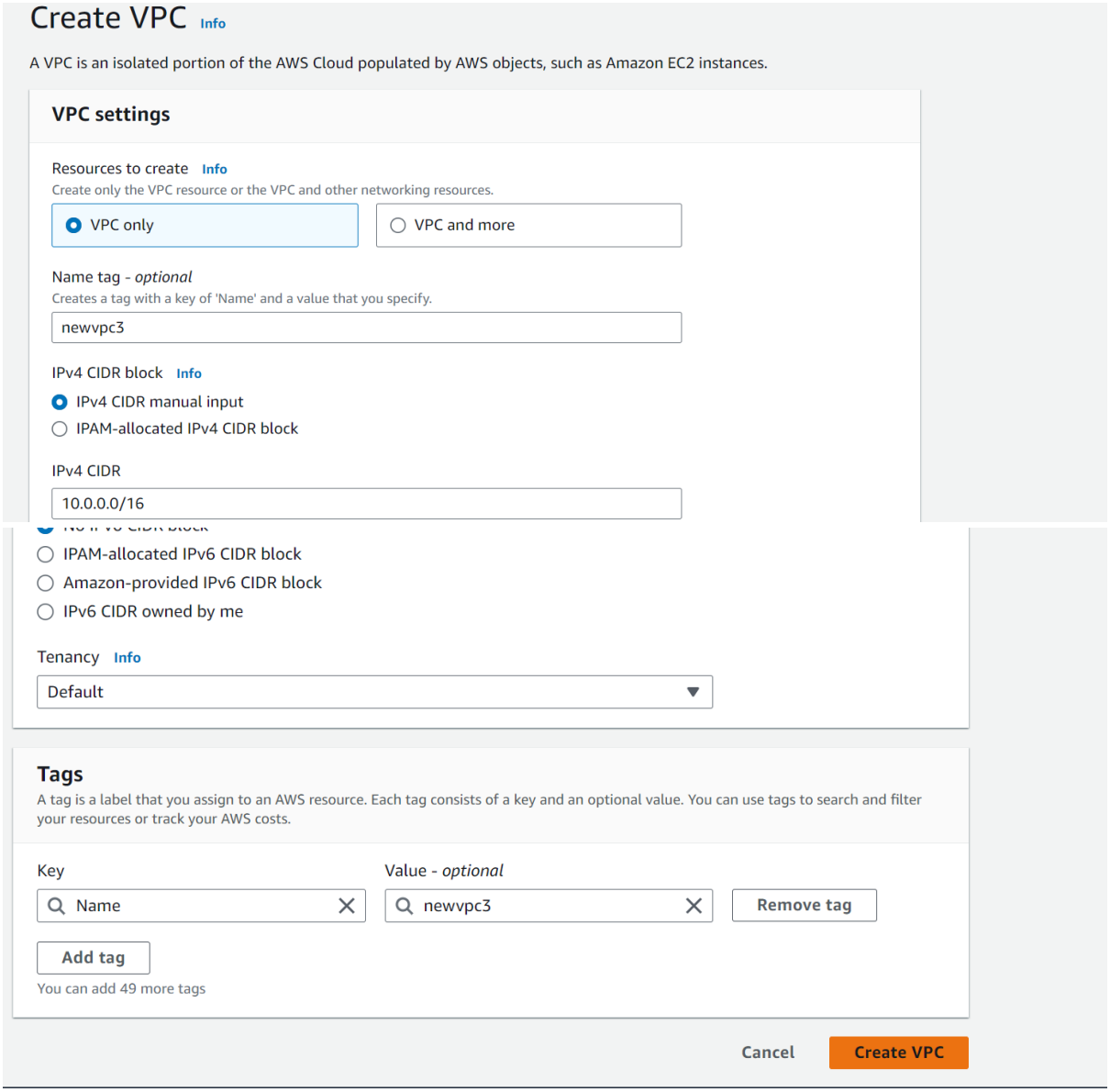
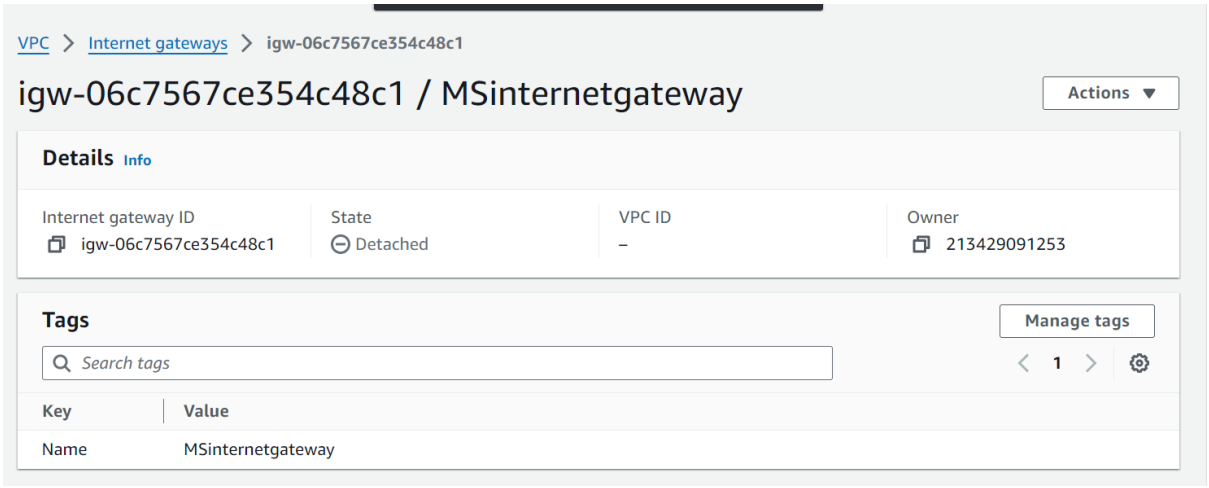
Abhinav Gupta-10747883-MileStone assessment-1

Create a Custom VPC. Where you need to create two subnets like Private subnet and Public subnet.in the public subnet I want to host my web server. Where my website is running and Private subnet my database is running. Data base should not be reachable pub

