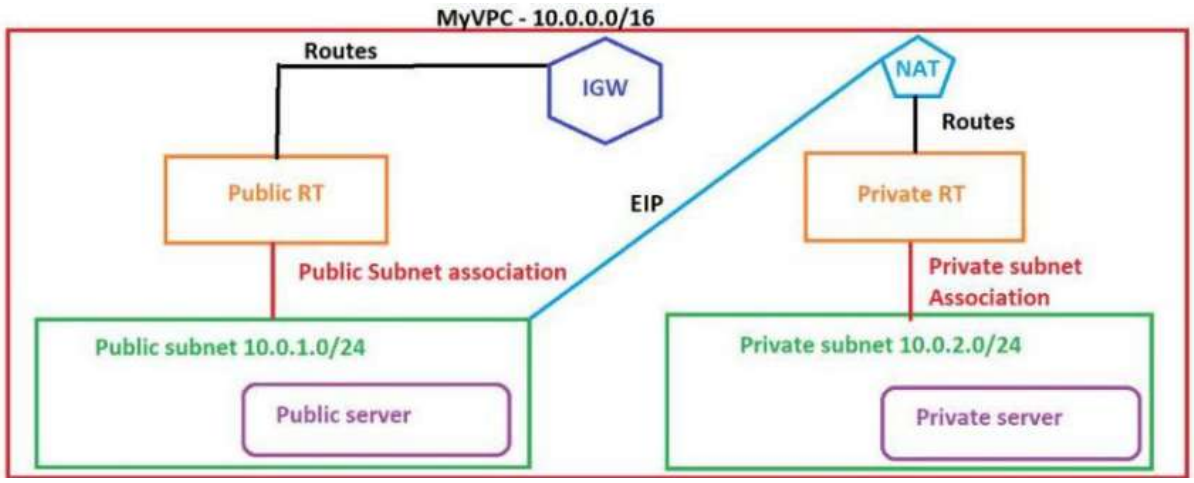
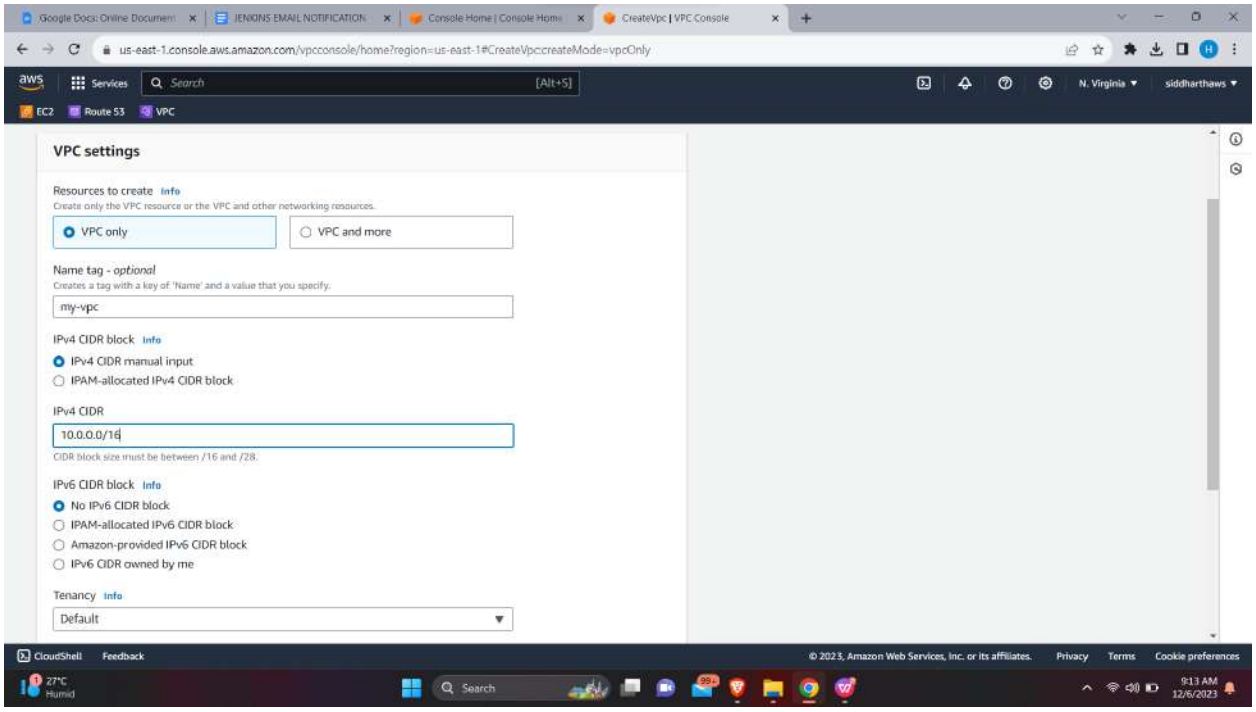
AWS VIRTUAL PRIVATE CLOUD

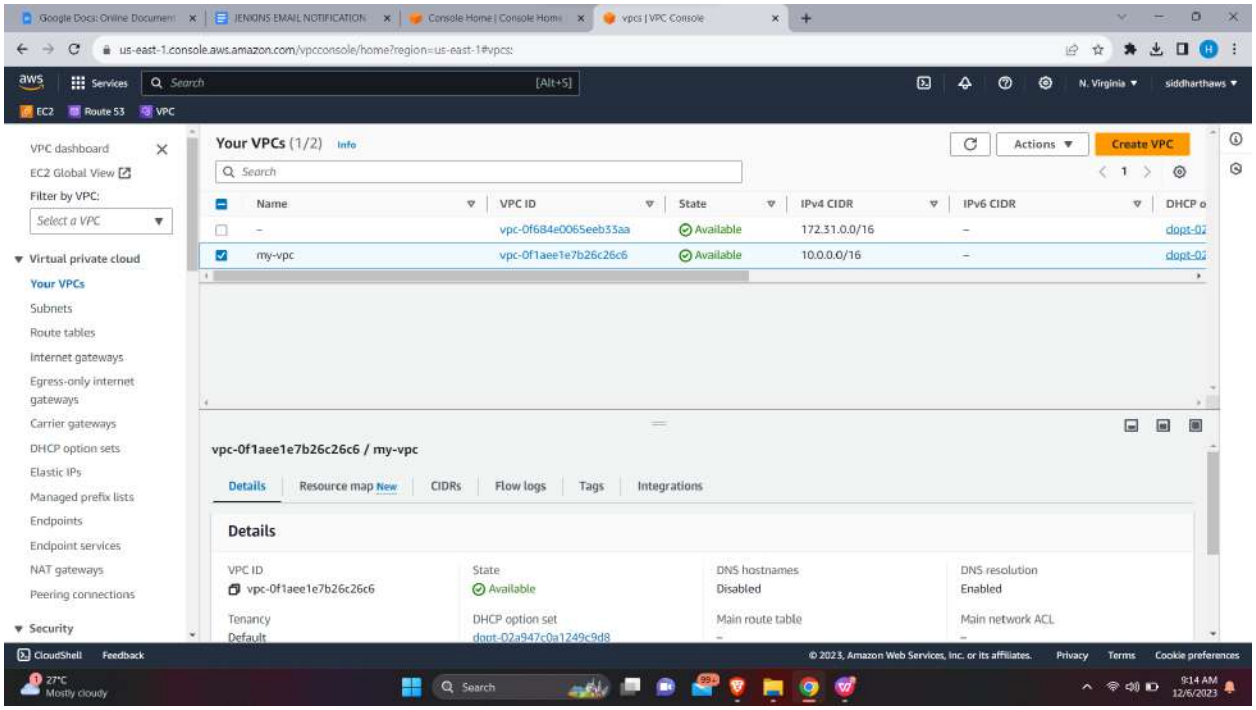
Steps to Create and Configure your VPC for Public and Private Server in Windows.

MY VPC ARCHITECTURE:

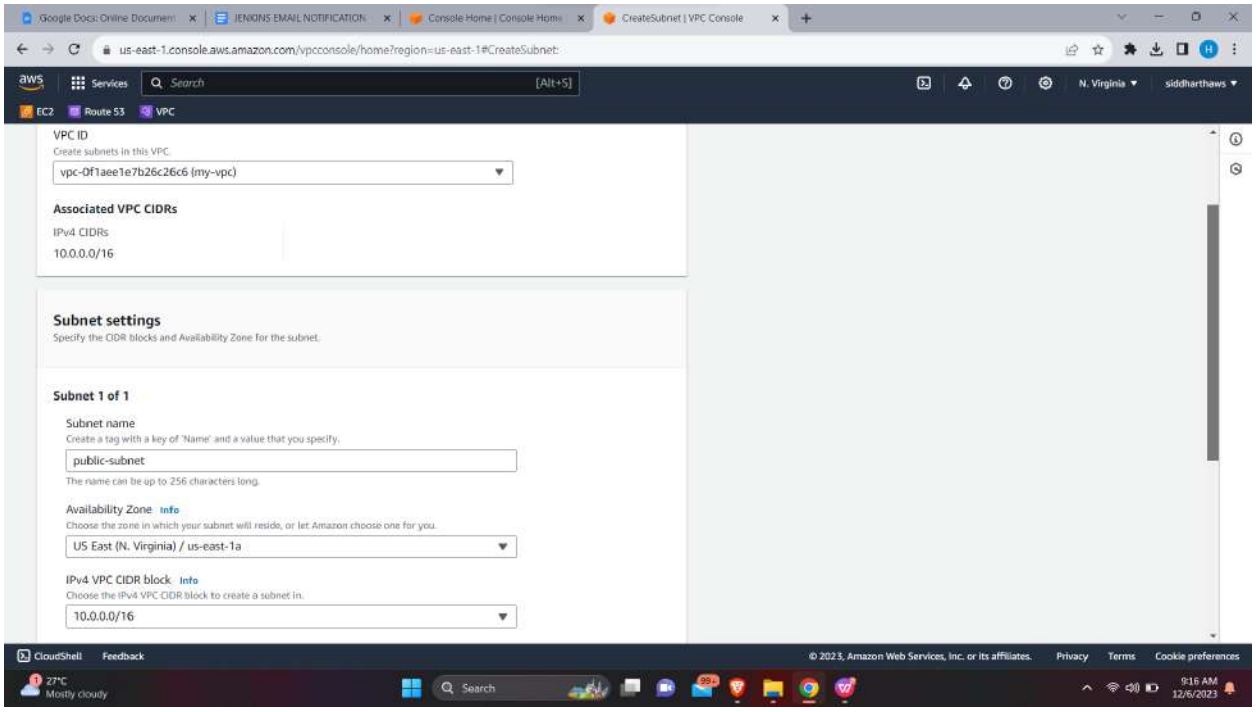


Go to VPC - Create VPC - Set a name (my-vpc) - IPv4 CIDR (10.0.0.0/16) - Tenancy (Default) - create a VPC.

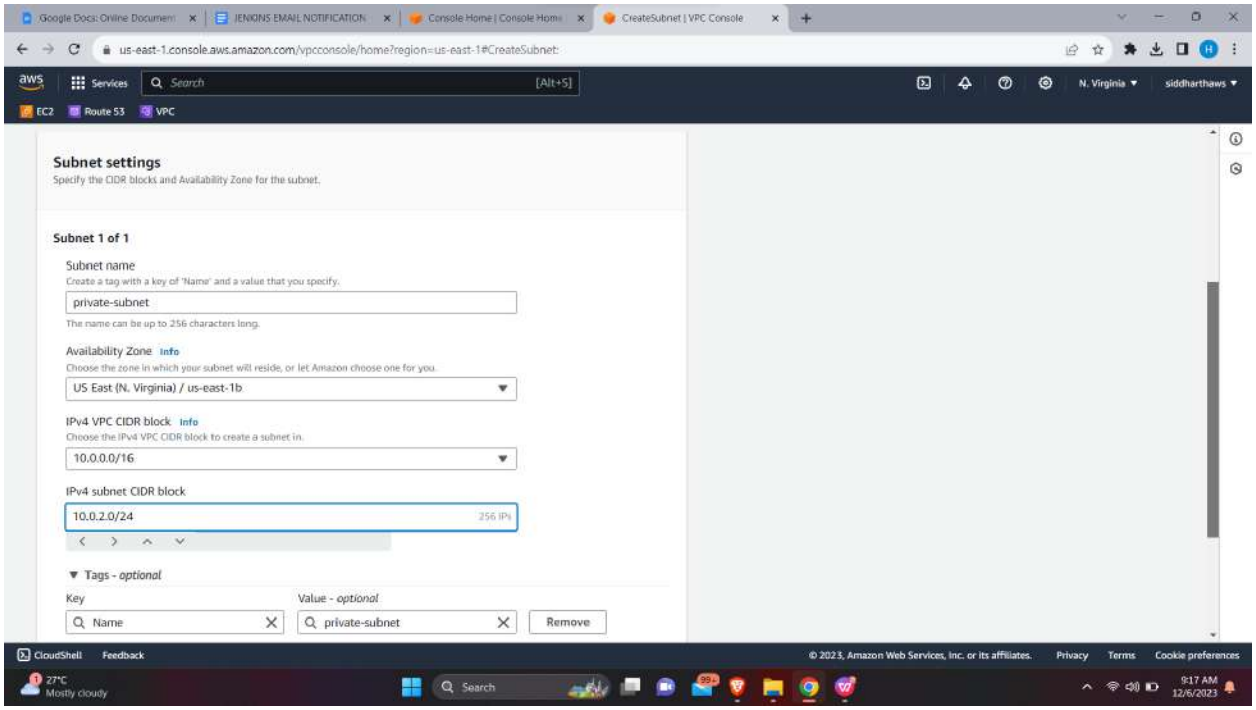


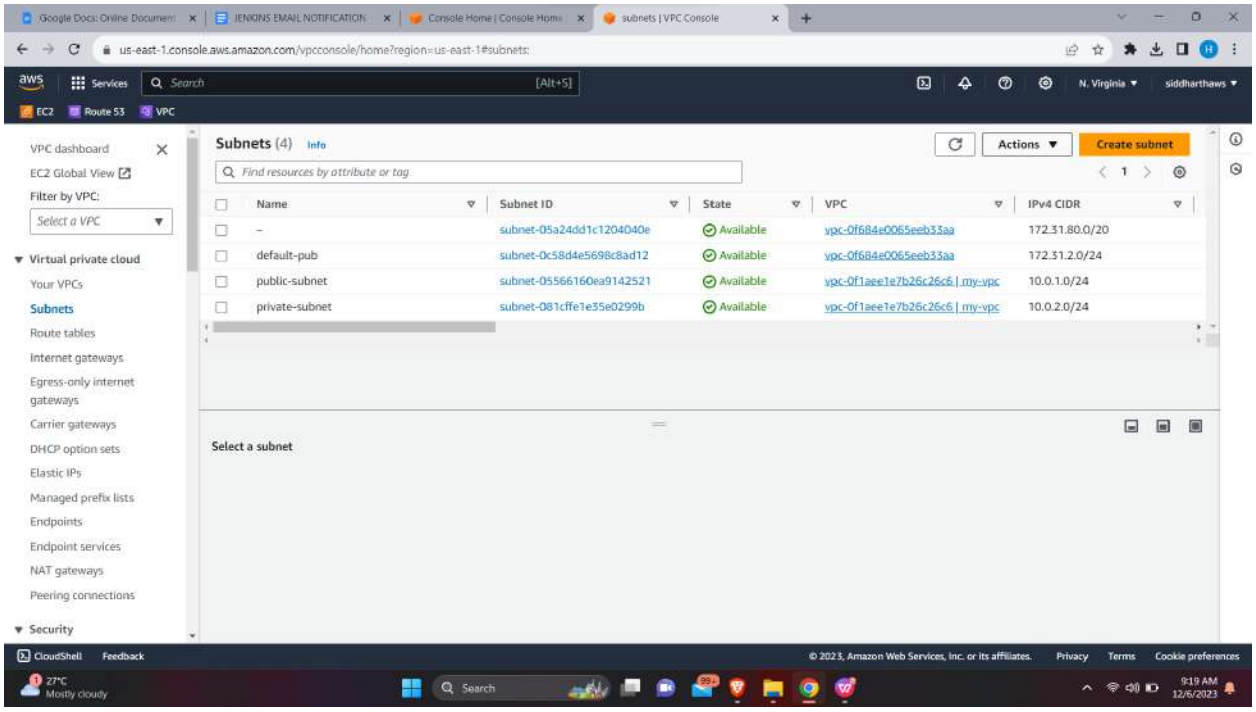


In Subnets - Create Subnet - Set a name (public Subnet) - Avail Zone (1a) - IPv4 CIDR block (10.0.1.0/24) - create a public subnet.



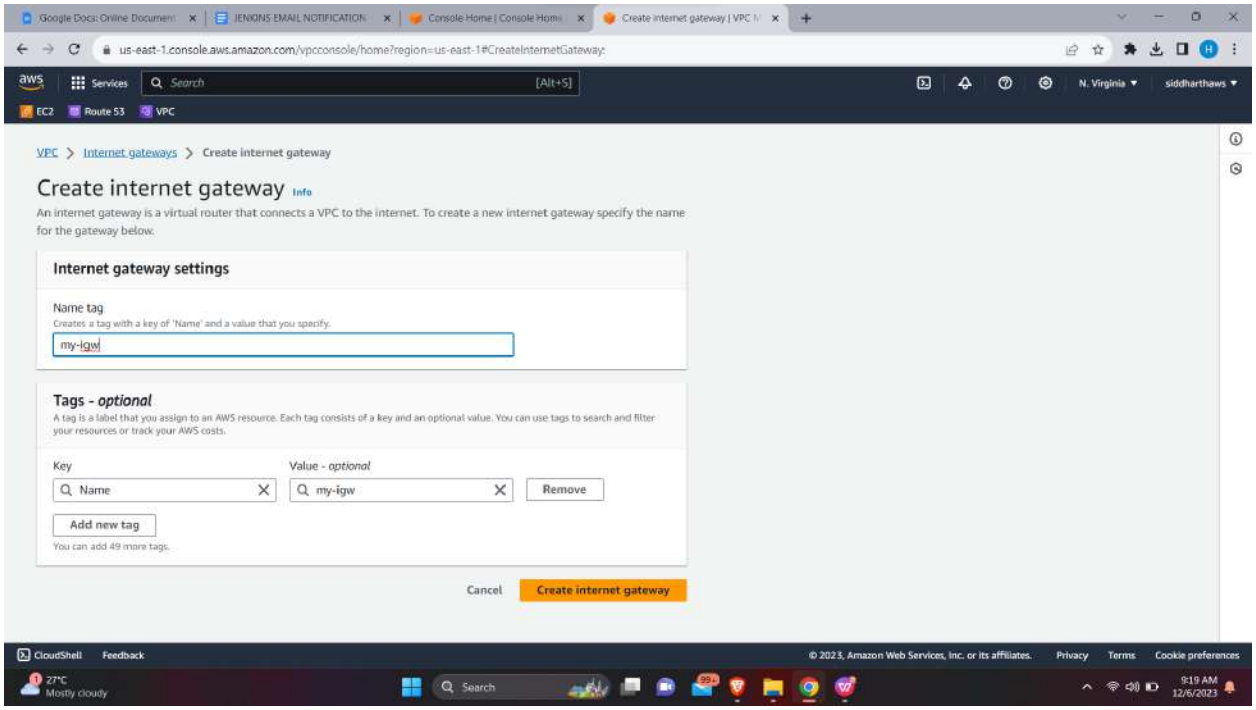
Create Subnet - Set a name (private Subnet) - Avail Zone (1b) - IPv4 CIDR block (10.0.2.0/24) - create a private subnet.



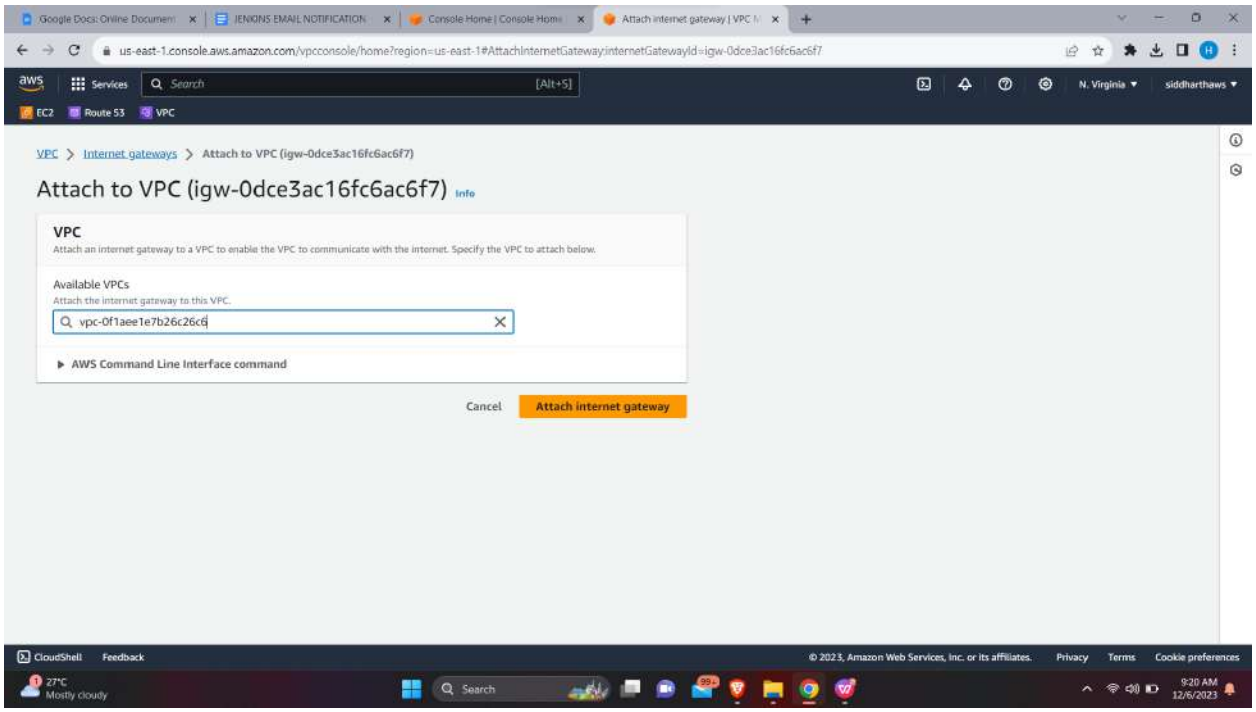


Successfully created both public and private subnets.

