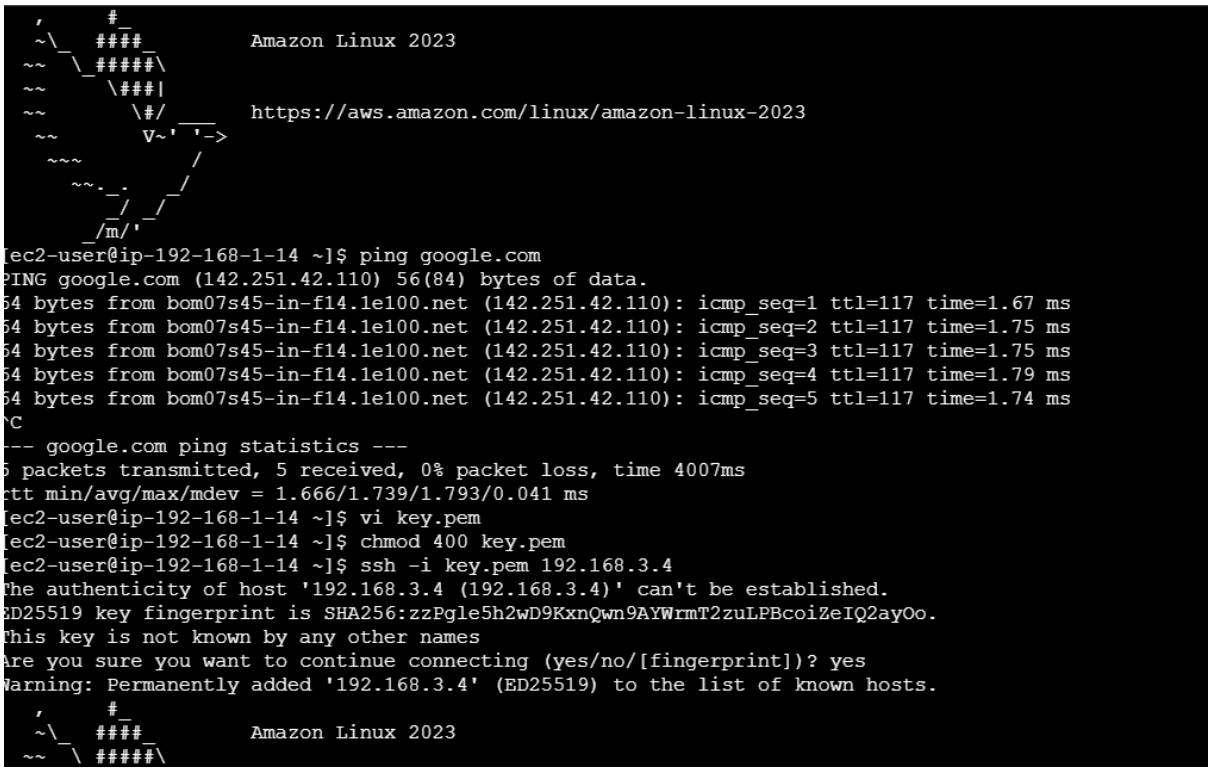


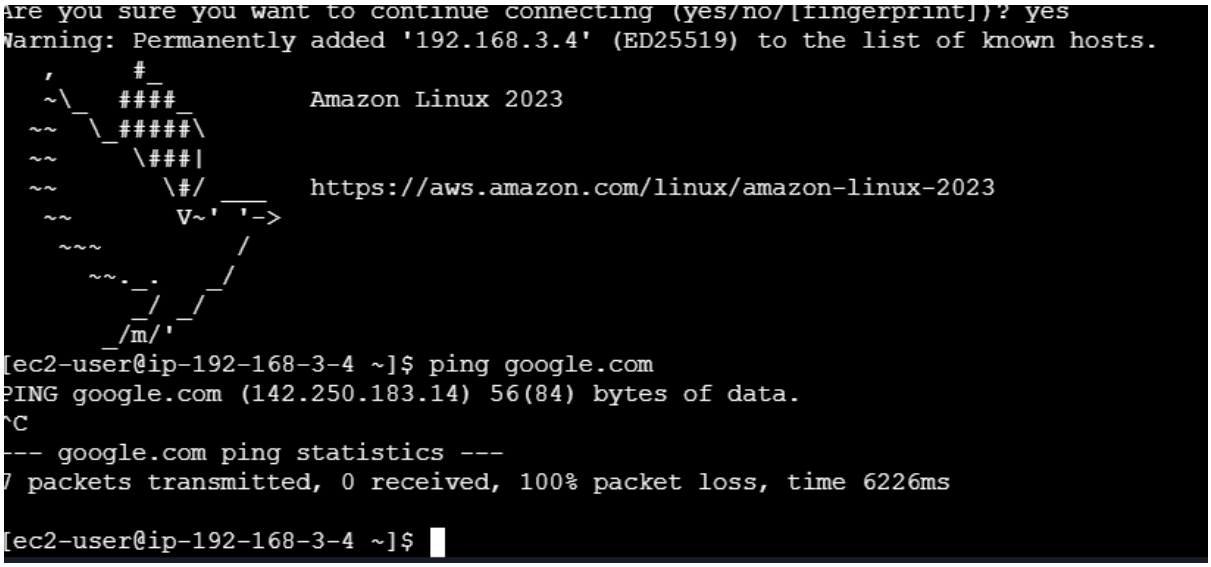
Create 2 instance (public and private)

And connect to the public instance and ping google.com to check network

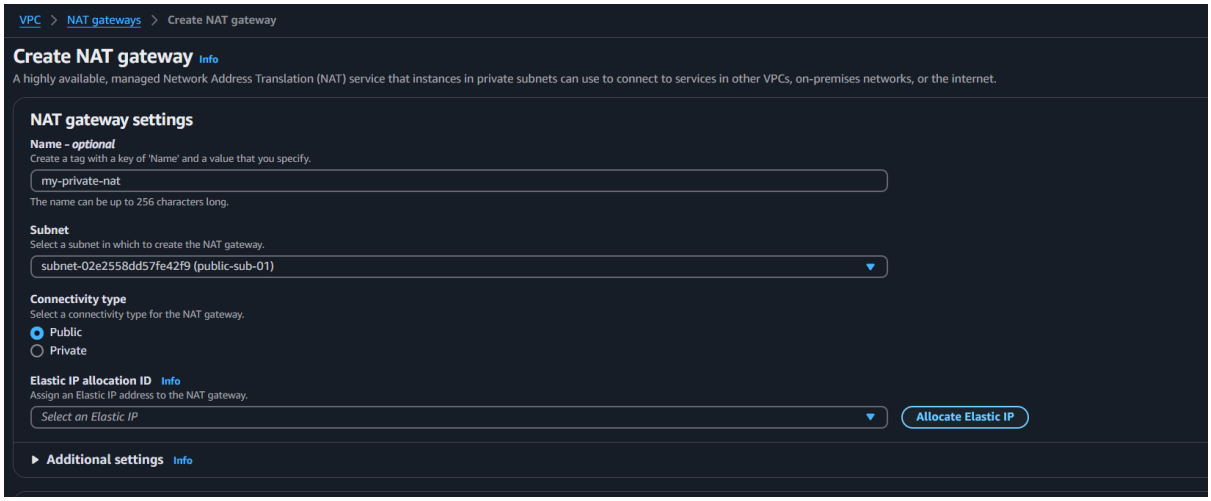
Connect to private instance using ssh -i key.pem 192.168.3.4