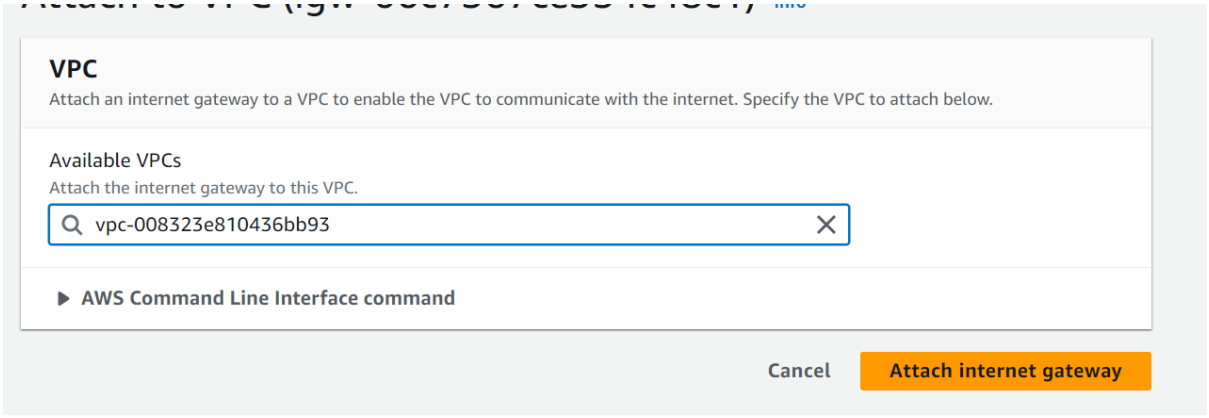
1. First you create a vpc



2. Now you create internet gateway

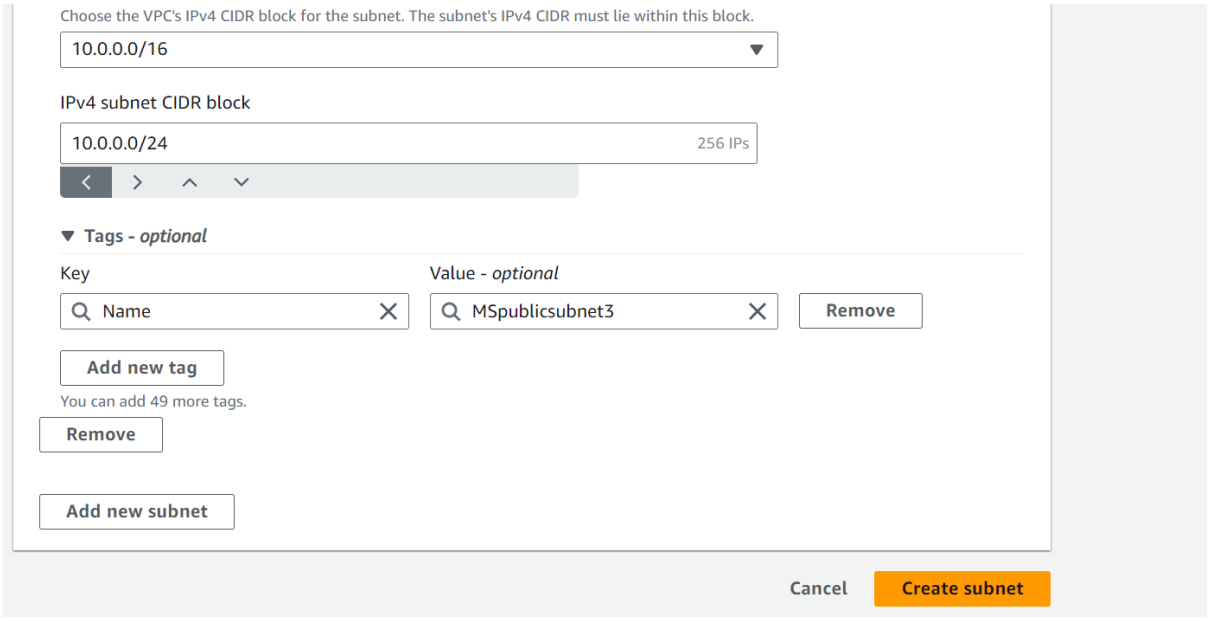


Now attach it to the vpc in actions

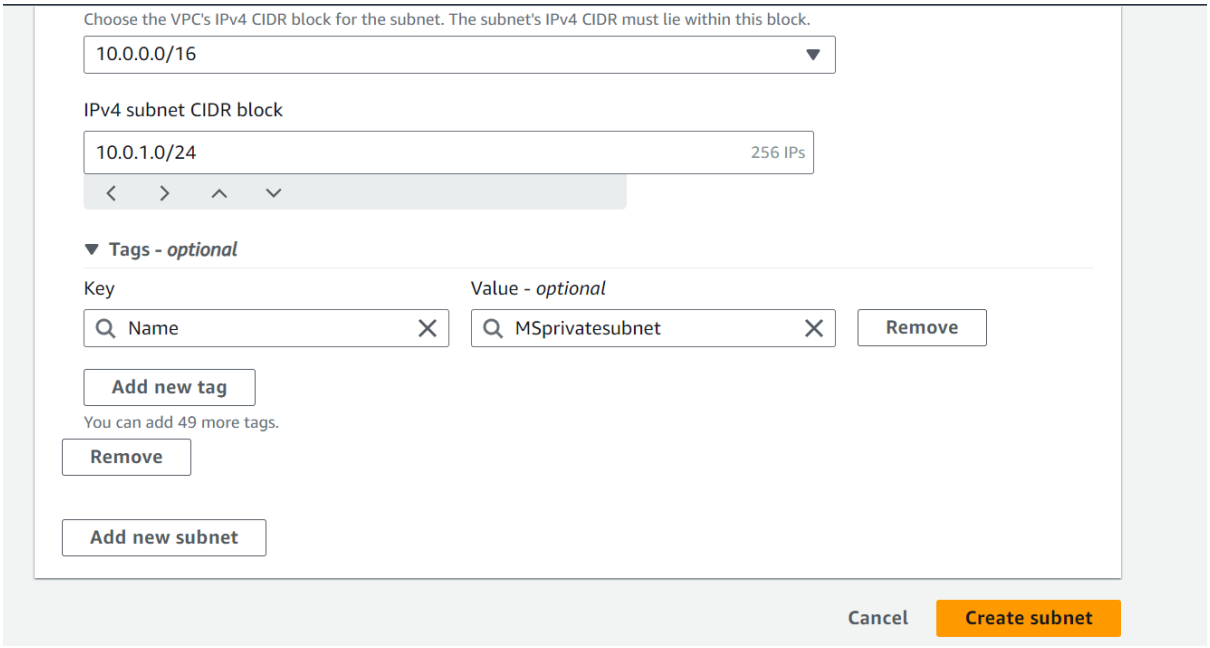


3. Now create Subnets for public and private

public

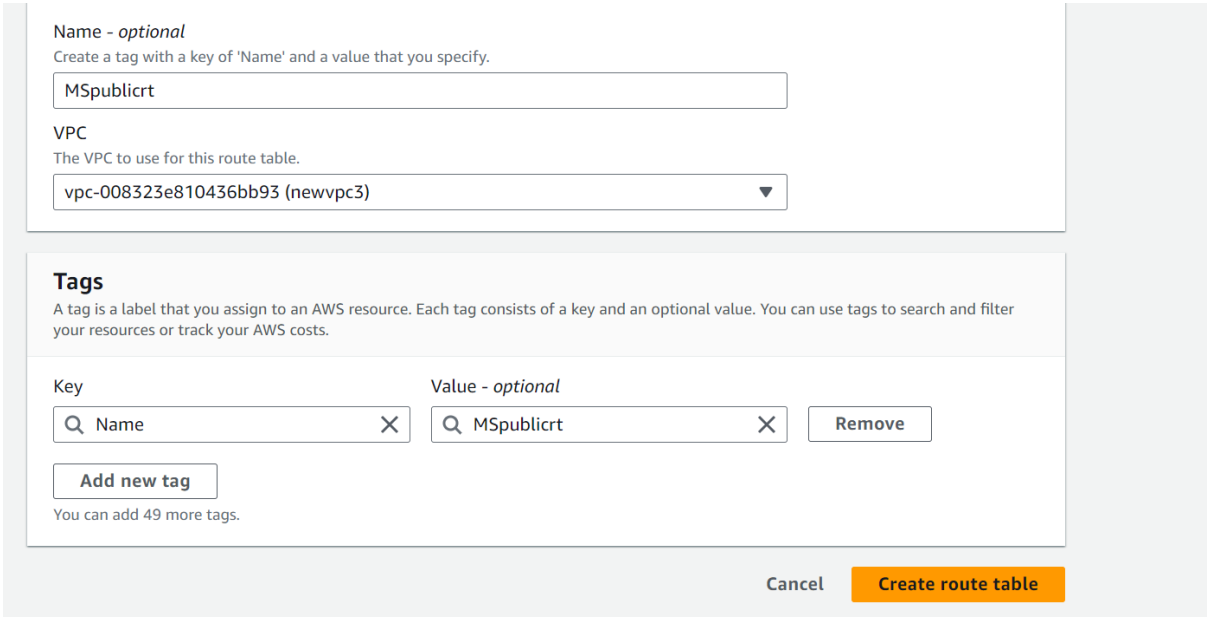


private

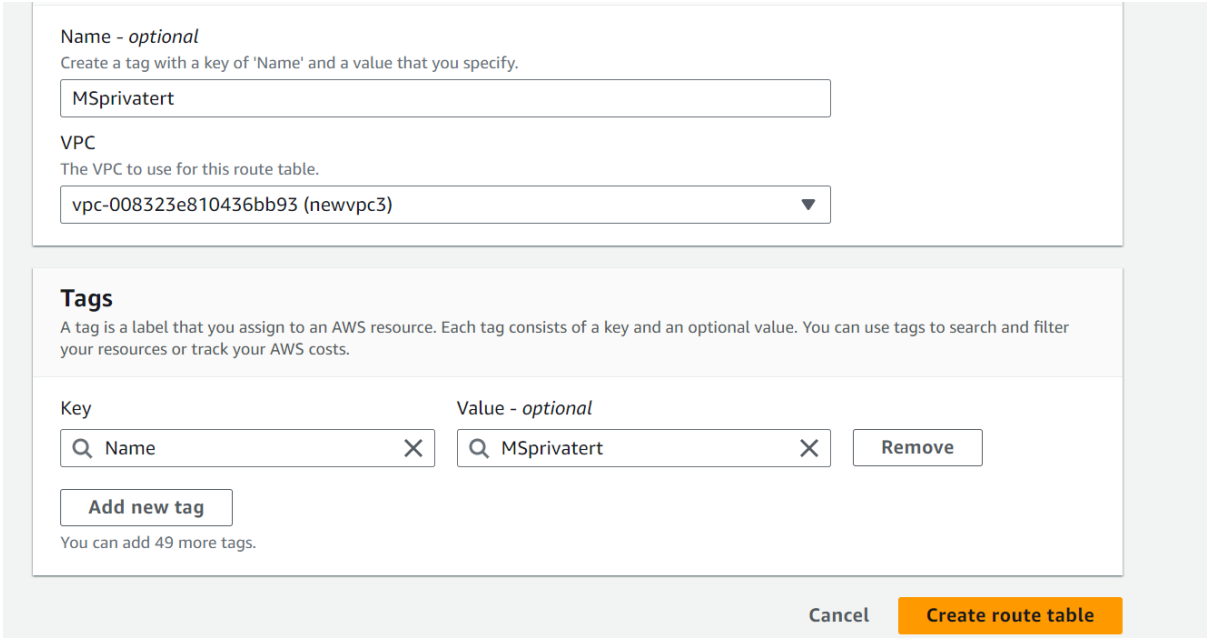


4. Now create public and private route tables

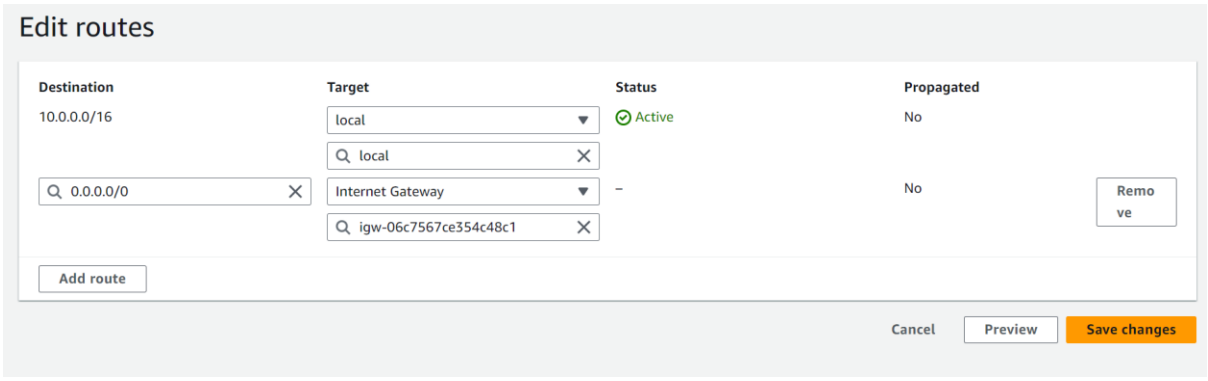
Public

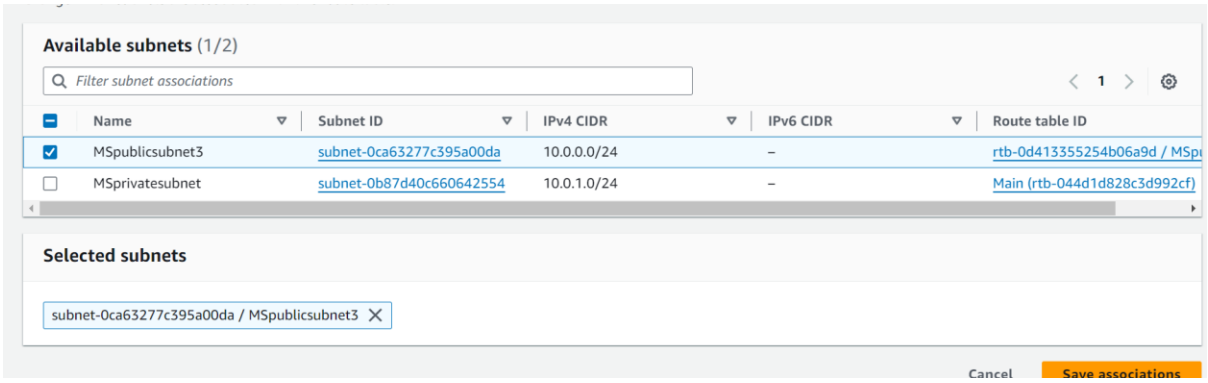


Private

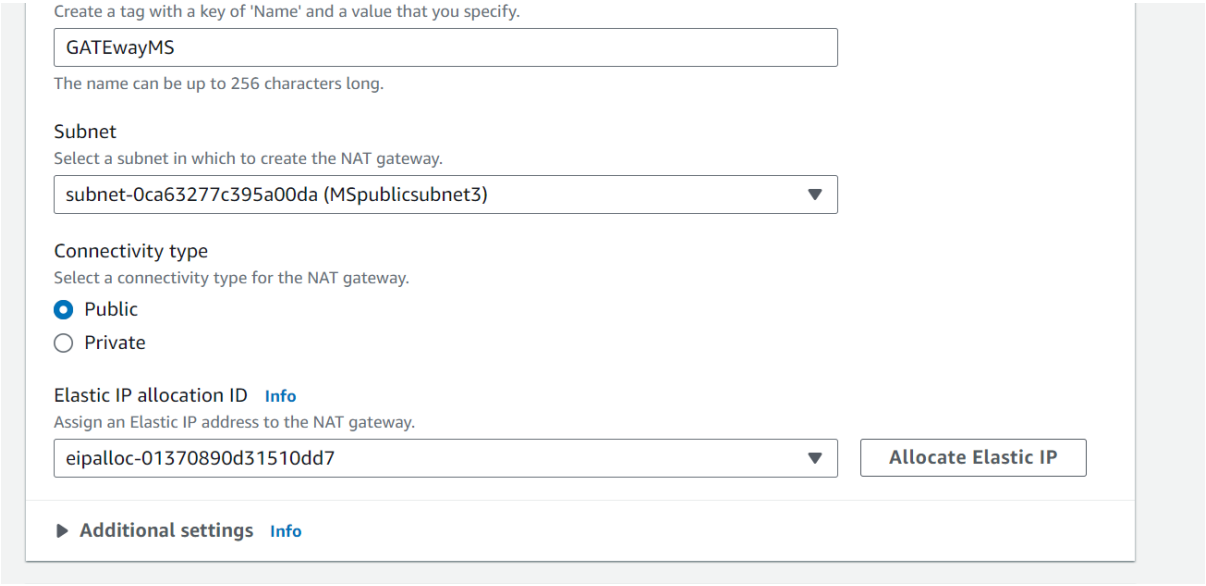


5. Now edit routes and subnet associations in Public route

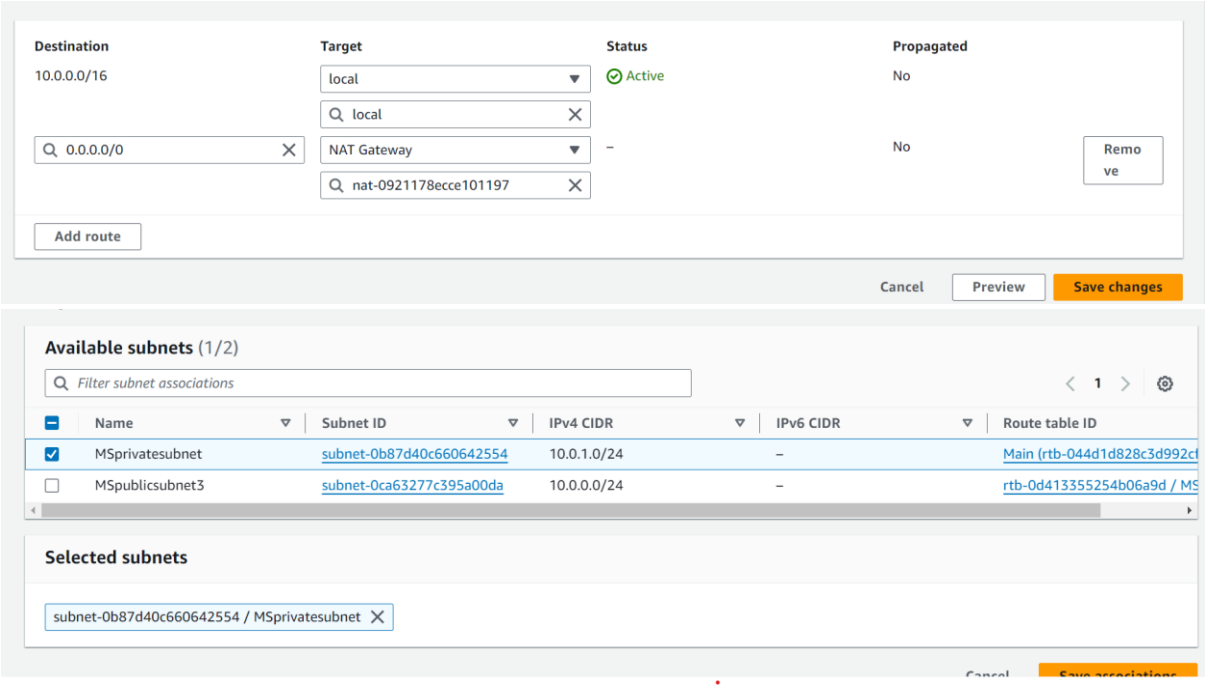




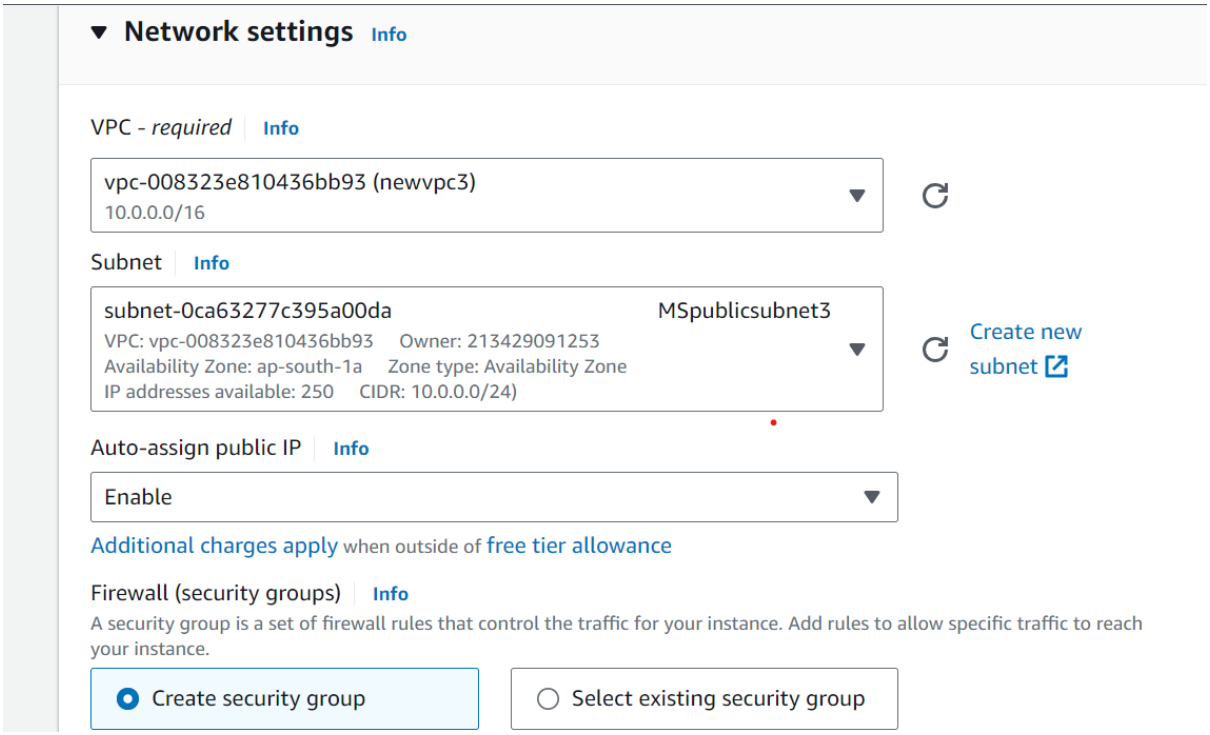
6. Now create NAT gateway for internet access for privatesubnet