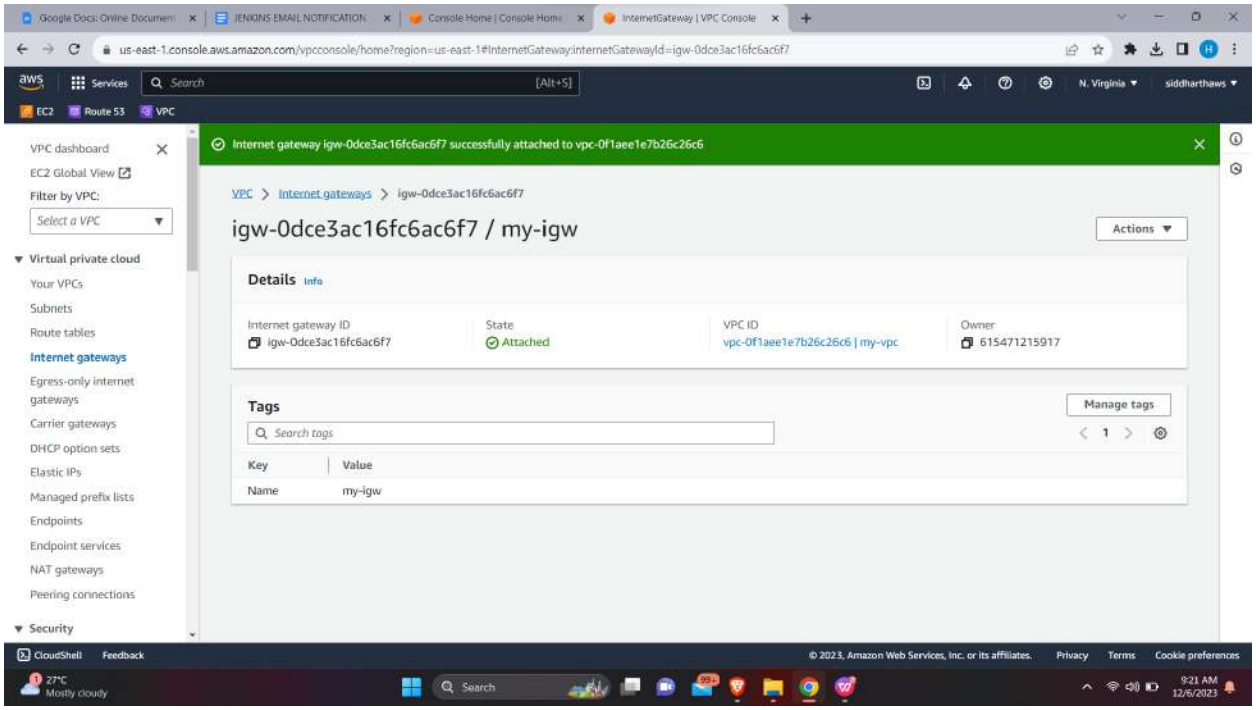
In Internet Gateway - Create Internet Gateway - Set a name (my-igw) - create.



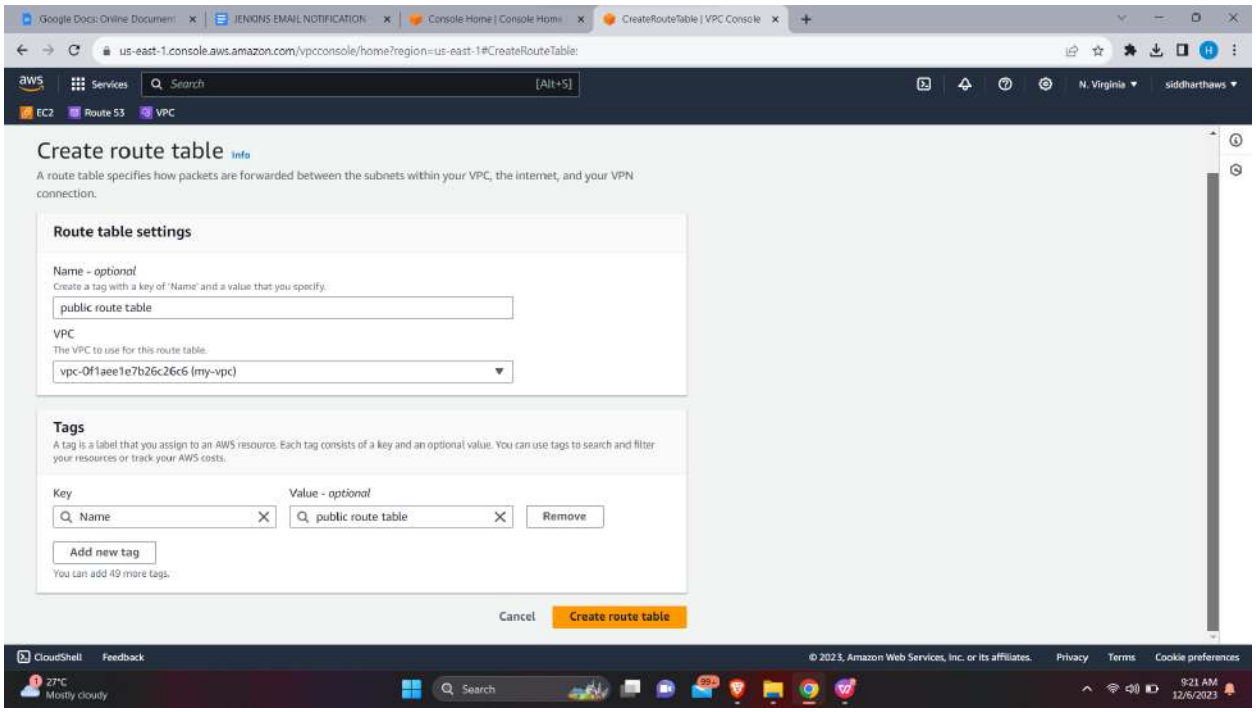
After created Internet gateway, it will be Detached - In Action - Select Attach to VPC Choose my-vpc - Attach internet Gateway



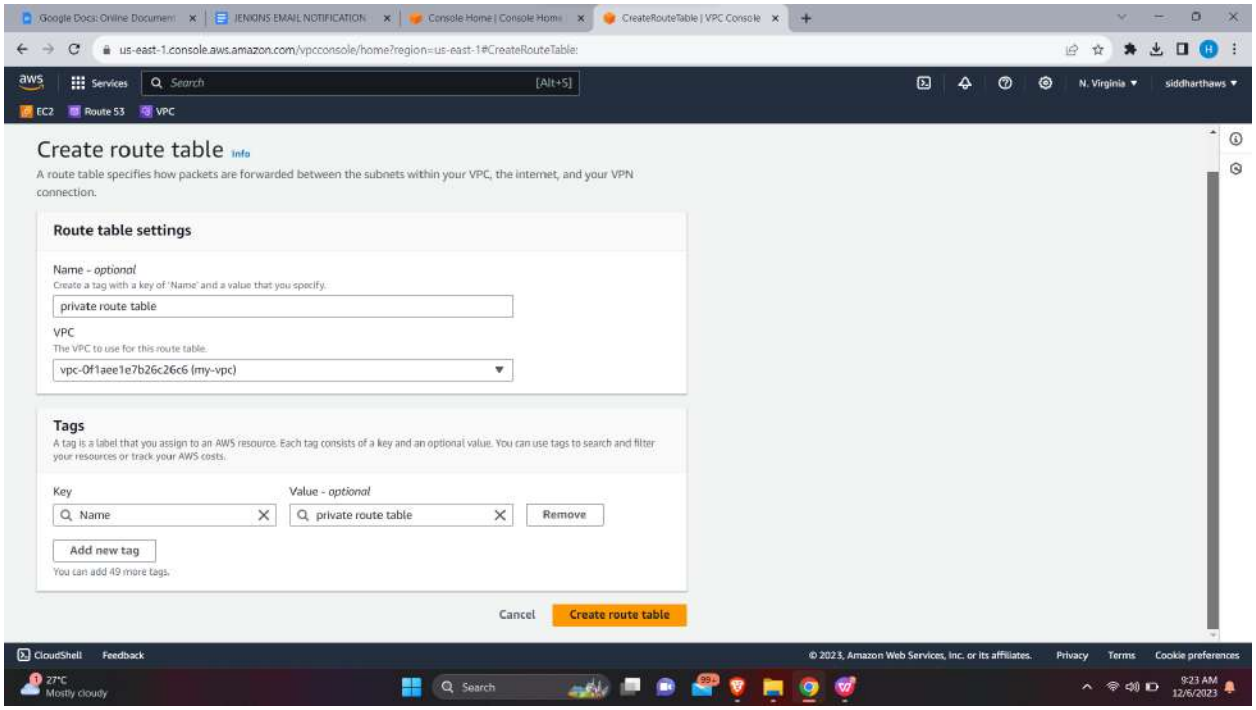
Now Successfully Attached my-vpc in Internet gateway



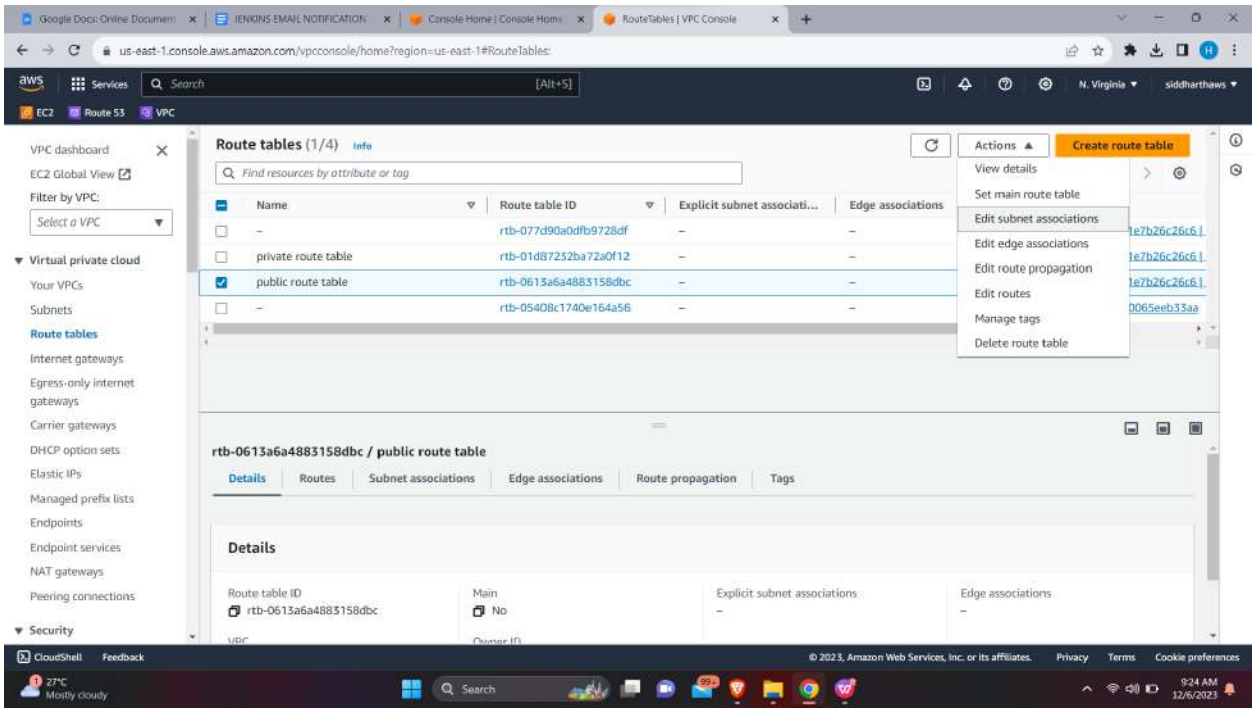
In Route Tables - Create - Set a name (public route table) - Choose my-vpc - Create route Table.



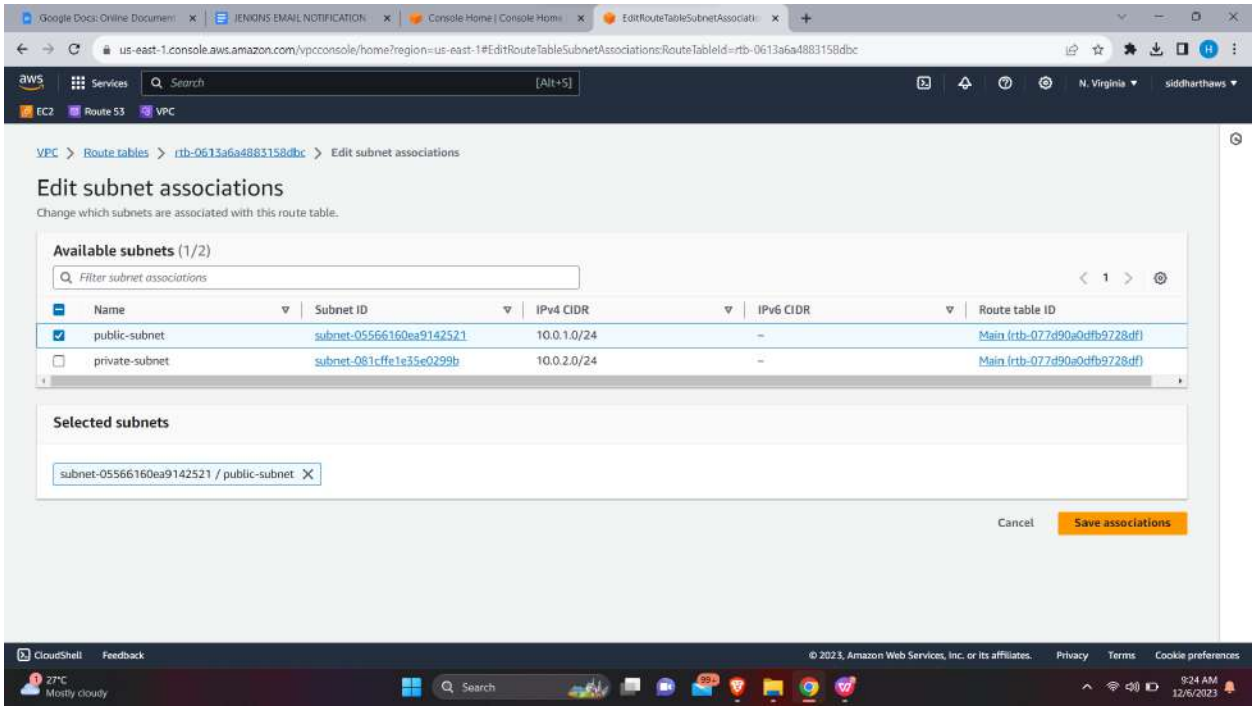
Create - Set a name (private route table) - Choose my-vpc - Create route table.



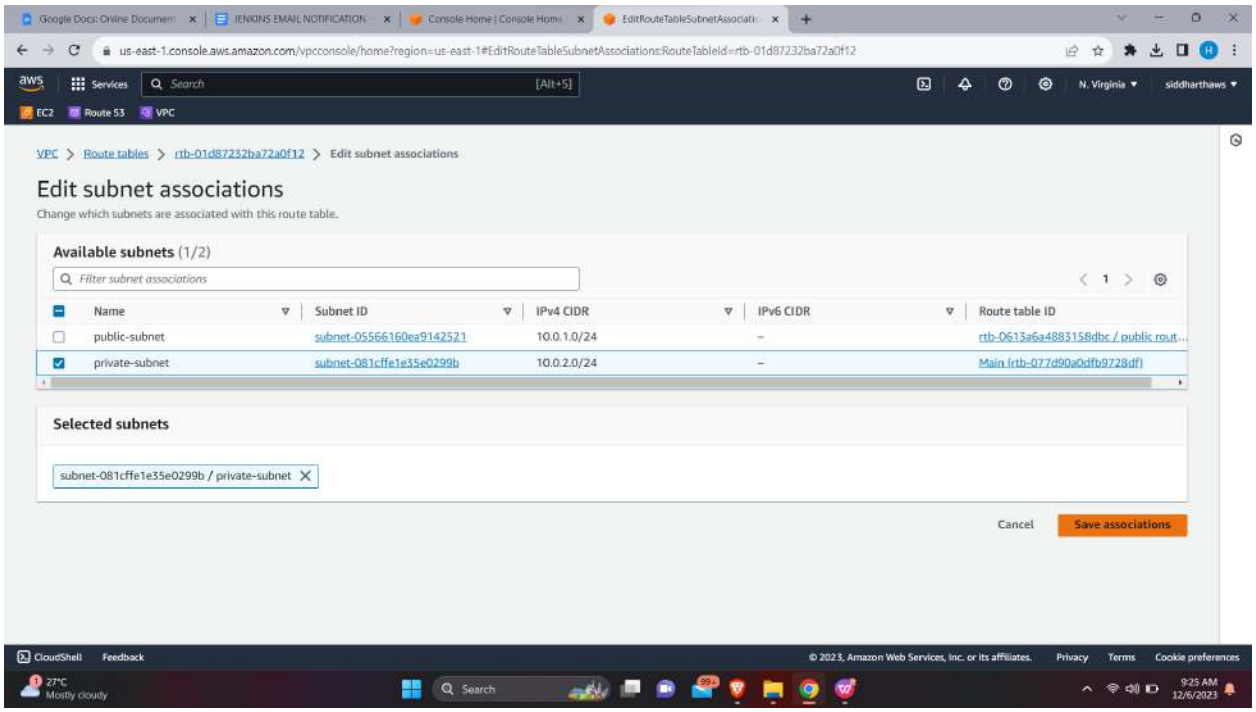
create a subnet association for both public and private route tables
In route table - Select public route table - Action - edit subnet Association.



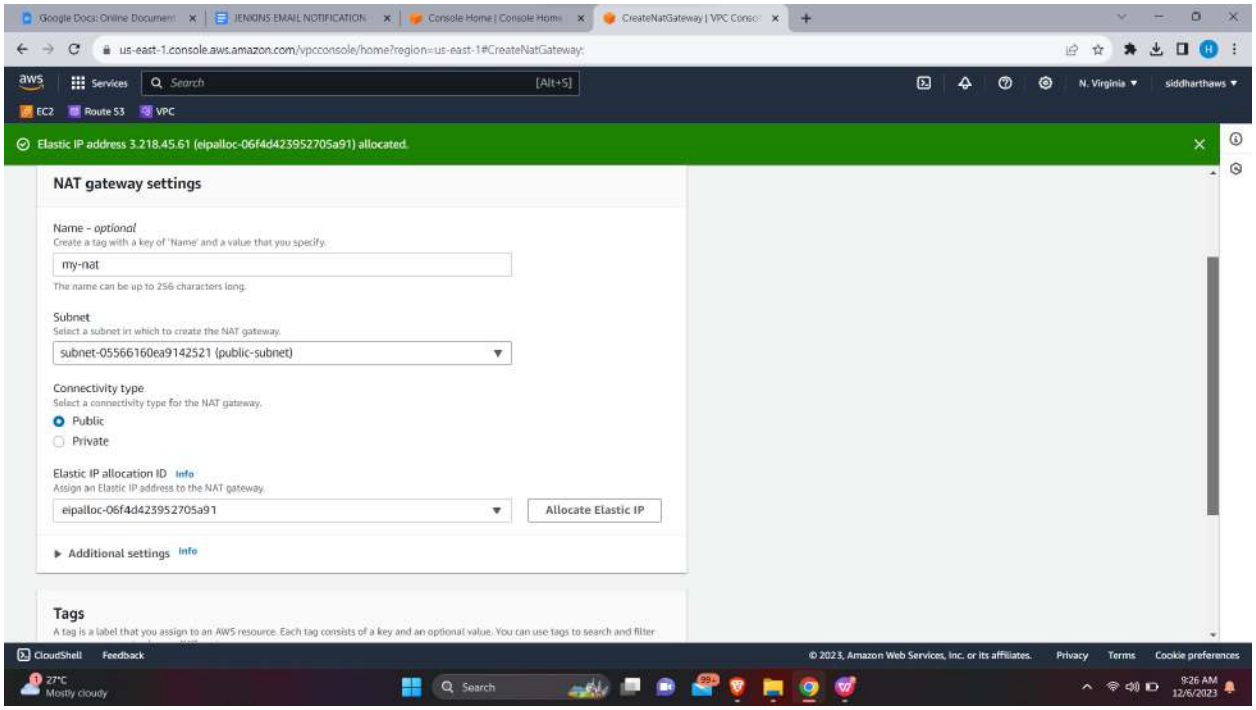
Choose public-subnet - Save association.

