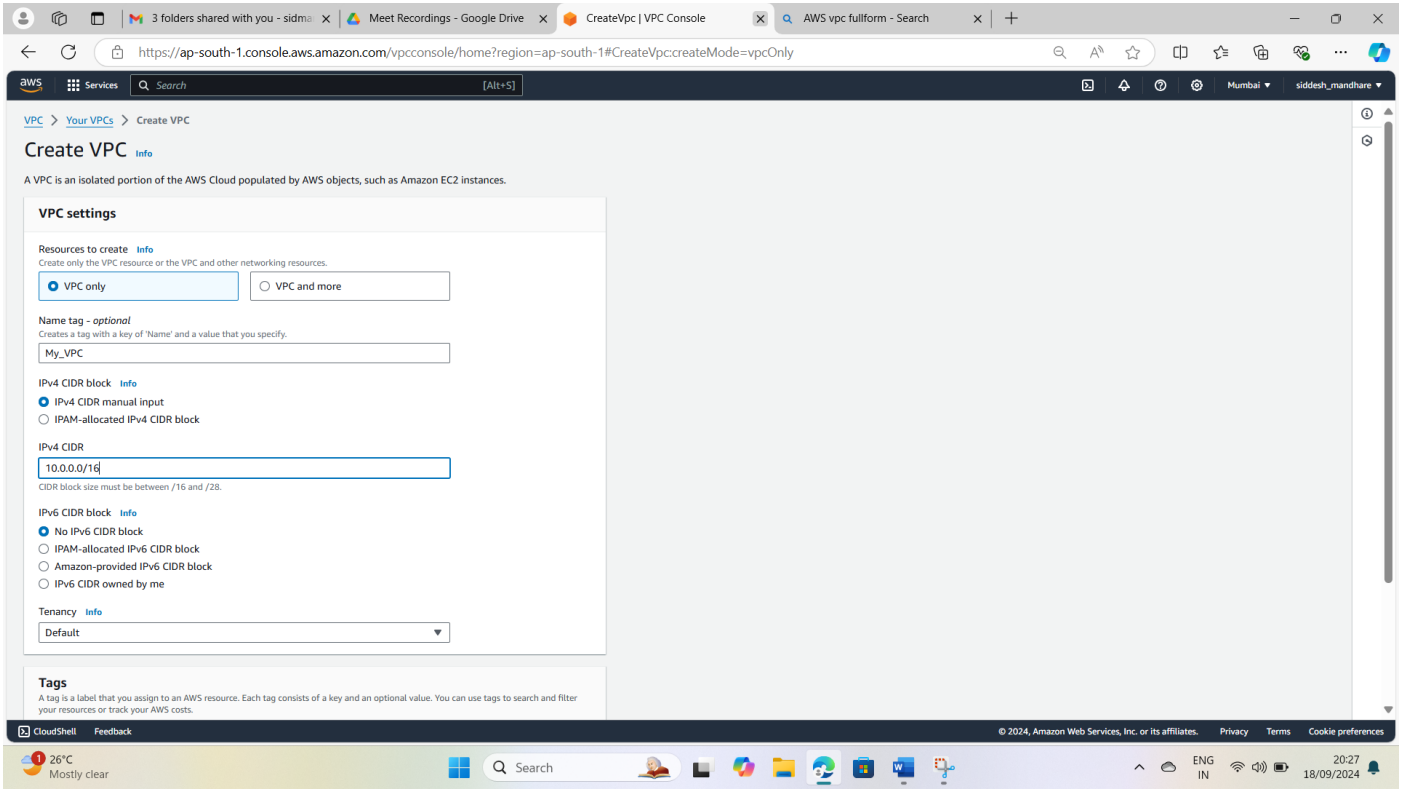
AWS-Virtual Private Cloud (VPC)

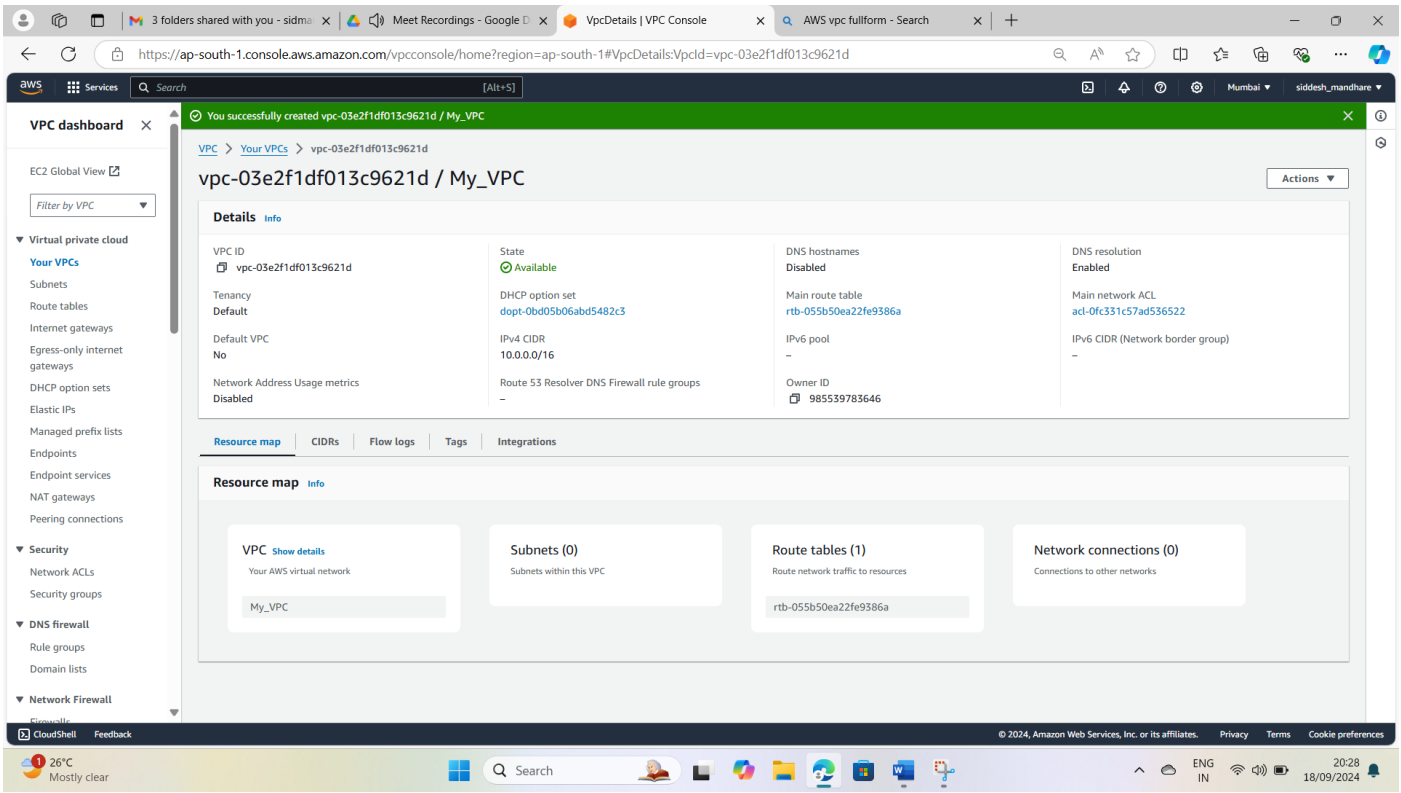
Siddesh Mandhare || 18/09/24

Name: - Virtual Private Cloud (VPC)

Step 1: - Create VPC

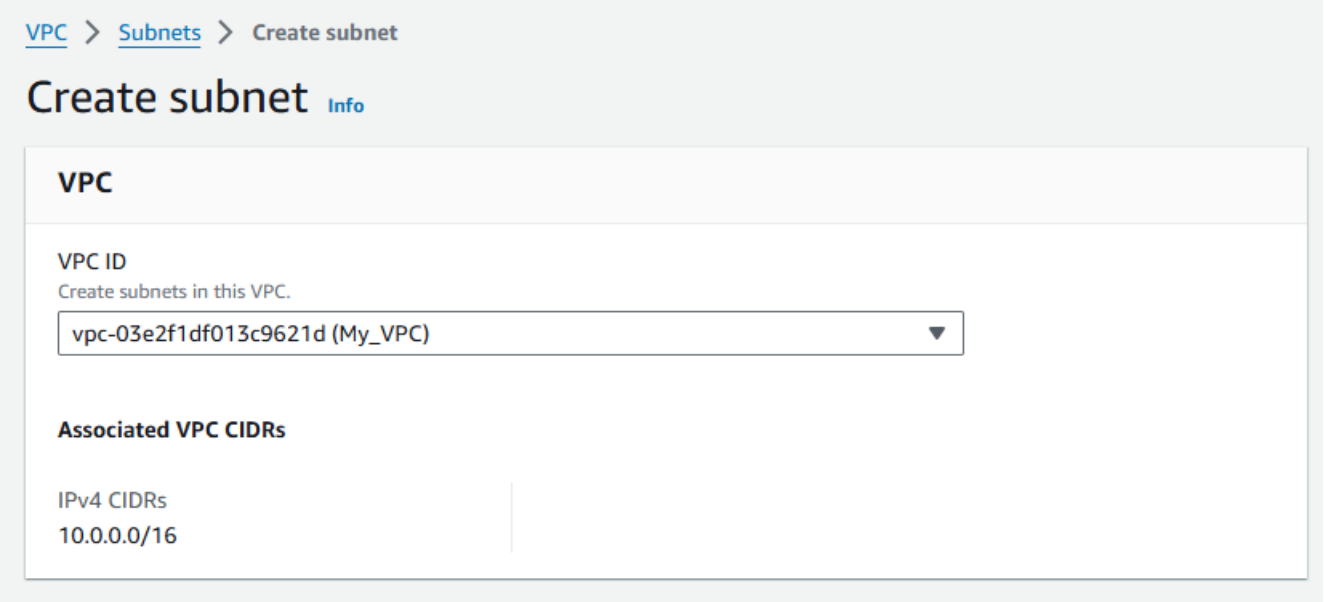
- Give name as My_VPC
- Give IP rage as 10.0.0.0/16 (we got 65536 Ips)