7. Now edit route of private route table

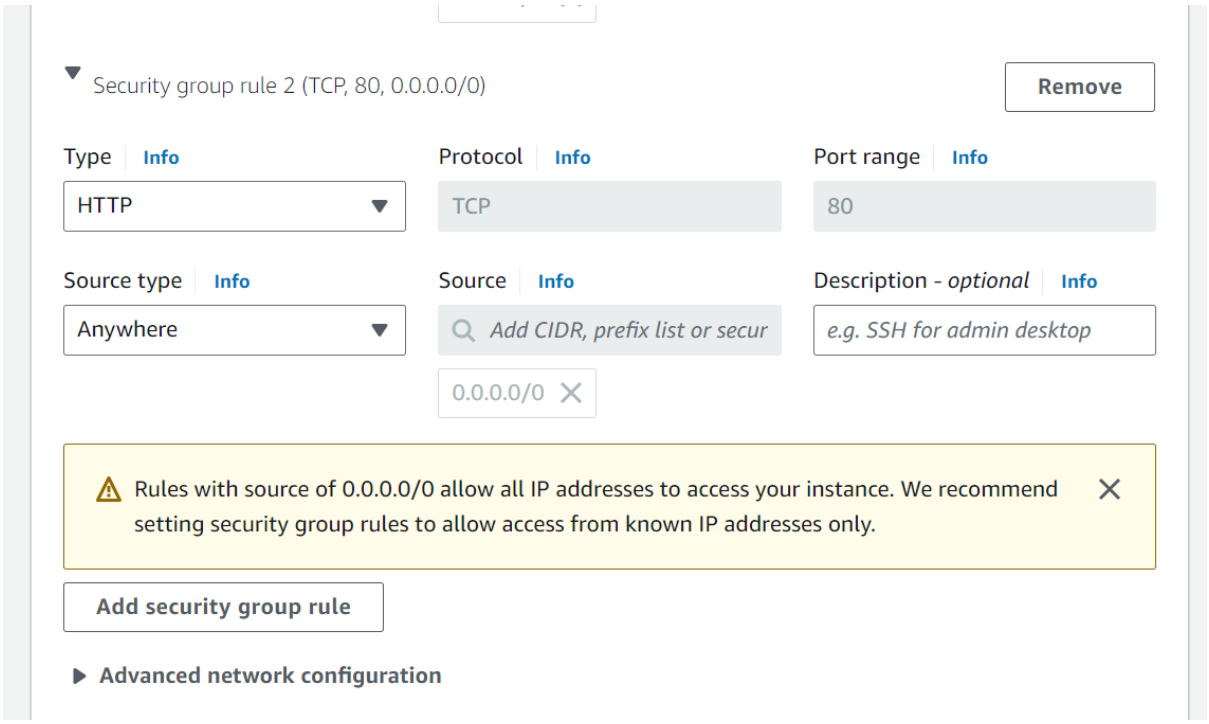


8. Now create instances for such as webserver and dbserver



Mainly you have to change the settings in vpc and subnet and for webserver we will enable public IP so that it is visible

And will allow http for website access

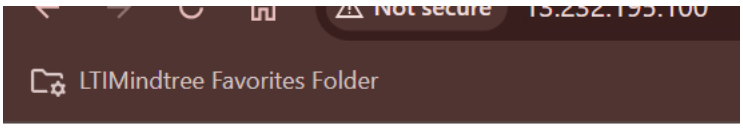


9. Now open instance of webserver and create a webpage and access it
   Do yum install httpd
   Cd /var/www/html
   Echo “this is my server”
   Systemctl start httpd
   Systemctl enable httpd

Go to the address with
Public IP of instance

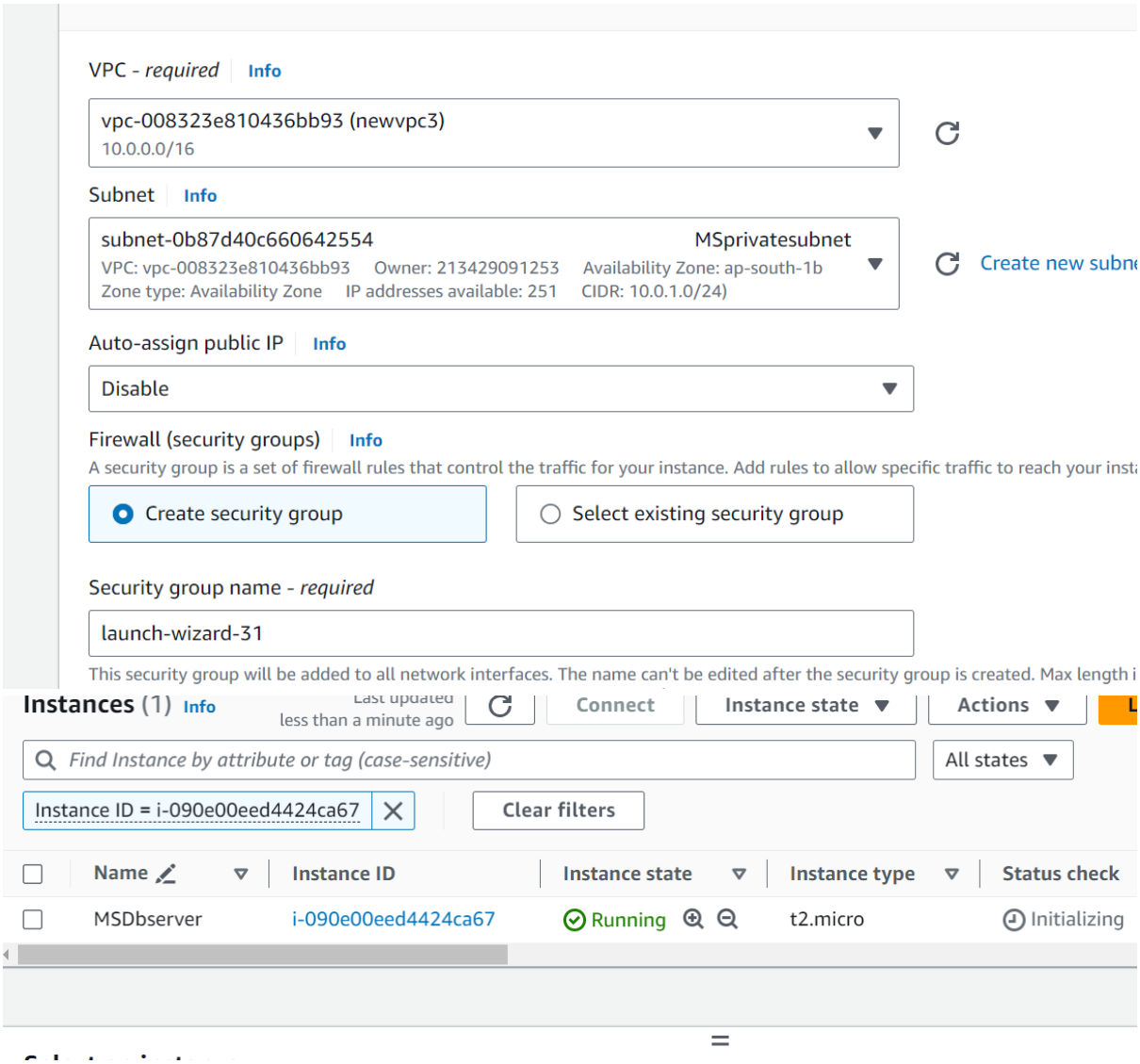
```
The authenticity of host '13.232.195.100 (13.232.195.100)' can't be established.
ED25519 key fingerprint is SHA256:3t8uX4IknFeOzvpT4Ec9OGMd1JqlqYX9aMT+BHeKQTo.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '13.232.195.100' (ED25519) to the list of known hosts.
   '     #_
   ~\_  ####_        Amazon Linux 2023
  ~~  \_#####\
  ~~     \###|
  ~~       \#/ ___   https://aws.amazon.com/linux/amazon-linux-2023
   ~~       V~' '->
    ~~~         /
      ~~._.   _/
         _/ _/
       _/m/'
[ec2-user@ip-10-0-0-228 ~]$ sudo su
[root@ip-10-0-0-228 ec2-user]# cd
[root@ip-10-0-0-228 ~]# yum install httpd
Last metadata expiration check: 0:02:29 ago on Mon Sep  9 11:13:26 2024.
Dependencies resolved.
================================================================================
 Package                 Architecture       Version                 Repository                Size
================================================================================
Installing:
 httpd                   x86_64             2.4.62-1.amzn2023       amazonlinux               48 k
Installing dependencies:
 apr                     x86_64             1.7.2-2.amzn2023.0.2    amazonlinux              129 k
 apr-util                x86_64             1.6.3-1.amzn2023.0.1    amazonlinux               98 k
 generic-logos-httpd     noarch             18.0.0-12.amzn2023.0.3  amazonlinux               19 k
 httpd-core              x86_64             2.4.62-1.amzn2023       amazonlinux              1.4 M
 httpd-filesystem        noarch             2.4.62-1.amzn2023       amazonlinux               14 k
  mod_http2-2.0.27-1.amzn2023.0.3.x86_64    mod_lua-2.4.62-1.amzn2023.x86_64

Complete!
[root@ip-10-0-0-228 ~]# cd /var/www/html
[root@ip-10-0-0-228 html]# echo "this is my server">index.html
[root@ip-10-0-0-228 html]# ll
total 4
-rw-r--r--. 1 root root 18 Sep  9 11:19 index.html
[root@ip-10-0-0-228 html]# cd
[root@ip-10-0-0-228 ~]# systemctl start httpd
[root@ip-10-0-0-228 ~]# systemctl enable httpd
Created symlink /etc/systemd/system/multi-user.target.wants/httpd.service → /usr/lib/systemd/system/httpd.service.
[root@ip-10-0-0-228 ~]#
```

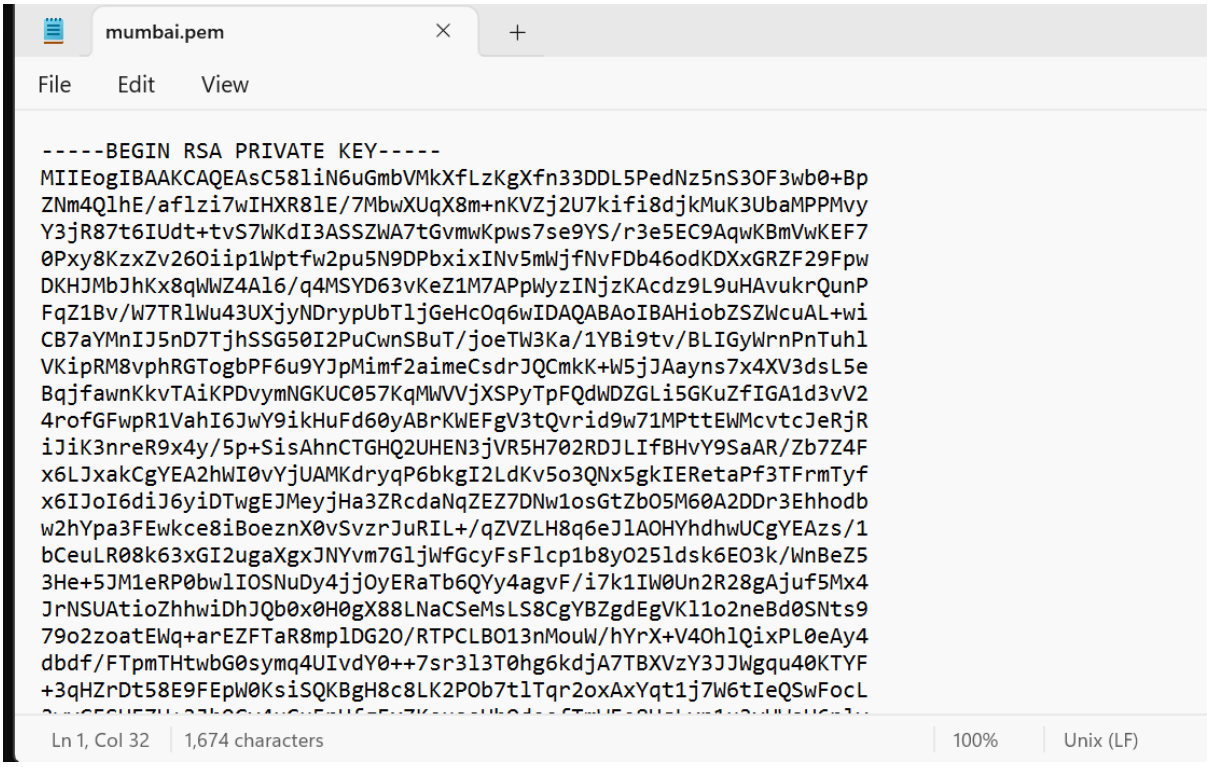


this is my server

First create dbserver then connect them by using key



Copy this key for this region and paste it in new file db-server to access it from public webserver




```
[root@ip-10-0-0-228 ~]# vim db-server.pem
[root@ip-10-0-0-228 ~]# chmod 400 db-server.pem
[root@ip-10-0-0-228 ~]# ssh -i "db-server.pem" ec2-user@10.0.1.32
The authenticity of host '10.0.1.32 (10.0.1.32)' can't be established.
ED25519 key fingerprint is SHA256:Cx1Y4hQ6df3J5Jvv1EUEUXp8xOOM8Ctu/wwtxdTuWtM.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '10.0.1.32' (ED25519) to the list of known hosts.
   ,     #_
   ~\_  ####_        Amazon Linux 2023
  ~~  \_#####\
  ~~     \###|
  ~~       \#/ ___   https://aws.amazon.com/linux/amazon-linux-2023
   ~~       V~' '->
    ~~~         /
      ~~._.   _/
         _/ _/
       _/m/'
[ec2-user@ip-10-0-1-32 ~]$ sudo su
[root@ip-10-0-1-32 ec2-user]# cd
[root@ip-10-0-1-32 ~]#
```

Here you can see we connected to db-server to webserver.