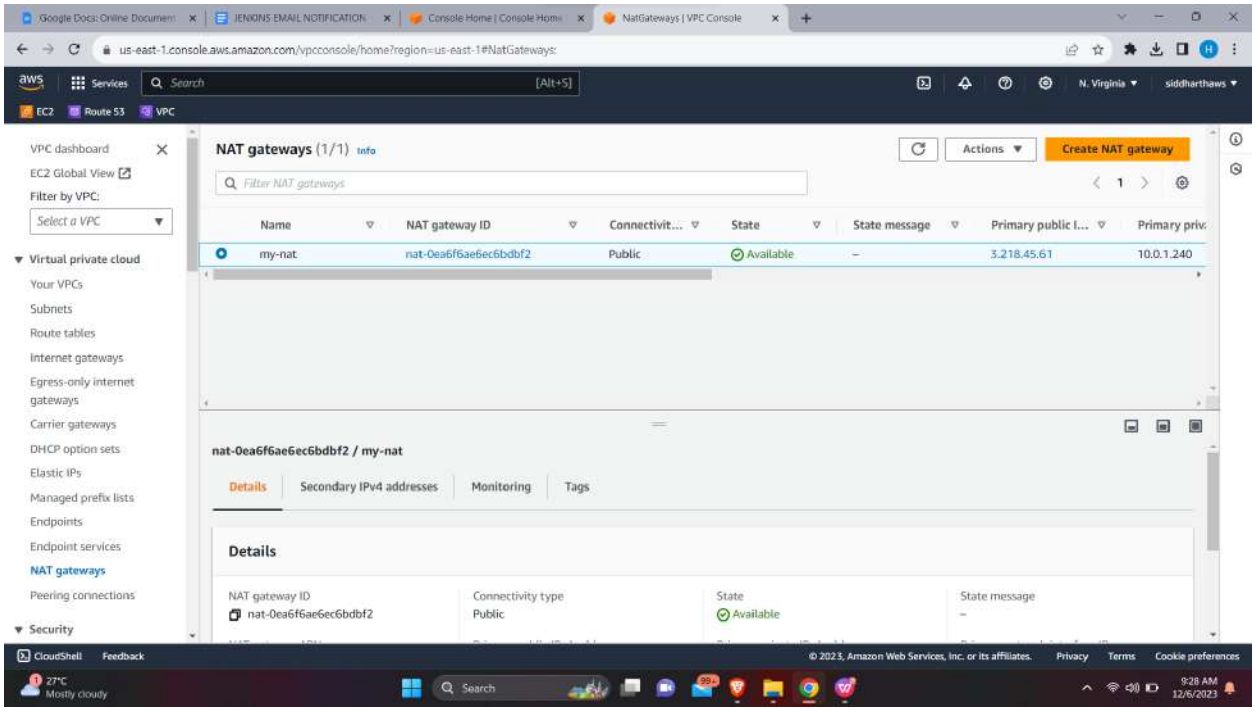


Select private route table - Action - edit subnet Association.
Choose private-subnet - Save association.



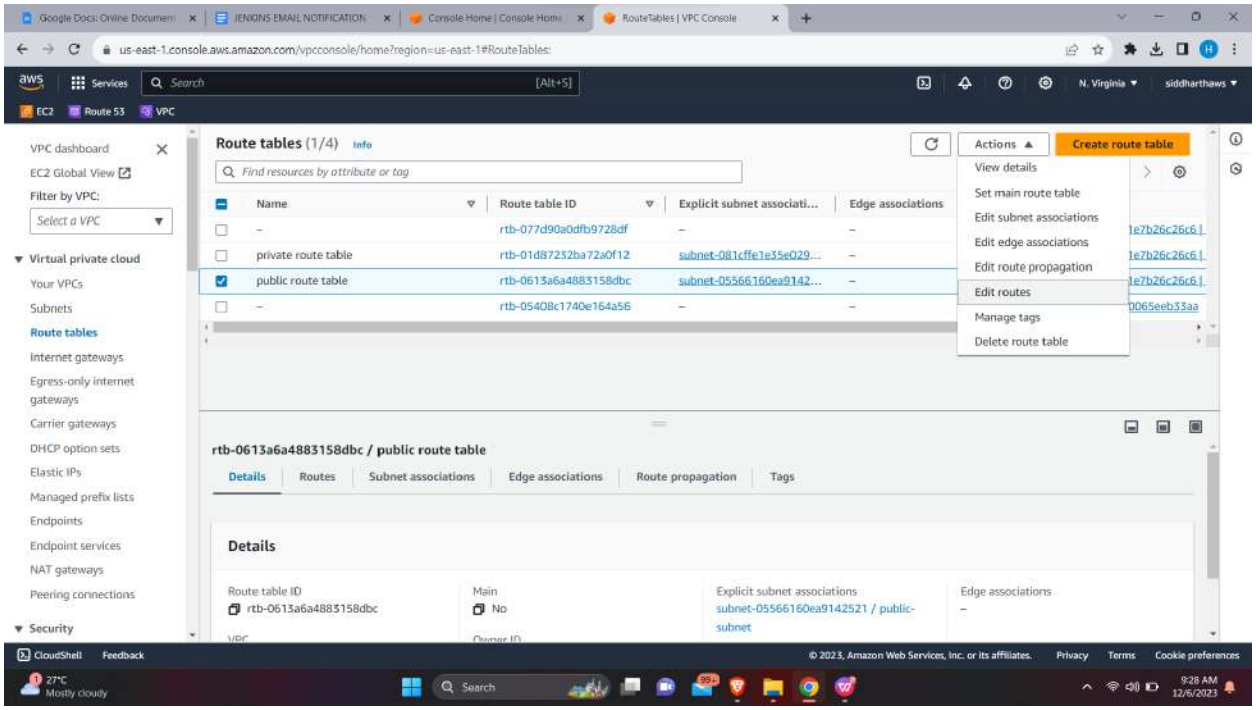
In NAT gateway - create NAT gateway - Set a name (my-nat) - Subnet choose (public-subnet) - Allocate Elastic IP - create NAT gateway.



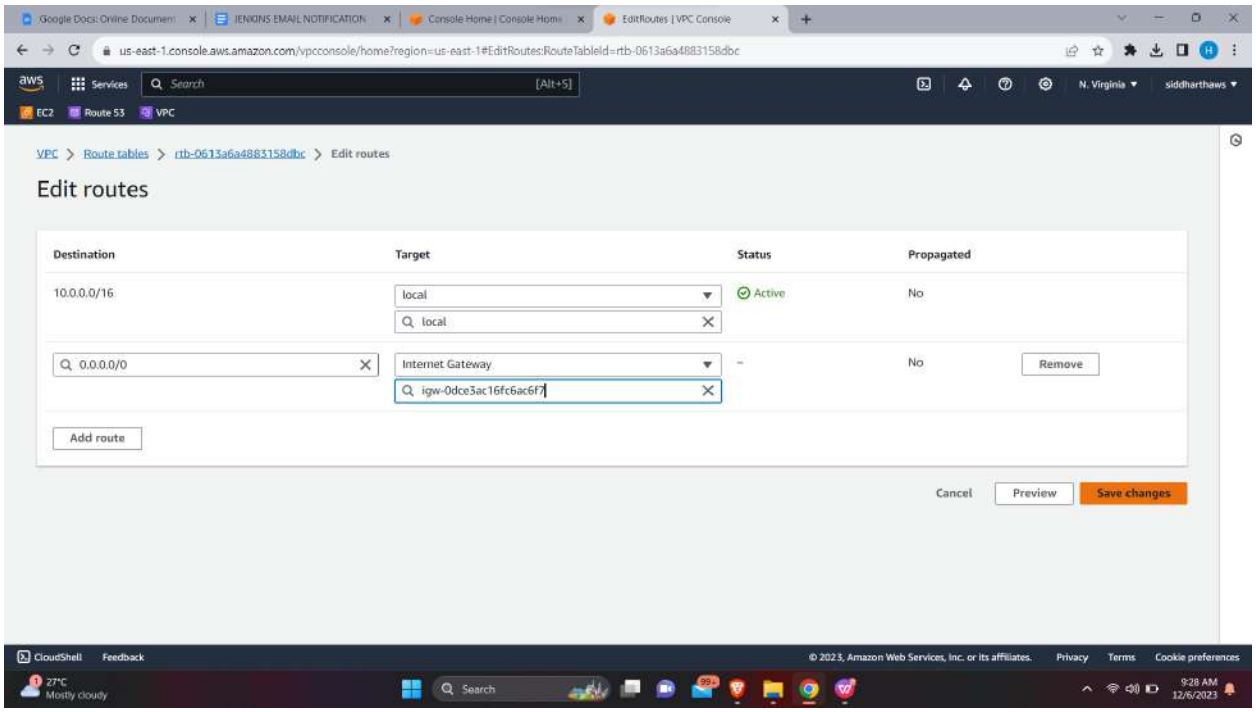


Successfully created NAT gateway.

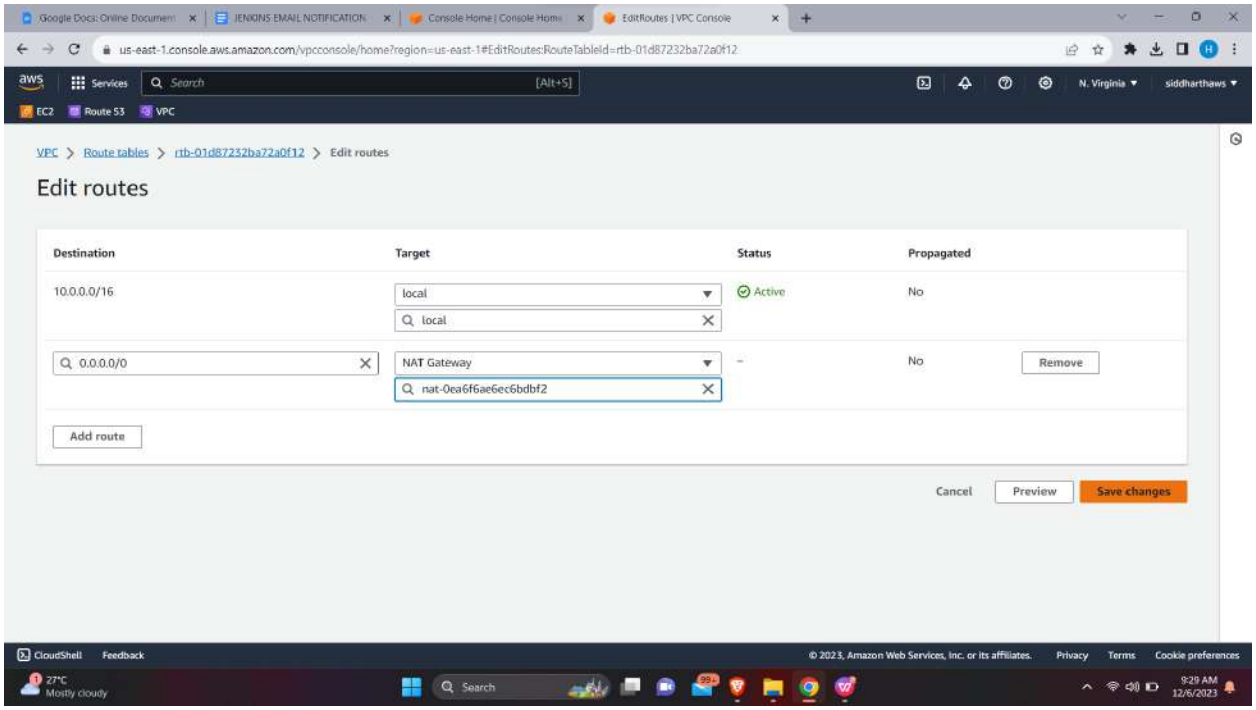
Create Routes - select public route table - Actions - edit routes



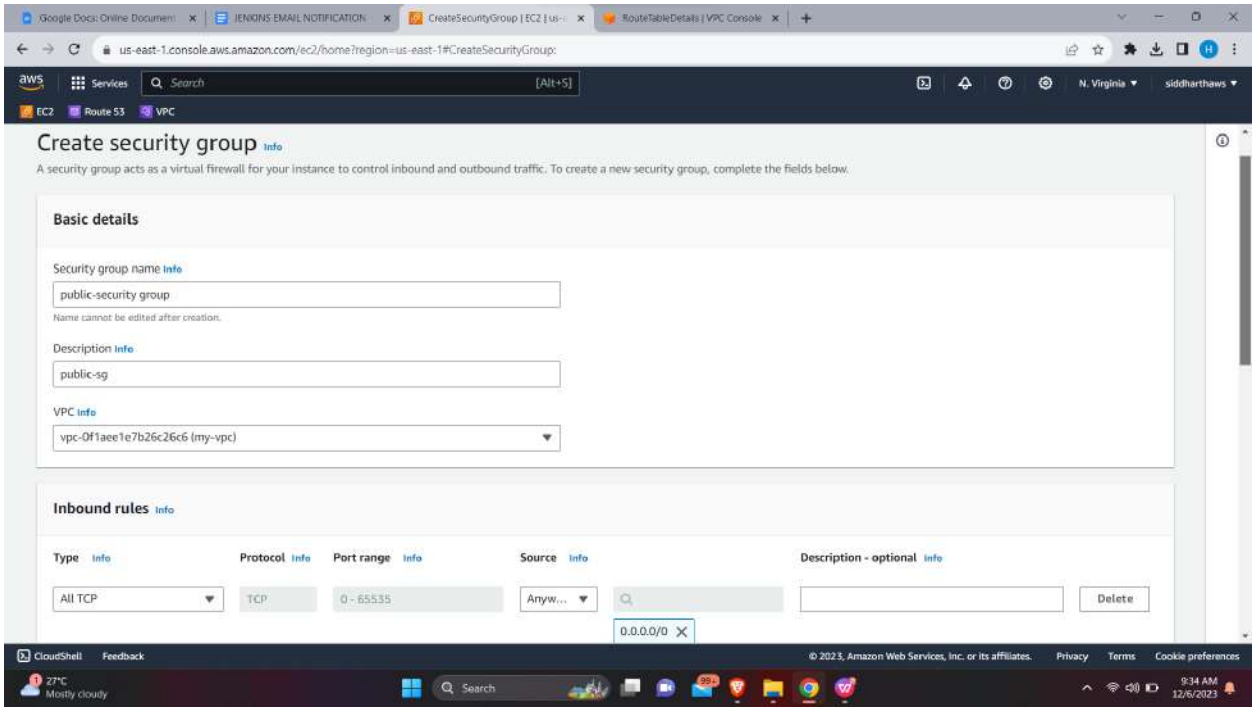
Destination (0.0.0.0/0) open IP - Target - choose internet gateway(Internet Gateway) - save changes.



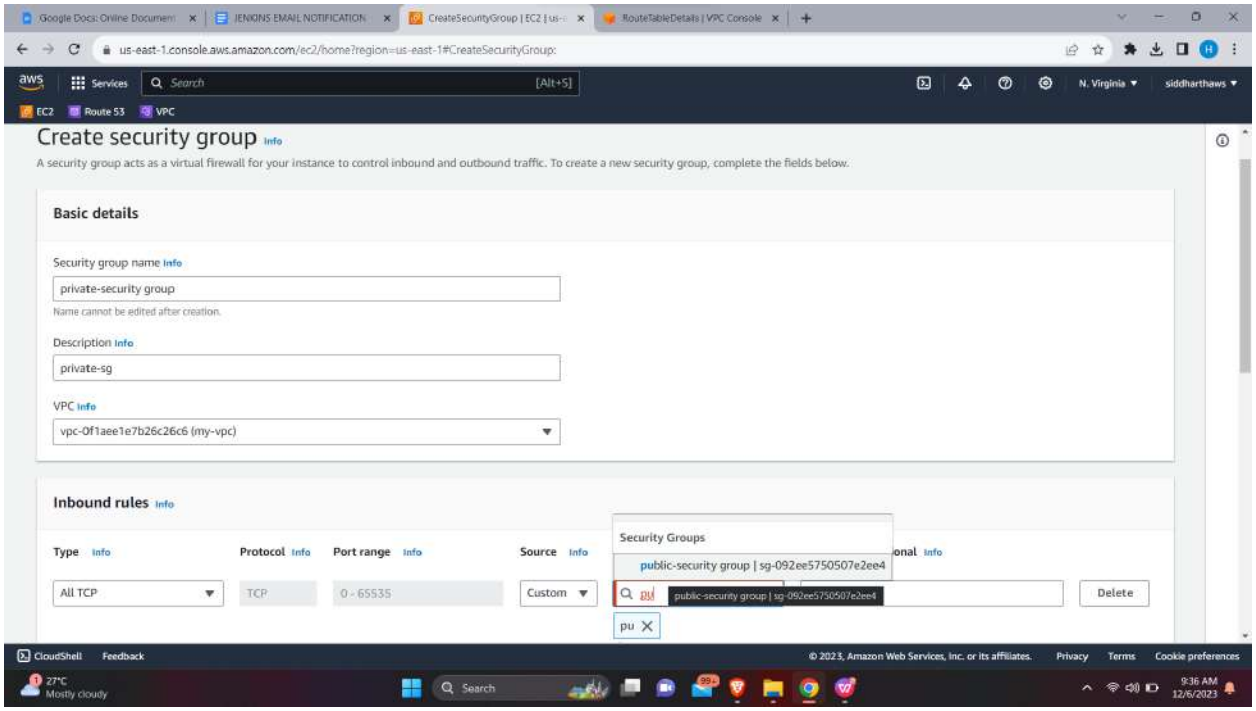
Select (private route table) - Action - edit routes - Destination (0.0.0.0/0) open IP - Target - choose NAT gateway (my-nat) - save changes.



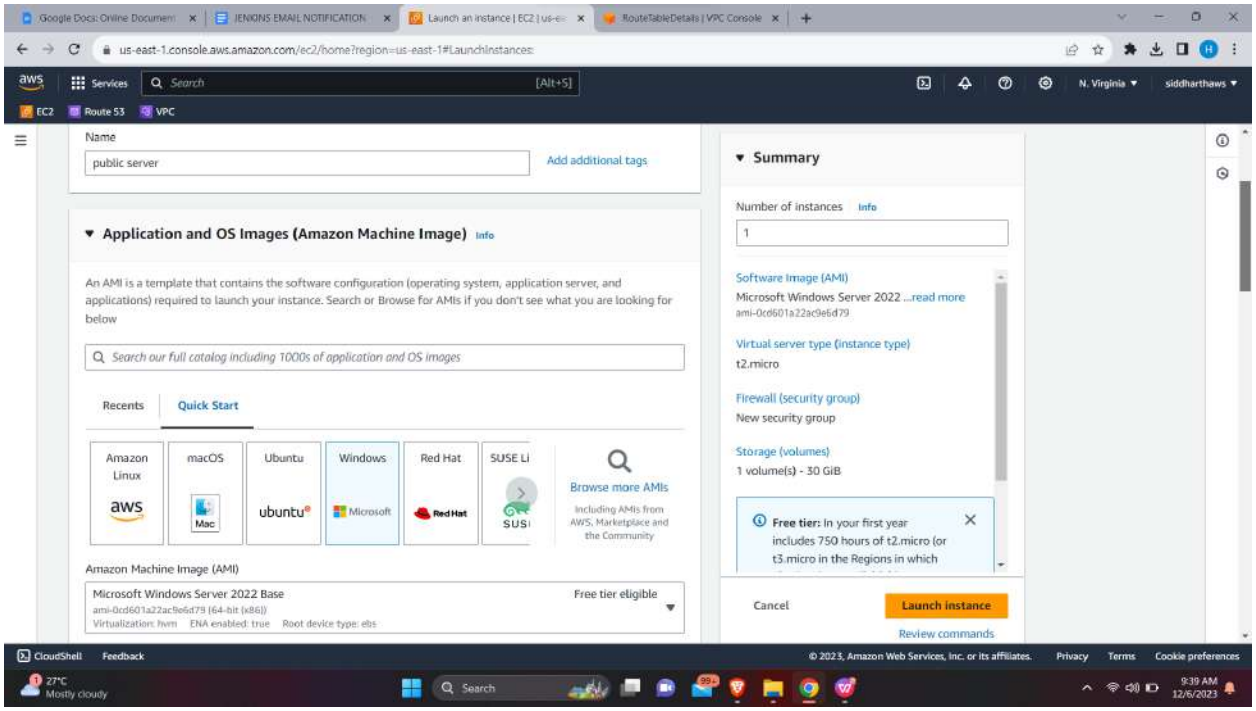
In security group - create - Set a name (public-security group) - Description (public-sg) - Remove default VPC - Add my-vpc - Inbound Rule - Type : All TCP - Source: Anywhere IPv4 - create security group.