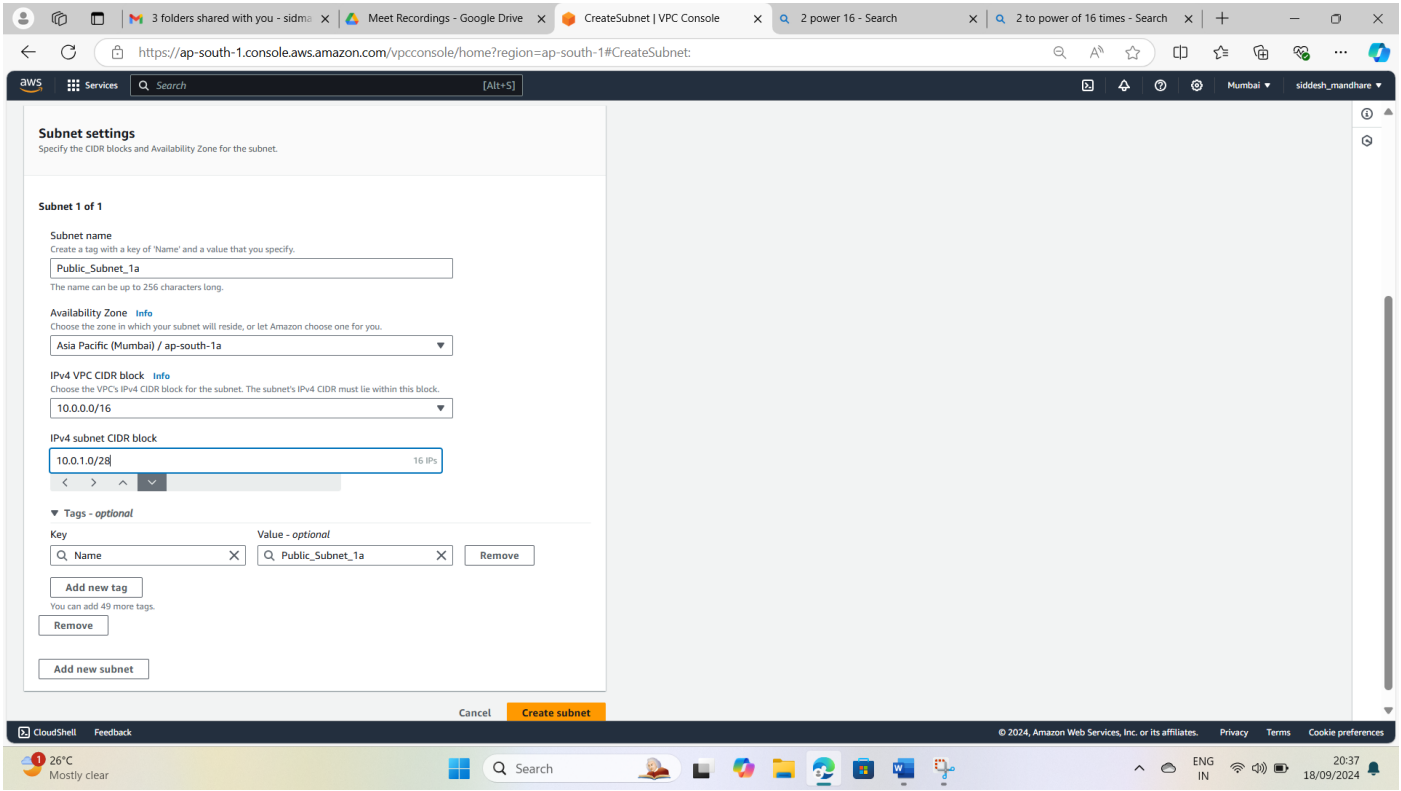


Step 2: - Create 2 Subnet

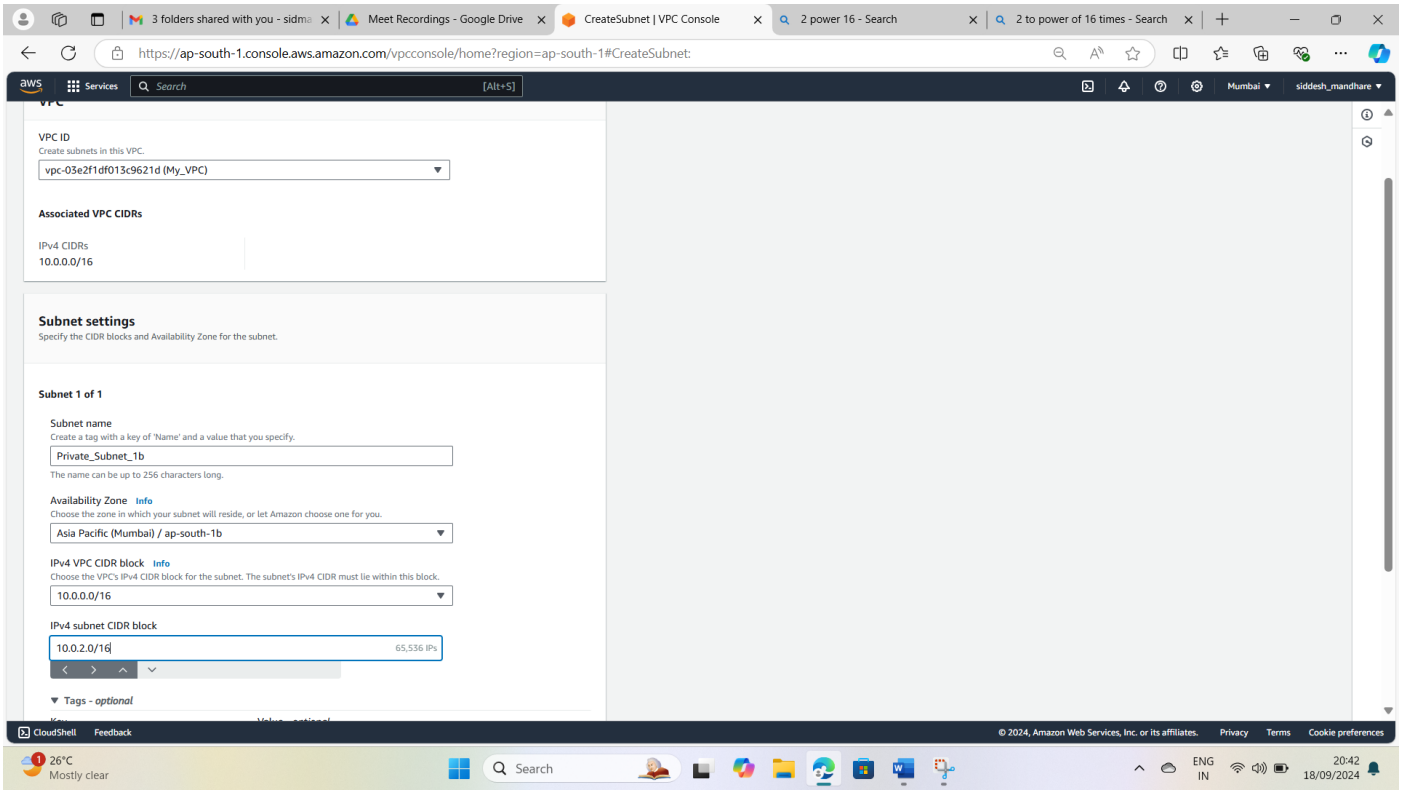
- Select VPC ID (My_VPC)



- Give 1st subnet name as Public_Subnet_1a
- Select availability zone as ap-south-1a
- Give CIDR block as 10.0.1.0/28

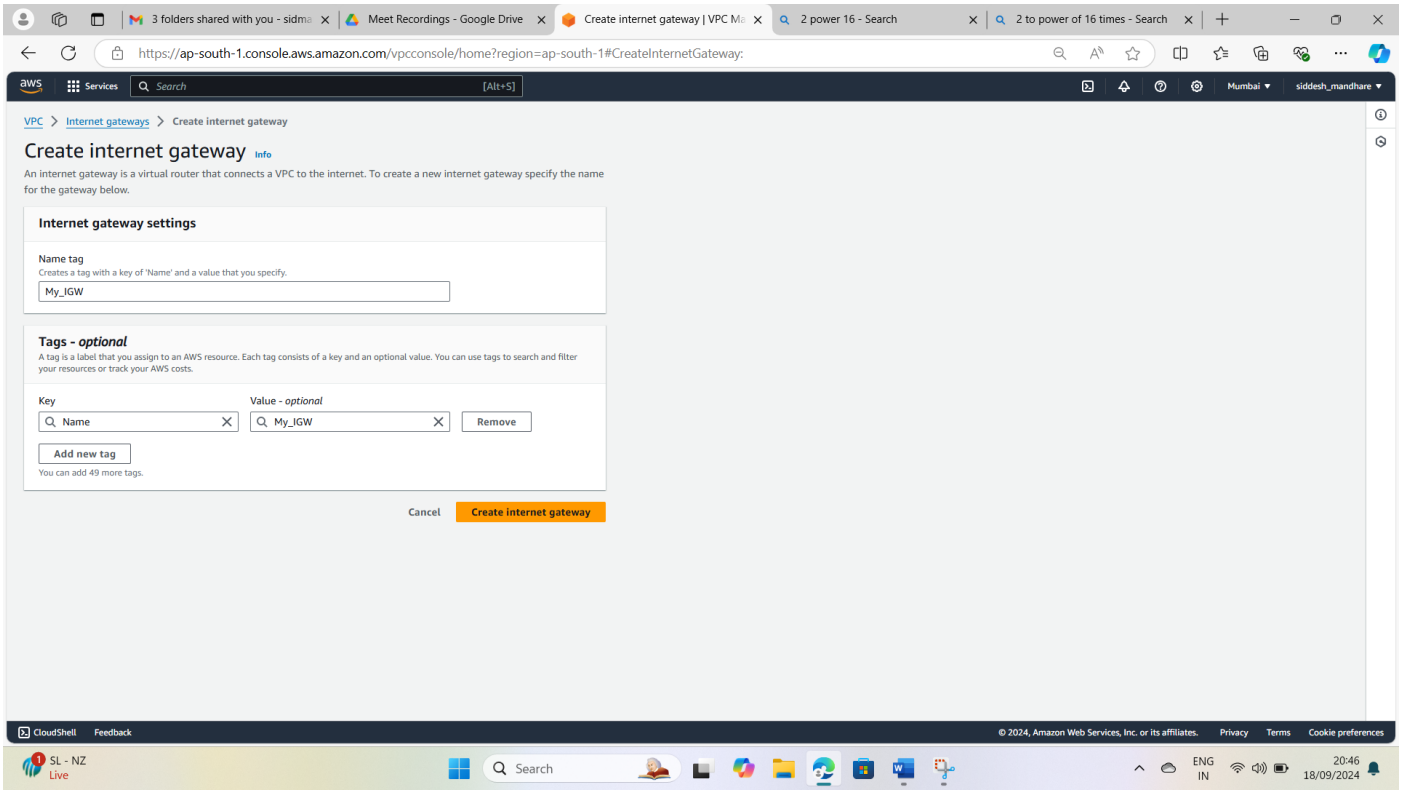


- Give 2nd subnet name as Private_Subnet_1b
- Select availability zone as ap-south-1b
- Give CIDR block as 10.0.2.0/28