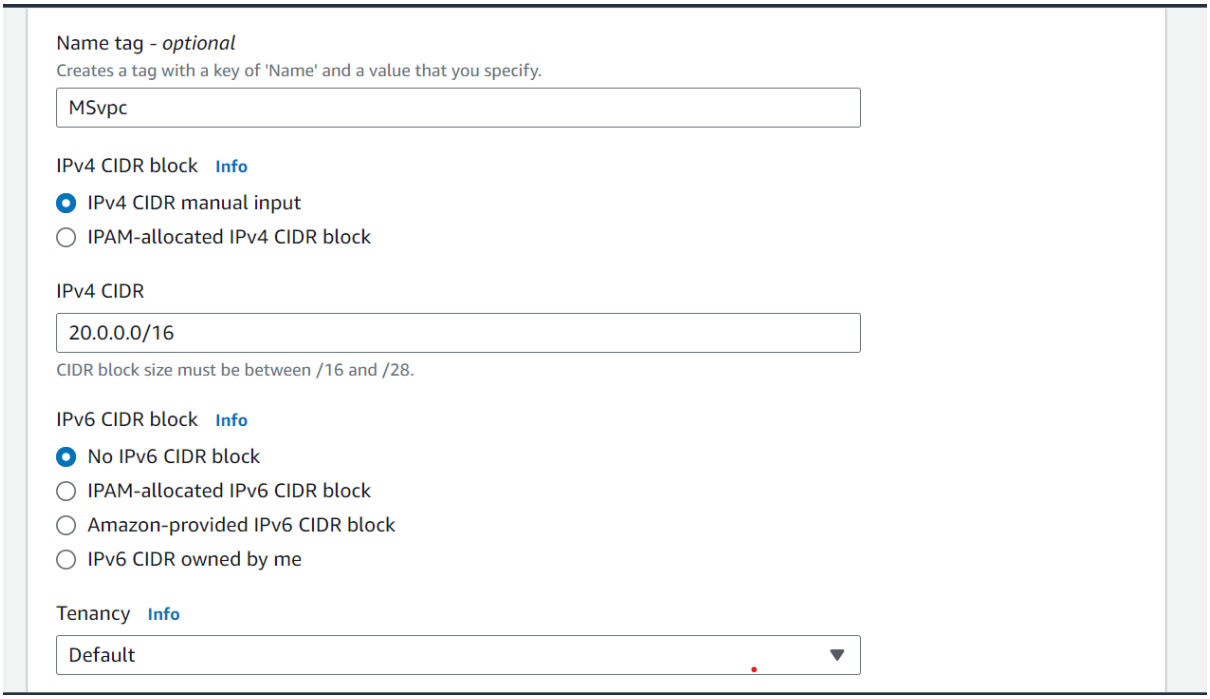
And it is also pinging

```
       _/m/'
[ec2-user@ip-10-0-1-32 ~]$ sudo su
[root@ip-10-0-1-32 ec2-user]# cd
[root@ip-10-0-1-32 ~]# ping google.com
PING google.com (142.250.192.46) 56(84) bytes of data.
64 bytes from bom12s15-in-f14.1e100.net (142.250.192.46): icmp_seq=1 ttl=53 t
64 bytes from bom12s15-in-f14.1e100.net (142.250.192.46): icmp_seq=2 ttl=53 t
64 bytes from bom12s15-in-f14.1e100.net (142.250.192.46): icmp_seq=3 ttl=53 t
64 bytes from bom12s15-in-f14.1e100.net (142.250.192.46): icmp_seq=4 ttl=53 t
^C
--- google.com ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3005ms
rtt min/avg/max/mdev = 2.148/2.306/2.542/0.144 ms
[root@ip-10-0-1-32 ~]#
```

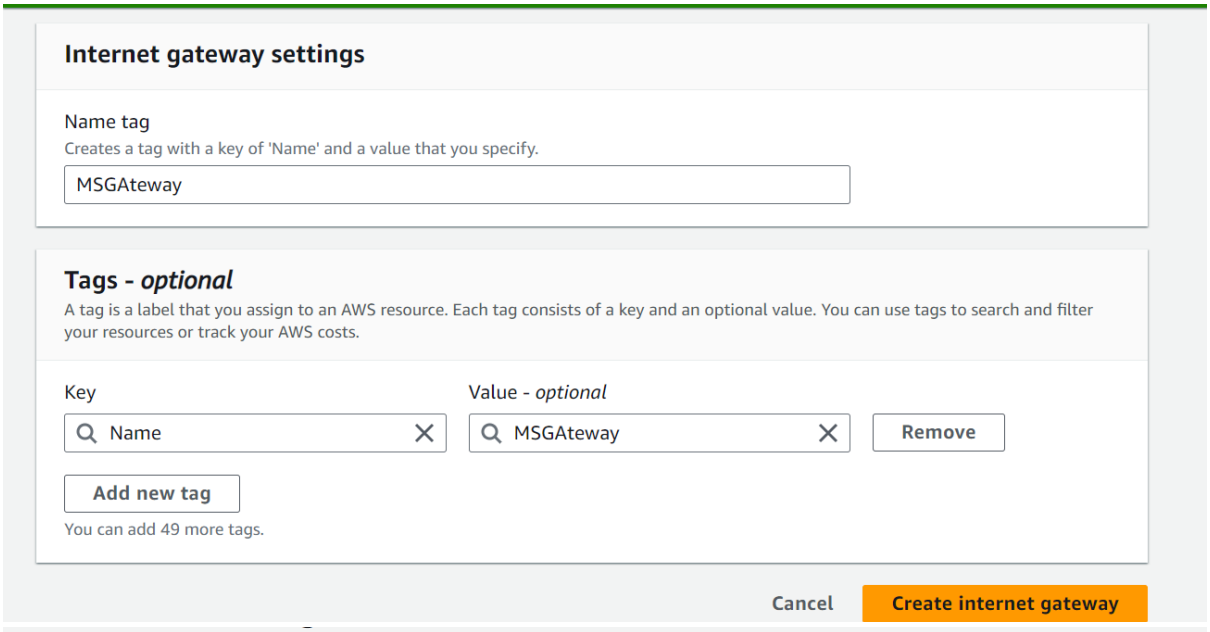
Create two custom VPC one in Mumbai Region and Another is in Singapore Region.so configure VPC peering in between Mumbai and Singapore

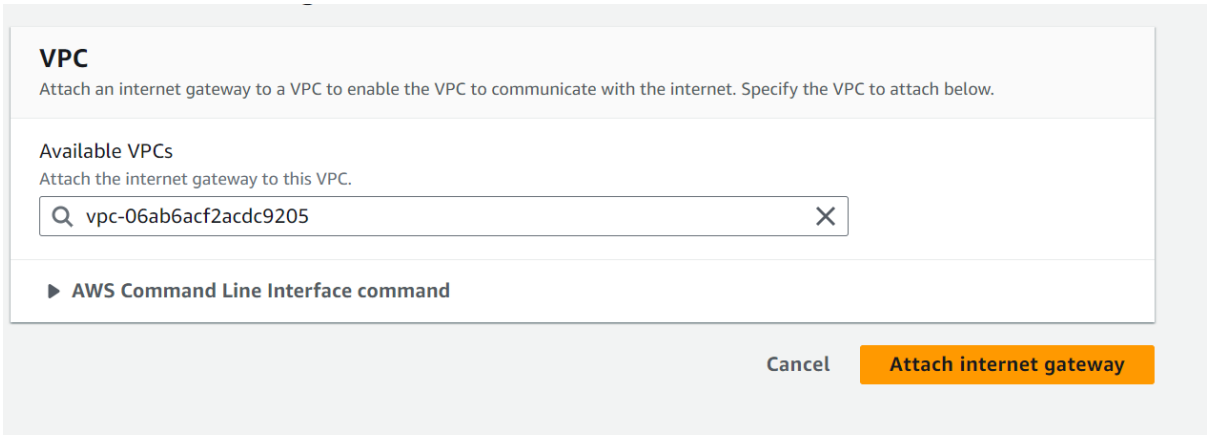
Now we will create our second VPC in Singapore region and connect them.

1. Goto Singapore region and create VPC there
   Create two servers with it same as web server and db-server just like above and all the steps as mentioned above just go to peering vpc option on left panel and Give different IP address here