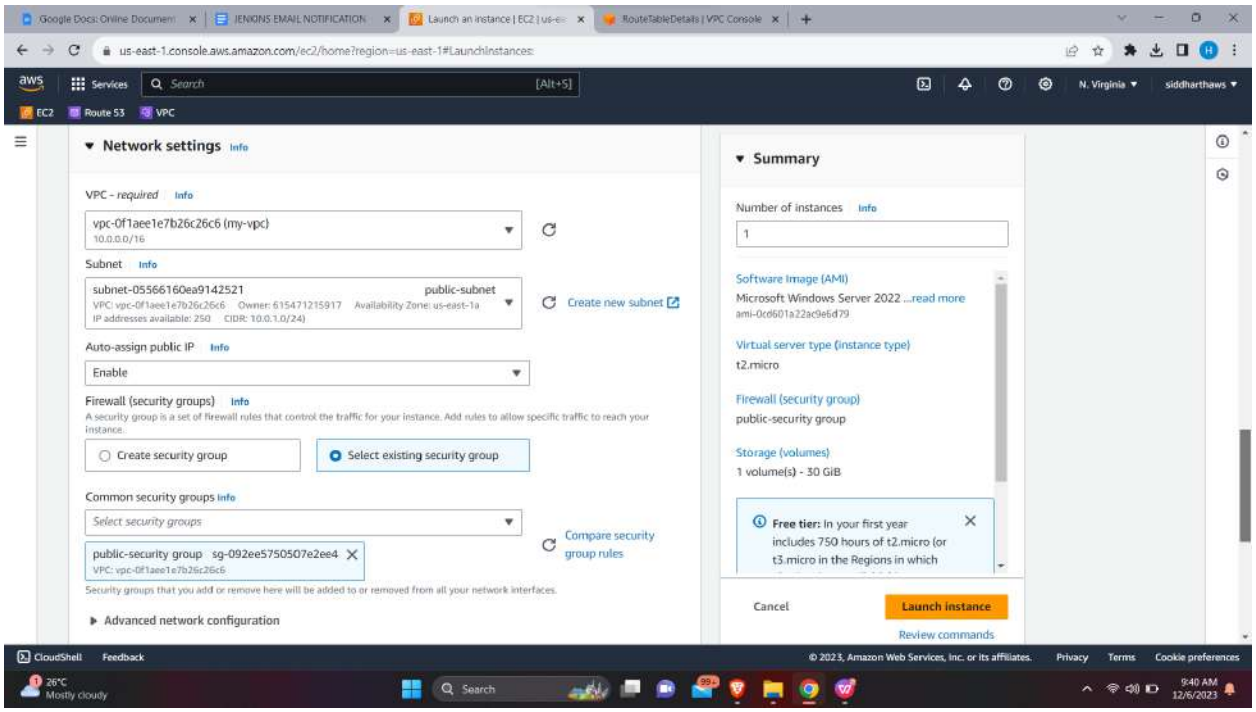
Create - Set a name (private-security group-MyVPC) - Description (private-sg) - Remove default VPC - Add my-vpc - Inbound Rule - Type :All TCP - Source:public-security group - Create Security Group



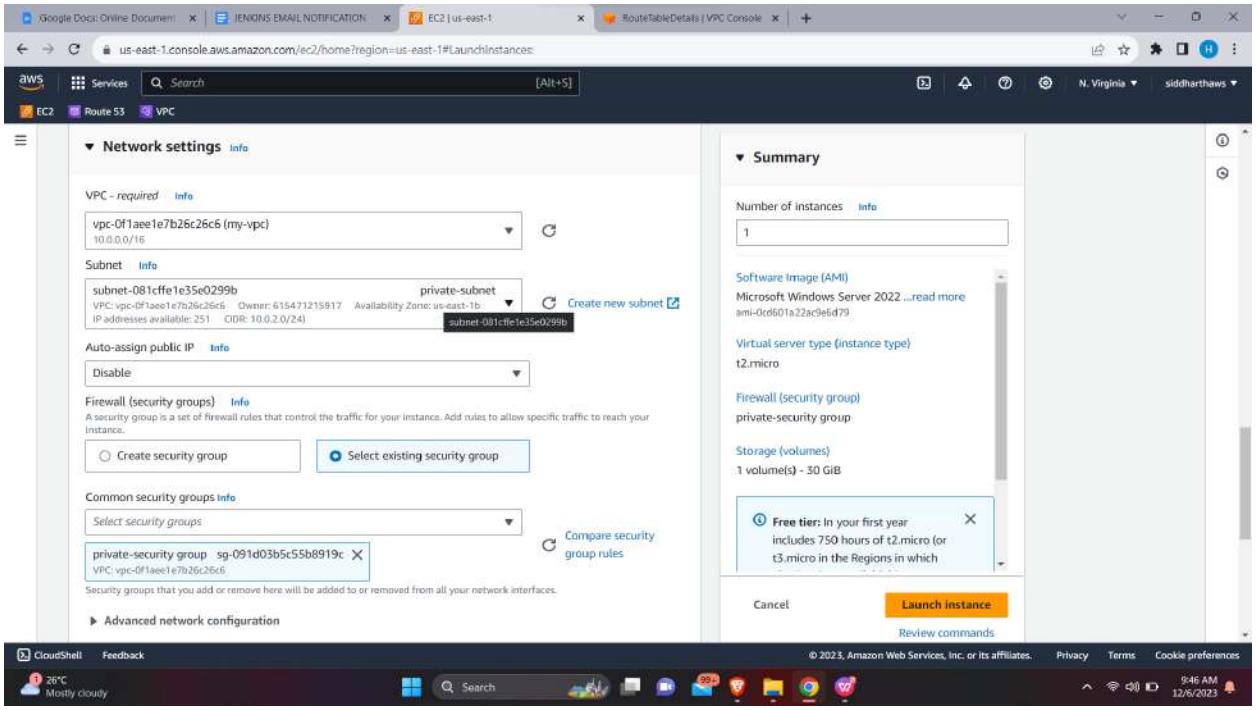
Then, In EC2 - launch 2 instances in windows server as a name of Public and Private server.
Create a Public Instance
Set a name (public Server) - choose Windows OS in AMI - Choose pem key file.



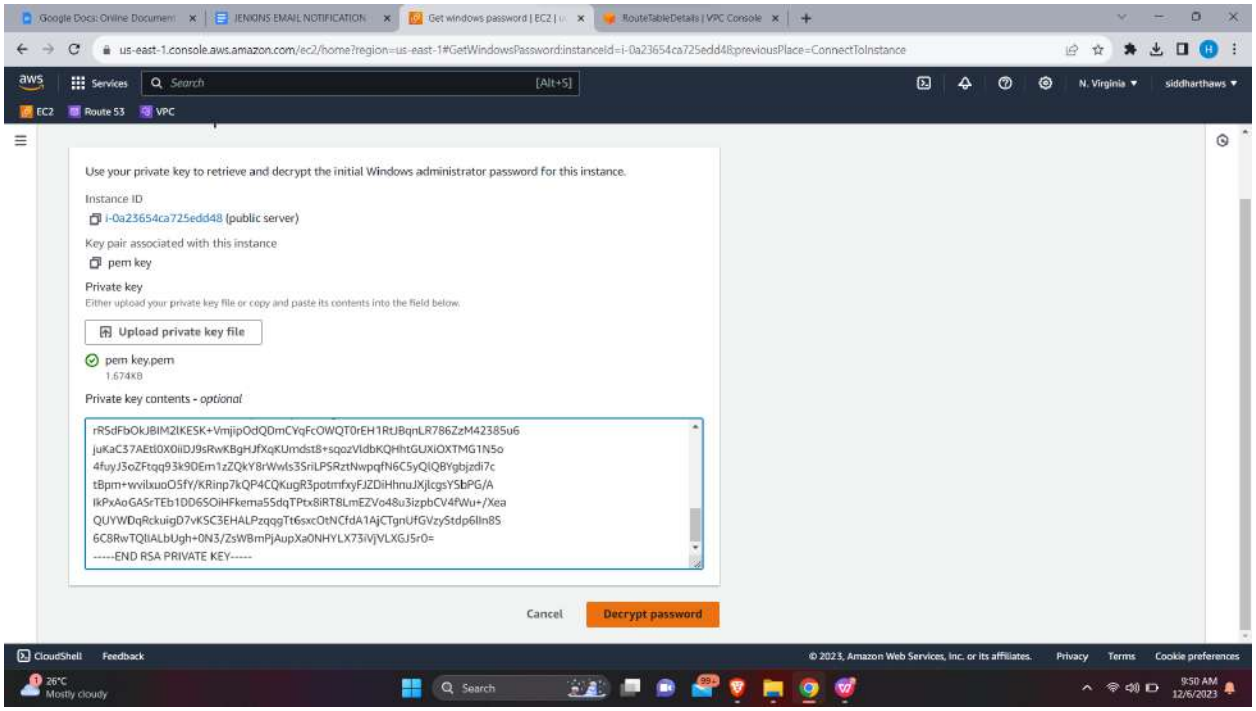
Network setting - edit - choose my-vpc - Subnet choose public-subnet -
Auto-assign publicIP (Enable) - Choose existing Security group & select the created security group (public-security group)
- Launch instance.



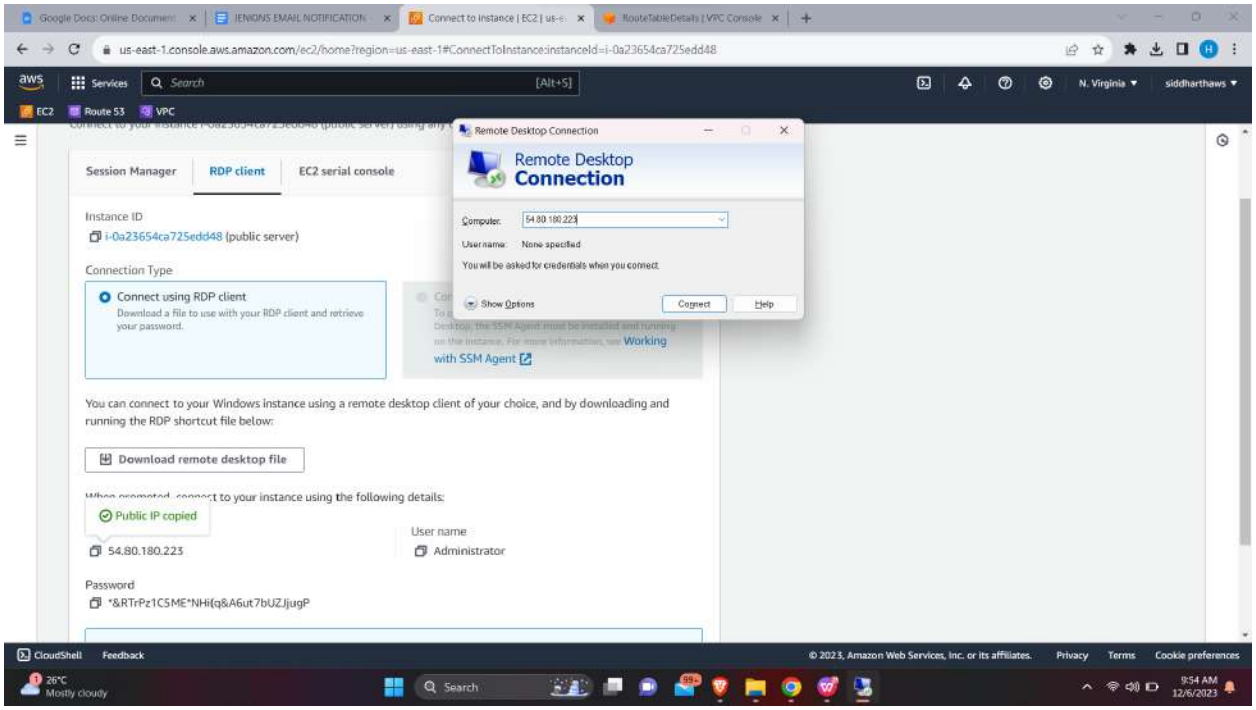
Now create a private instance.
Set a name (private server) - Choose windows OS in AMI - Choose pem key file - Network setting (edit) -VPC (my-vpc)- Subnet choose (private-subnet) - Auto-assign publicIP (Disable) - choose existing security group & select created security group (private-security group) - Launch Instance.

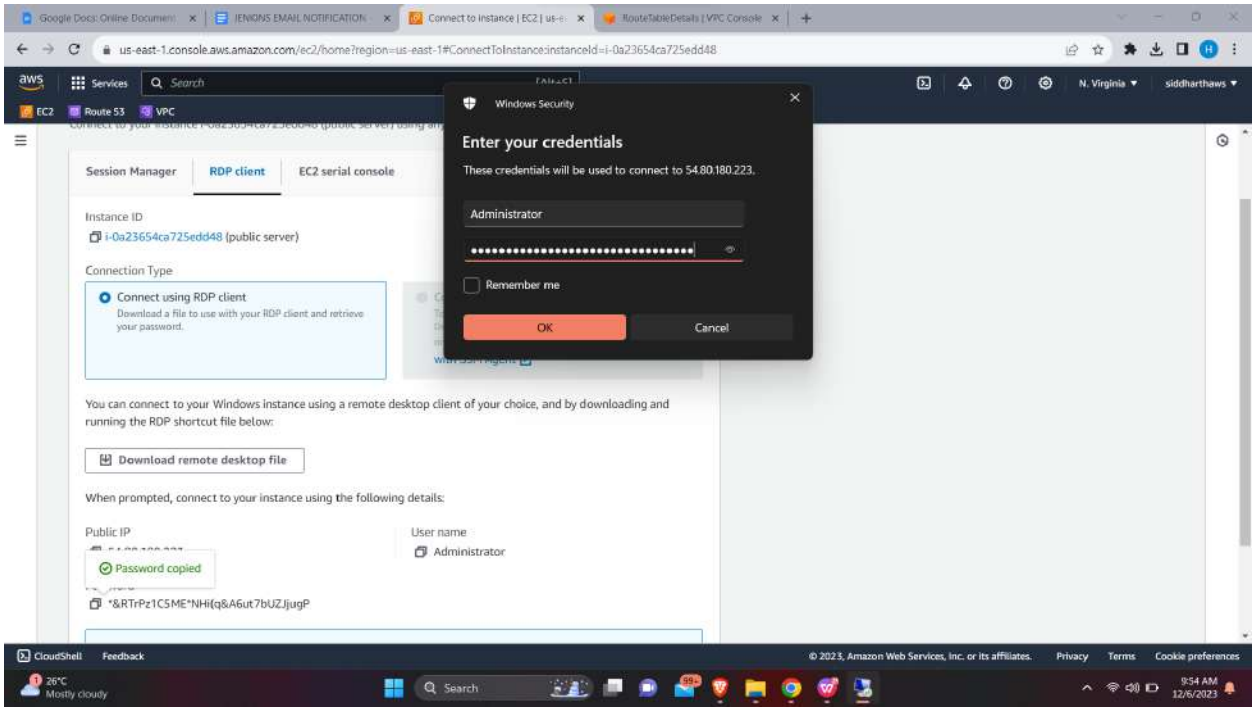


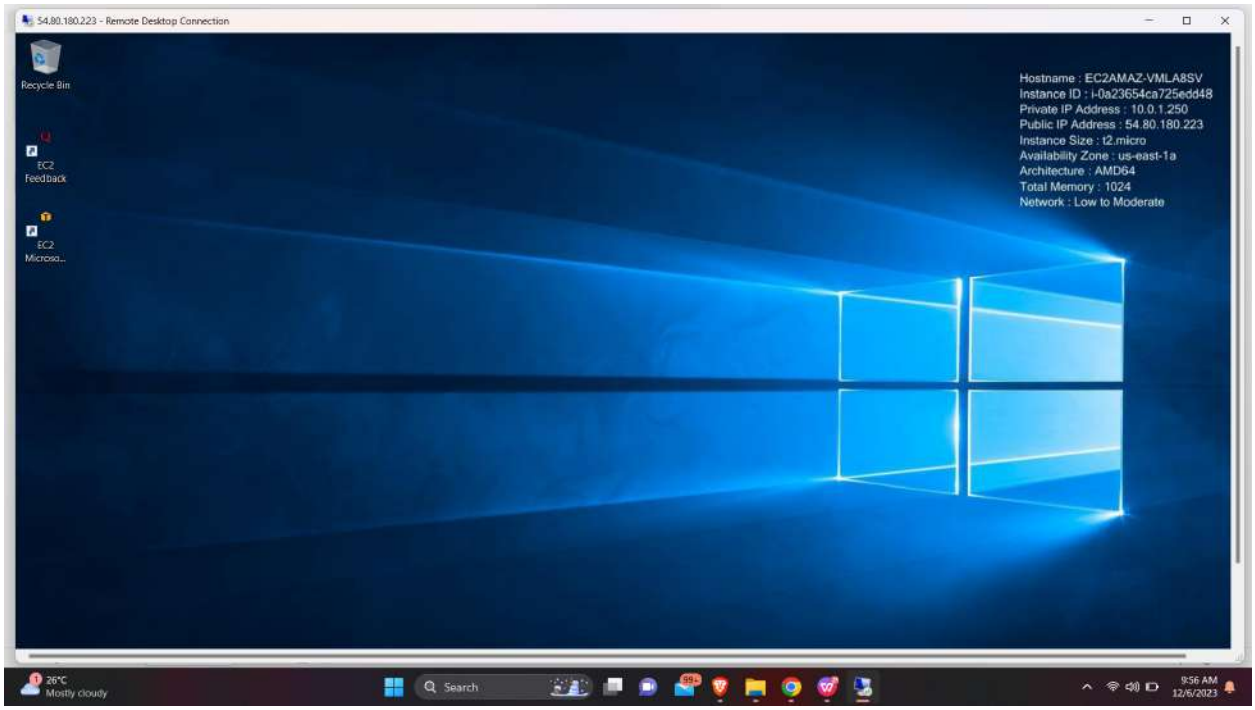
Connect the public server instance - decrypt password.



Open Remote Desktop Connection - Connect the public Windows server using Specific Credentials.

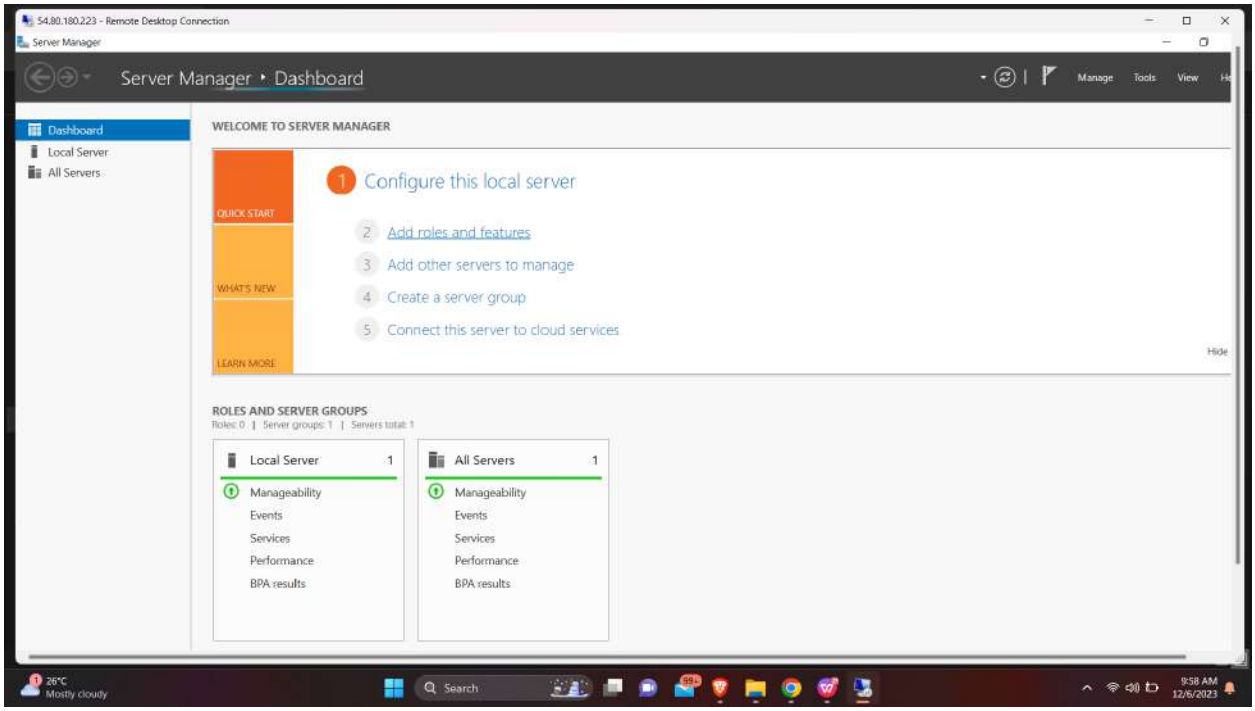

Remote Desktop Connection
Remote Desktop Connection
Computer: 54.80.180.223
User name: None specified
You will be asked for credentials when you connect.
Show Options
Connect
Help
Session Manager
RDP client
EC2 serial console
Instance ID
i-0a23654ca725edd48 (public server)
Connection Type
Connect using RDP client
Download a file to use with your RDP client and retrieve your password.
Working with SSM Agent
You can connect to your Windows instance using a remote desktop client of your choice, and by downloading and running the RDP shortcut file below:
Download remote desktop file
Public IP copied
54.80.180.223
User name
Administrator
Password
*&RTrPz1C5ME*NHi(q&A6ut7bUZJjugP
CloudShell
Feedback
© 2023, Amazon Web Services, Inc. or its affiliates.
Privacy
Terms
Cookie preferences


Windows Security
Enter your credentials
These credentials will be used to connect to 54.80.180.223.
Administrator
Remember me
OK
Cancel
Session Manager
RDP client
EC2 serial console
Instance ID
i-0a23654ca725edd48 (public server)
Connection Type
Connect using RDP client
Download a file to use with your RDP client and retrieve your password.
You can connect to your Windows instance using a remote desktop client of your choice, and by downloading and running the RDP shortcut file below:
Download remote desktop file
When prompted, connect to your instance using the following details:
Public IP
User name
Administrator
Password copied
*&RTrPz1C5ME*NHi(q&A6ut7bUZJjugP
CloudShell
Feedback
© 2023, Amazon Web Services, Inc. or its affiliates.
Privacy
Terms
Cookie preferences