Check network is working or not

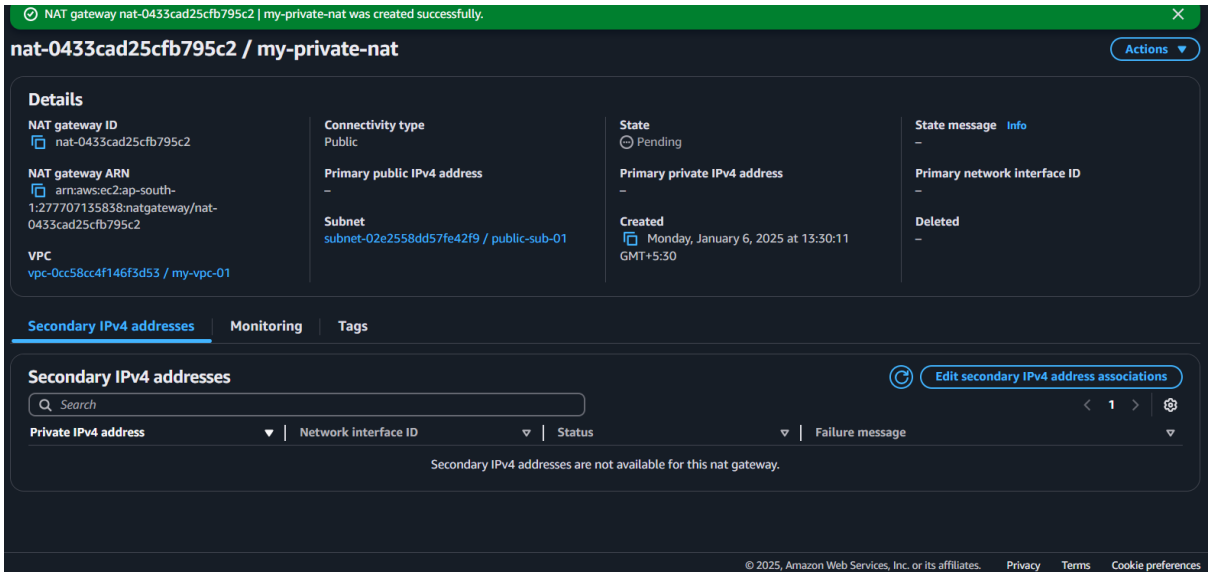




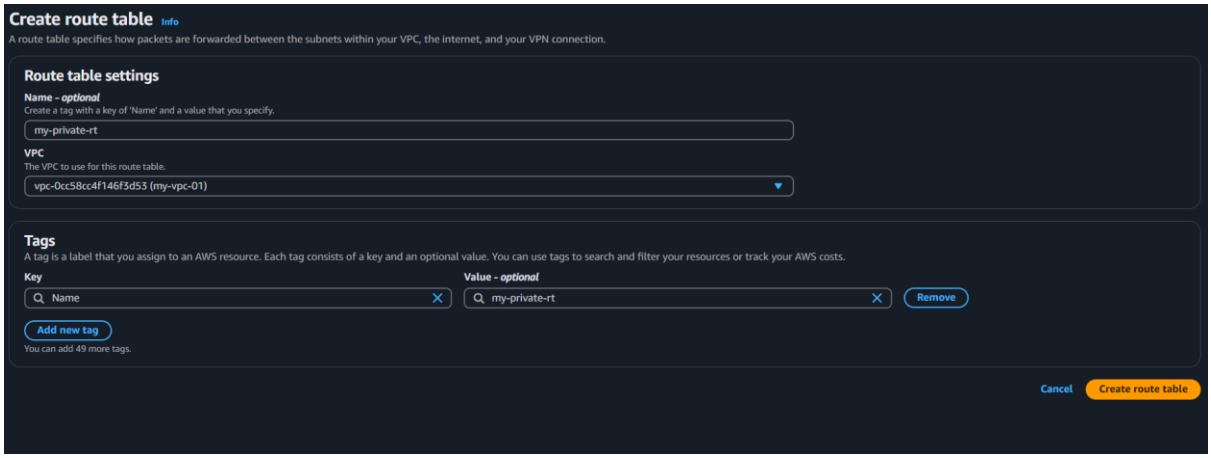
Now create Nat gateway to access network in private subnet