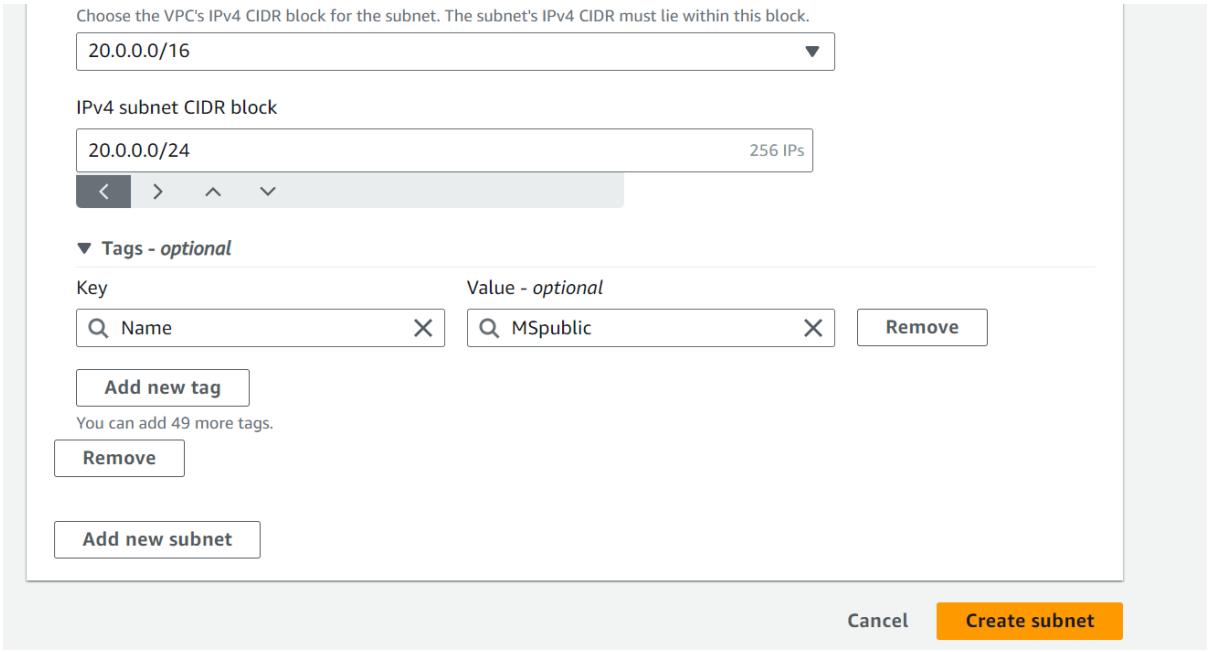


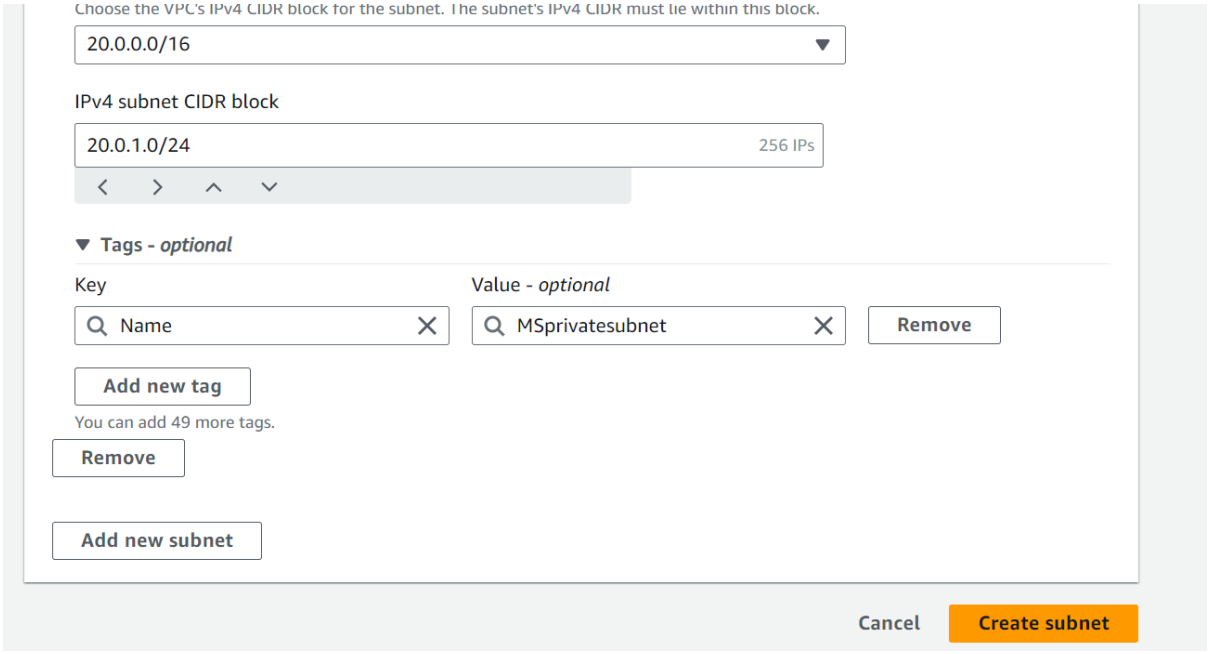
Now create gateway and attach



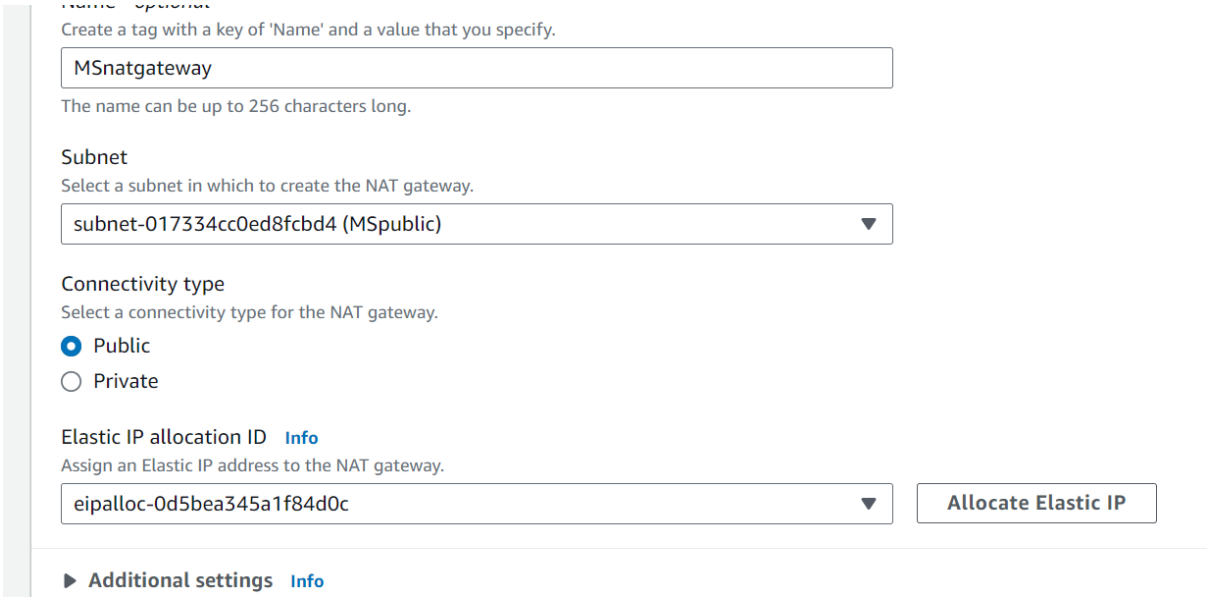


Now give subnet both public and private

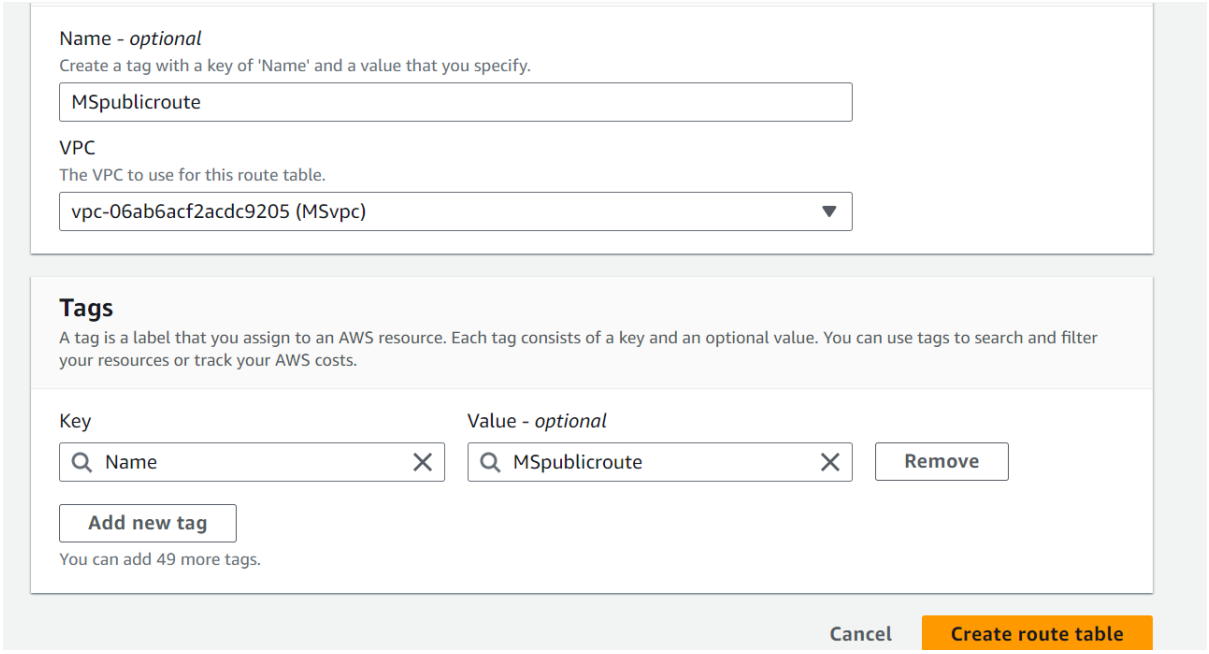




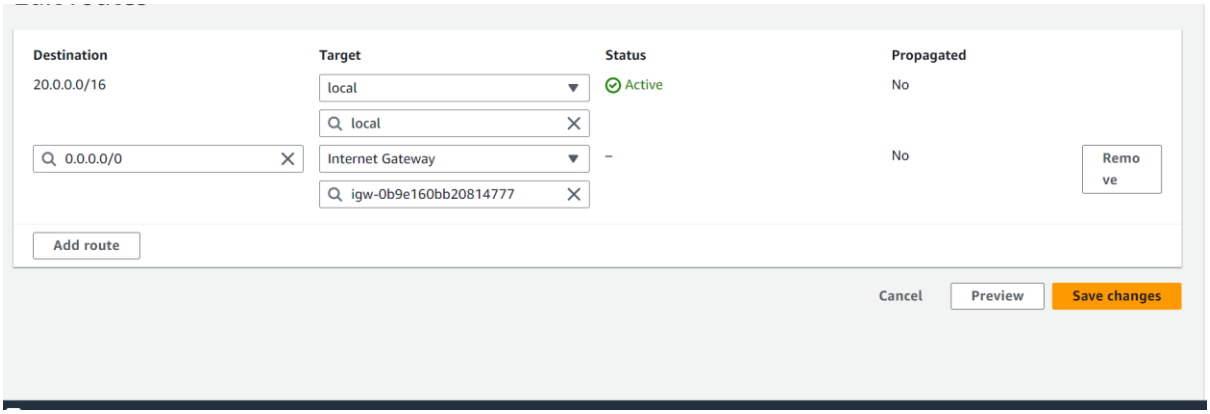
Create natgatway



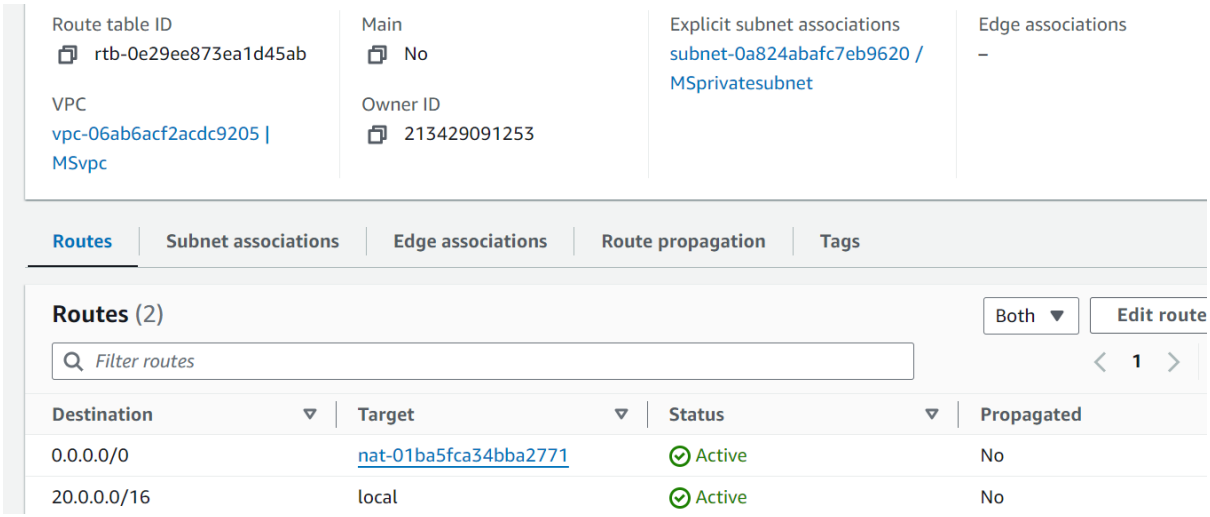
Create route tables as well for both public and private



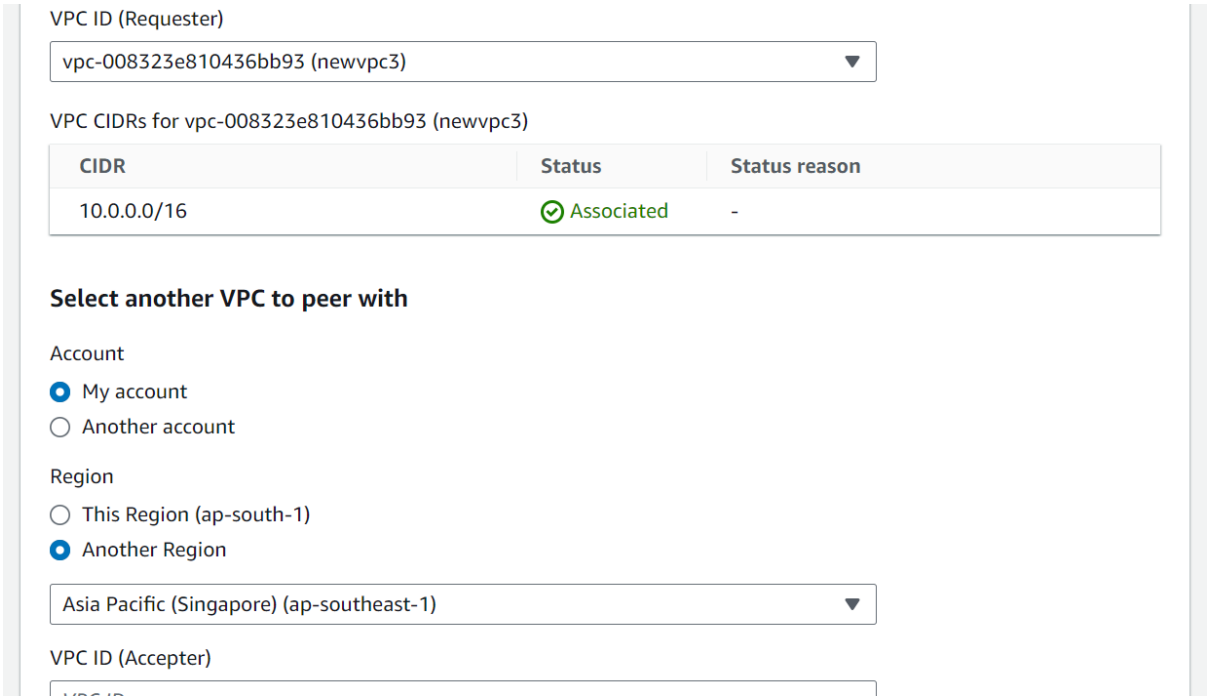
EDIT both routes public with internet gateway and private with nat



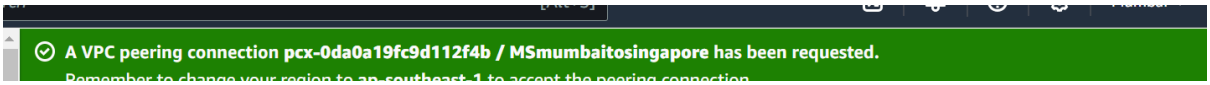
Same thing with private



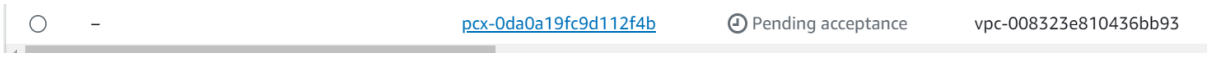
now we already have a vpc in Mumbai
just connect to VPC
make peer connection from Mumbai



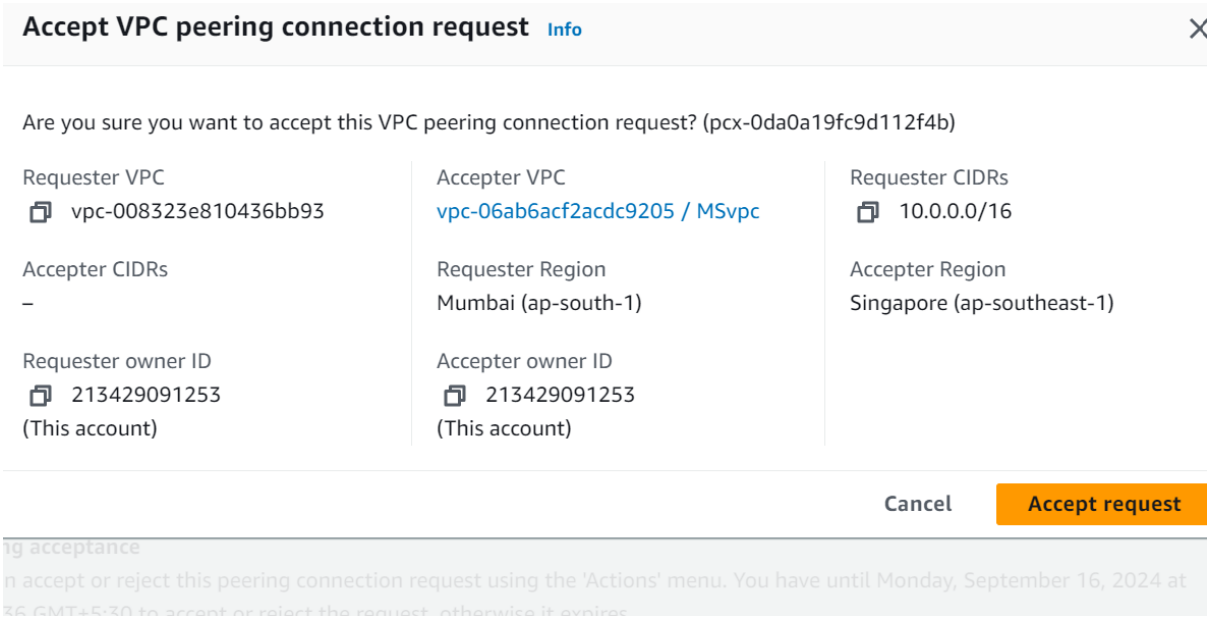
Type acceptor ID of you Singapore VPC and it will get a request from Mumbai region just accept it and done