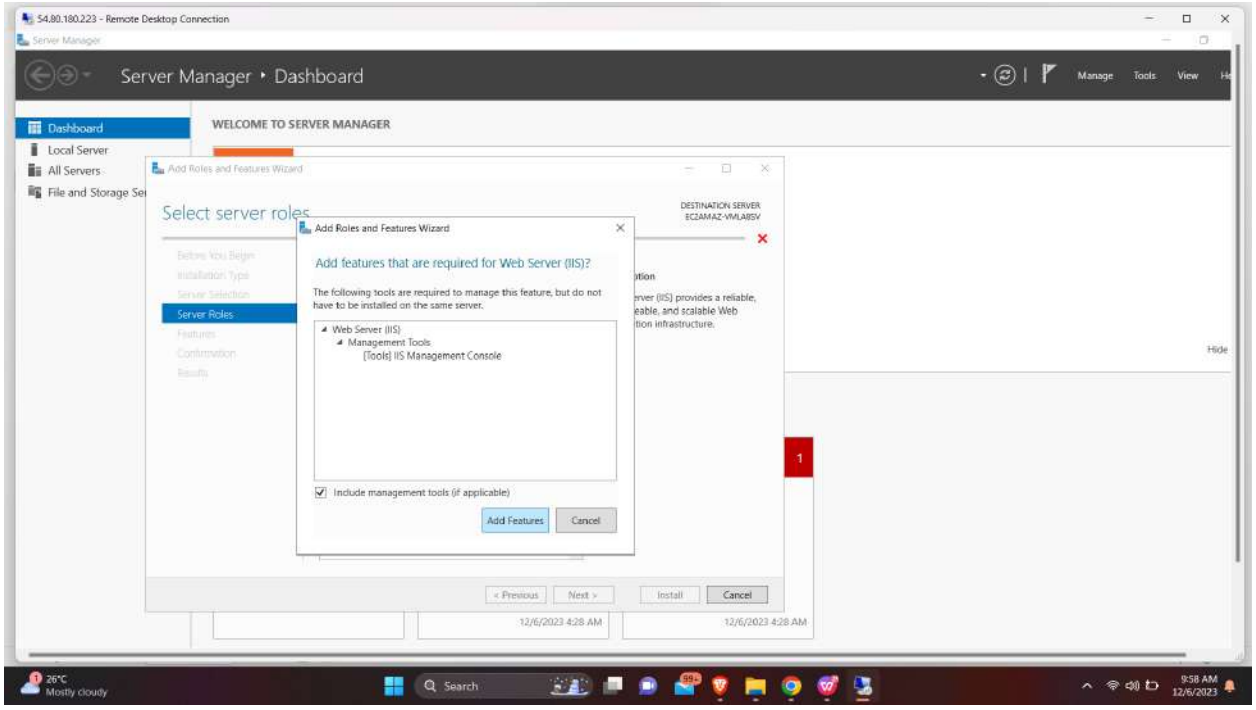


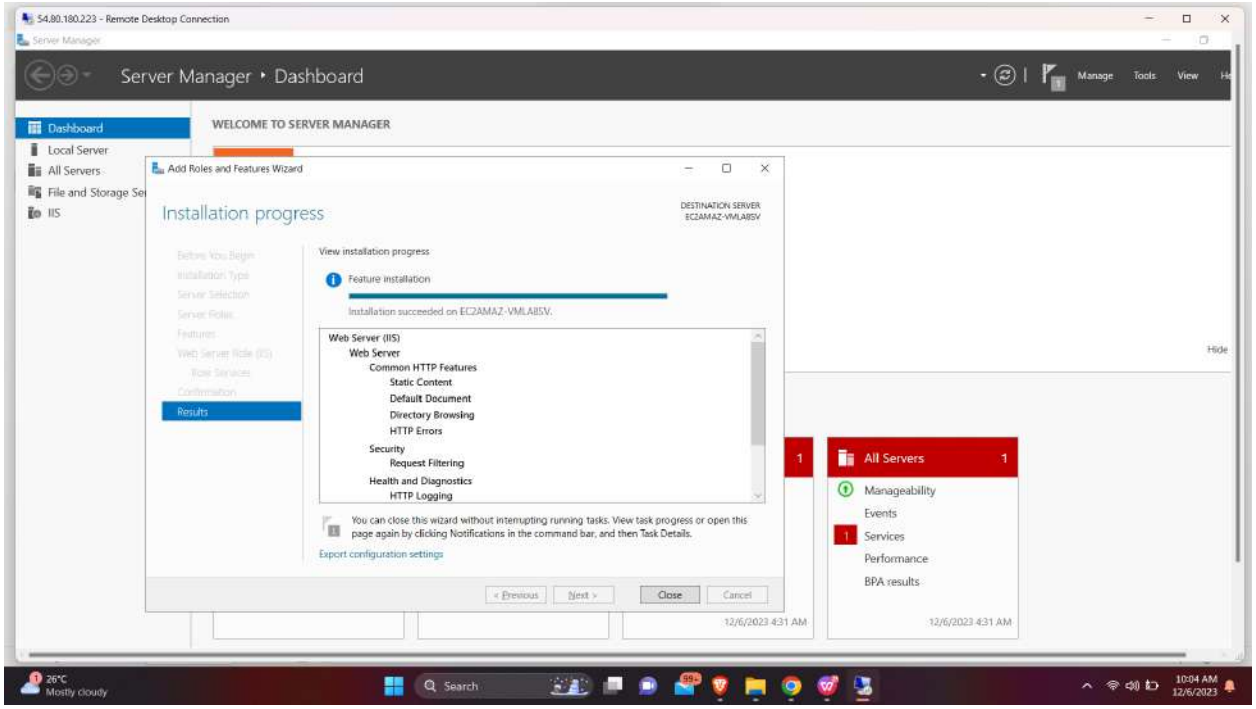
Successfully connected to the public server through RDP.

After Successfully connecting to the Public windows server in RDP.
Now, Install web server (IIS) to host a website through Public server.
In Remote Desktop Connection
Open Server manager - Add roles and features

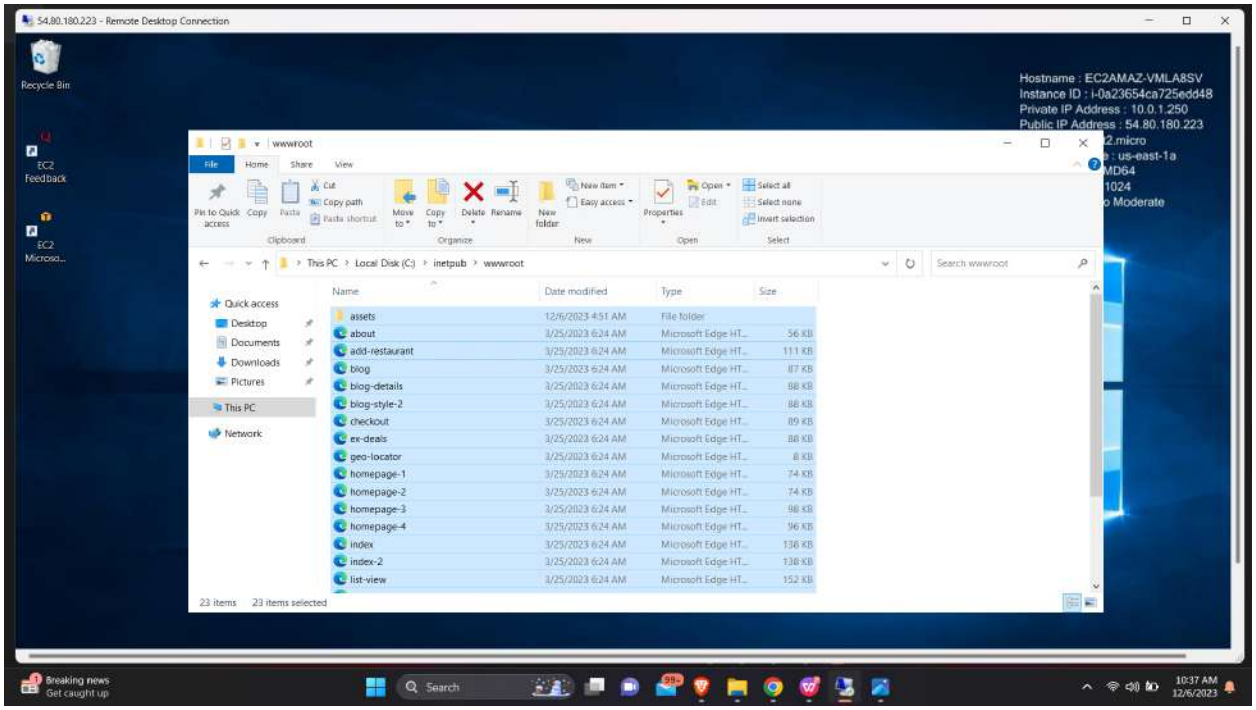


Select Web Server IIS - Install IIS

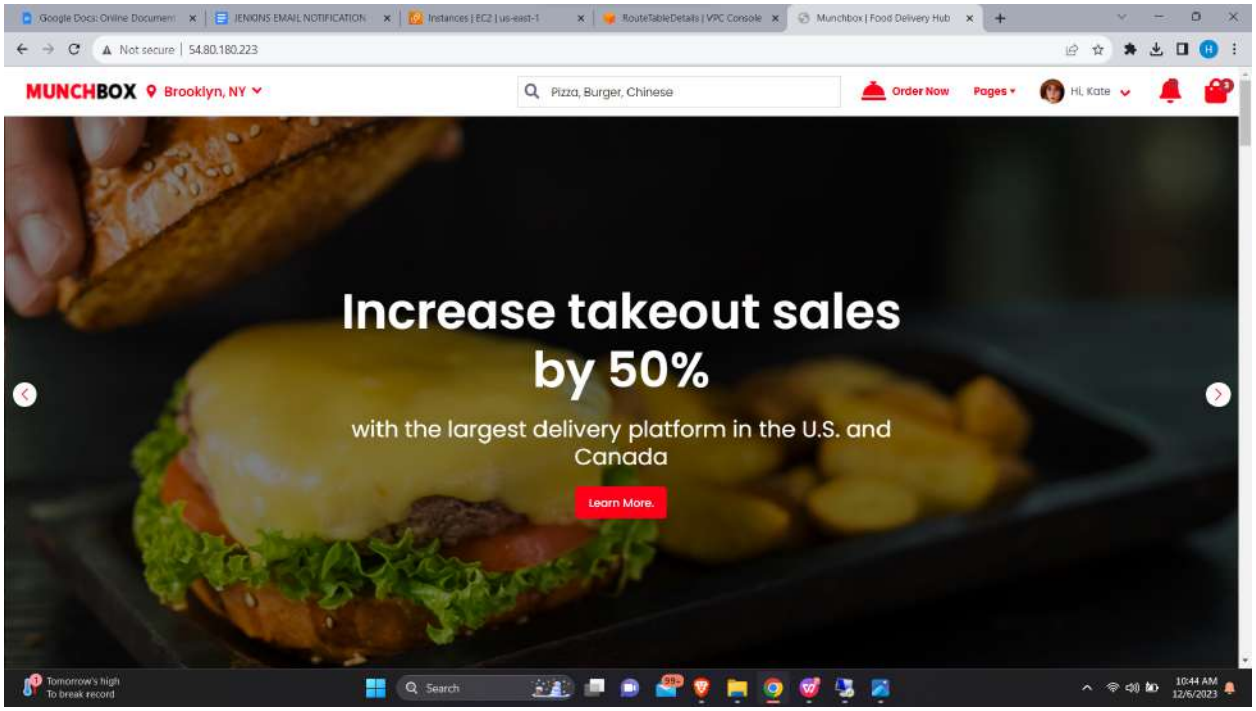




In Remote Desktop Connection, After Successfully installed IIS webserver in Public server. Open filebrowser - Localdisk C - inetpub - www.root - remove default files - paste website content files.

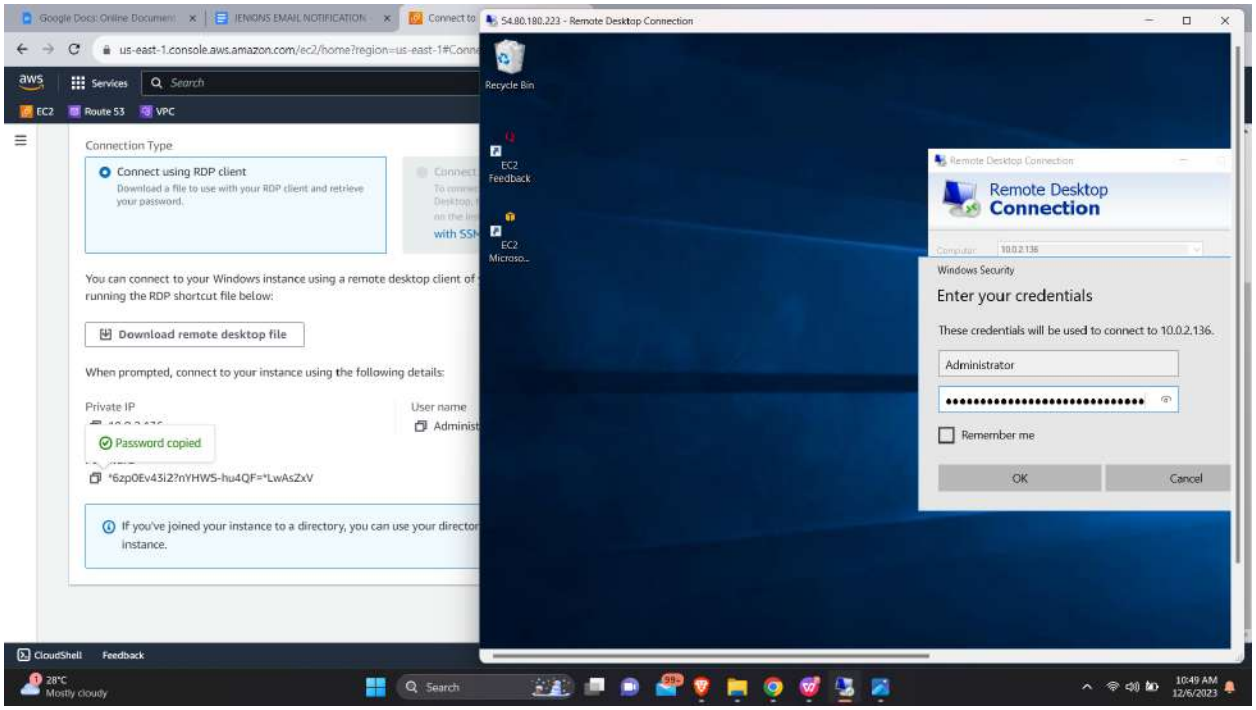


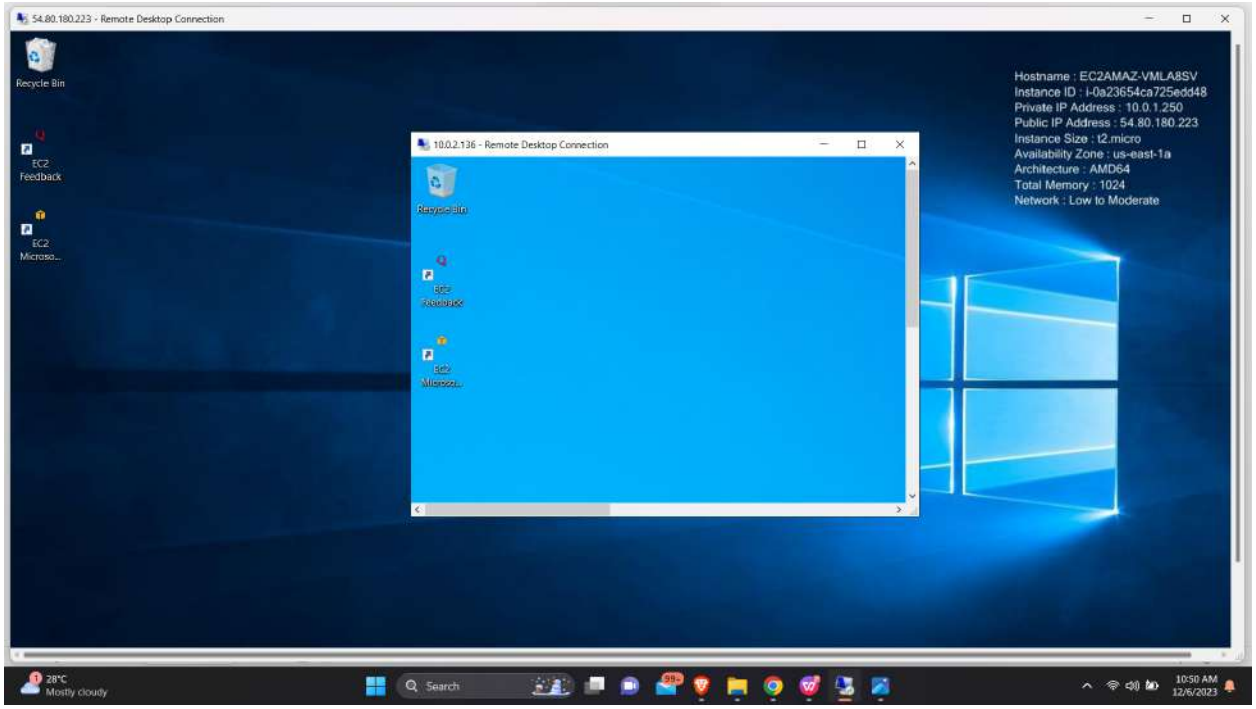
In chrome, paste Public server Instance IPv4 address as(http://54.80.180.223)



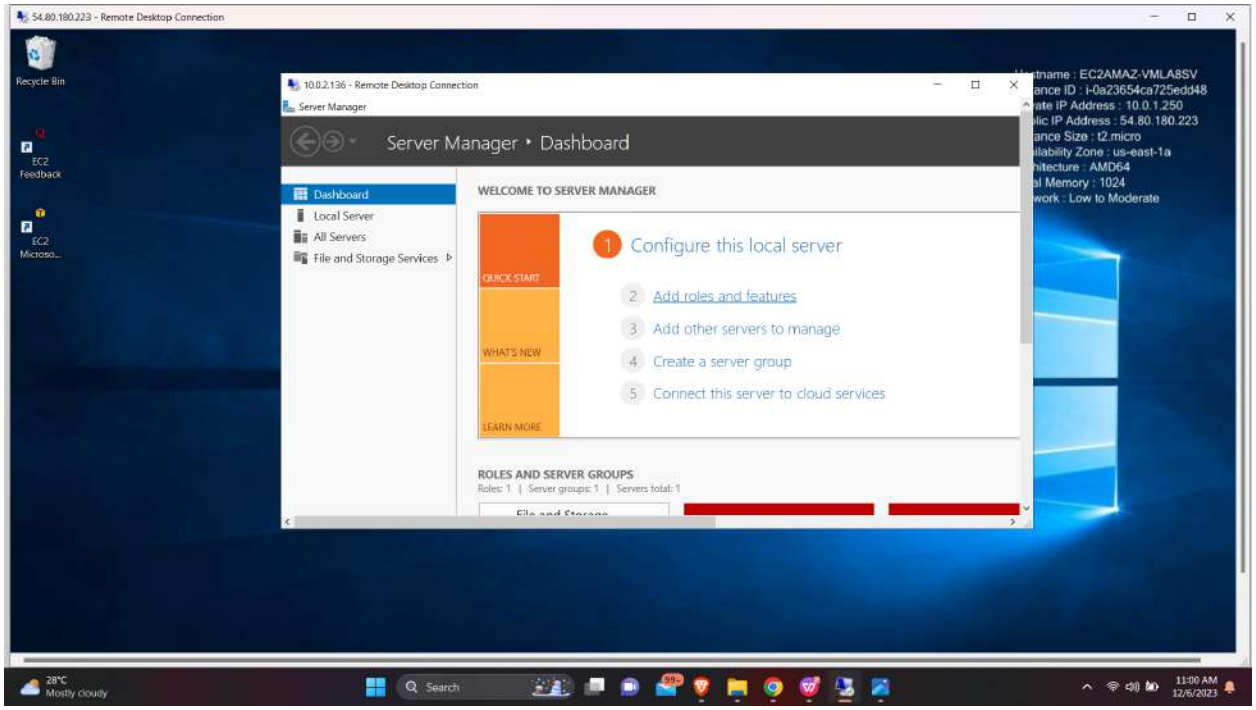
Successfully configured a VPC and hosted a website on a public server.

Connect the private server Instance - Decrypt Password - After login as a public server in RDP - Open Remote Desktop connection - enter the private server specific credentials.