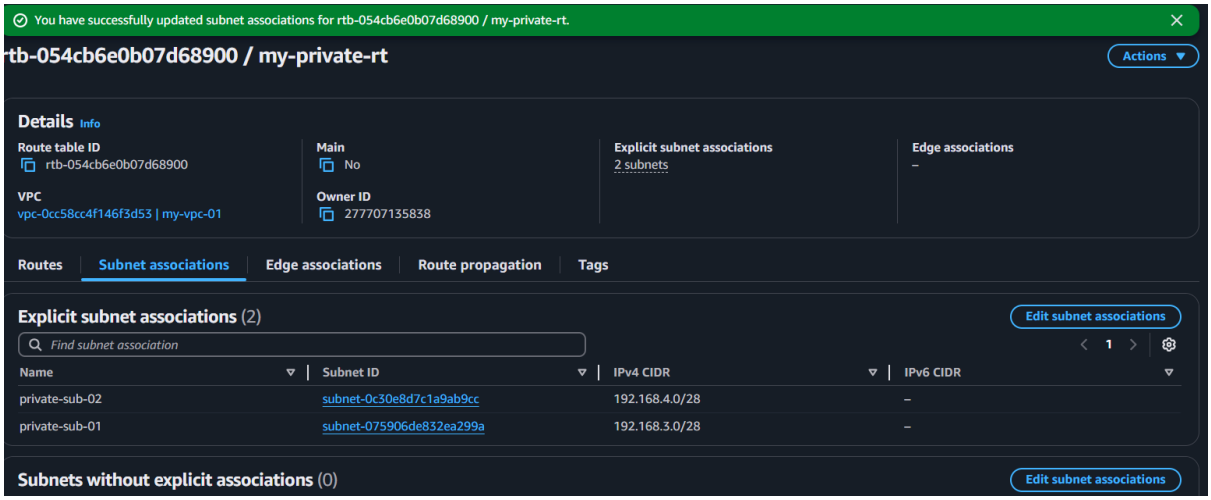


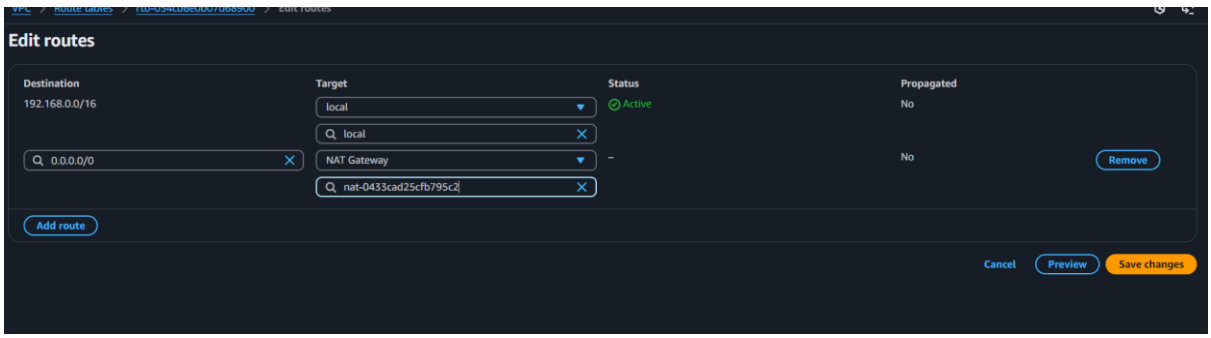
Select allocate elastic IP



Create route table for private subnet



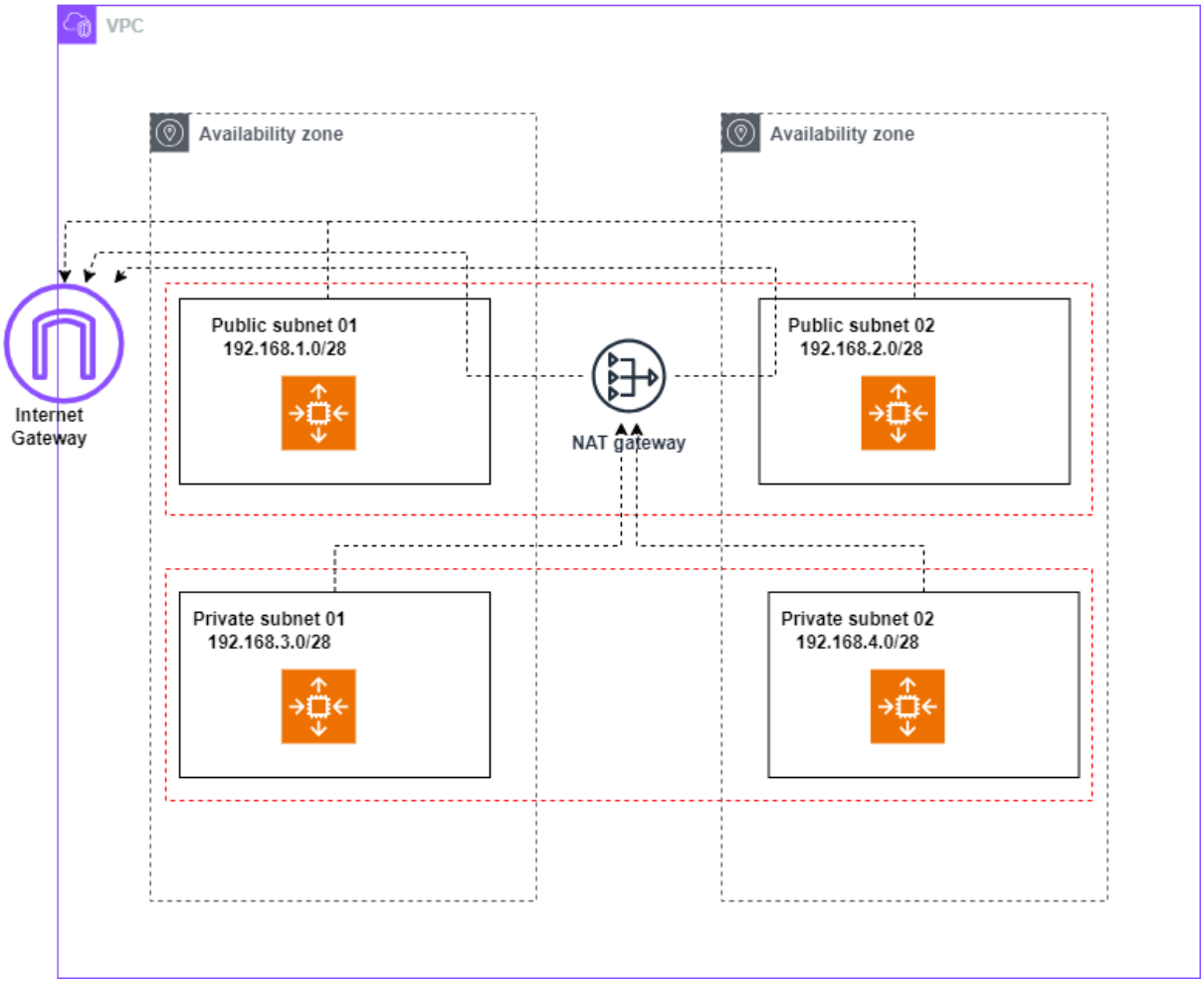




Try ping google.com to check network is working

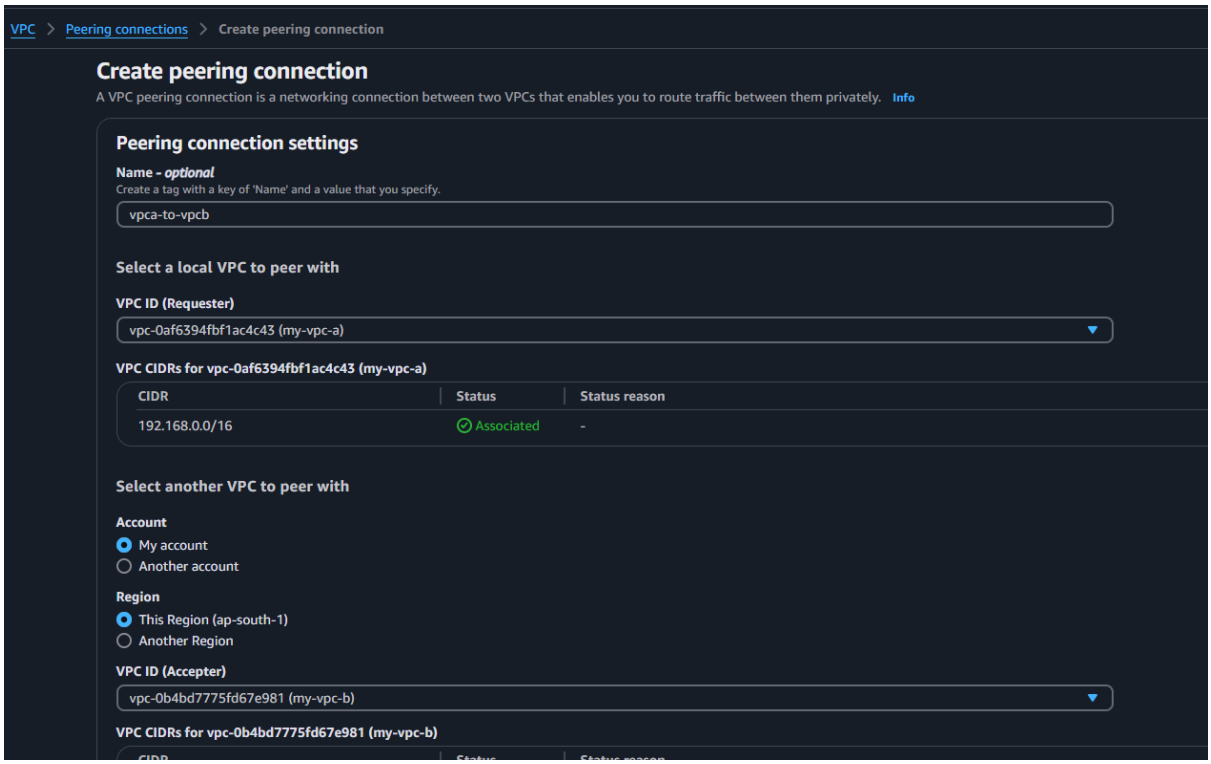
```
[ec2-user@ip-192-168-3-4 ~]$ ping google.com
PING google.com (142.250.183.14) 56(84) bytes of data.
^C
--- google.com ping statistics ---
7 packets transmitted, 0 received, 100% packet loss, time 6226ms

[ec2-user@ip-192-168-3-4 ~]$ ls
[ec2-user@ip-192-168-3-4 ~]$ ping google.com
PING google.com (142.250.70.110) 56(84) bytes of data.
64 bytes from pnbomb-ac-in-f14.1e100.net (142.250.70.110): icmp_seq=1 ttl=56 time=2.75 ms
64 bytes from pnbomb-ac-in-f14.1e100.net (142.250.70.110): icmp_seq=2 ttl=56 time=2.30 ms
64 bytes from pnbomb-ac-in-f14.1e100.net (142.250.70.110): icmp_seq=3 ttl=56 time=2.37 ms
64 bytes from pnbomb-ac-in-f14.1e100.net (142.250.70.110): icmp_seq=4 ttl=56 time=2.34 ms
64 bytes from pnbomb-ac-in-f14.1e100.net (142.250.70.110): icmp_seq=5 ttl=56 time=2.32 ms
^C
--- google.com ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4005ms
rtt min/avg/max/mdev = 2.299/2.414/2.751/0.169 ms
[ec2-user@ip-192-168-3-4 ~]$
```