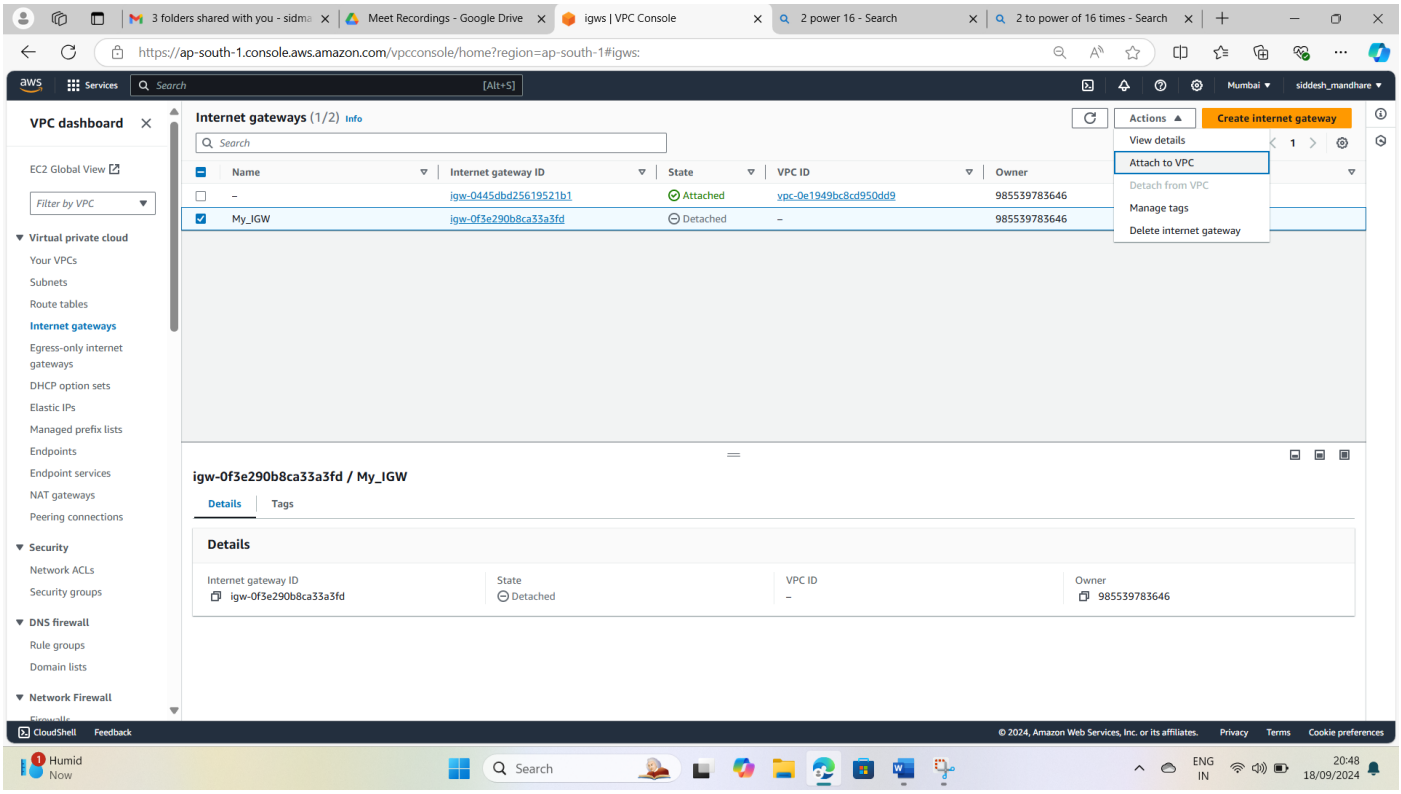


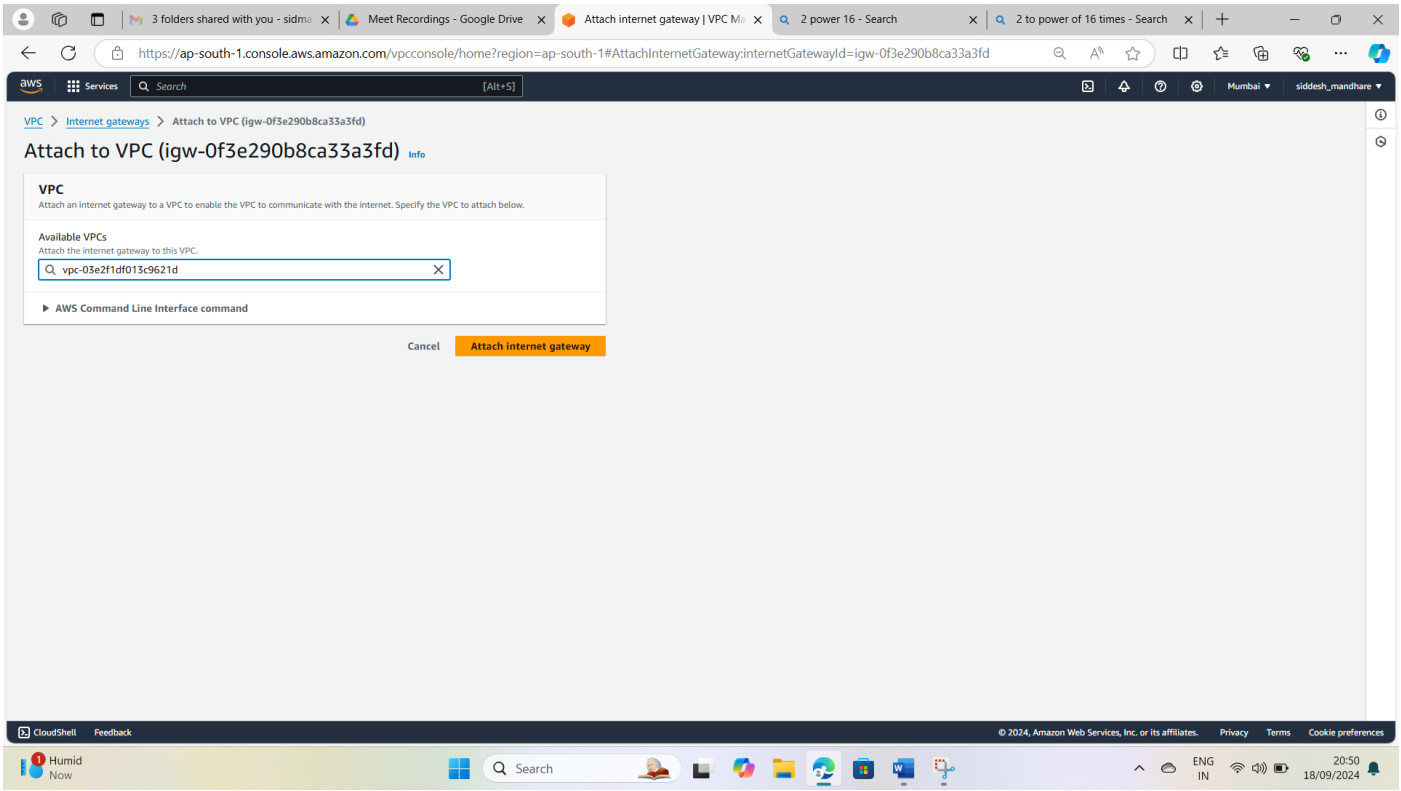
Step:-3 Create 1 Internet Gateway

- Give name as My-IGW



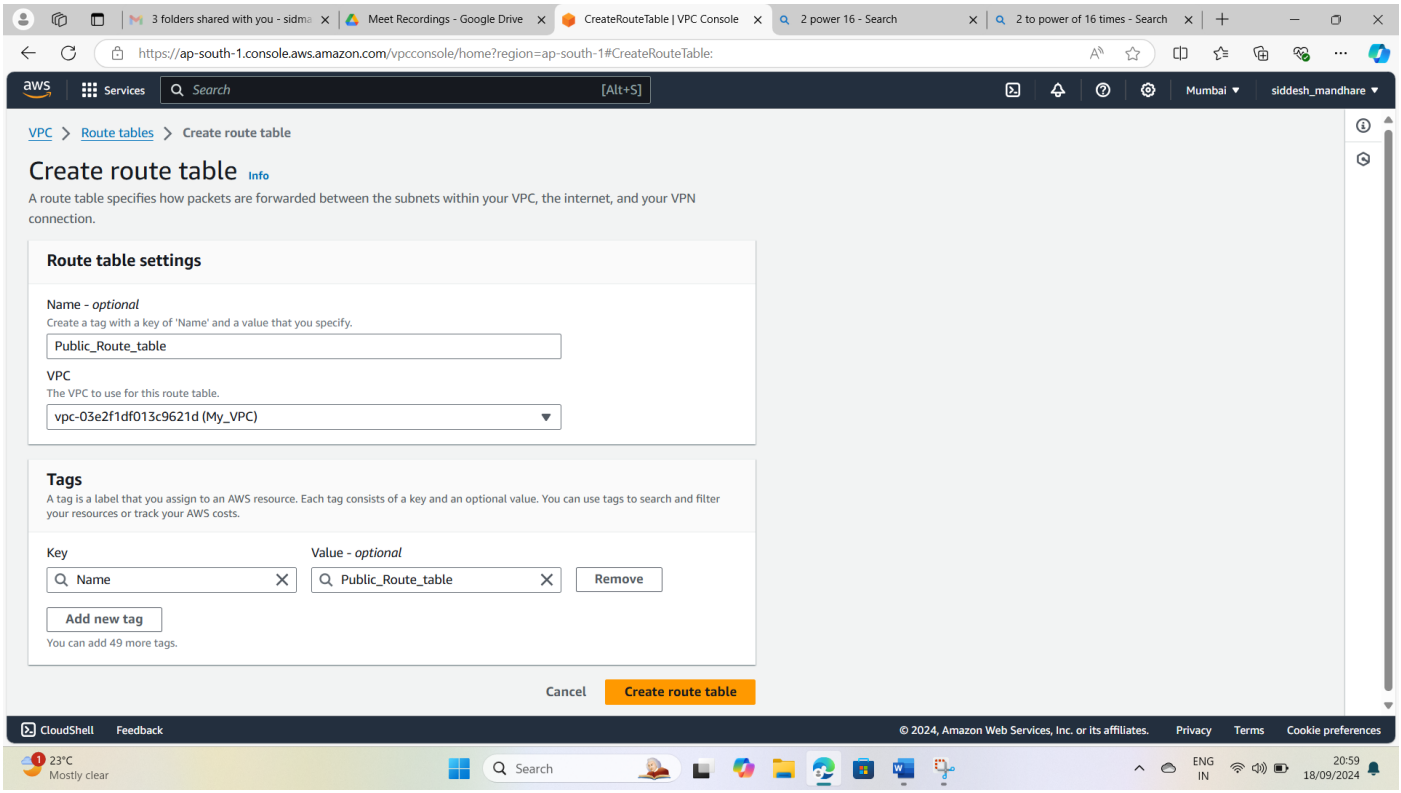
- Attached My-IGW to VPC(My_VPC)