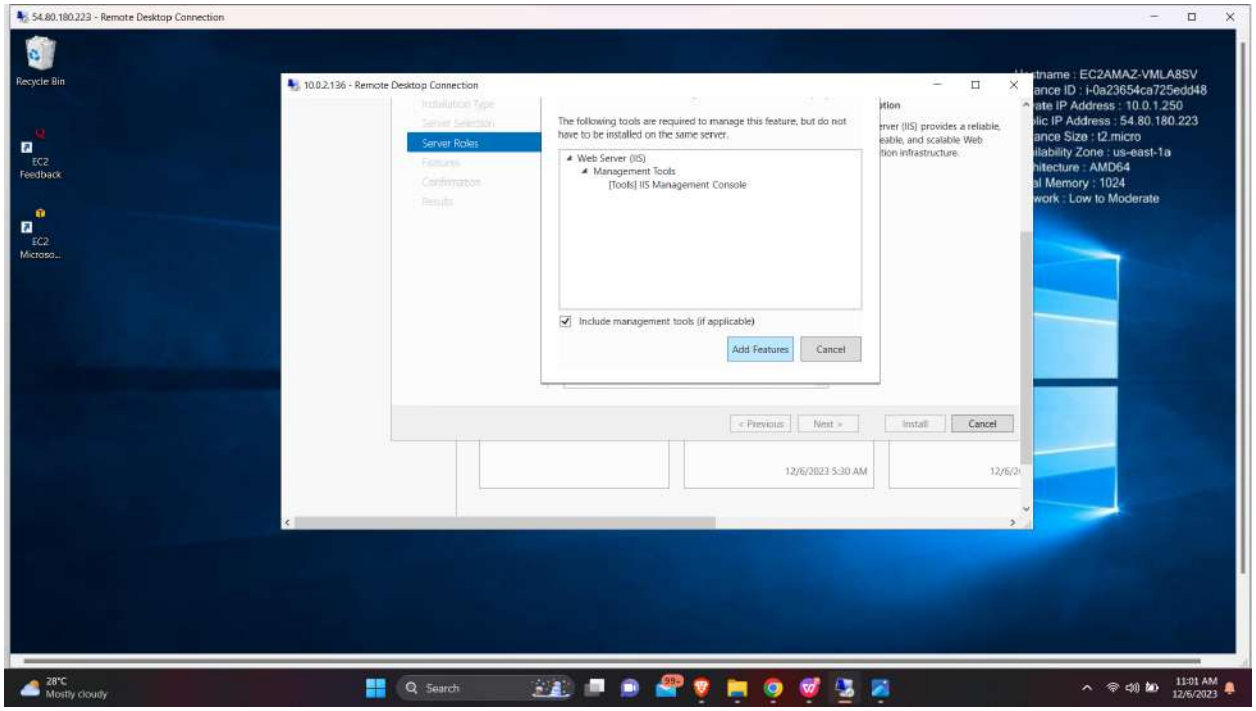


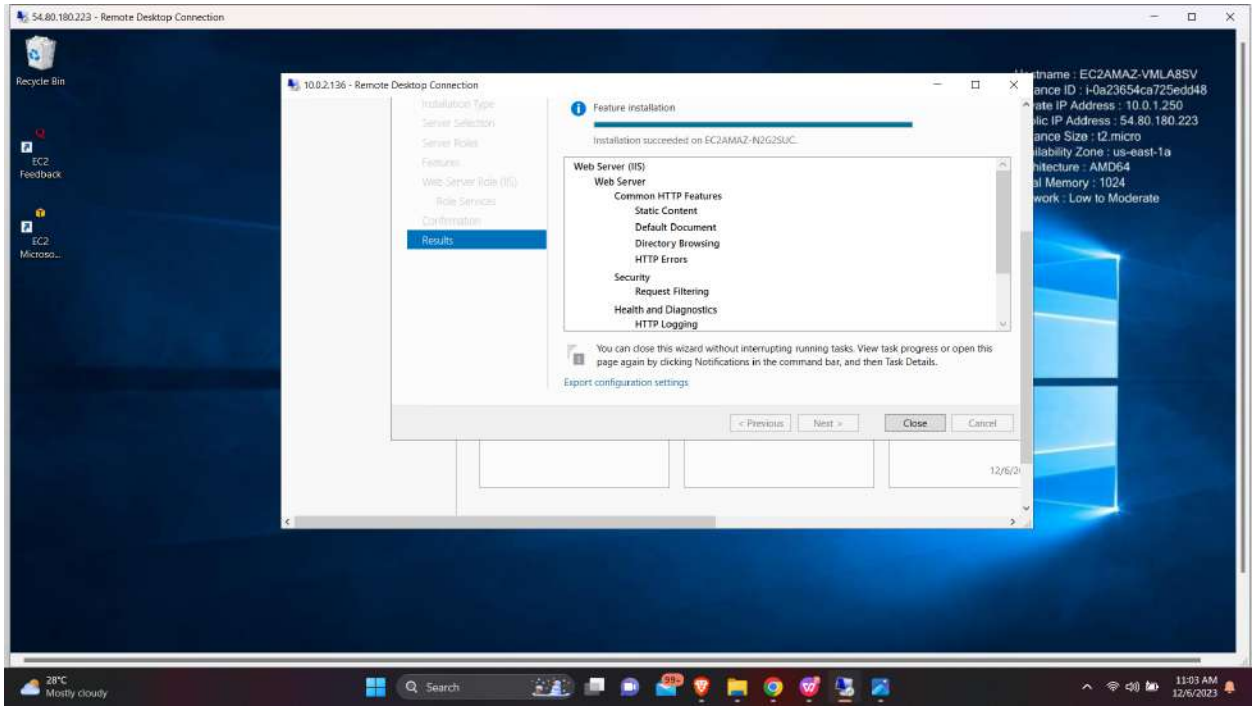


After Successfully connecting the Private windows server in Public windows Server using RDP.
Now, Install webserver (IIS) to host a website through Private Server IP address.
In Remote Desktop Connection, open Server manager - Add roles and features.

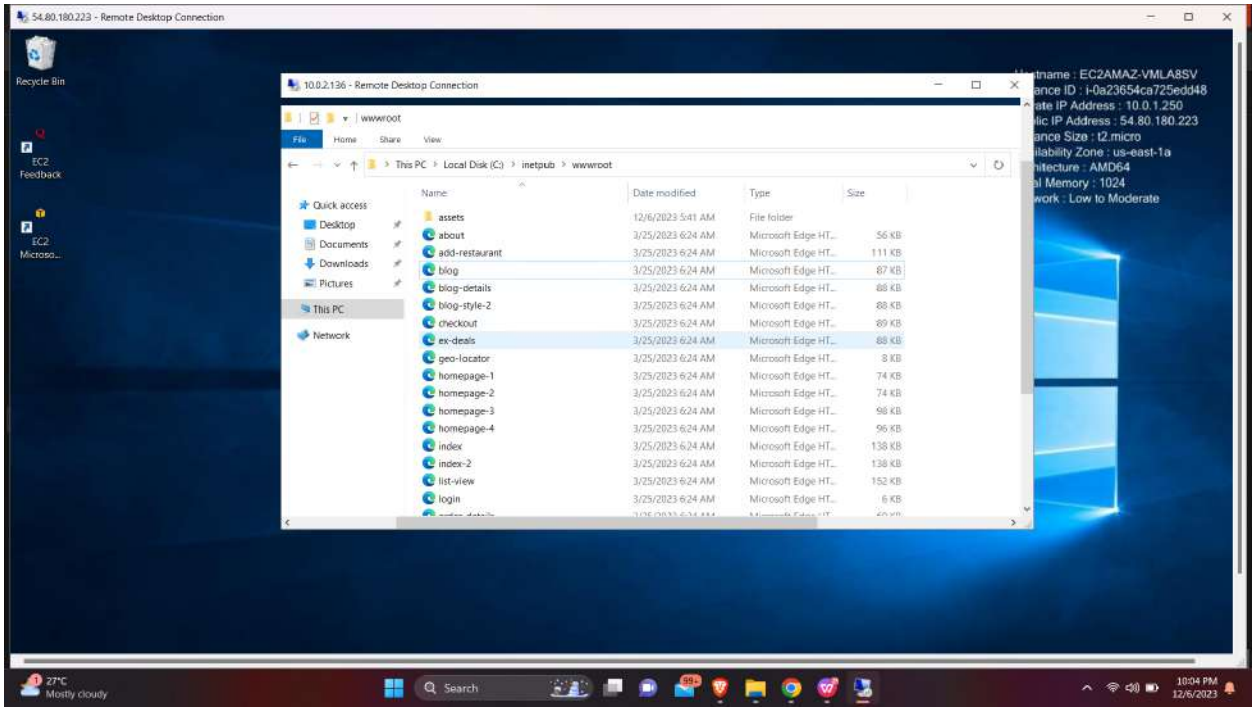


Select Web Server IIS - Install IIS.

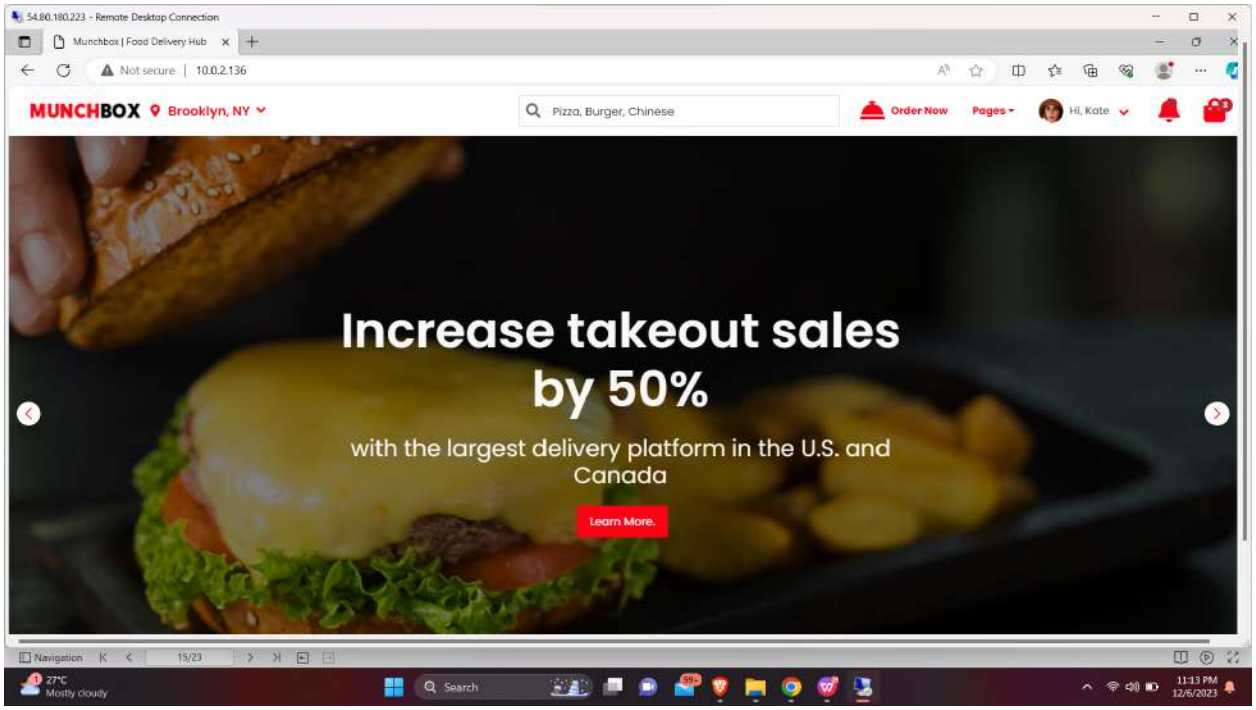




In Remote Desktop Connection, after successfully installed IIS webserver in Private server.
Open filebrowser - Localdisk C - inetpub - www.root - remove default files - paste website content files.



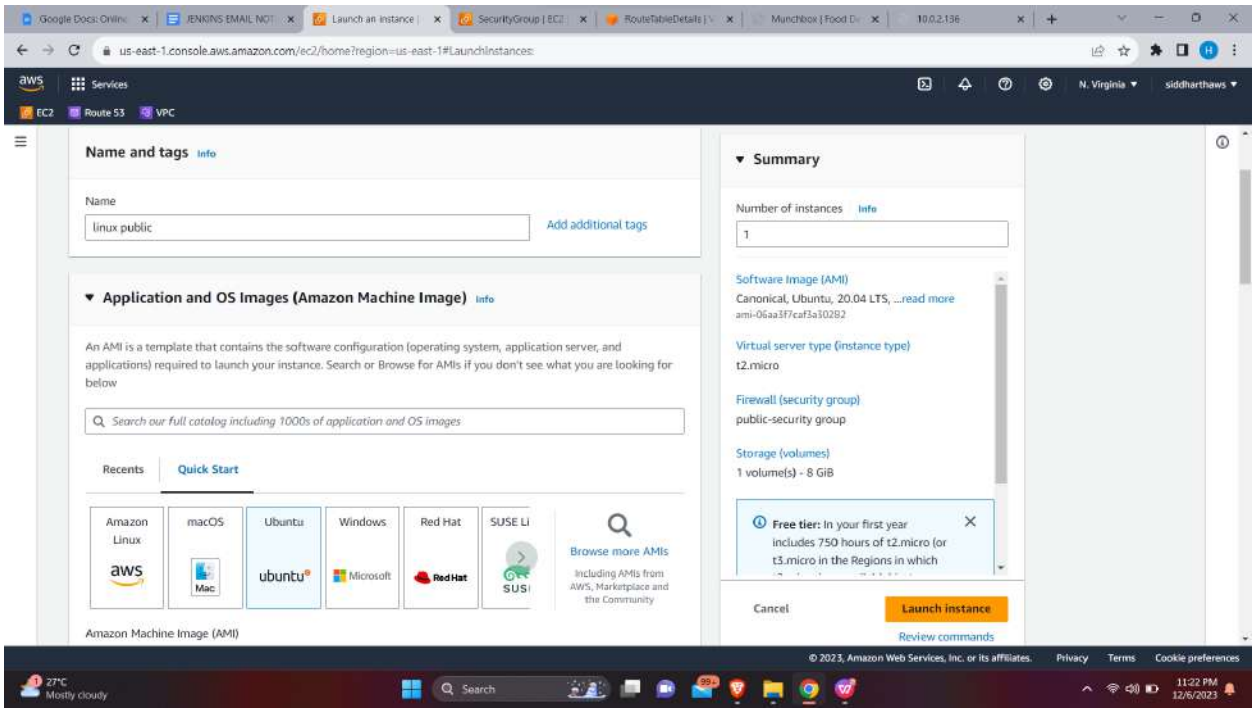
Open Chrome in Public Server.
Paste Private server Private IPv4 address as (http://10.0.2.136)



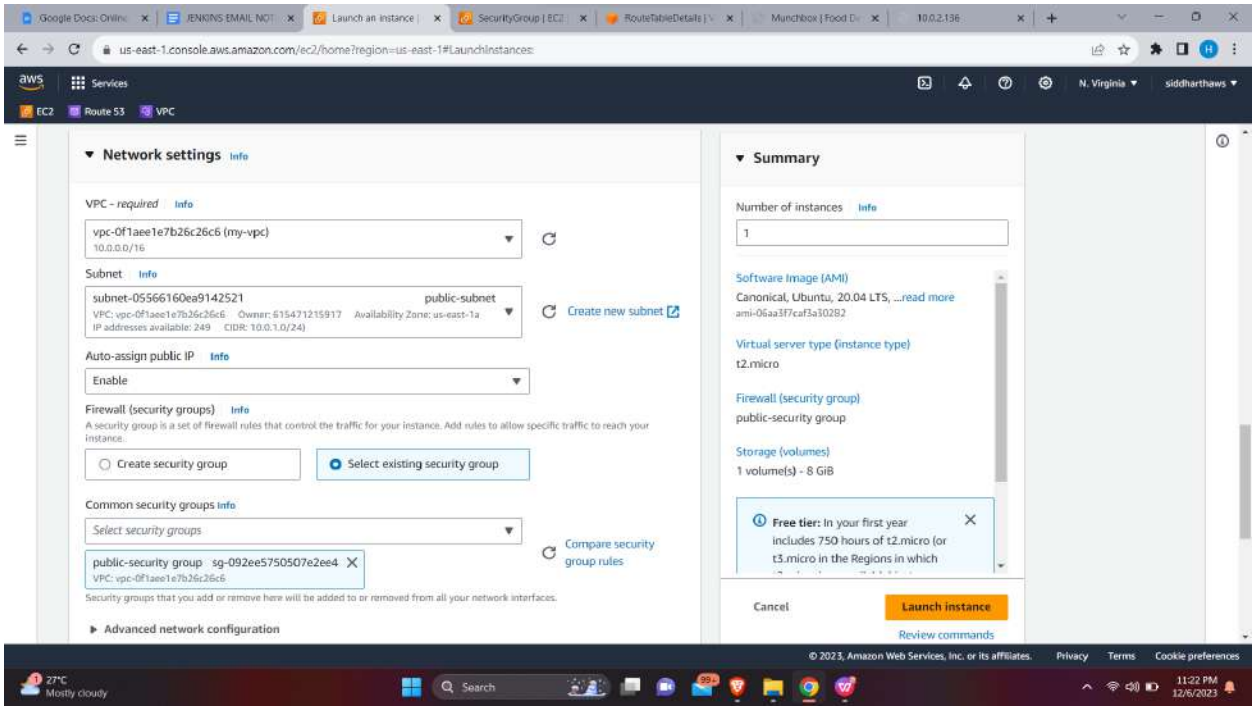
Successfully Hosted the Private Server Website through Public Server using RDP.

Steps to Host a Website through Public Linux Server in ubuntu after successfully created and configured Your VPC

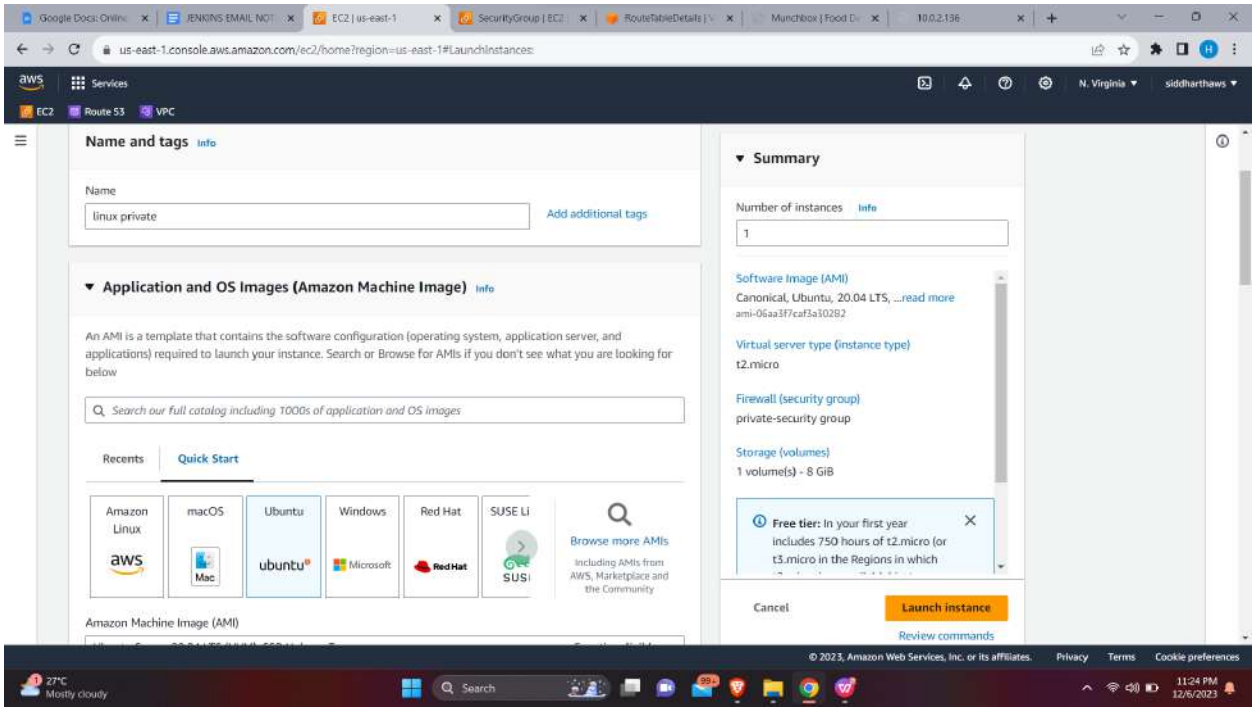
Launch instance - Set a name - choose ubuntu in AMI.



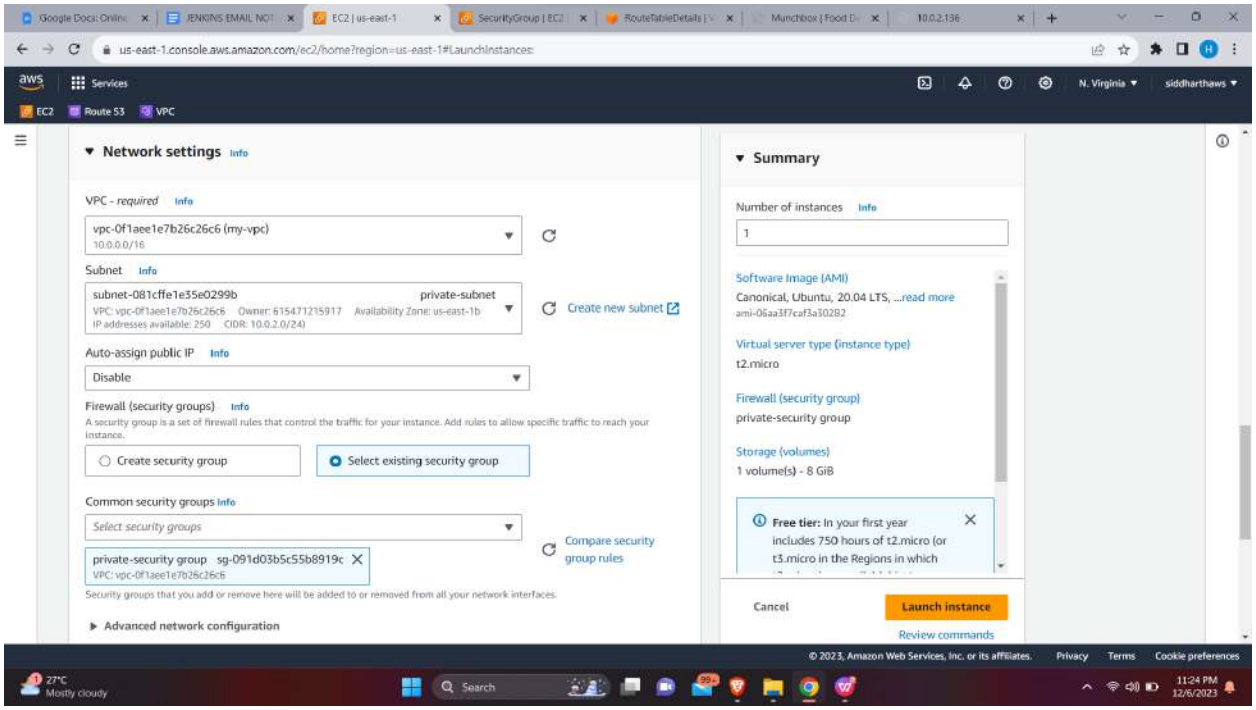
Select a pem key file - In Network Setting (edit) - choose my-vpc - Subnet (public-subnet) - Auto-Assign (Enable) - choose Existing public-security group - Launch Instance.