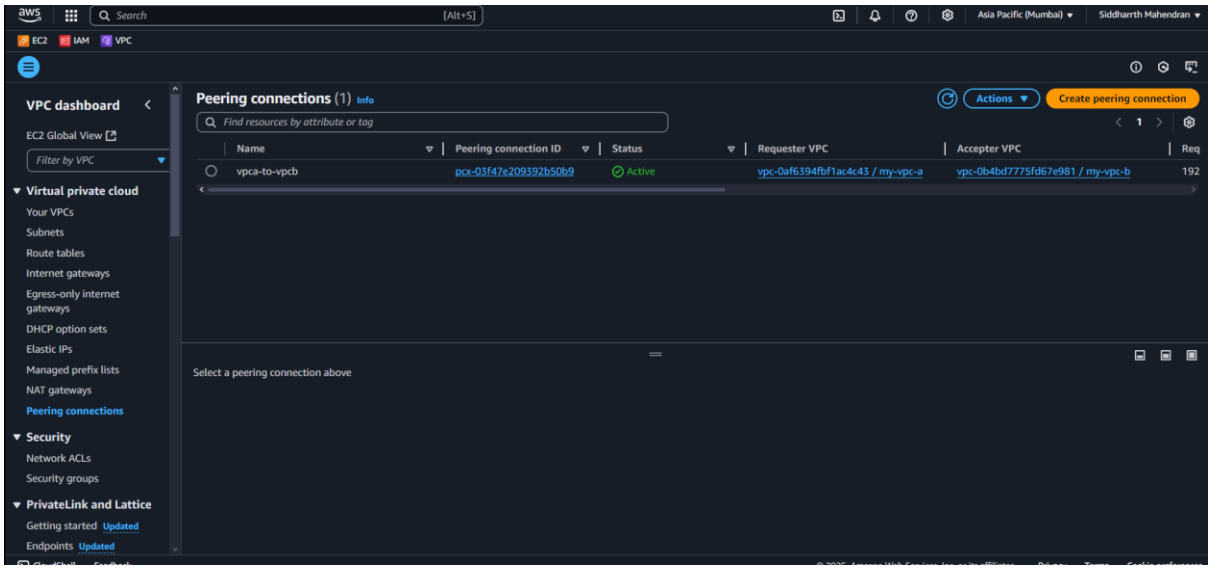
VPC

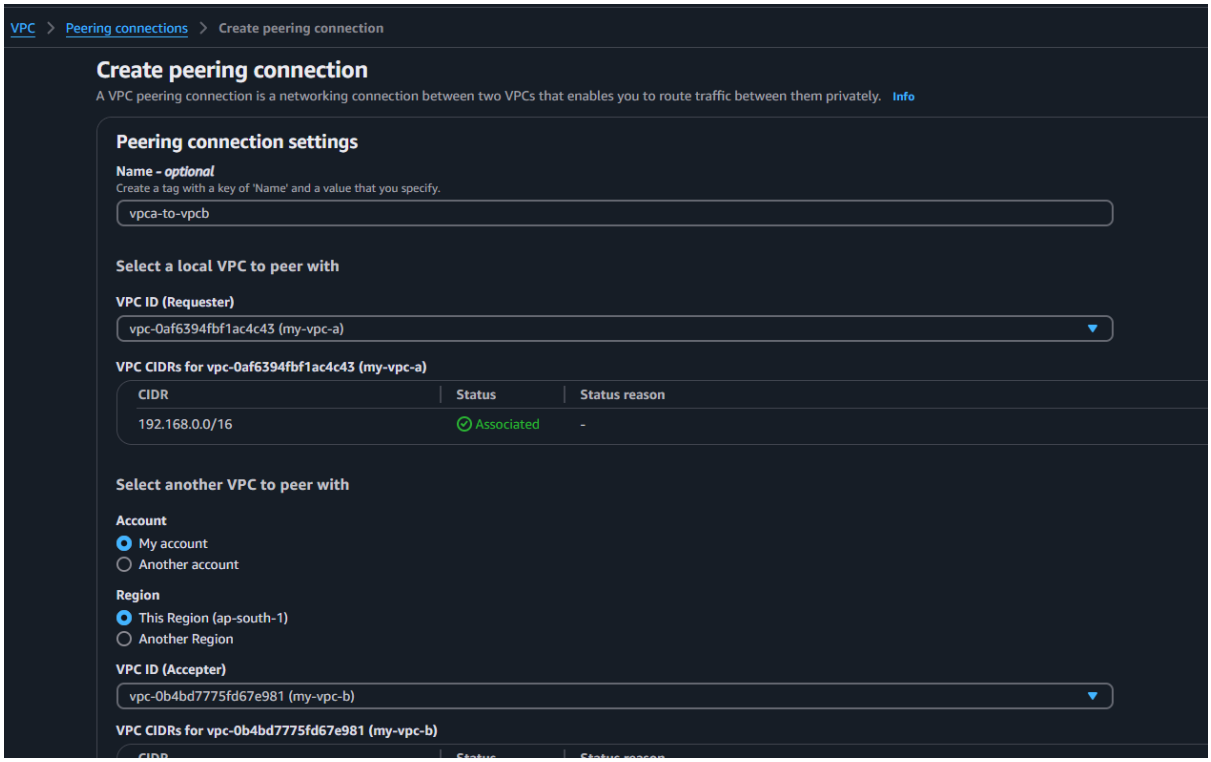


Peering connection

- Create 2 VPCs with 2 public subnet & 2 private subnet, Internet gateway, NAT gateway and 2 route table for each VPCs (2 set)
- While creating public instance vpc a web server add security groups (SSH, HTTP, ICMP)
- Create a Peering Connection



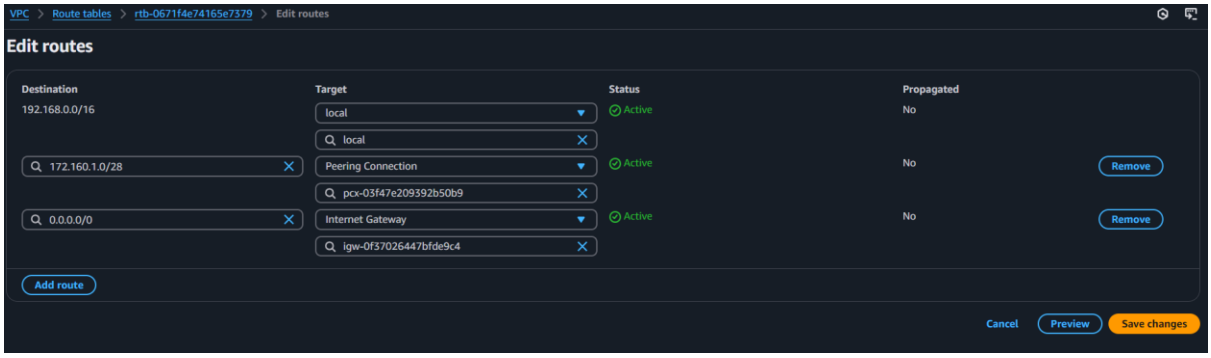




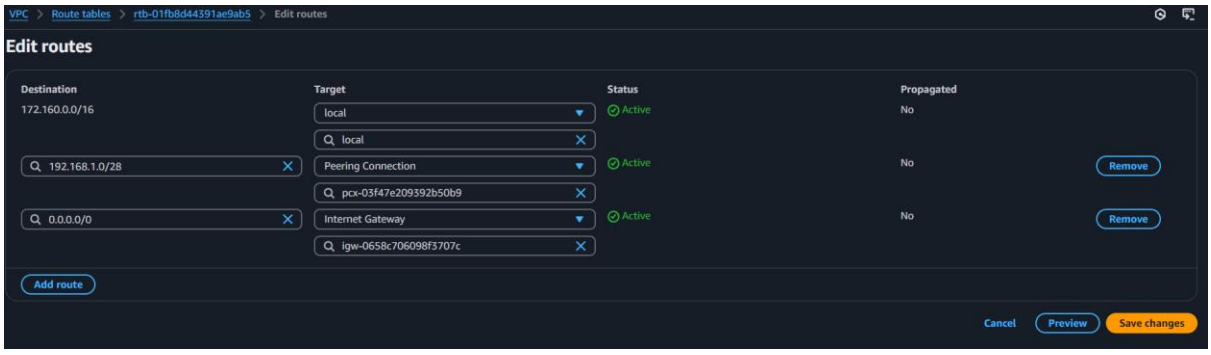
- Make changes in route table
    - To allow the network traffic