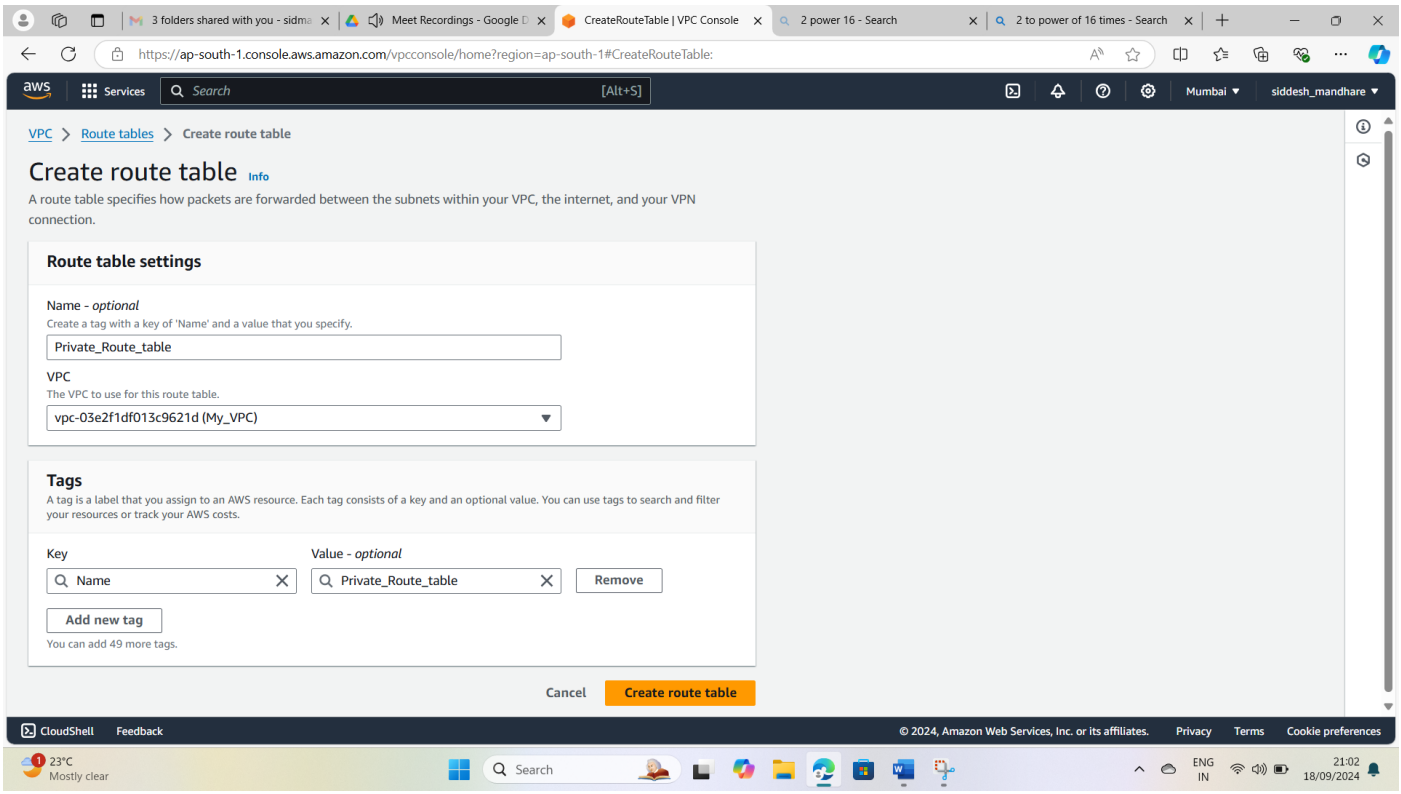


Step 4: - Create 2 Route Table

- Give 1st Route table Name as Public_Route_Table
- Assigned VPC

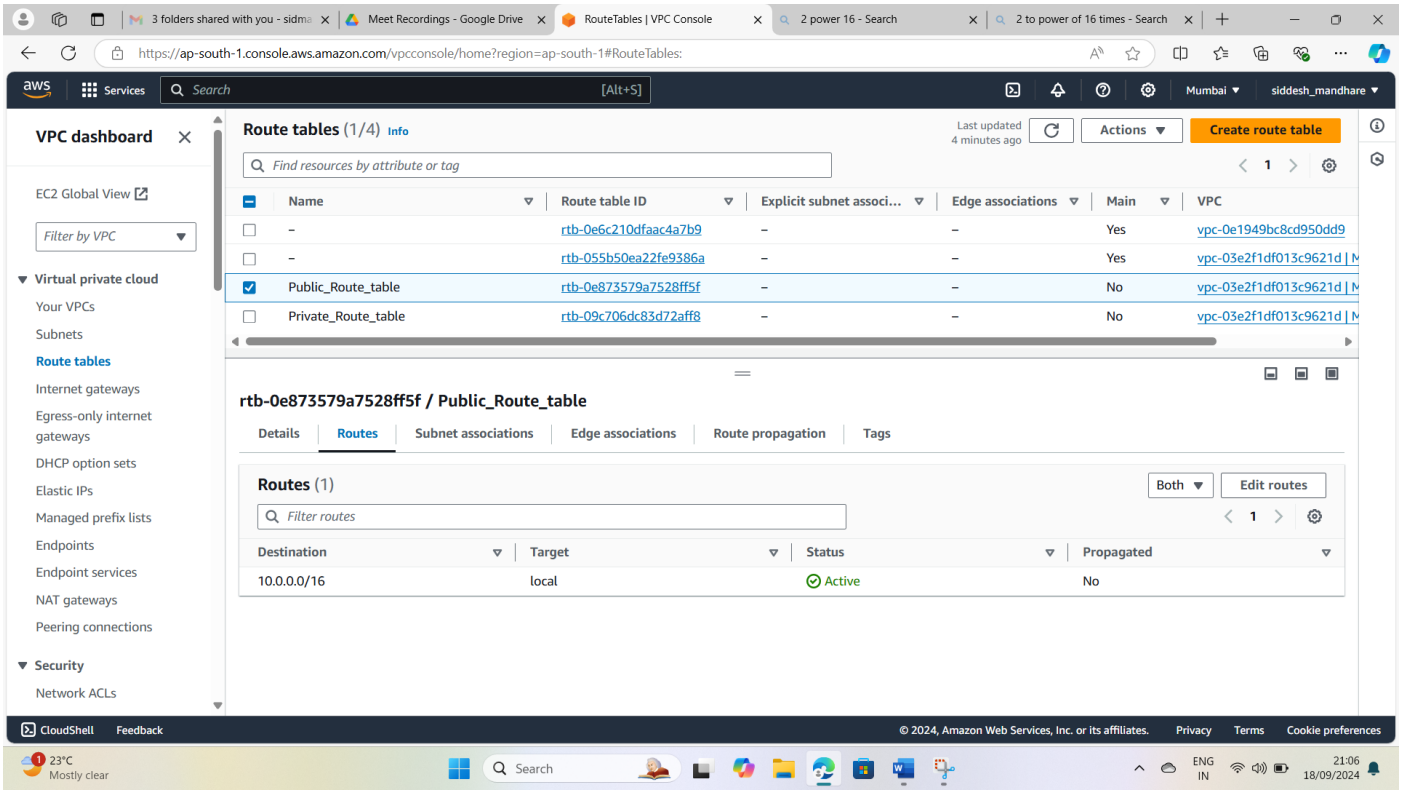


- Give 2nd Route table Name as Private_Route_Table
- Assigned VPC

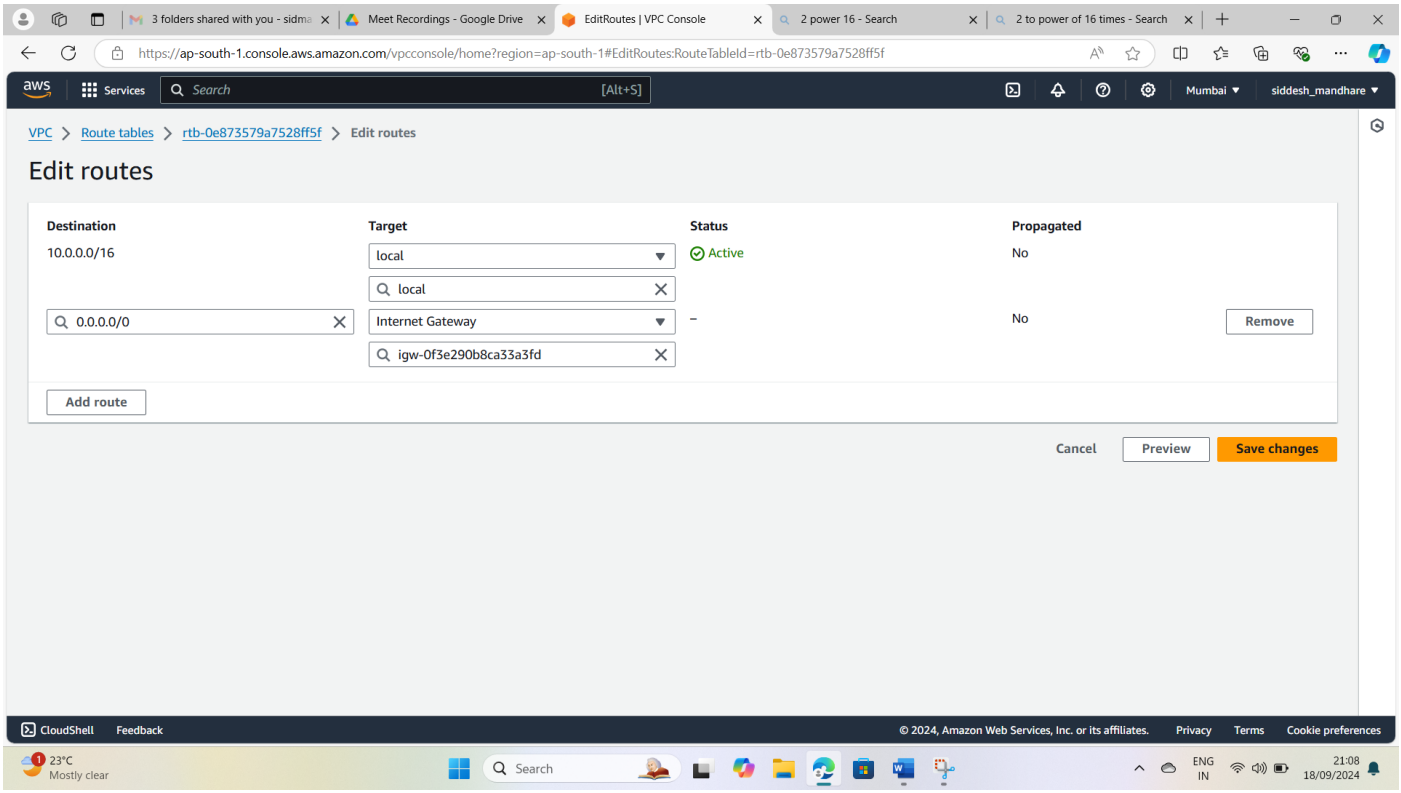


Step 5: - Add Route in Routs table

- Select Public_Route_table.

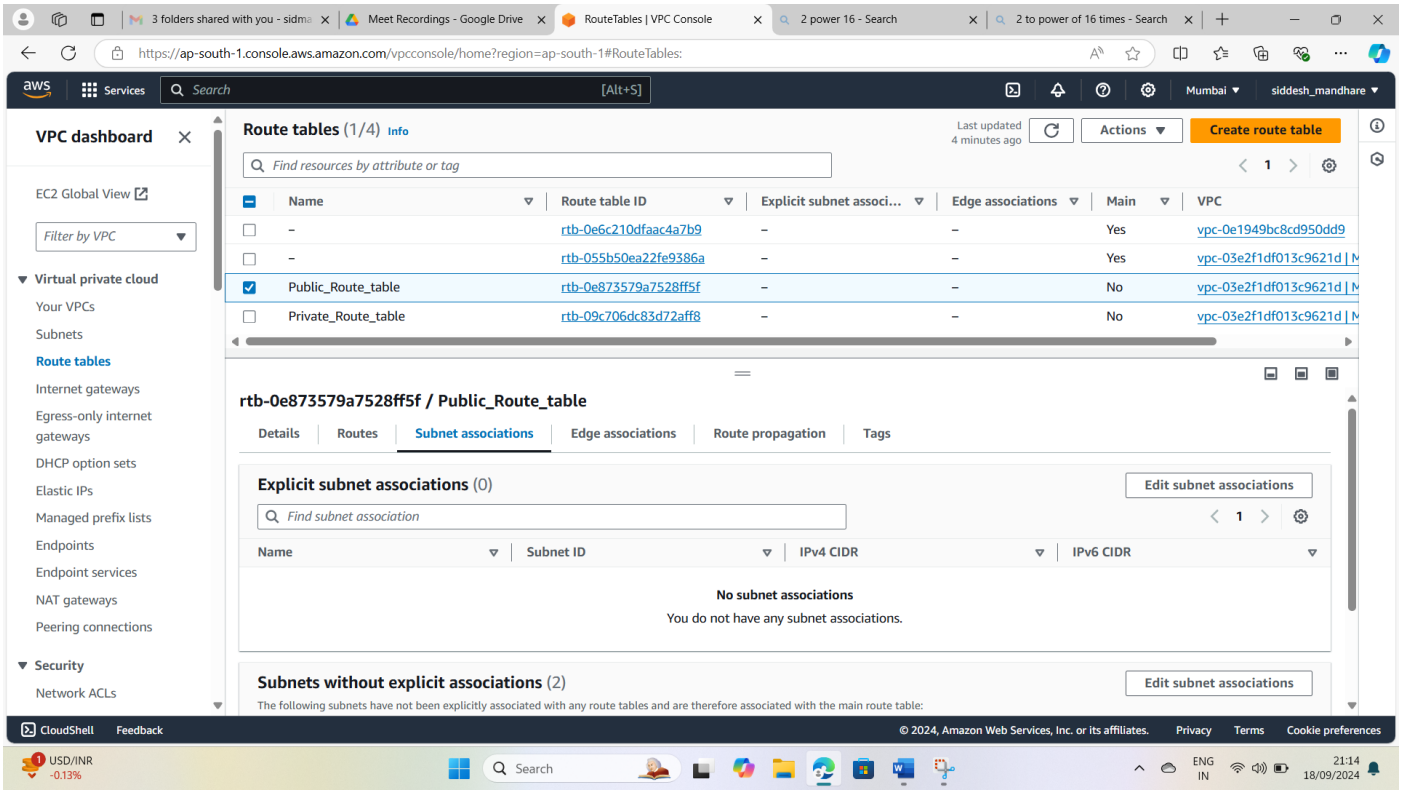


- Go to Route then go to “Edit Route”
- Go to “Add route”
- Search for “0.0.0.0/0” and “Internet Gateway” and then search which we have created “IGW”

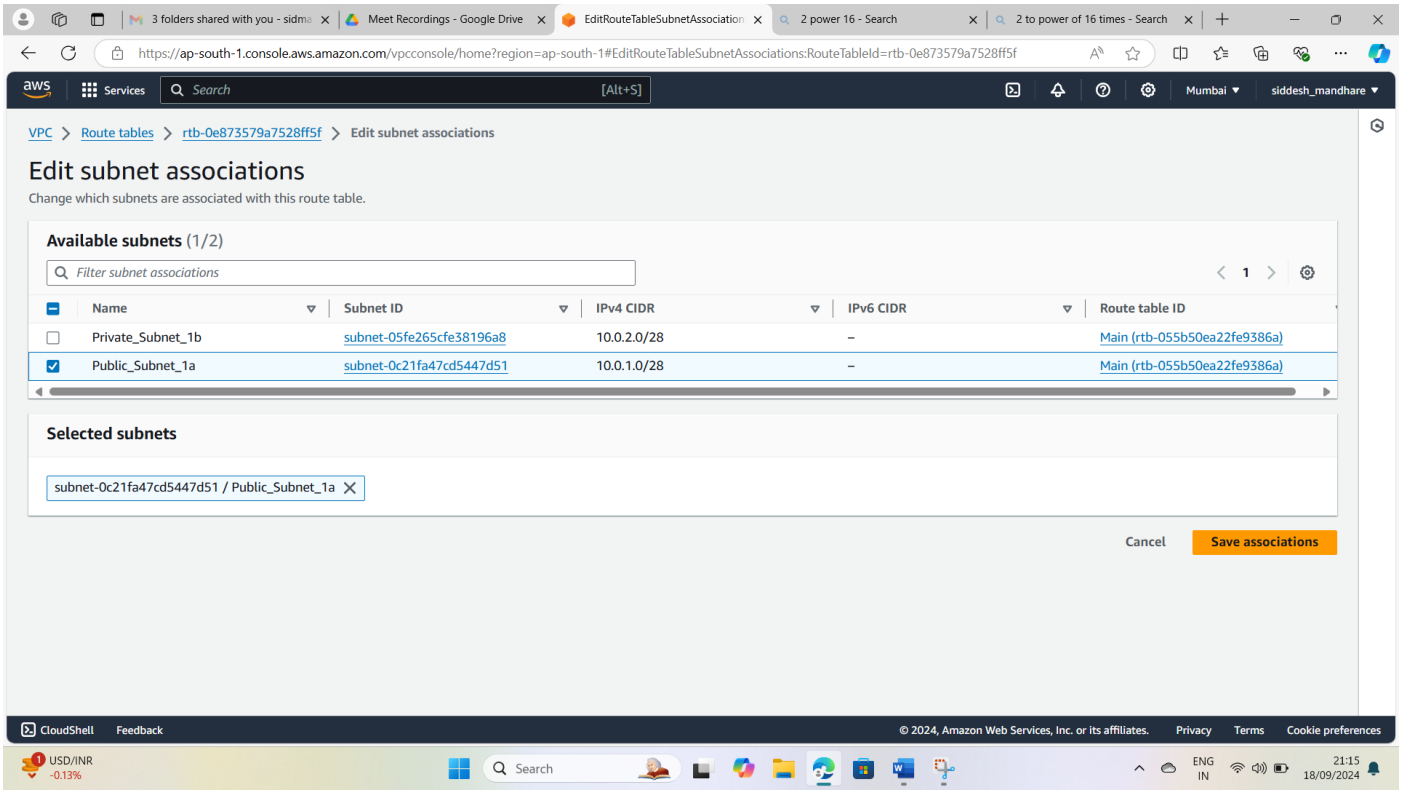


Step 6: - Associate Subnet to internate Gateway

- In Public_Route_Table, go to the “subnet association”