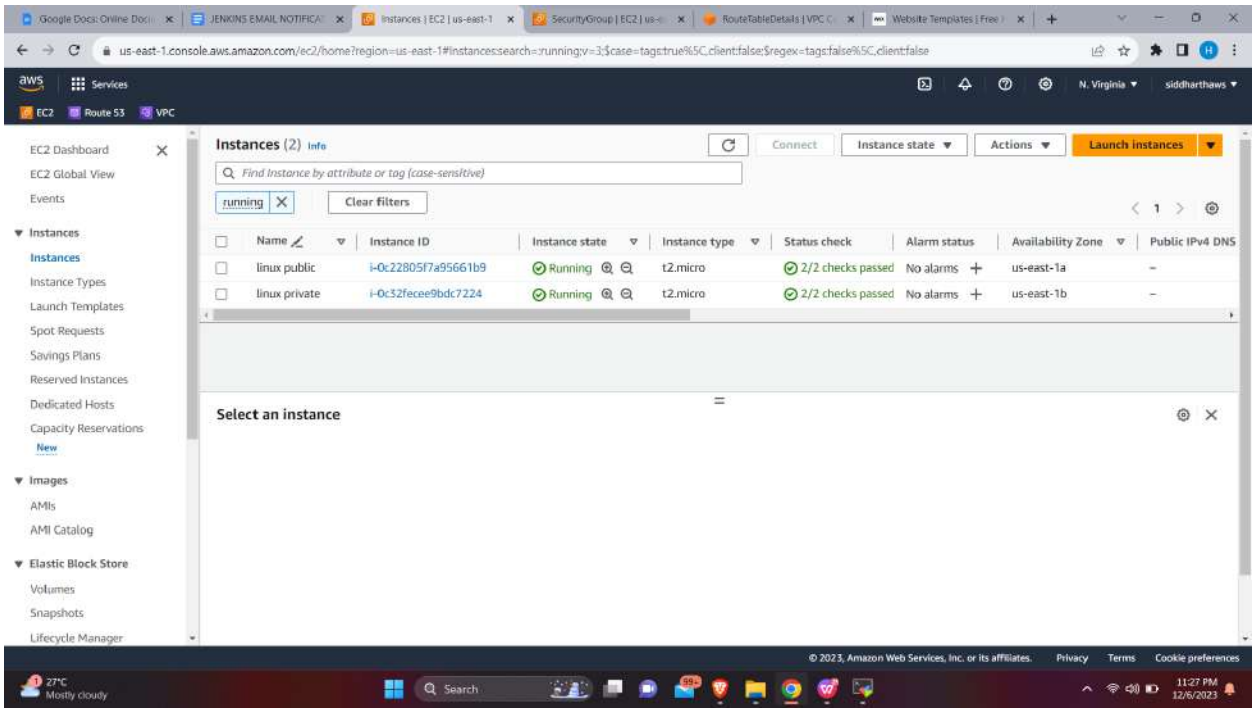


Launch instance for Private Linux Server - Choose ubuntu in AMI.

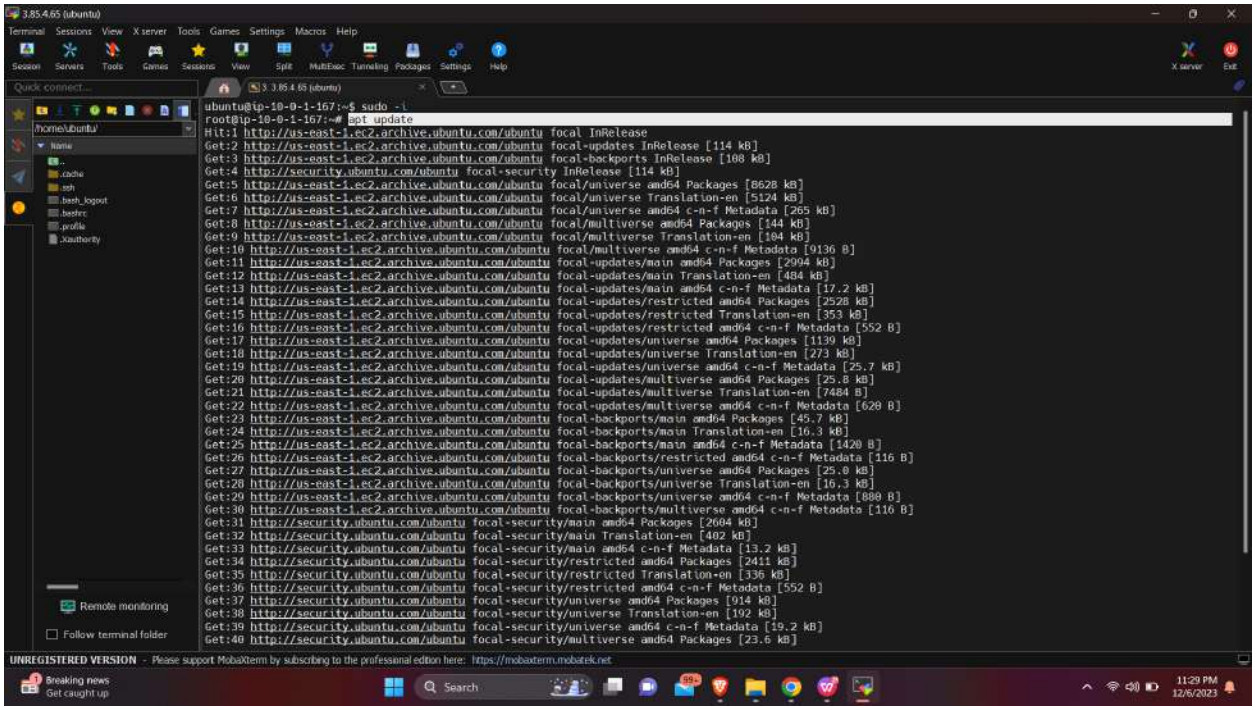


Select a pem key file - In network Setting (edit) - choose my-vpc - choose private-subnet - Auto-assign Public IP (Disable) - Choose Existing private-security group - Launch instance.

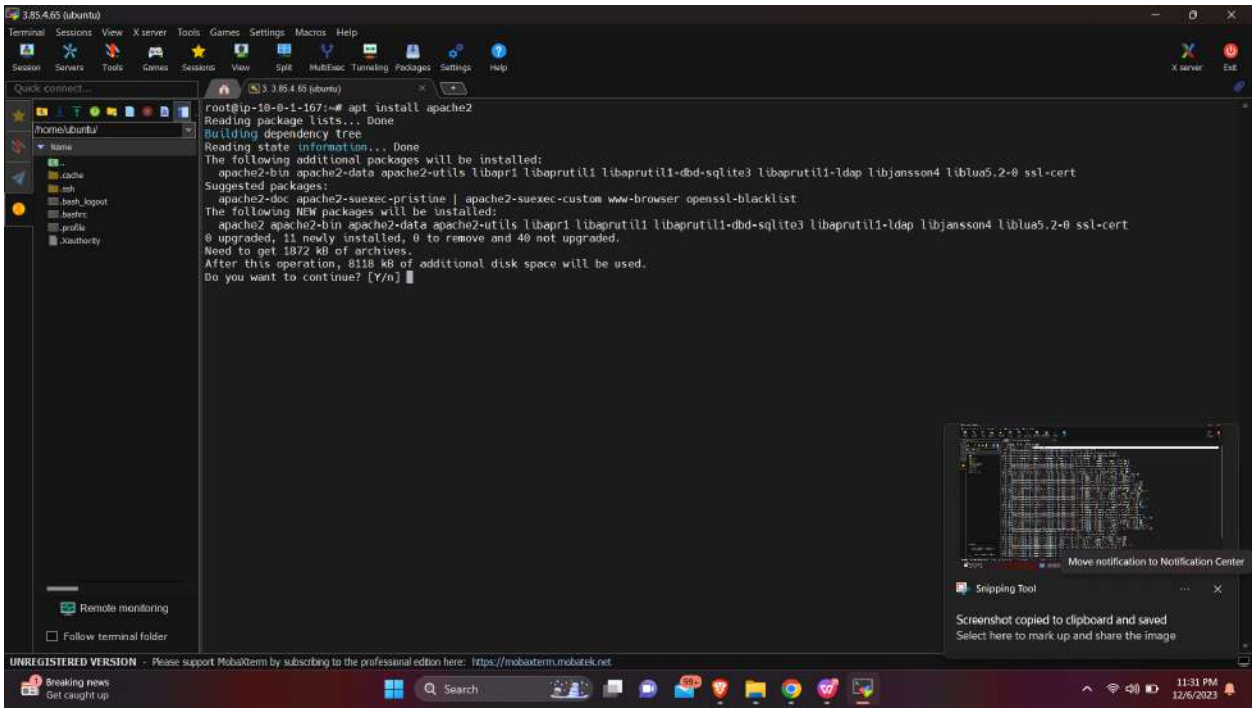




Connect to the public server & follow the below commands to install apache service.
#sudo -i
#apt update



#apt install apache2



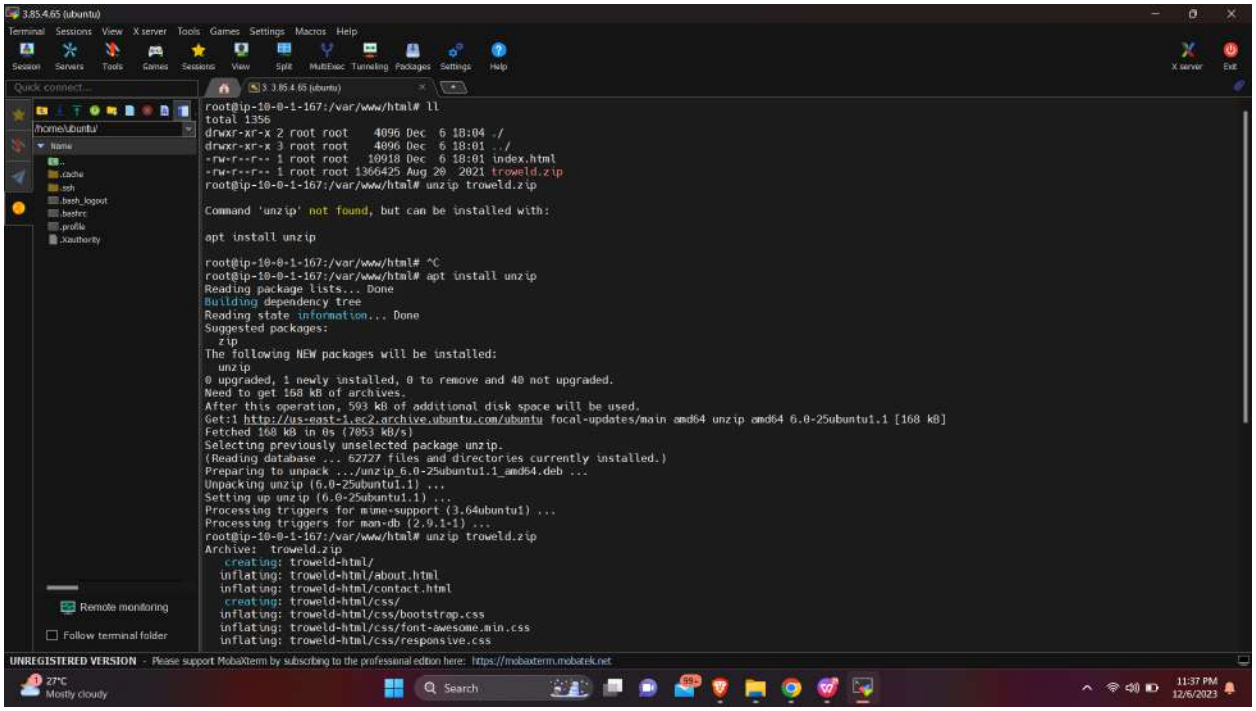
Download the application website template in linux server using wget command in /var/www/html path.

#cd /var/www/html

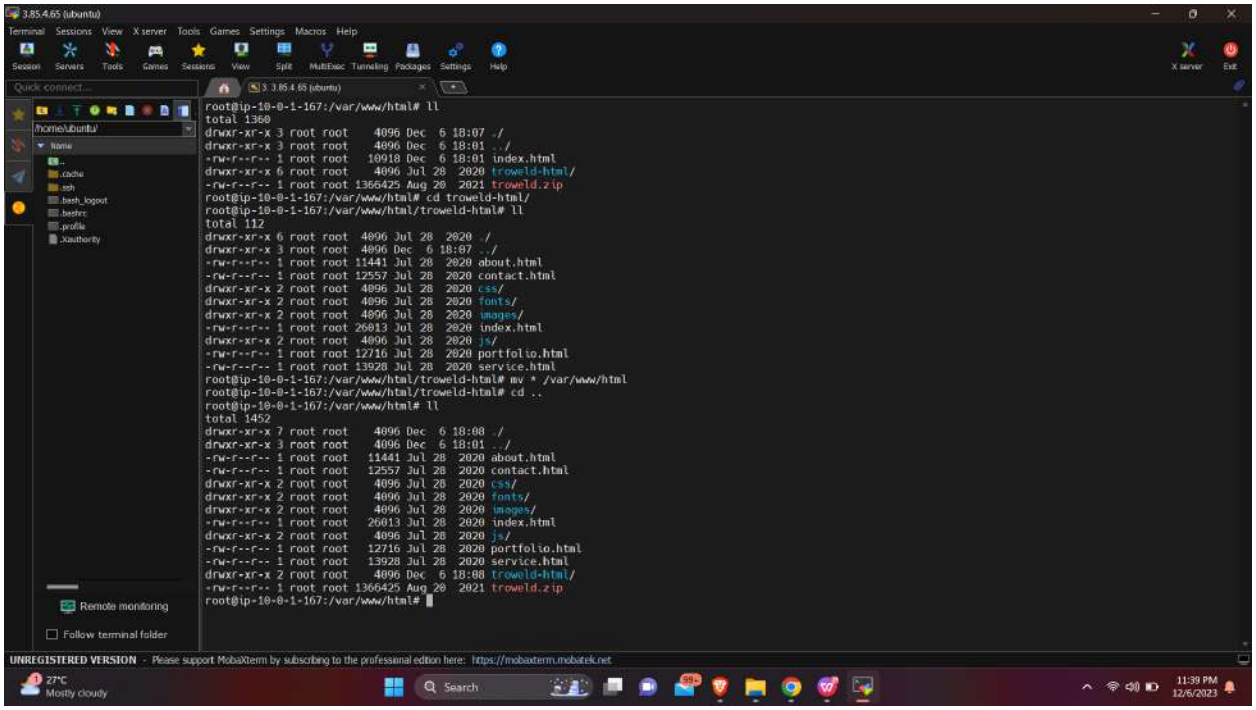
Wget <website zipped url>

```
root@ip-10-0-1-167:~# cd /var/www/html
root@ip-10-0-1-167:/var/www/html# wget https://www.free-css.com/assets/files/free-css-templates/download/page294/troweld.zip
--2023-12-06 18:04:54--  https://www.free-css.com/assets/files/free-css-templates/download/page294/troweld.zip
Resolving www.free-css.com (www.free-css.com)... 217.160.0.242, 2001:8d8:100f:f000::28f
Connecting to www.free-css.com (www.free-css.com)|217.160.0.242|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 1366425 (1.3M) [application/zip]
Saving to: 'troweld.zip'

troweld.zip                         100%[=============================================================================>]   1.30M  1.80MB/s    in 0.7s

2023-12-06 18:04:56 (1.80 MB/s) - 'troweld.zip' saved [1366425/1366425]
```

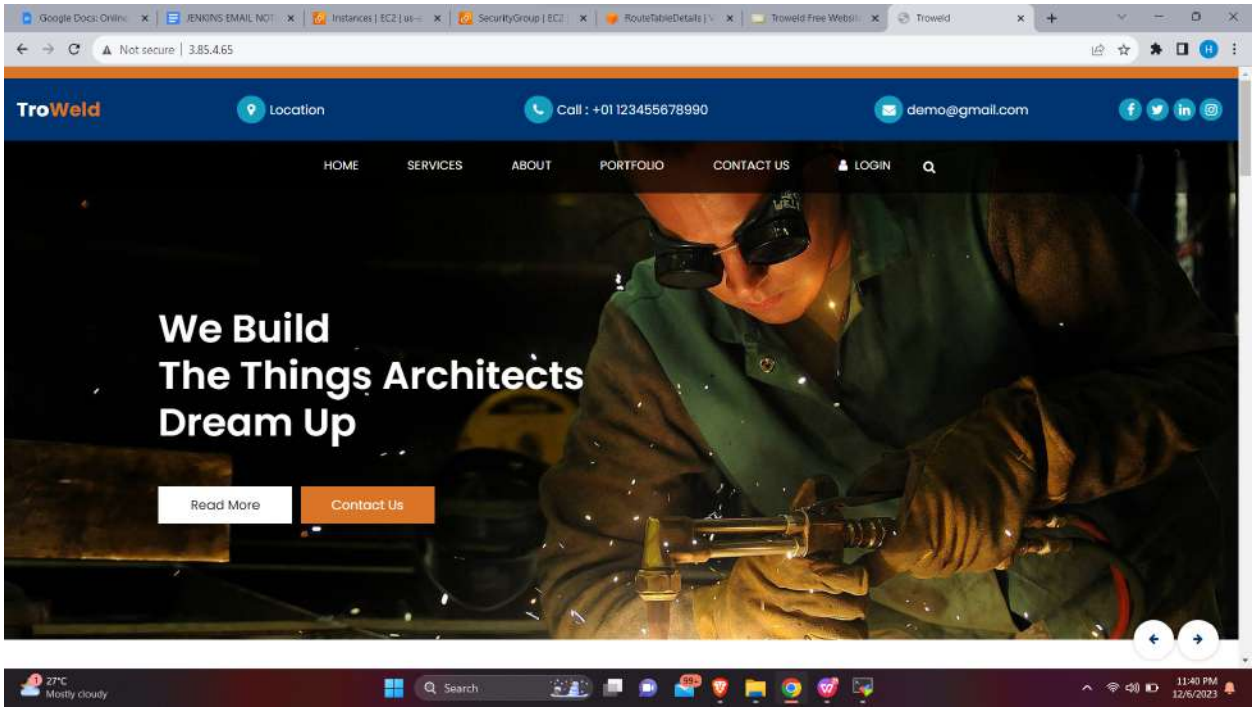
#apt install unzip
#unzip <website zipped filename>



After unzipped the website template - move all the website content inside website template dir to /var/www/html path.
#ll
#cd <website template directory name>
#ll
#mv * /var/www/html
#cd ..
#ll
All website content inside website template dir are moved into /var/www/html directory.



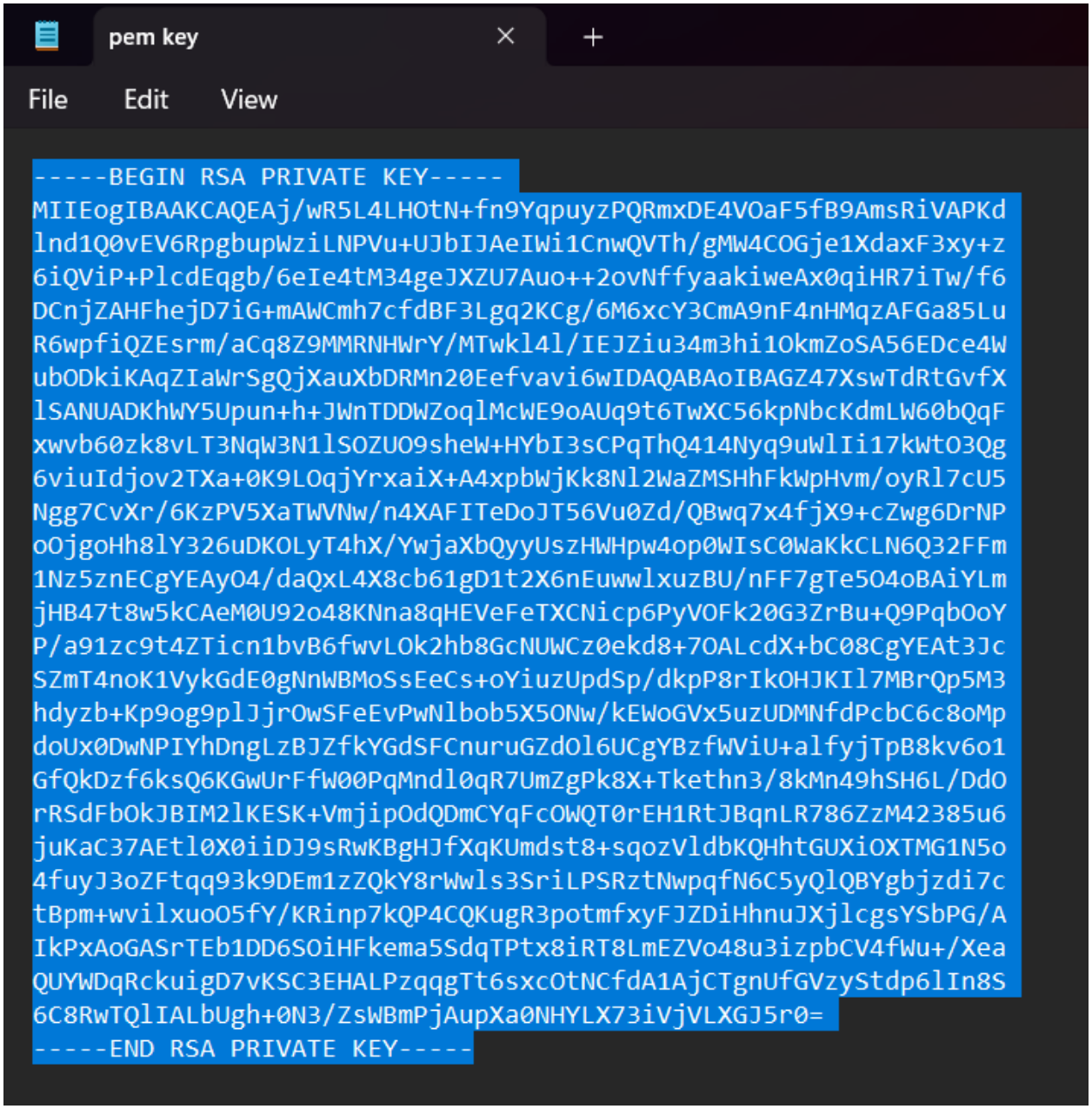
Copy Ipv4 Public IP for linux public server and paste in chrome tab as http://3.85.4.65



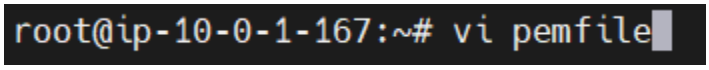
Successfully hosted application Website through Linux Public server in ubuntu.