Change “my-public-rt-a” route table

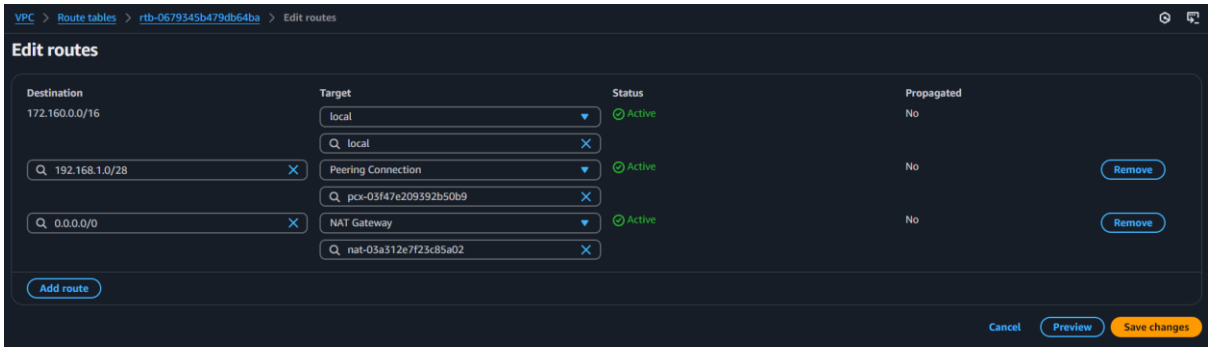
Add route



Change “my-private-rt-b” route table



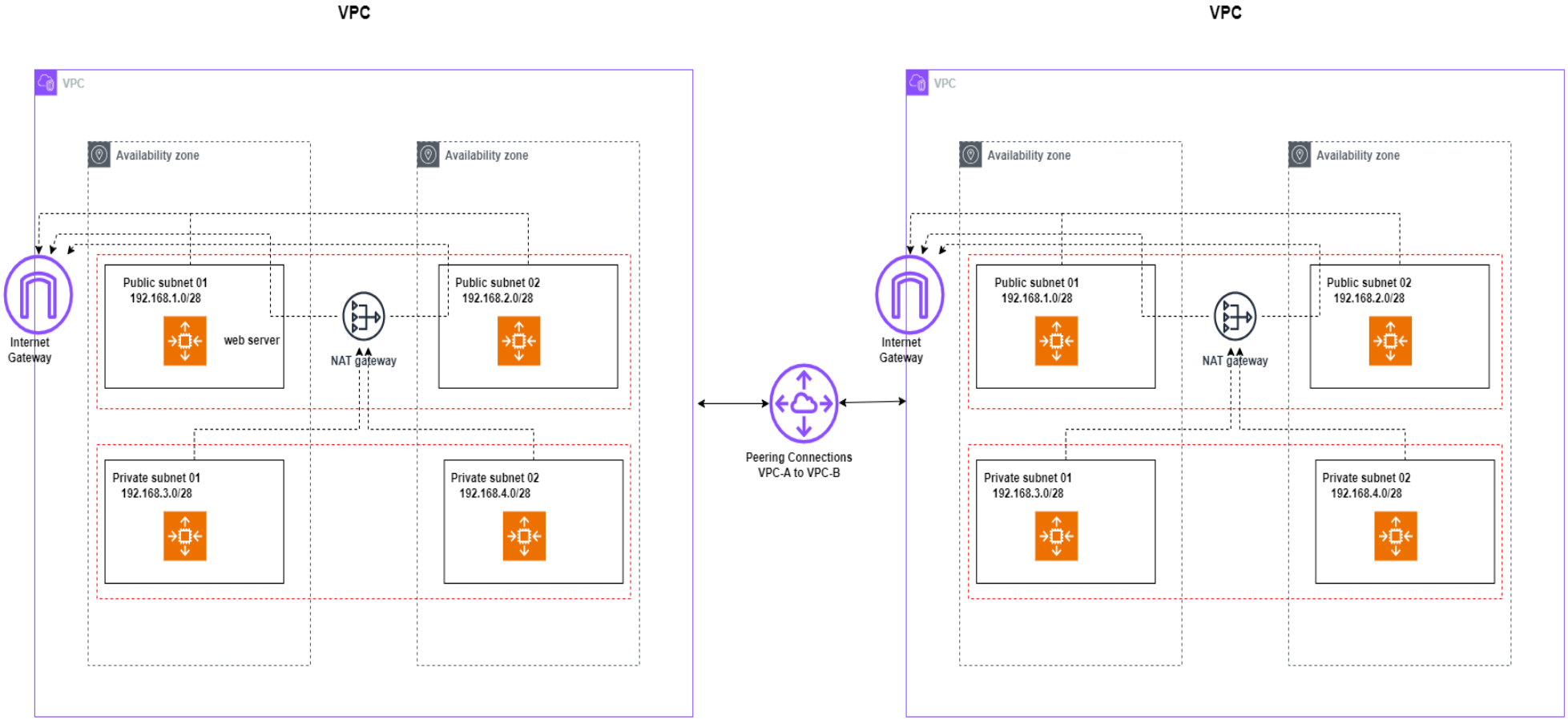
Change “my-private-rt-b” route table



Try ping in the web server from vpc b to vpc a

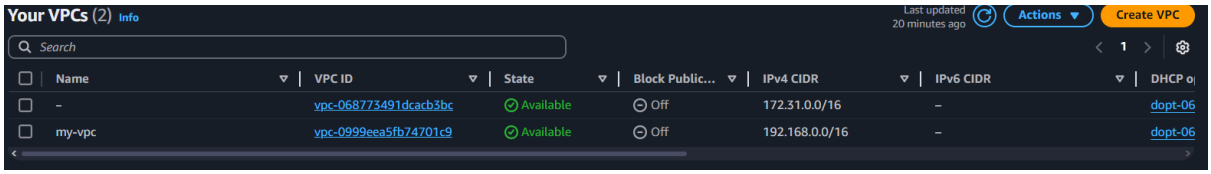
```
[ec2-user@ip-172-160-1-11 ~]$ curl 35.154.68.211
hello thi is ip-192-168-1-11.ap-south-1.compute.internal
[ec2-user@ip-172-160-1-11 ~]$
```

```
[ec2-user@ip-172-160-1-11 ~]$ ssh -i key.pem 172.160.3.11
   ,     #_
   ~\_  ####_        Amazon Linux 2023
  ~~  \_#####\
  ~~     \###|
  ~~       \#/ ___   https://aws.amazon.com/linux/amazon-linux-2023
   ~~       V~' '->
    ~~~         /
      ~~._.   _/
         _/ _/
       _/m/'
Last login: Tue Jan  7 07:01:51 2025 from 172.160.1.11
[ec2-user@ip-172-160-3-11 ~]$ curl 35.154.68.211
hello thi is ip-192-168-1-11.ap-south-1.compute.internal
[ec2-user@ip-172-160-3-11 ~]$
```

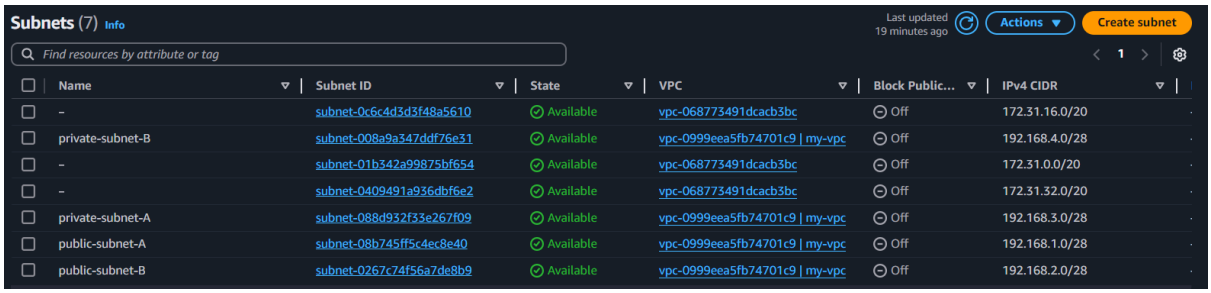

VPC
VPC
VPC
Availability zone
Availability zone
Public subnet 01
192.168.1.0/28
web server
NAT gateway
Public subnet 02
192.168.2.0/28
Internet
Gateway
Private subnet 01
192.168.3.0/28
Private subnet 02
192.168.4.0/28
Peering Connections
VPC-A to VPC-B
VPC
Availability zone
Availability zone
Public subnet 01
192.168.1.0/28
NAT gateway
Public subnet 02
192.168.2.0/28
Internet
Gateway
Private subnet 01
192.168.3.0/28
Private subnet 02
192.168.4.0/28

Create VPC and with two available zone and manage the network traffic using load balancer