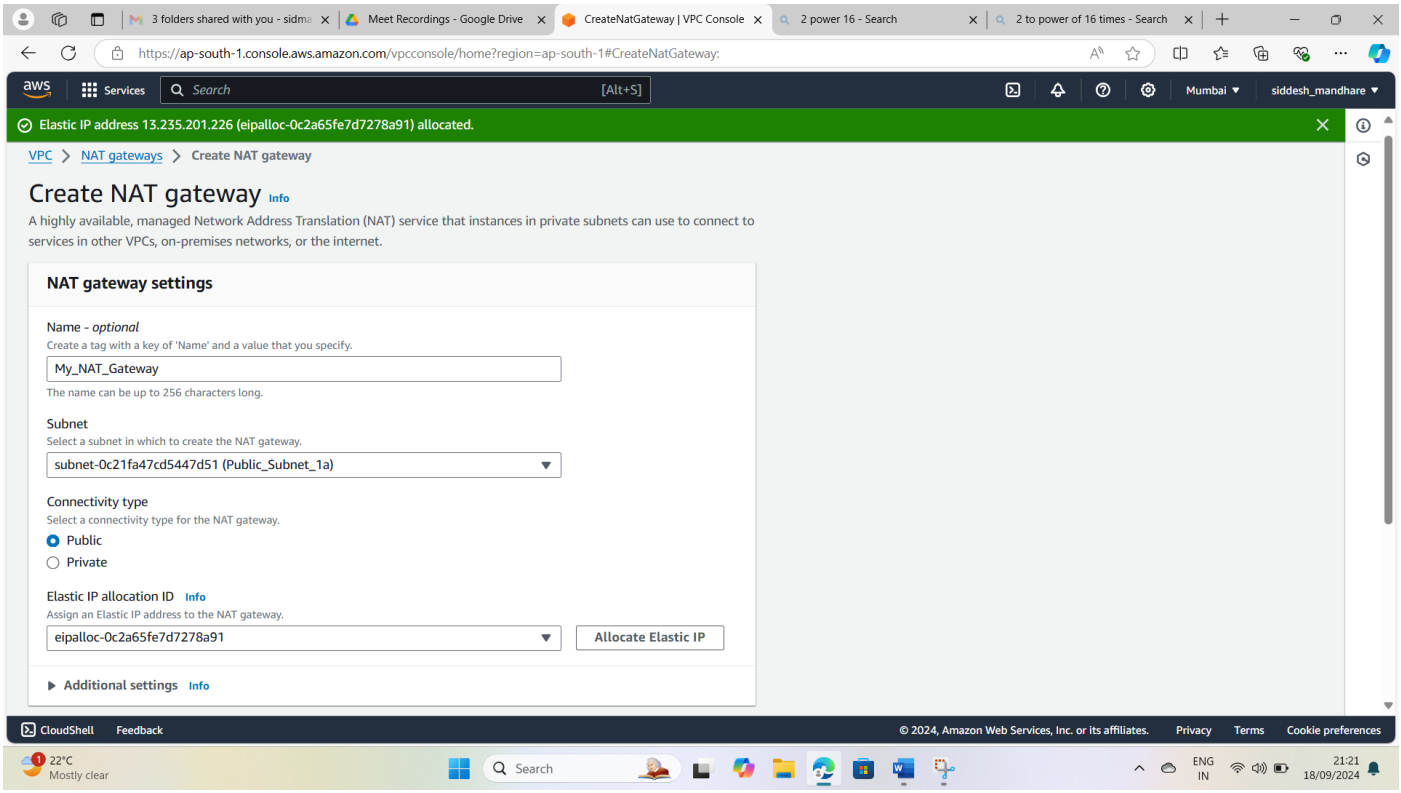


- Go to the “Edit subnet association” and select our “Public_Subnet_1a”



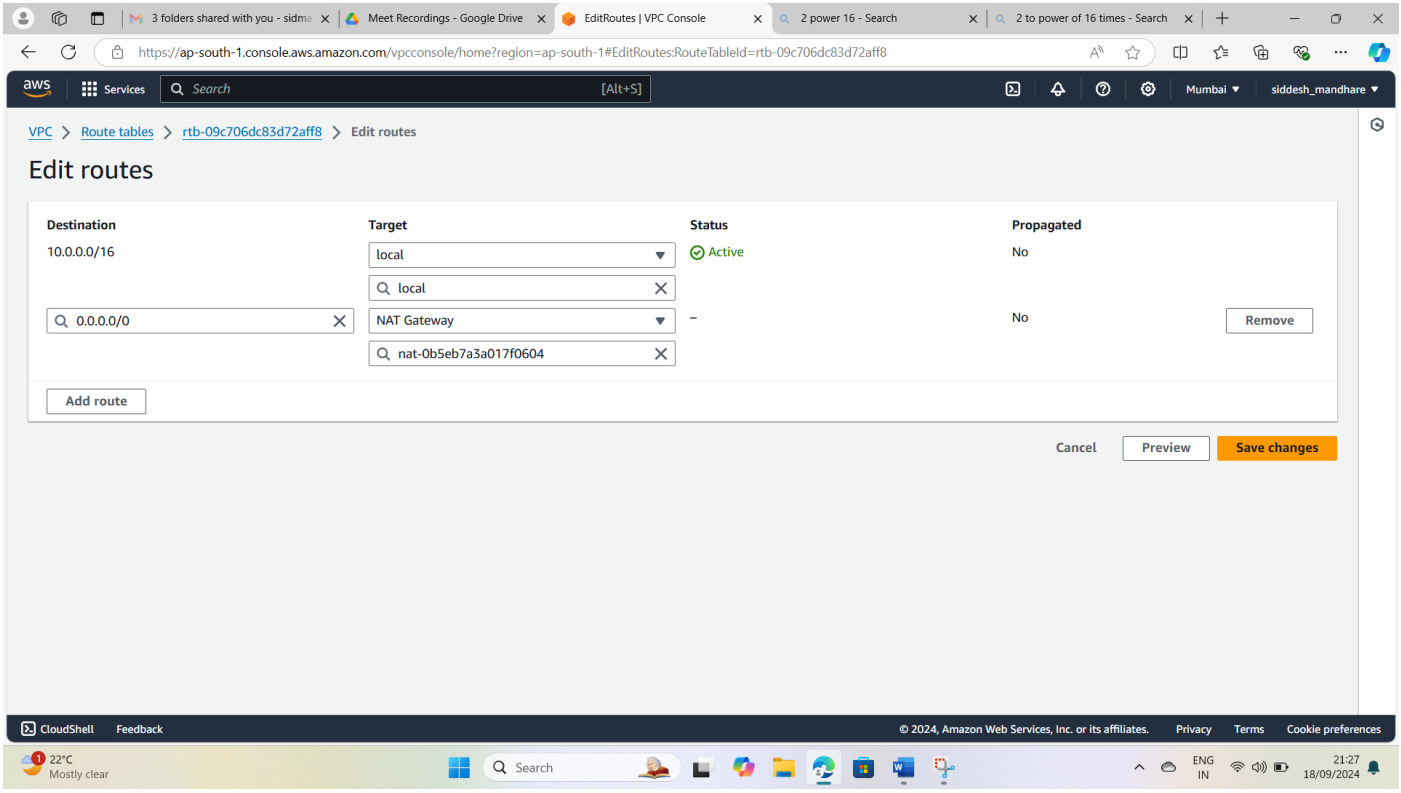
Step 7: - Create NAT Gateway

- Give NAT Gateway name as “My_NAT_Gateway”
- assignee public subnet
- Allocate Elastic IP