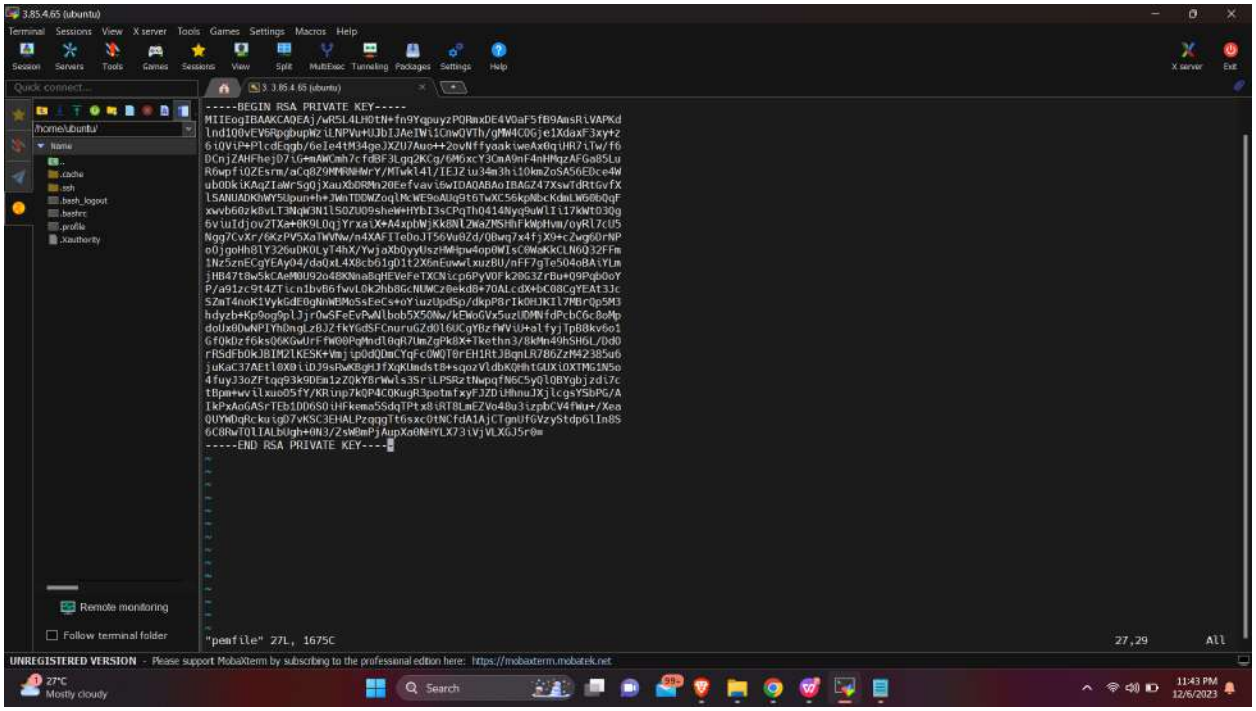
Steps To login a private Linux server in Public linux server and Ensuring Private Linux Server is Pinging after adding a website content files in /var/www/html path.

Open the Linux pem key file in notepad and copy all the content.



In linux public server create a file paste all the content from the pem file.
#vi pemfile





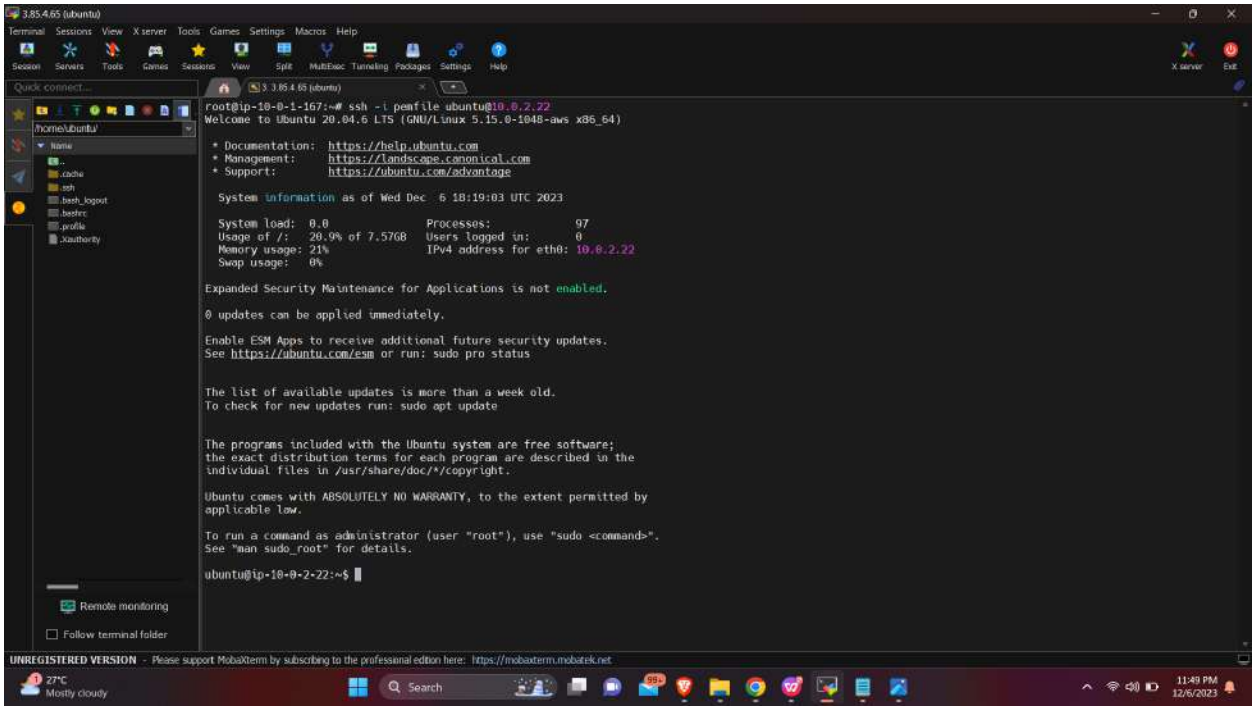
Give permission to the file.
#chmod 400 pem file

```
root@ip-10-0-1-167:~# chmod 400 pemfile
```

Now Login private linux server inside public Linux Server using ssh command
#ssh -i pemfile ubuntu@10.0.2.22

```
root@ip-10-0-1-167:~# ssh -i pemfile ubuntu@10.0.2.22
```

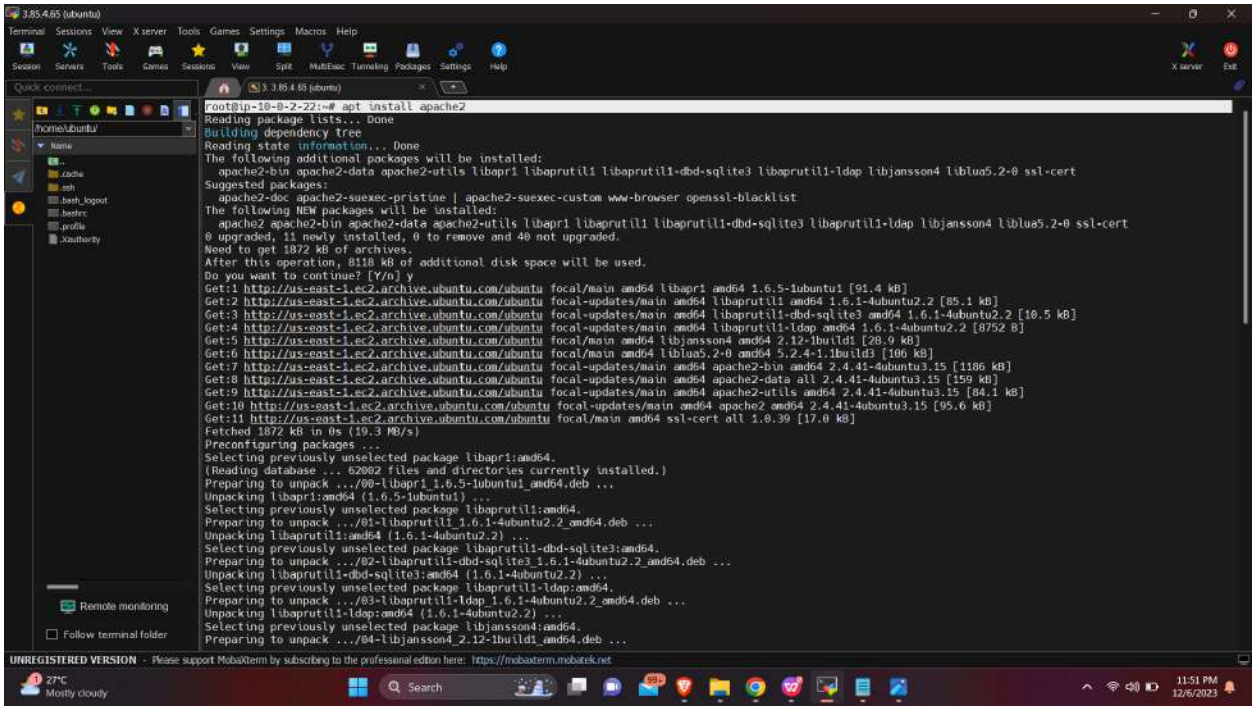
Successfully login private linux server inside public linux server using ssh command.



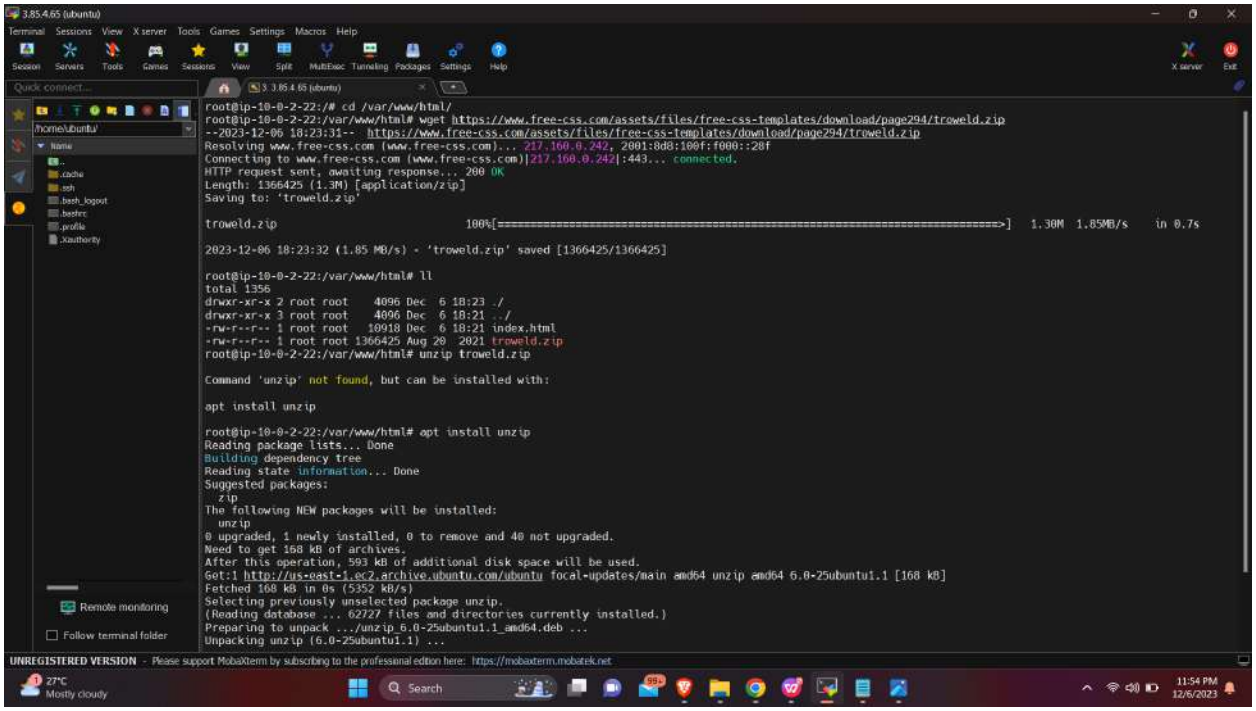
Now follow the same steps to install apache service in the private server.
#sudo -i
#apt update

```
ubuntu@ip-10-0-2-22:~$ sudo -i
root@ip-10-0-2-22:~# apt update
```

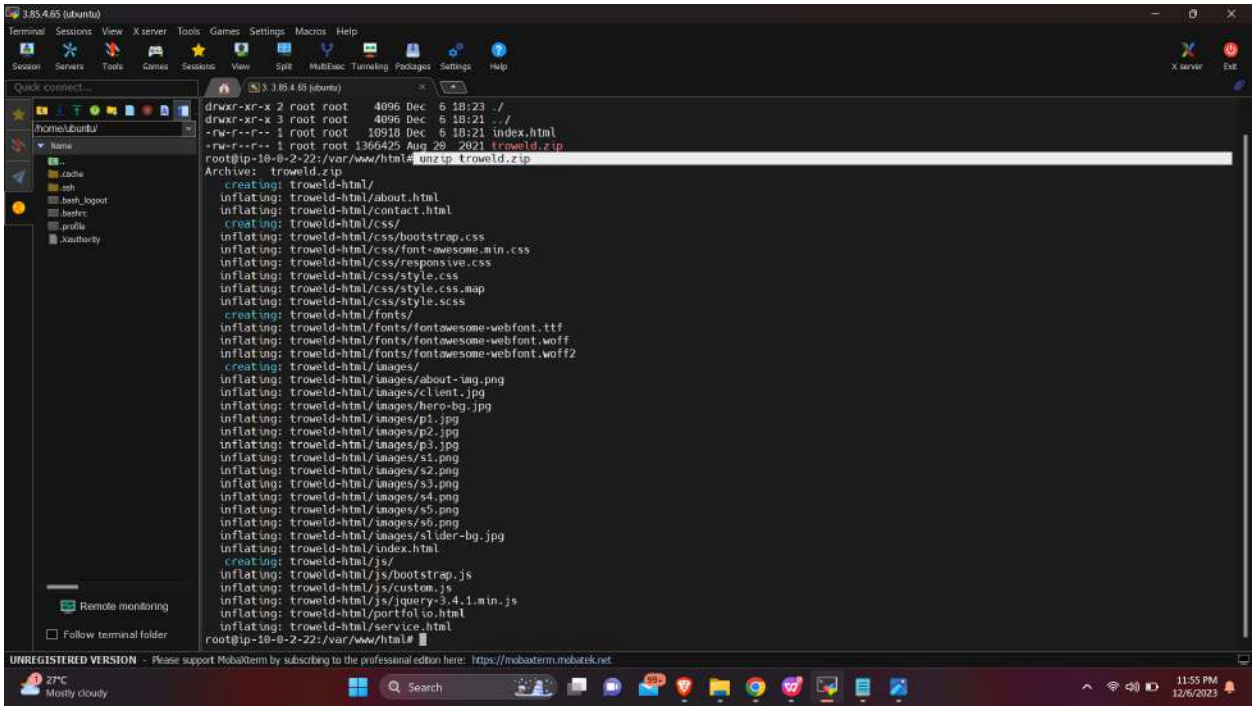
#apt install apache2



#cd /var/www/html
#wget <website zipped url>
#apt install unzip



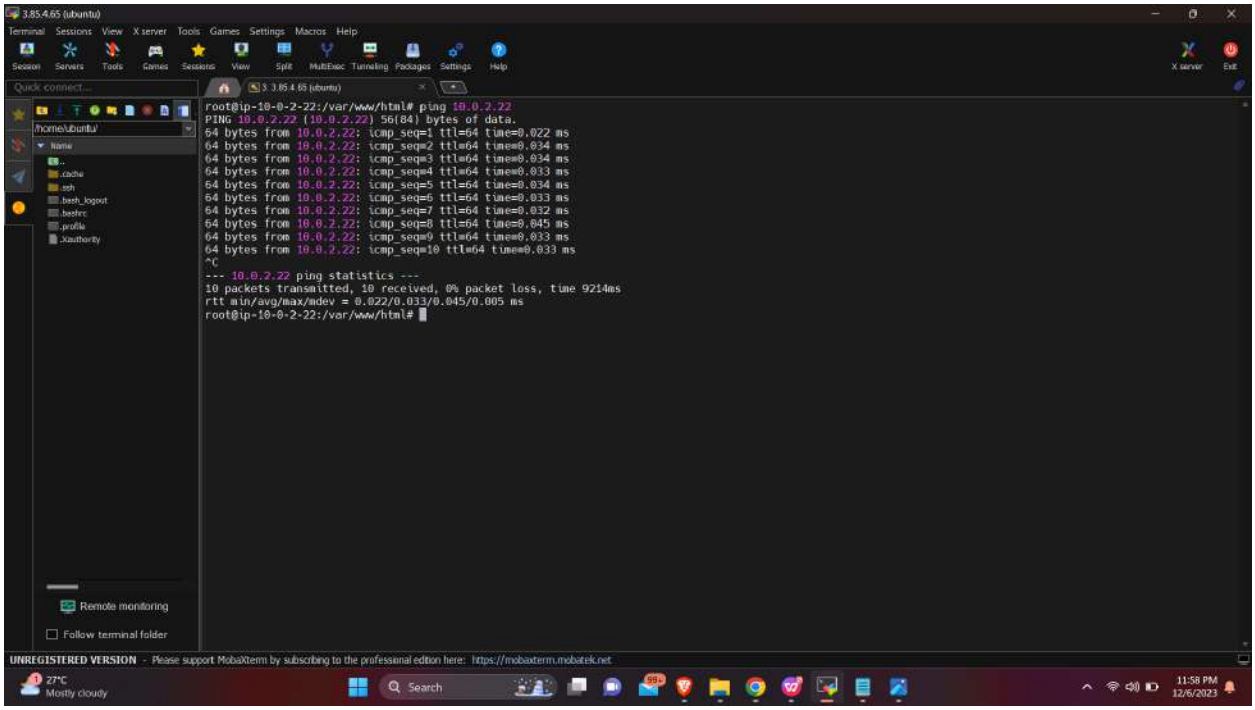
#unzip <zipped website filename>



#ll
#cd <website template directory name>
#ls
#mv * /var/www/html
#cd ..
#ls
All website content inside website template dir are moved into /var/www/html directory.

```
root@ip-10-0-2-22:/var/www/html# ll
total 1360
drwxr-xr-x 3 root root    4096 Dec  6 18:24 ./
drwxr-xr-x 3 root root    4096 Dec  6 18:21 ../
-rw-r--r-- 1 root root   10918 Dec  6 18:21 index.html
drwxr-xr-x 6 root root    4096 Jul 28  2020 troweld-html/
-rw-r--r-- 1 root root 1366425 Aug 20  2021 troweld.zip
root@ip-10-0-2-22:/var/www/html# cd troweld-html/
root@ip-10-0-2-22:/var/www/html/troweld-html# ls
about.html  contact.html  css  fonts  images  index.html  js  portfolio.html  service.html
root@ip-10-0-2-22:/var/www/html/troweld-html# mv * /var/www/html
root@ip-10-0-2-22:/var/www/html/troweld-html# cd ..
root@ip-10-0-2-22:/var/www/html# ls
about.html  contact.html  css  fonts  images  index.html  js  portfolio.html  service.html  troweld-html  troweld.zip
root@ip-10-0-2-22:/var/www/html#
```

Ping linux private server private IPv4 using ping command
#ping 10.0.2.22


3.85.4.65 (ubuntu)
Terminal Sessions View X server Tools Games Settings Macros Help
Session Servers Tools Games Sessions View Split MultiExec Tunneling Packages Settings Help
X server Exit
Quick connect...
3. 3.85.4.65 (ubuntu)
/home/ubuntu/
Name
..
.cache
.ssh
.bash_logout
.bashrc
.profile
.Xauthority
root@ip-10-0-2-22:/var/www/html# ping 10.0.2.22
PING 10.0.2.22 (10.0.2.22) 56(84) bytes of data.
64 bytes from 10.0.2.22: icmp_seq=1 ttl=64 time=0.022 ms
64 bytes from 10.0.2.22: icmp_seq=2 ttl=64 time=0.034 ms
64 bytes from 10.0.2.22: icmp_seq=3 ttl=64 time=0.034 ms
64 bytes from 10.0.2.22: icmp_seq=4 ttl=64 time=0.033 ms
64 bytes from 10.0.2.22: icmp_seq=5 ttl=64 time=0.034 ms
64 bytes from 10.0.2.22: icmp_seq=6 ttl=64 time=0.033 ms
64 bytes from 10.0.2.22: icmp_seq=7 ttl=64 time=0.032 ms
64 bytes from 10.0.2.22: icmp_seq=8 ttl=64 time=0.045 ms
64 bytes from 10.0.2.22: icmp_seq=9 ttl=64 time=0.033 ms
64 bytes from 10.0.2.22: icmp_seq=10 ttl=64 time=0.033 ms
^C
--- 10.0.2.22 ping statistics ---
10 packets transmitted, 10 received, 0% packet loss, time 9214ms
rtt min/avg/max/mdev = 0.022/0.033/0.045/0.005 ms
root@ip-10-0-2-22:/var/www/html#
Remote monitoring
Follow terminal folder
UNREGISTERED VERSION - Please support MobaXterm by subscribing to the professional edition here: https://mobaxterm.mobatek.net
27°C
Mostly cloudy
Search
11:58 PM
12/6/2023