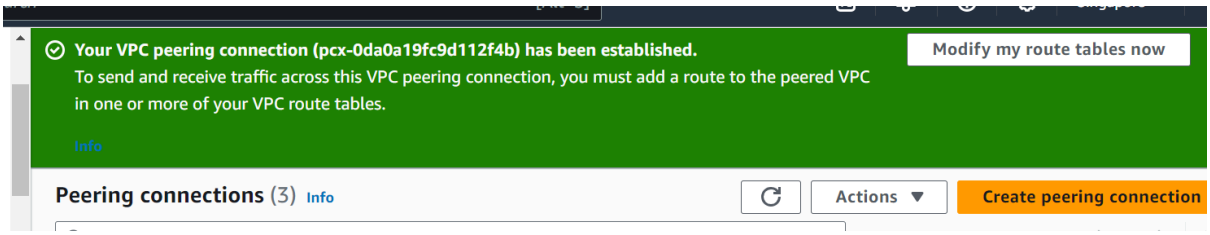


In Singapore server you can see the req



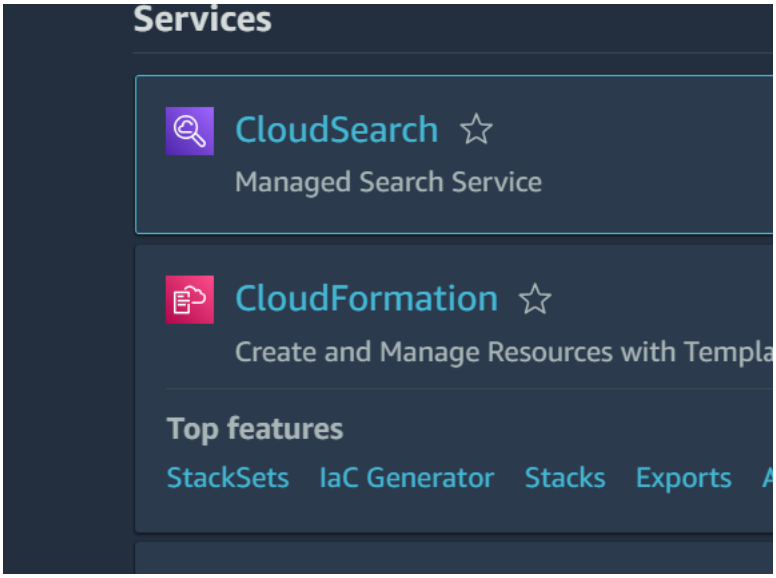
Just accept it



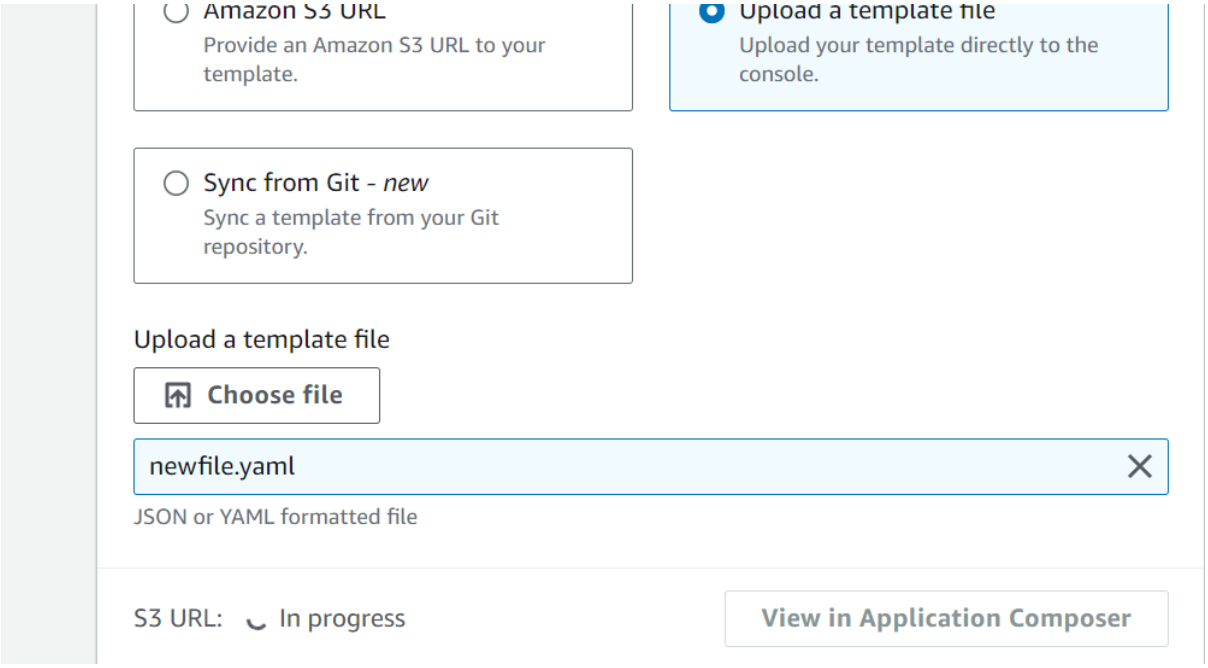


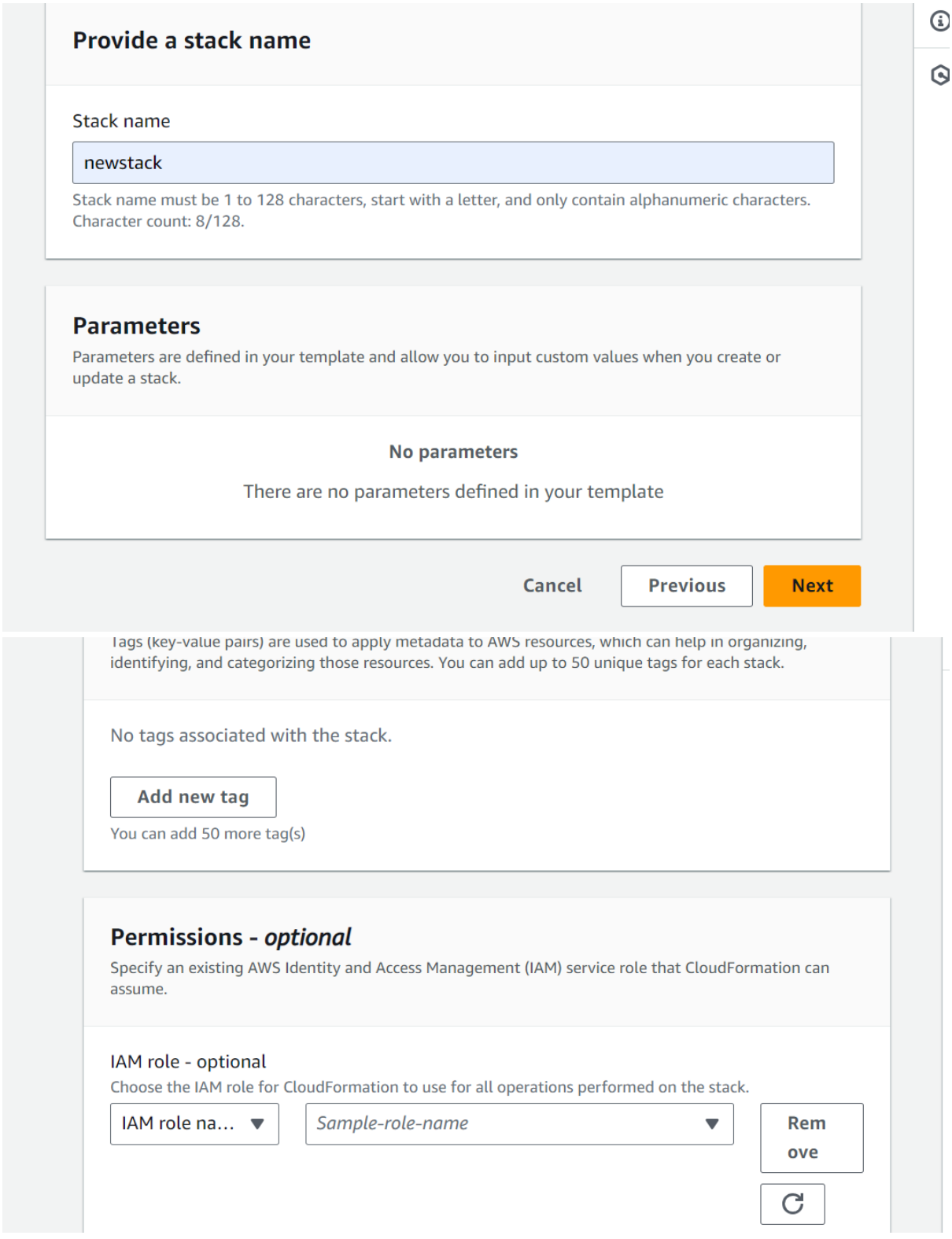
Deploy an EC2 instance using with Cloud formation in Mumbai Region ap-south-1a zone. Instance should be reachable.

1. Goto cloud formation in search tab.

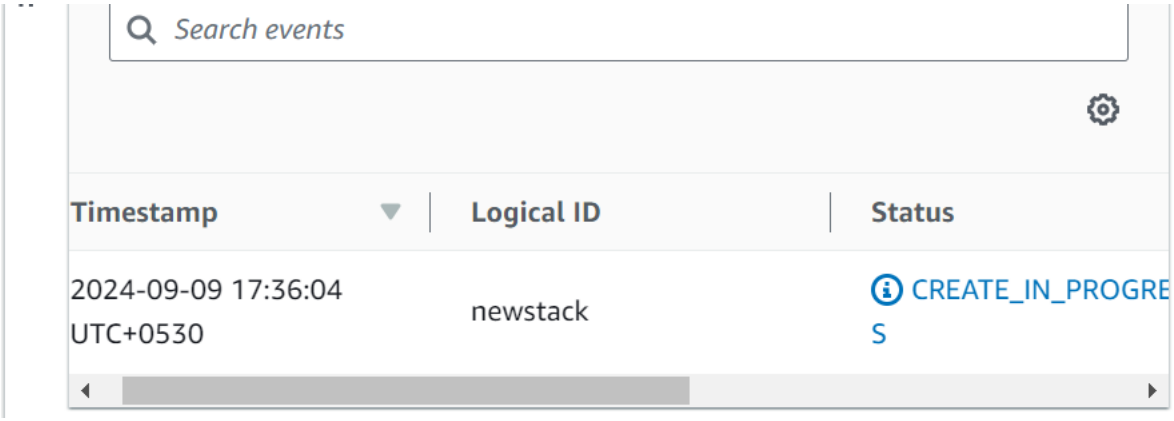


Use this Yaml file with proper key and ami id

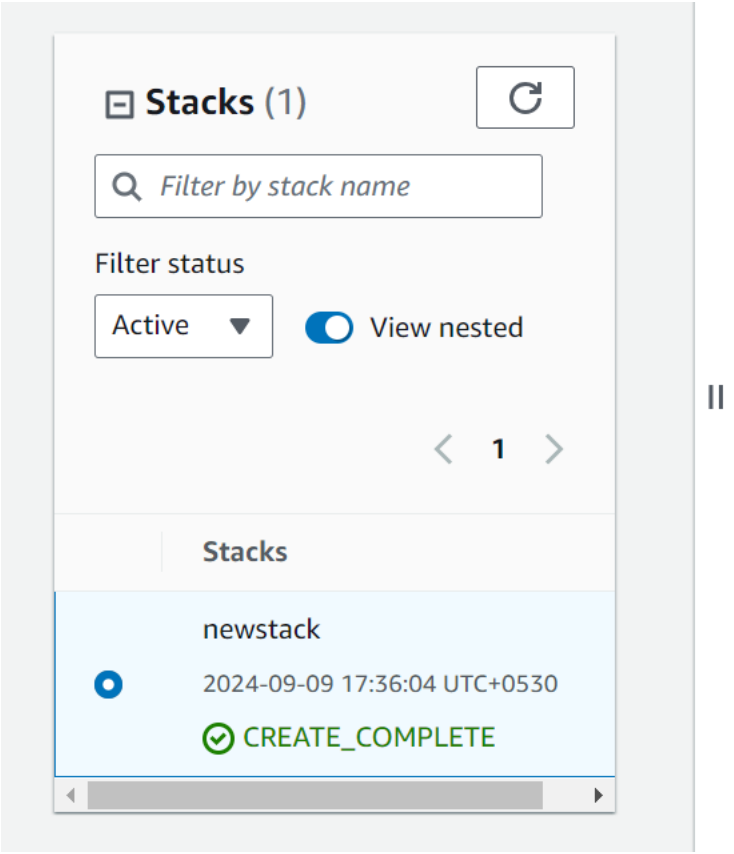




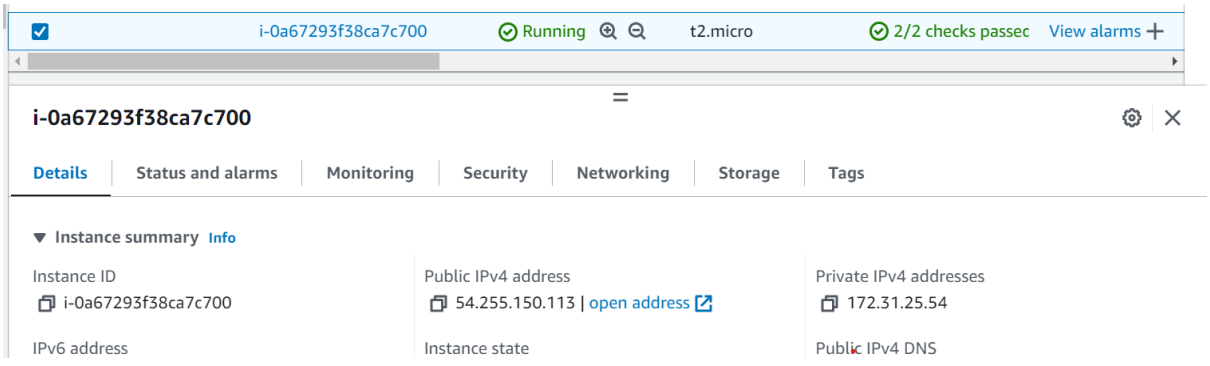
Now here we can see the formation in progress