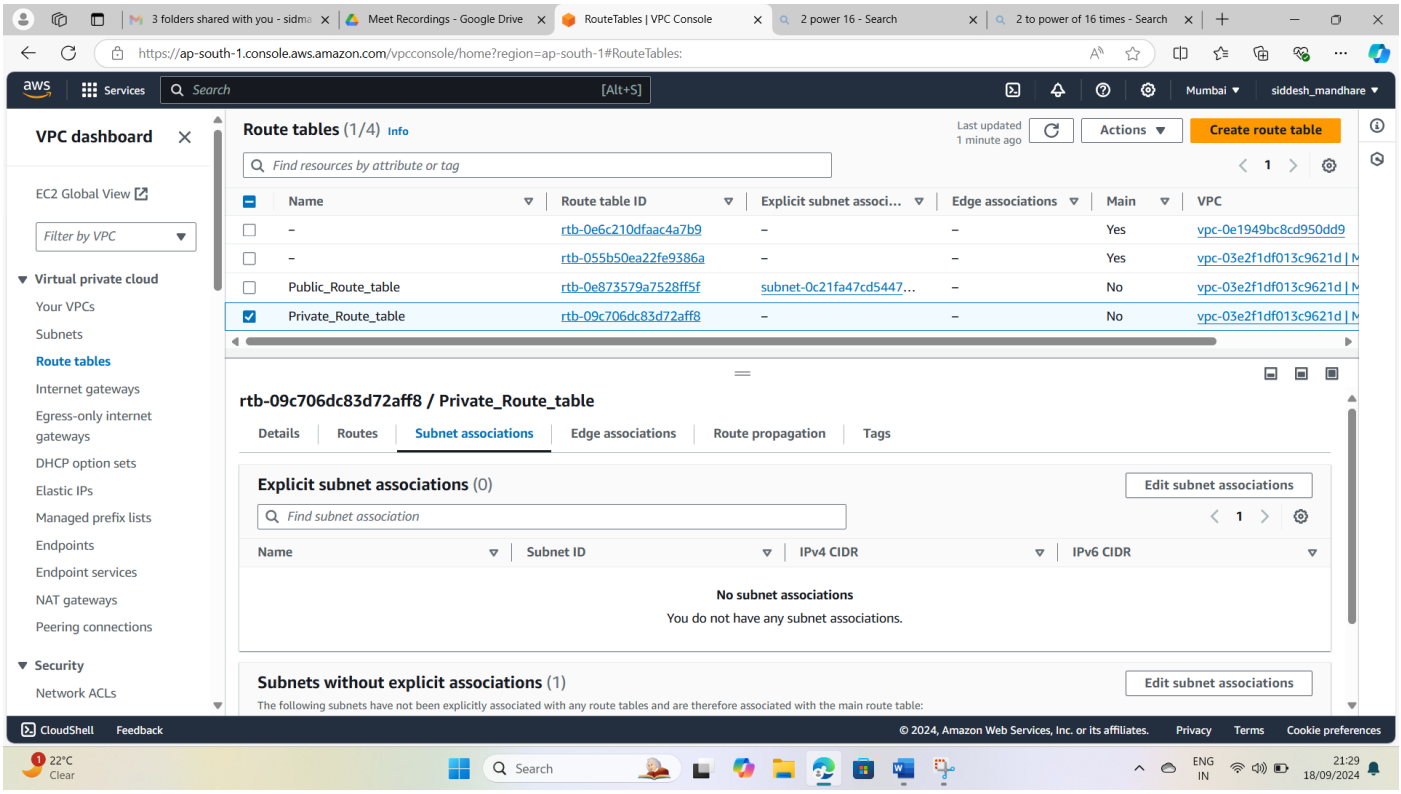


Step 8: - Configure Private Route Table

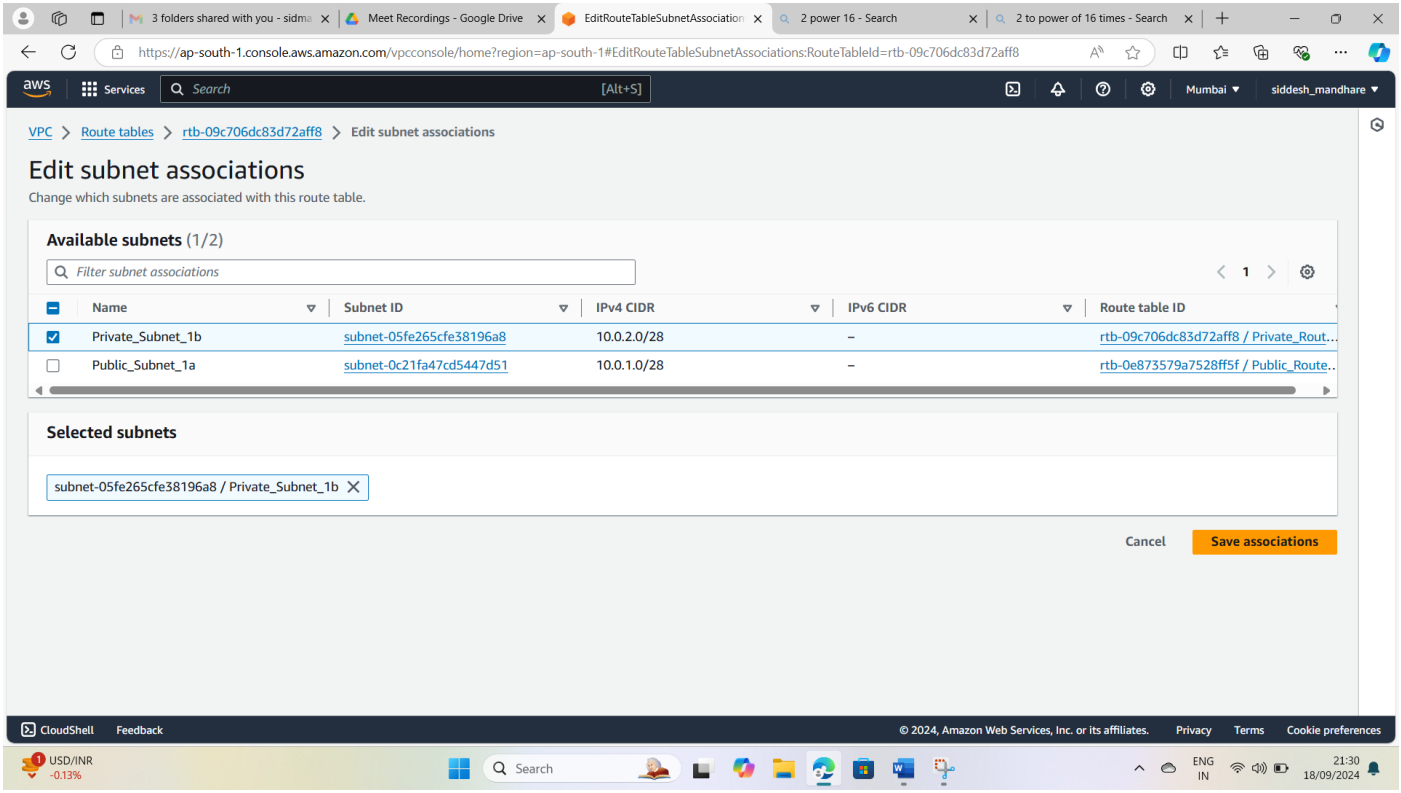
- In “Private_Route_table”, Go to Route then go to “Edit Route”
- Go to “Add route”
- Search for “0.0.0.0/0” and “NAT Gateway” and then search which we have created “NAT”



- In Private_Route_Table, go to the “subnet association”

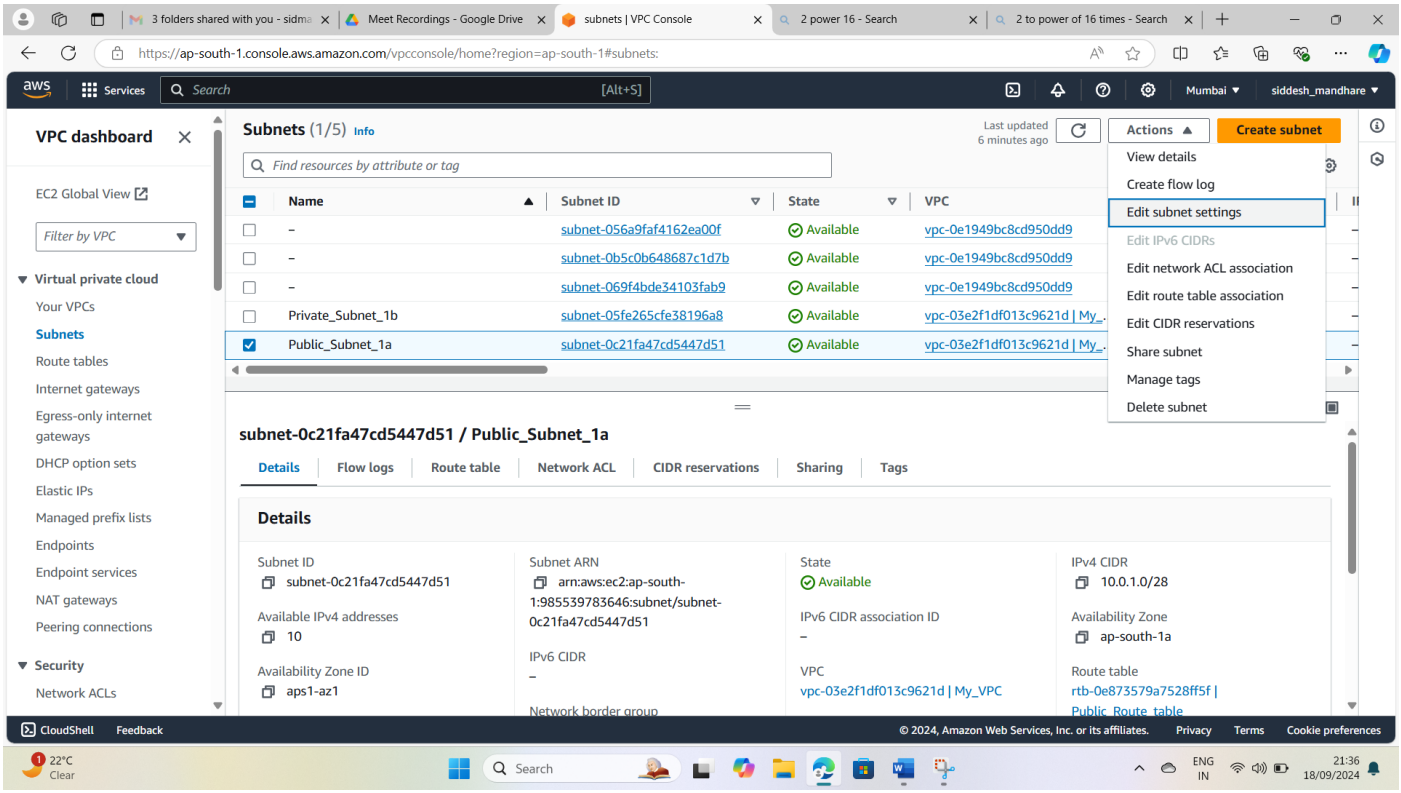


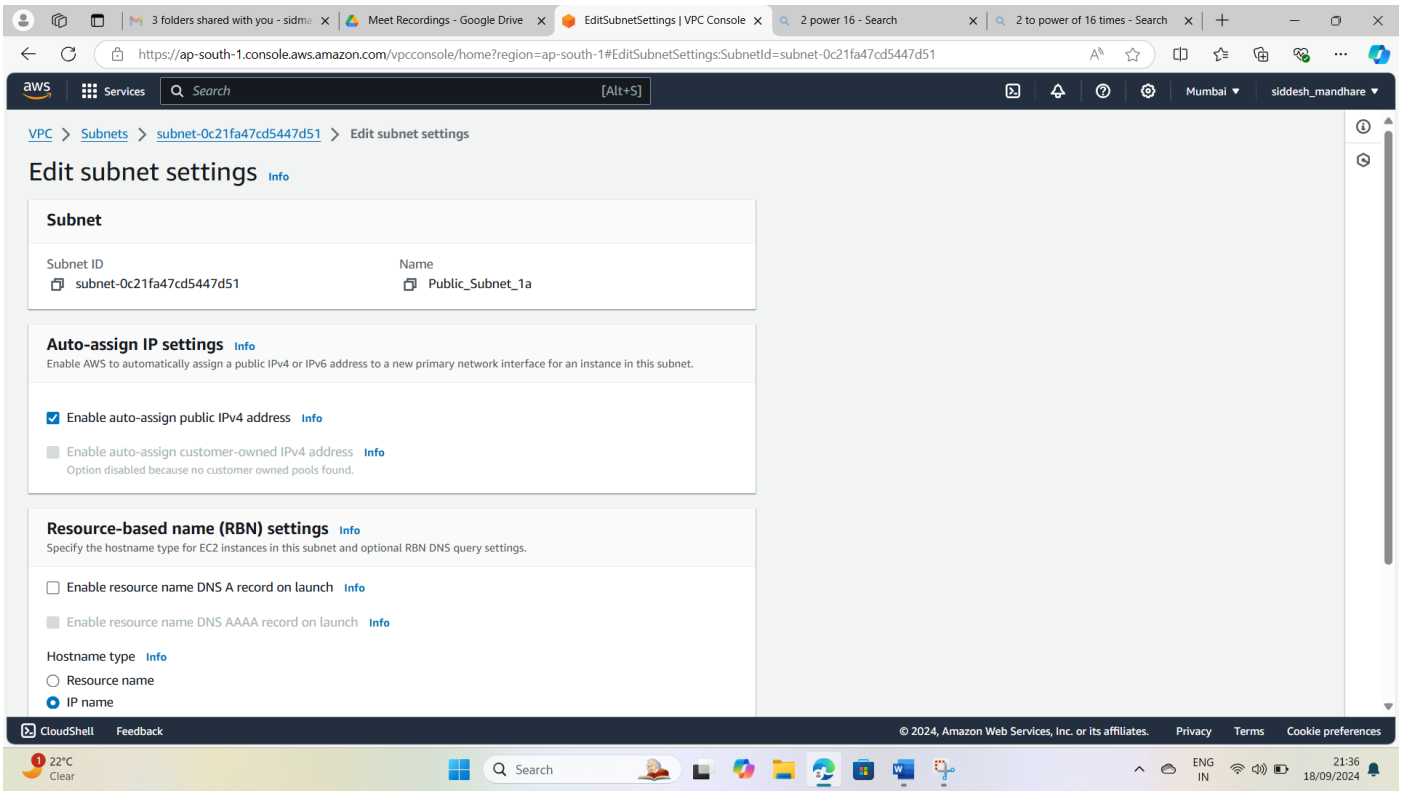
- Go to the “Edit subnet association” and select our “Private_Subnet_1b”



Step 9: -

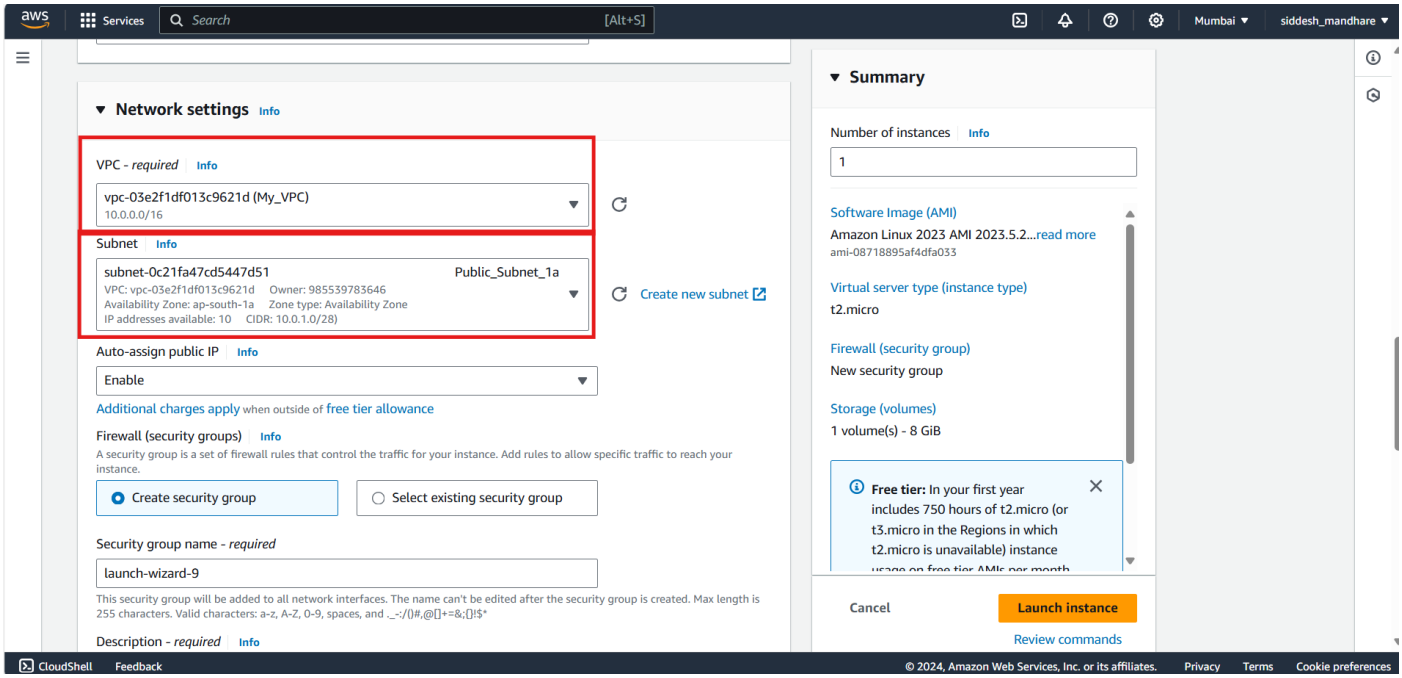
- In subnet, select “Public_Subnet_1a” and go to “action” and selecet “edit subnet settings”
- Click on “Enable auto-assign public IPv4 address”