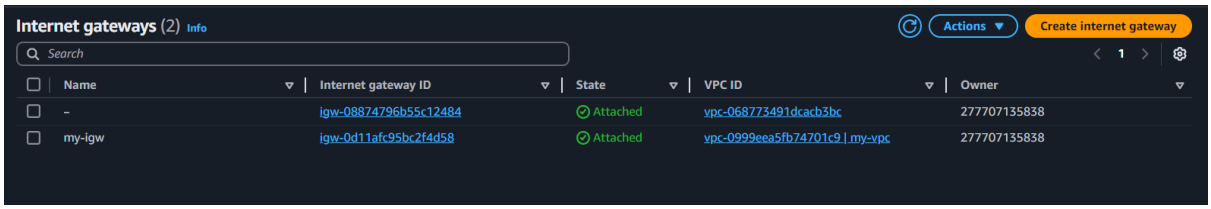
Step-1: Create a VPC



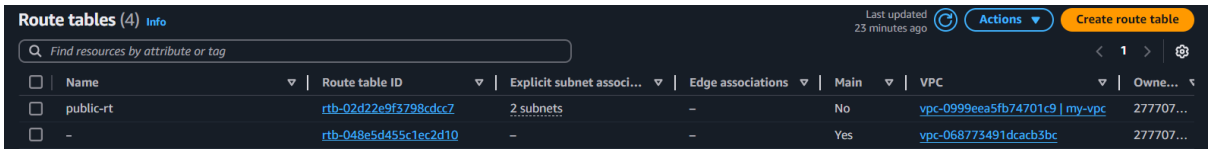
Step-2: Create a subnet



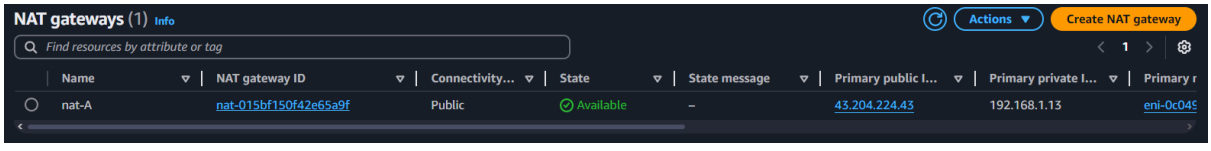
Step-3: Create Internet gateway



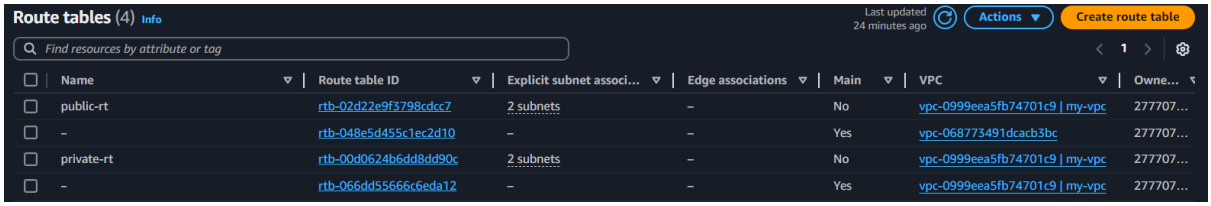
Step-4: Create a route table for public



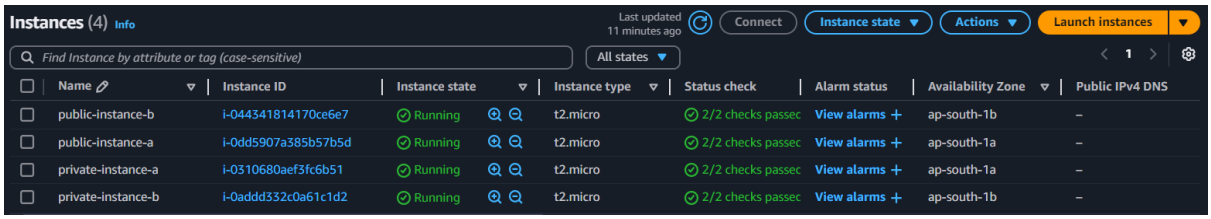
Step-5: Create a NAT gateway



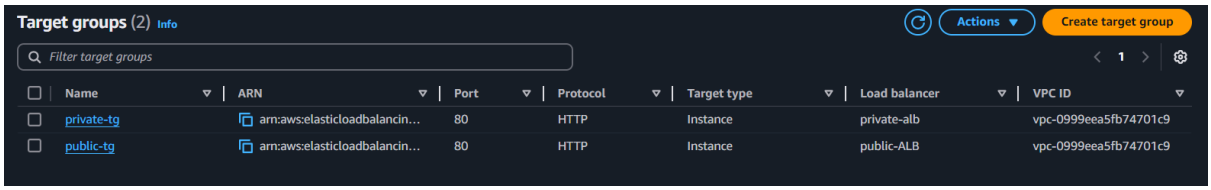
Step-6: Create a route table for private



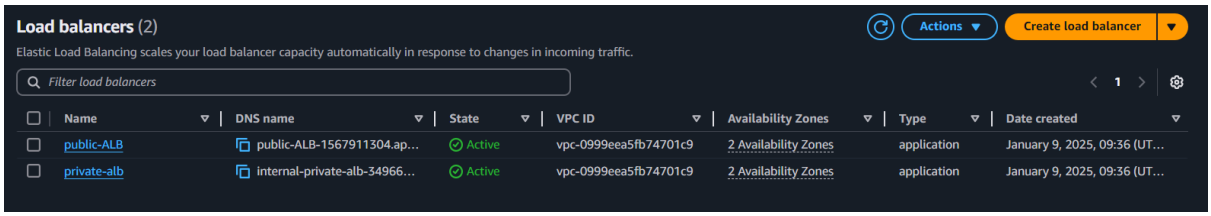
Step-7: Create 4 instance, with respective AZ, VPC, bootstrap command, security group, etc… (1 Public and 1 Private in AZ-1), (1 Public and 1 Private in AZ-2)