Creation completed



And now in instances you can see the newly created instance with CloudFormation with no name

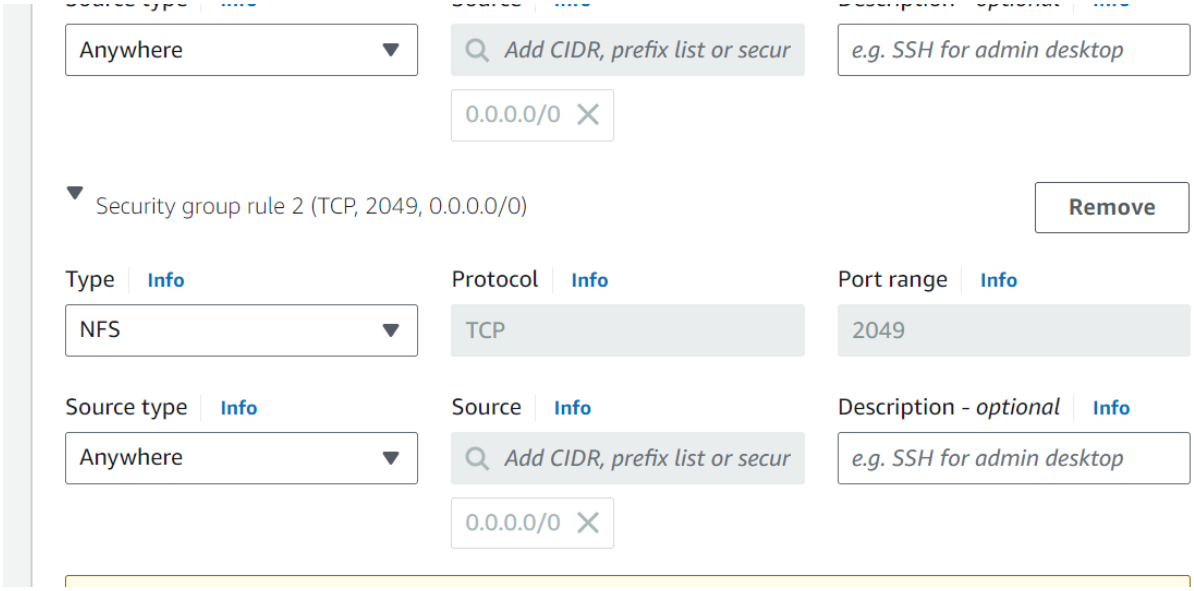


Medium 1

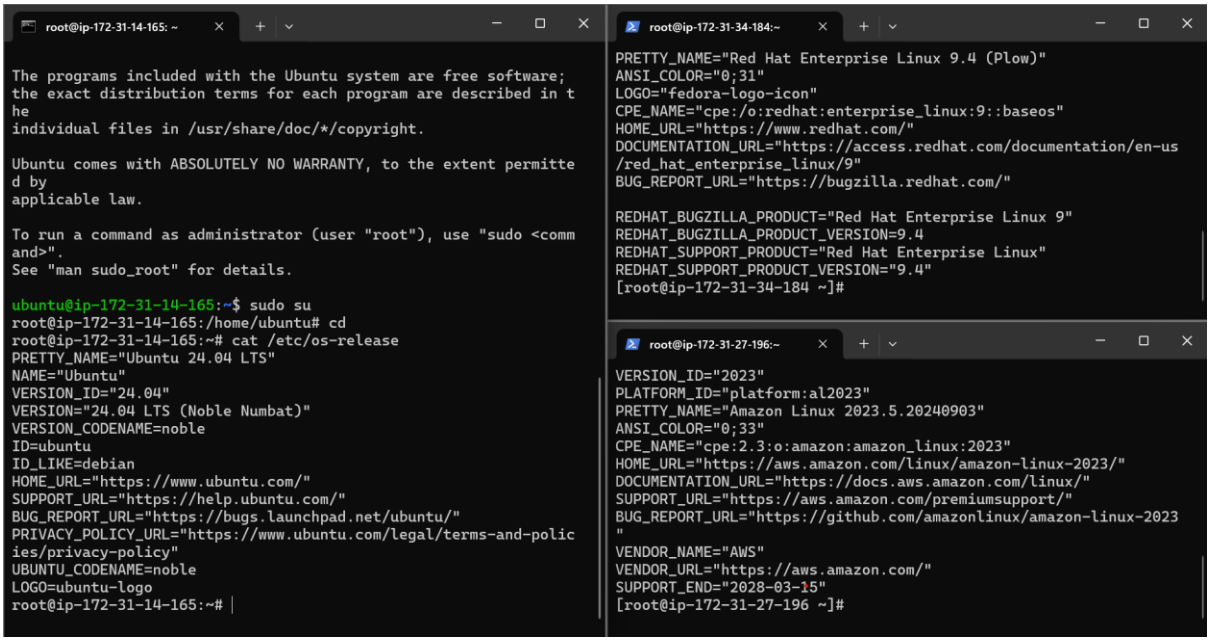
We people are working on a common project in a same region. But my servers are in different zones. So I want to share project information with everyone simultaneously. Configure efs storage it should be mount on every server.

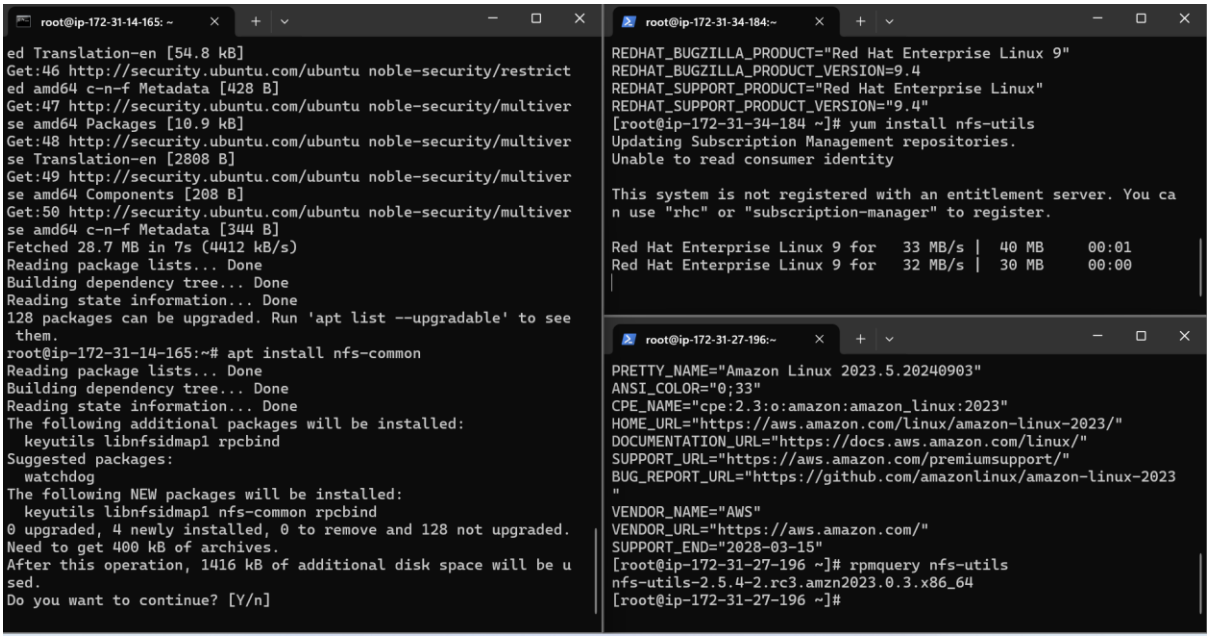
1.first we launch 3 instances amazon , redhat , ubuntu with same security group which has nfs enabled in it and in different zones

We will use this security settings in all groups



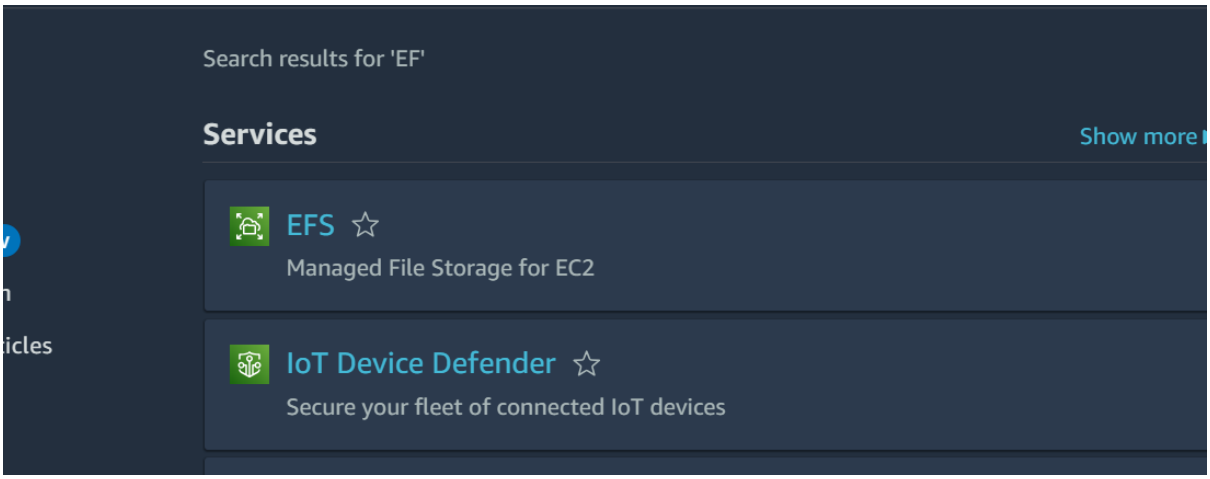
Now all three instance connected now install nfs to those instance which don't have it