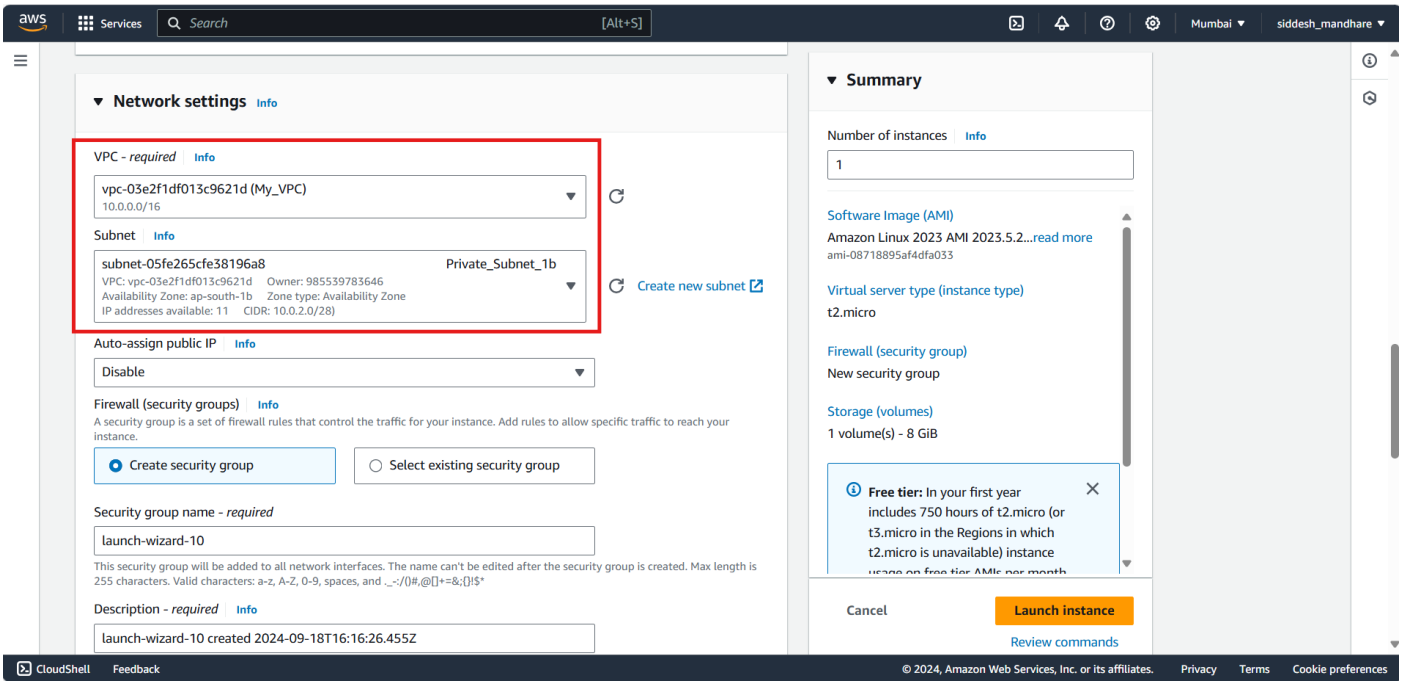


Step 10: - Create 2 instances

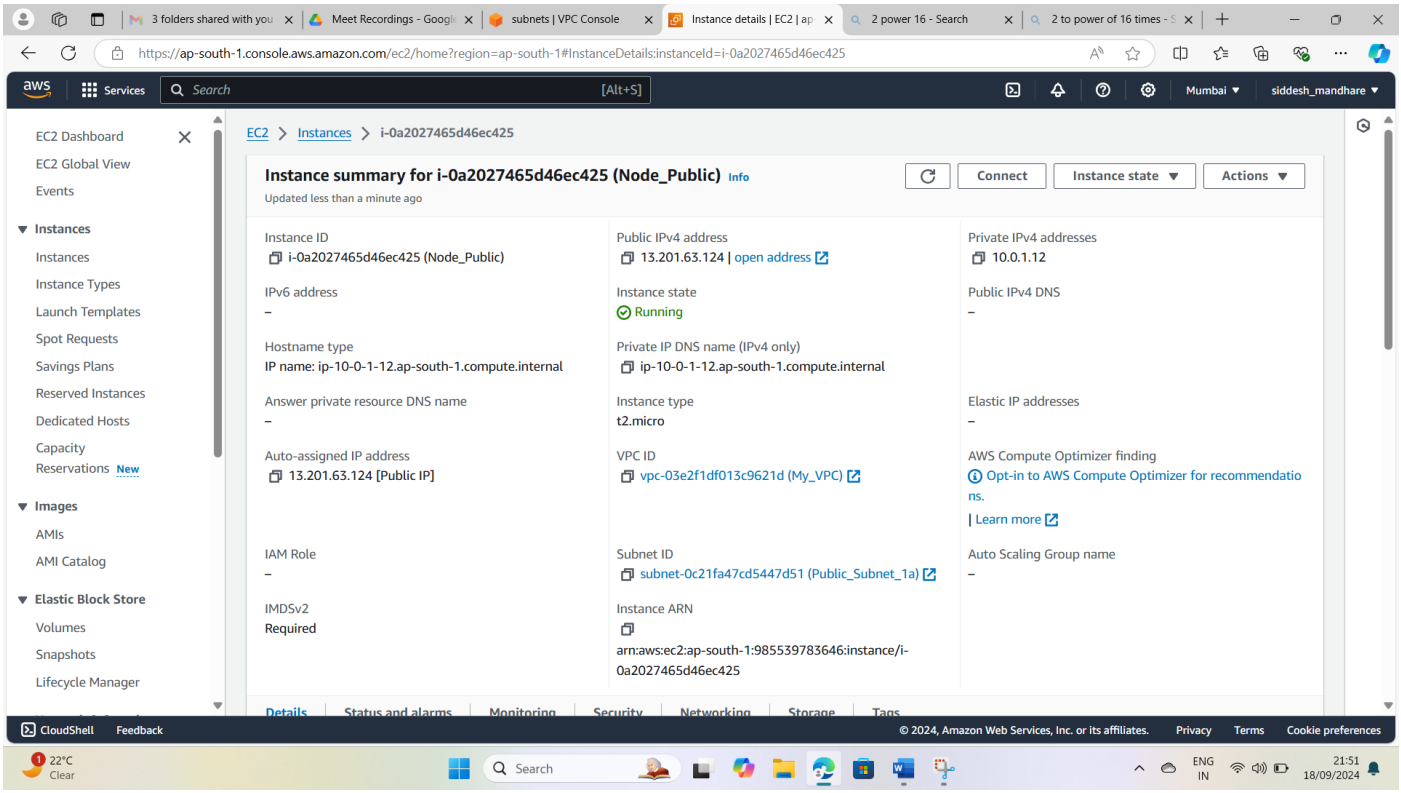
- Go to EC2 and give 1st instance name as “Node_Public”
- In Network Setting, assigned VPC which we created earlier (My_VPC)
- Assigned subnet which is we created earlier (Public_Subnet_1a)



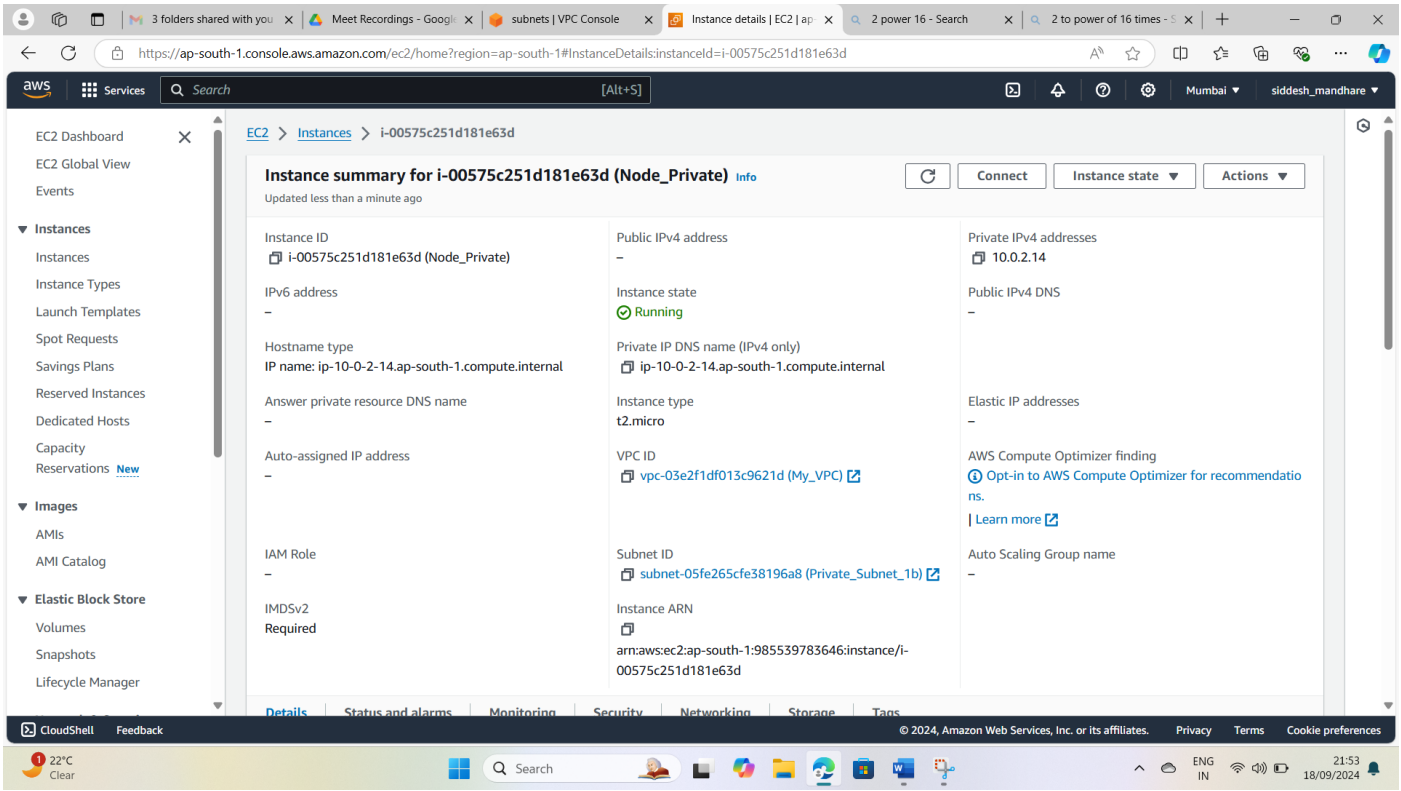
- Go to EC2 and give 2nd instance name as “Node_Private”
- In Network Setting, assigned VPC which we created earlier (My_VPC)
- Assigned subnet which is we created earlier (Private_Subnet_1b)