Step-8: Create 2 target groups, 1 for public and 1 for private

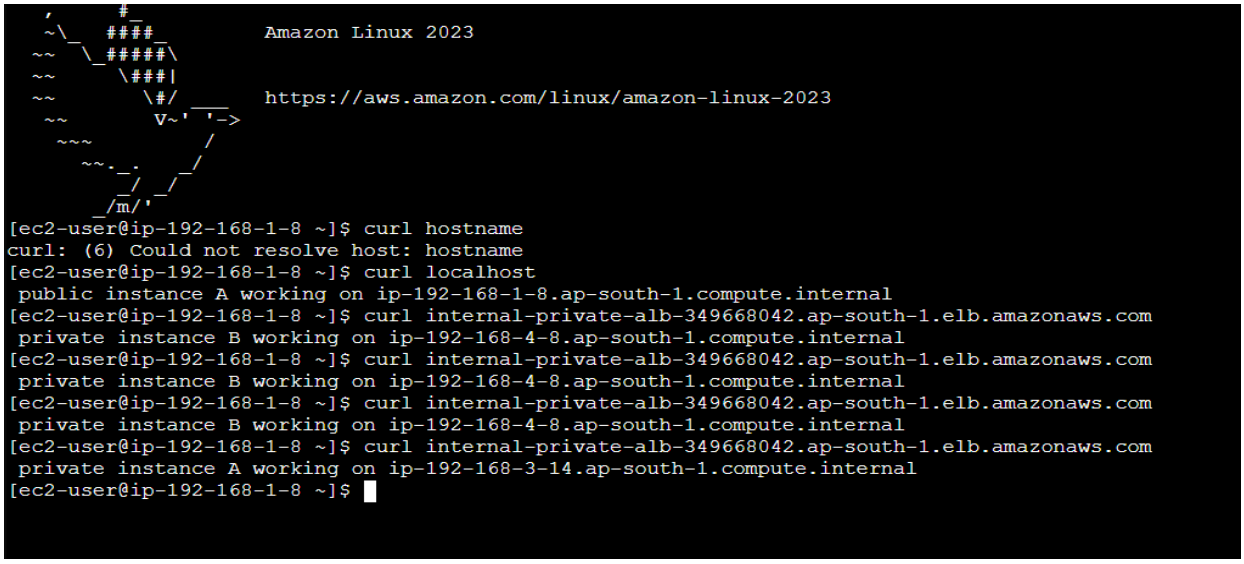


Step-9: Create 2 Load balancer, 1 for public and 1 for private

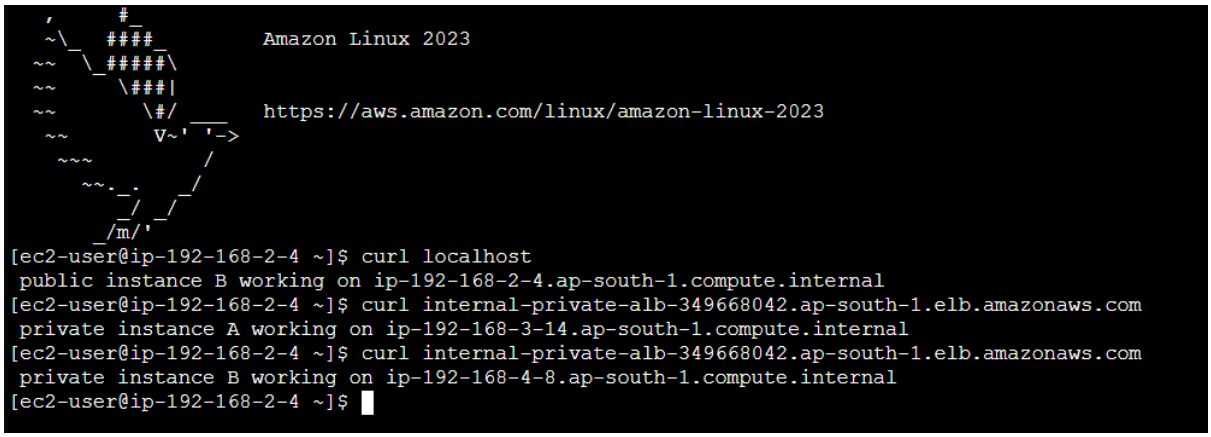


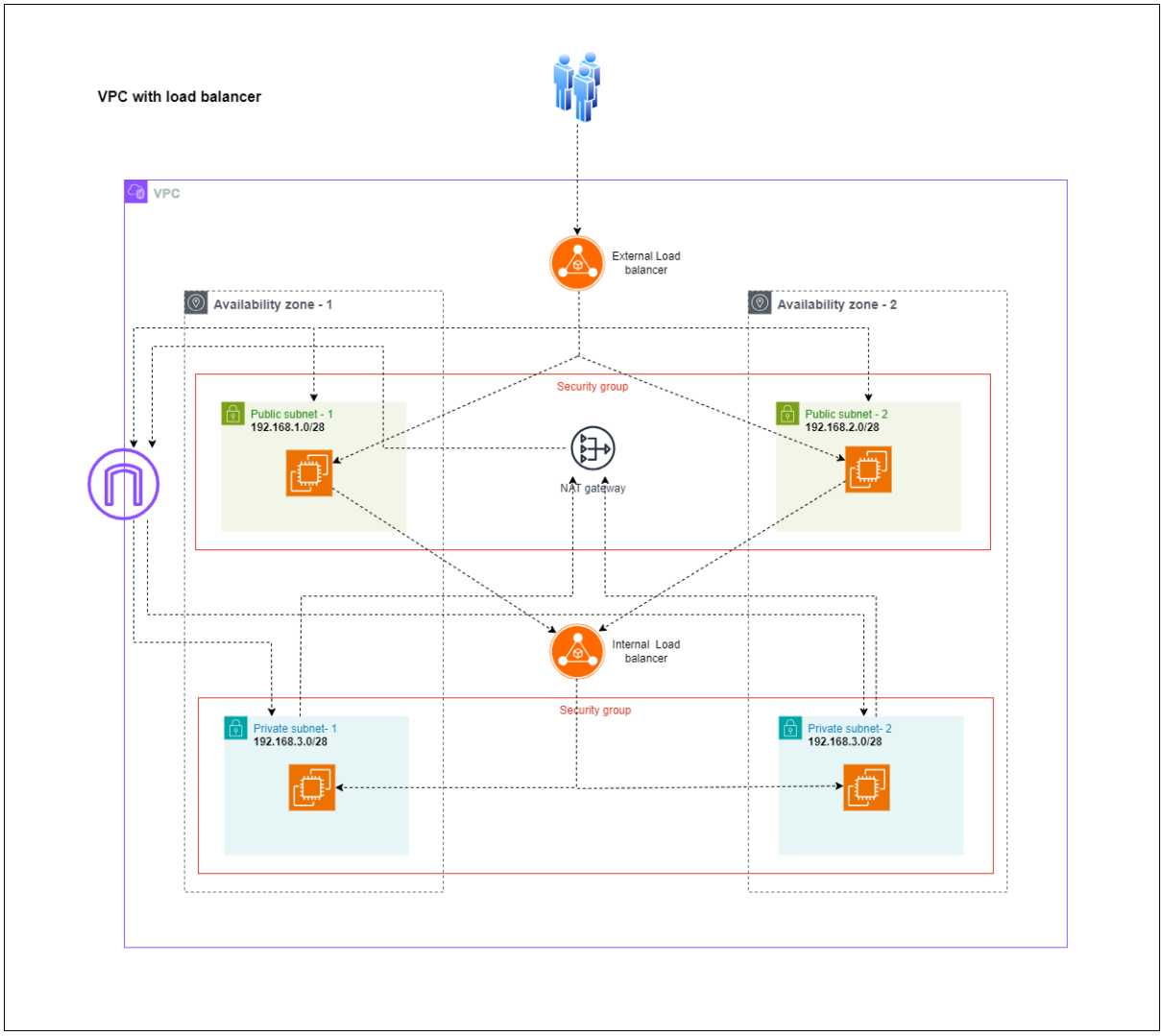
Output:

- Public instance A output, curl the private ALB for checking network trafficking b/w 2 2 public instance



- Public instance B output, curl the private ALB for checking network trafficking b/w 2 2 public instance




VPC with load balancer
VPC
External Load balancer
Availability zone - 1
Availability zone - 2
Security group
Public subnet - 1
192.168.1.0/28
Public subnet - 2
192.168.2.0/28
NAT gateway
Internal Load balancer
Security group
Private subnet- 1
192.168.3.0/28
Private subnet- 2
192.168.3.0/28