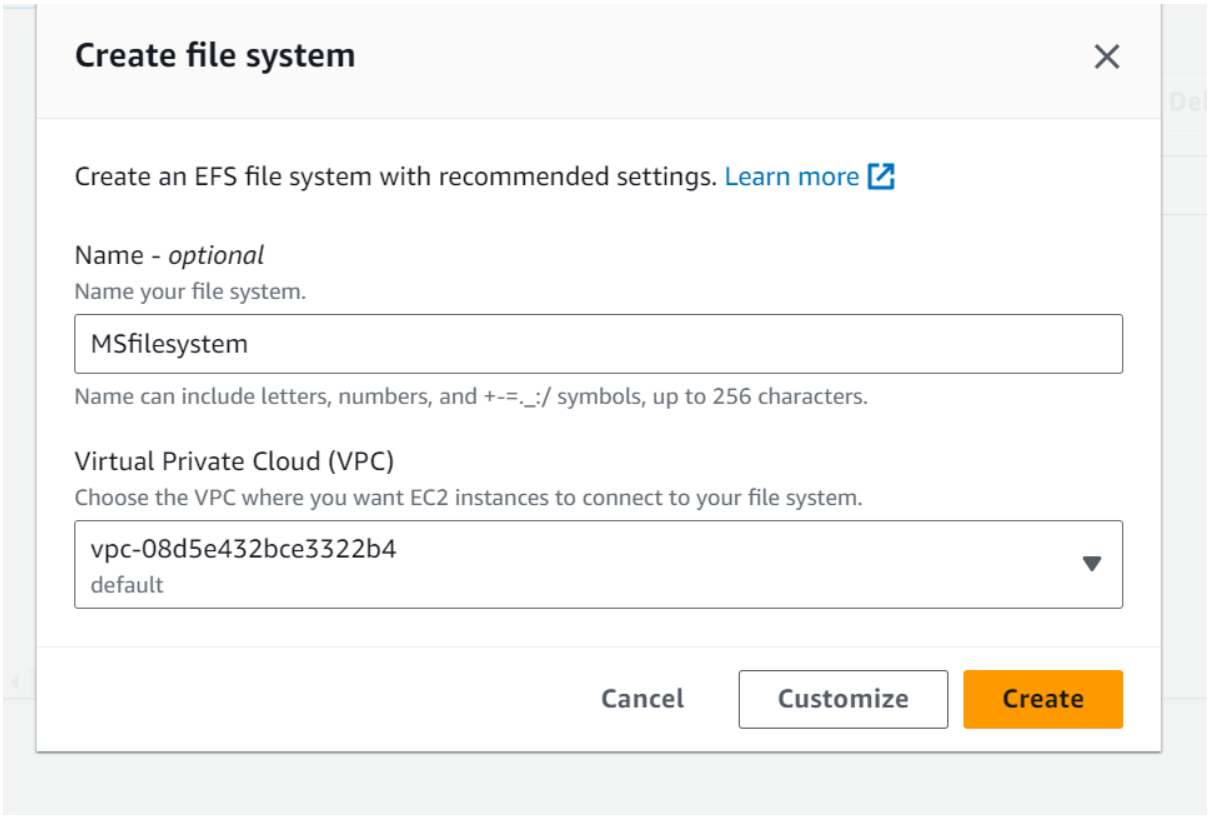




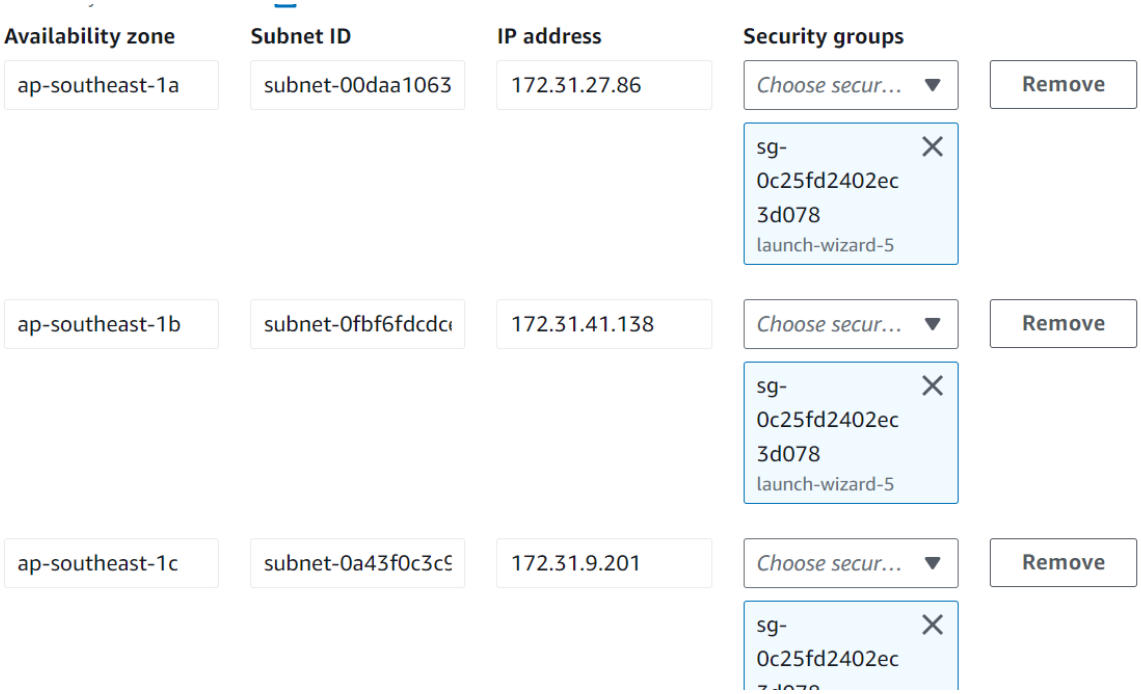
Till then create

EFS

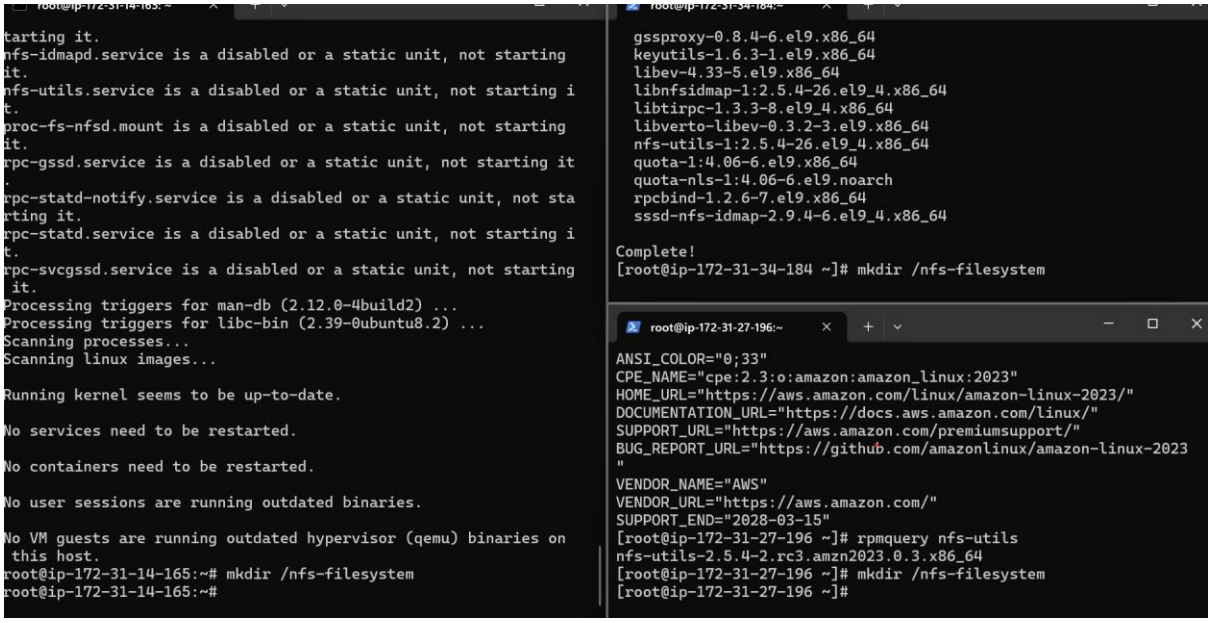




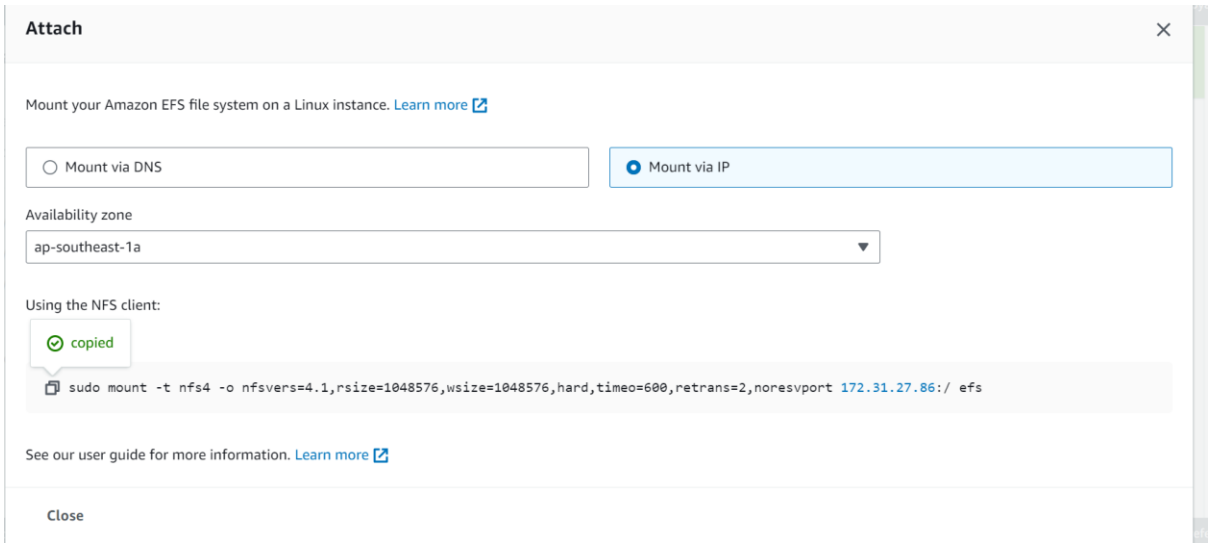
Now go to networks of file system and select the common security group so that we can attach the file system



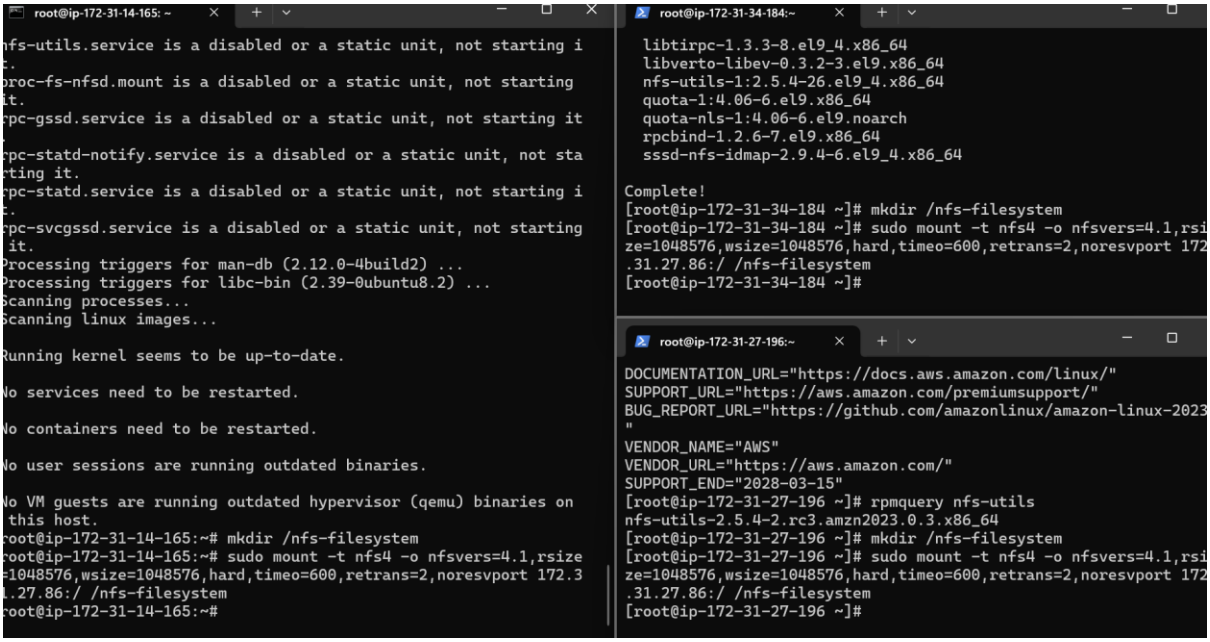
Create directories mount EFS upon them



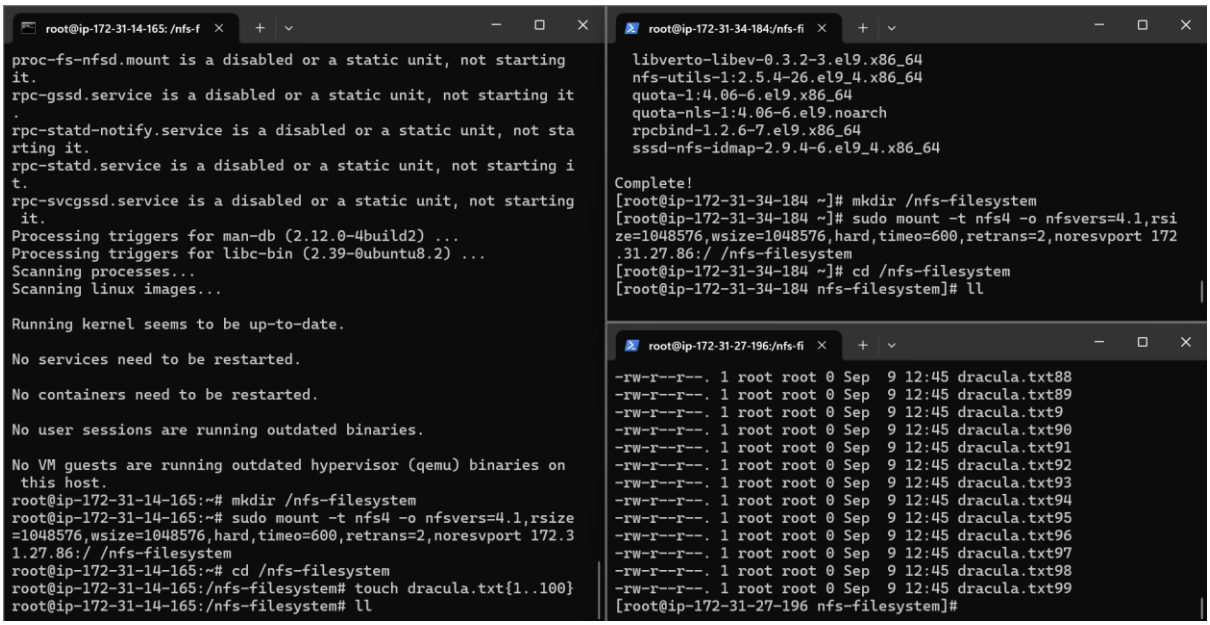
Now mount all three via IP

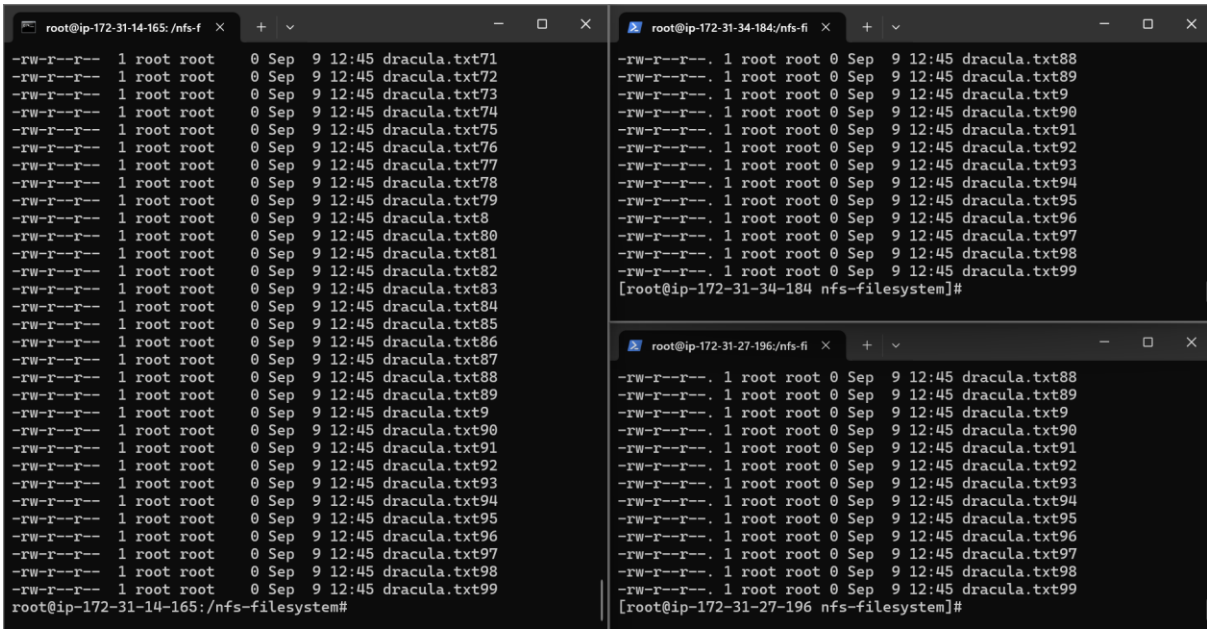


Mount all three nfs-filesystem



Create file in one system and it will be available throughout the network





This is how we successfully implemented EFS on multiple servers in same region.