- **Note**- In Public subnet we get public as well as private Ips

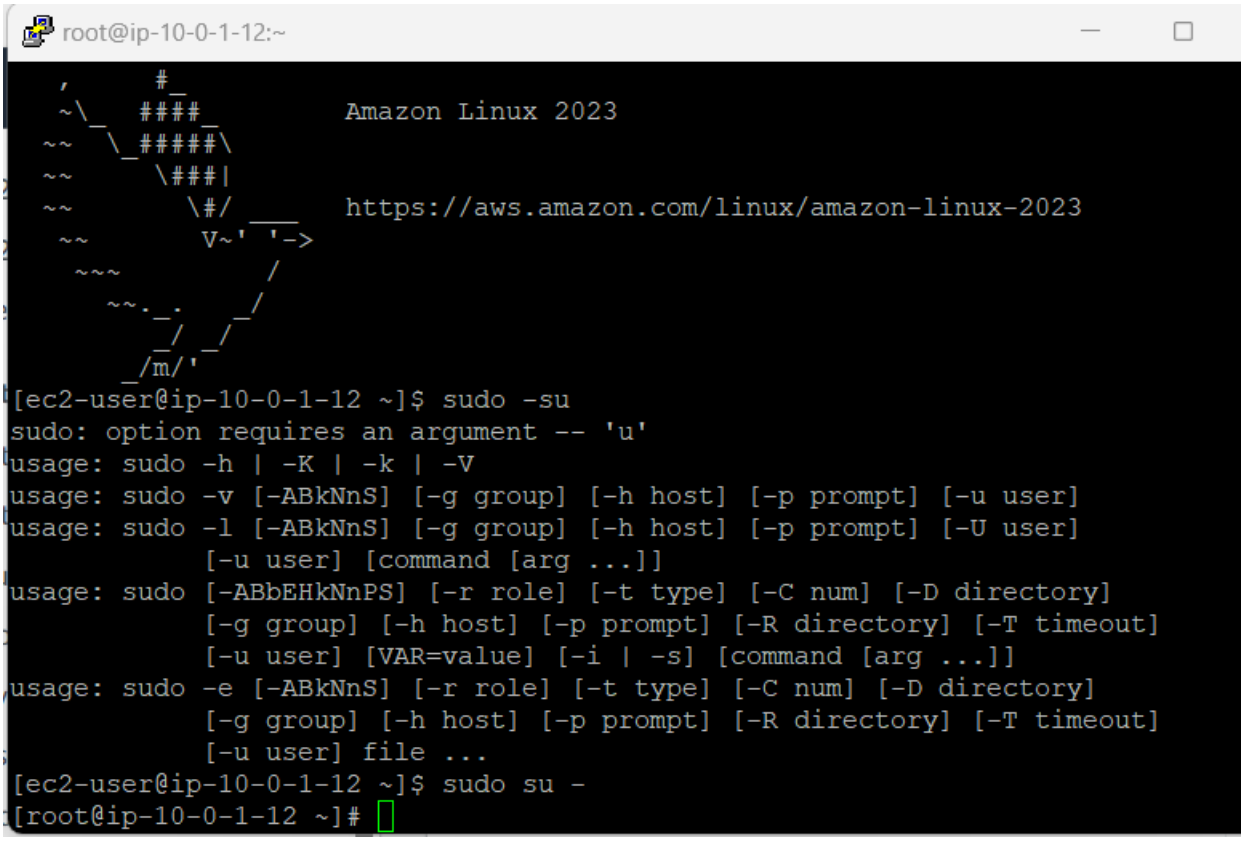


- **Note**- In Private subnet we only get private IP

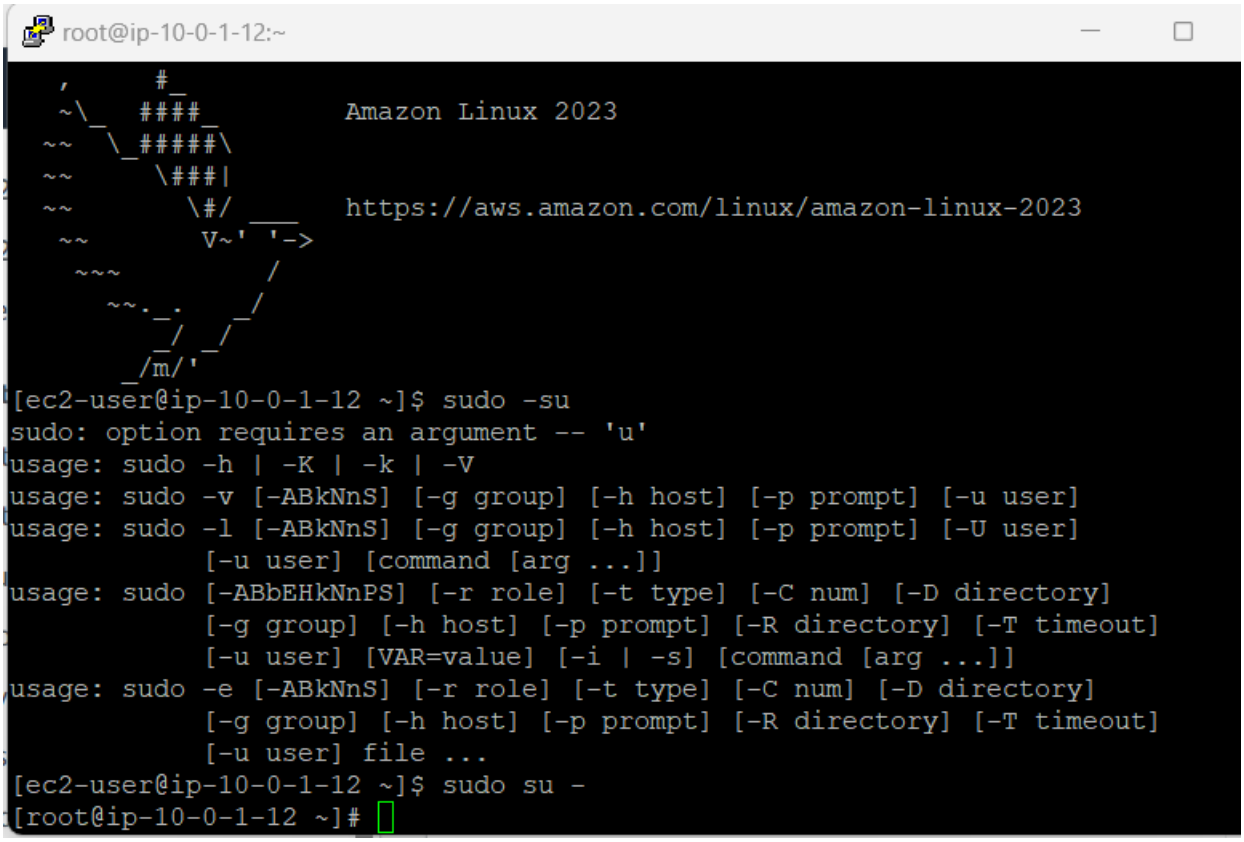


Step 11: - Launch instance

- Using public IP launch public instance



- Check ping response



- Checking if package is installing or not ? (yum install telnet)

```
[root@ip-10-0-1-12 ~]# yum install telnet
Last metadata expiration check: 0:43:40 ago on Wed Sep 18 16:13:52 2024.
Dependencies resolved.
================================================================================
 Package      Architecture Version                     Repository         Size
================================================================================
Installing:
 telnet       x86_64       1:0.17-83.amzn2023.0.2      amazonlinux        64 k

Transaction Summary
================================================================================
Install  1 Package

Total download size: 64 k
Installed size: 121 k
Is this ok [y/N]: yes
Downloading Packages:
telnet-0.17-83.amzn2023.0.2.x86_64.rpm          1.5 MB/s |  64 kB     00:00
--------------------------------------------------------------------------------
Total                                           718 kB/s |  64 kB     00:00
Running transaction check
Transaction check succeeded.
Running transaction test
Transaction test succeeded.
Running transaction
  Preparing        :                                                        1/1
  Installing       : telnet-1:0.17-83.amzn2023.0.2.x86_64                   1/1
  Running scriptlet: telnet-1:0.17-83.amzn2023.0.2.x86_64                   1/1
  Verifying        : telnet-1:0.17-83.amzn2023.0.2.x86_64                   1/1

Installed:
  telnet-1:0.17-83.amzn2023.0.2.x86_64

Complete!
[root@ip-10-0-1-12 ~]#
```

Step 12: - Access Private instance using public instance

- Create pem file in public instance (cat > ec2.pem)press enter and then pest .pem key in that file manually.

```
Complete!
[root@ip-10-0-1-12 ~]# cat > ec2.pem
^?
-----BEGIN RSA PRIVATE KEY-----
MIIEpgIBAAKCAQEA4os4QbDto/aH7VQo5IV4haToDC0OKDWUOJJsKV/pIju7z+HU
zT/+A1JNF9CAJAbK9fla3f4C4o55DxzOKnH0x1VY6lniHpl9d07Kf39ogb9zhNYn
iAwIXZxqsXfbjSYa0Eo7FDgxkIjPTT4g897bgci5tw29CqKHs39w4cEKhf9R0nMK
EKUrTXtytgNQtPY+iQj7H9kgYg1aJ7p30V8B+/xoY7zgp8opunqmZ8rYoCf3Zm/w
905ua5MaxYzOmYaa0kt/hGTvt9k73AcyTPXlvWVEMURLFx38DHflaQ87/Rgu9J+U
vd5qcjOFZnODlQIWJl/gWg4X2W3vTWC6Me02rwIDAQABAoIBAQC3mdE8HCJcsh6z
j3Oc0Tc+SMnvpExG9jVsK+8RETQmlHbAIeyPc/9vvbHRTR+tEvxGoZKtO4InDwS5
5MSJzdVt/5OSSsphtk/i865V6nJORVVgIRfkwKu/AlfOAK+lE27DxIVg+7Hfy6EG
nwWh38nSw1UQMEg3aEXGidB4hjT7Js1HrzIQWGHdhORoyu4eDWKFf/3+bED3Wjp9
gj4izbzEvOx2kXI6kqfh+2Q+m8xpXlgOLrKXoOp90+kIRF5yfVoE4WKCsxP2Kkgi
uy1U39TEFq7MAxJg4ZxUL9ROPDR7fRF451O96/JHb5ENI6sefNCeeS28hNF65CoM
j1zU5QrBAoGBAPTdVV5z8IE4CEx5So+UnLYwmKhpkxJ+csphBMWzZFl3Cpu4XbuQ
J+xMzYeLzivPB5TOnqxzFQByZvGBjXKeVAPz0e8uwCcvIX59r3MpJjdhDr75obML
VRlsWezwr9nIRn4m+OrclP+9/O3Y8tSDKPu3/0XERv8+SAIU1q91S0Q/AoGBAOzY
mXuvoE3wXMkmD+Rzb6wOWwqMMgapRzVZFY3ZBIp9UjCsbD3Hg7CSJYJK0FPqG9t2
RJLFAU6Xu6mT+wIlMFm5QlJrMLWOp5KVOXzMs6uG6z8EoeXi6aUChI2ks+3xrmBB
LaT3qXIrA1D/LfSIQIp55dAk9lmC26OW+00Q5LGRAoGBAJXoMu1iWWkinqIC14zT
VKWNVsgz6iA2XZxcjQlj7BmBcXMoCepcNLTLyEAlbREQ6/lEDYxR4Ben8jIEOE5l
c9X/nRSrMGRMzFqeI52DIaxhtR9hwIbWd0DbPqp6J45SuCVfQqC2blmrPH94hCFq
Mtr4KEXUBgsZXAg6Lby5OF0NAoGBAMwIF8hWVmlt2/Coal5qF1SIFWOzvFDCuQY7
FPdacbAAH7Kwhpp96nNMoyVn36m6bn8TliU9s0+KJO8D/OMvOETC9GBd2Ns+5hq/
lINvMIReOP/TtMh+PrqYvanrrdkYLxjabUDE3WLtrPC0s1kJm1fvhMtXXCVmNmHp
6djM6cYRAoGBANdIFmjYyeINFJKNbn+gTlZVW5iyru8LoVltYGVPCnyQInKjdBdr
pENRKrz1s+4XBWsQArFnbB+2Zl2CdXi9aY/yE8tSWfLUl28yR+EE5z25FCFXTce4
2OR8gwQ1YL5tpDACWekrc2BToE+JrmQ75R8VHl/Z24PnwtRDjMOq+Fuz
-----END RSA PRIVATE KEY-----
```

- Change mode of this file (chmod 400 ec2.pem)

```
[root@ip-10-0-1-12 ~]# chmod 400 ec2.pem
[root@ip-10-0-1-12 ~]#
[root@ip-10-0-1-12 ~]#
[root@ip-10-0-1-12 ~]#
```

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