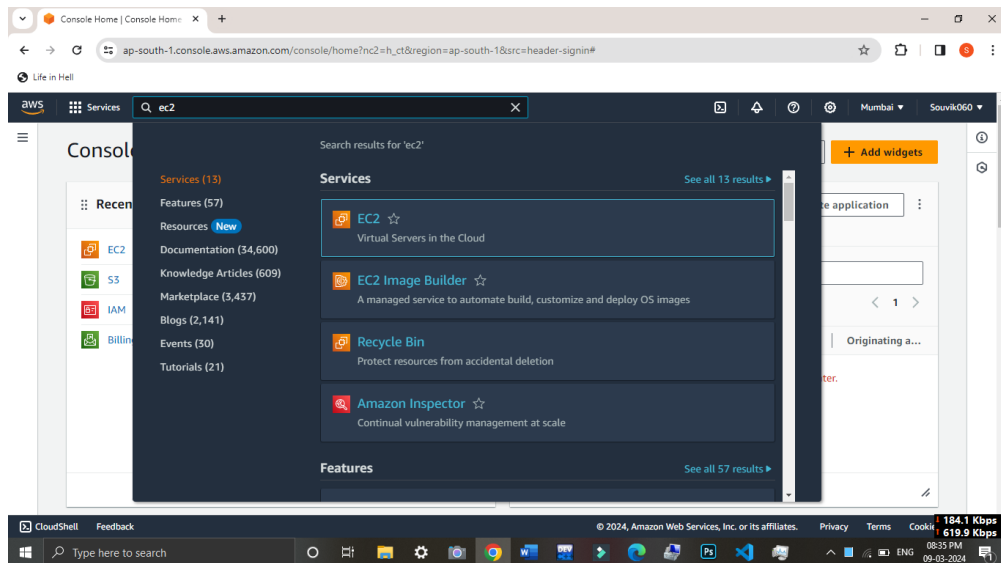


Assignment : 7

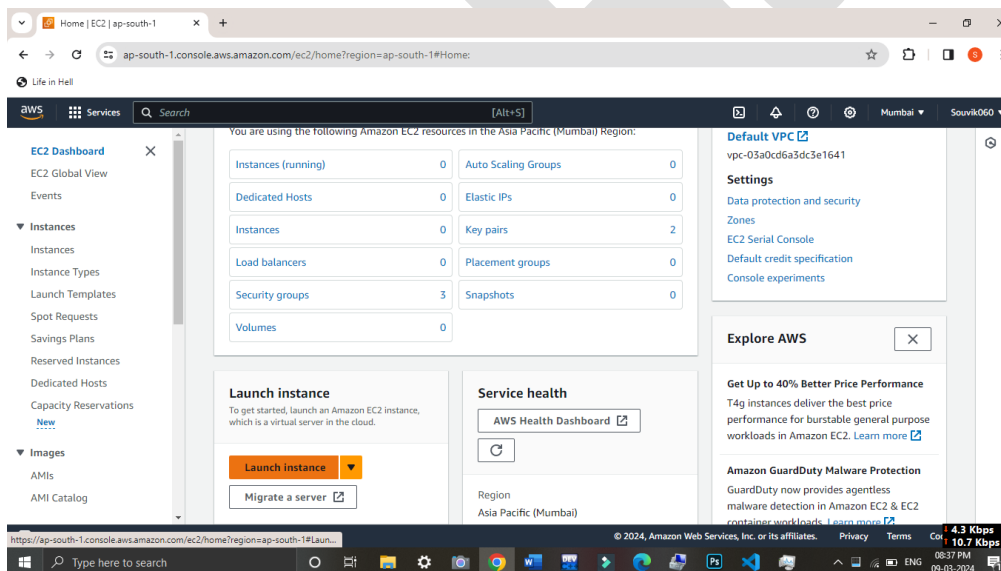
Problem Statement: Hosting a website on EC2.

Steps :

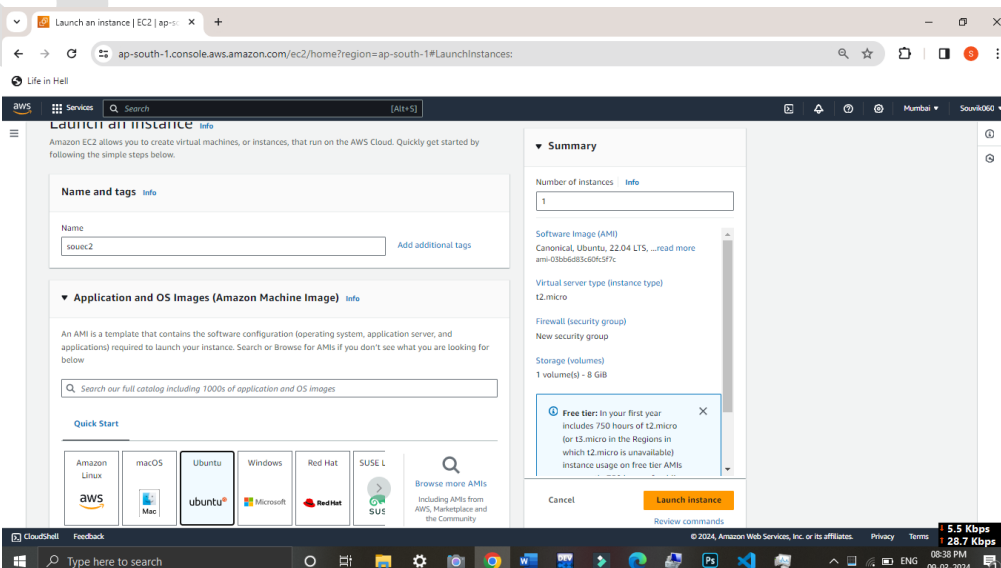
1. Sign in to you AWS console and search for 'EC2' then click on it.



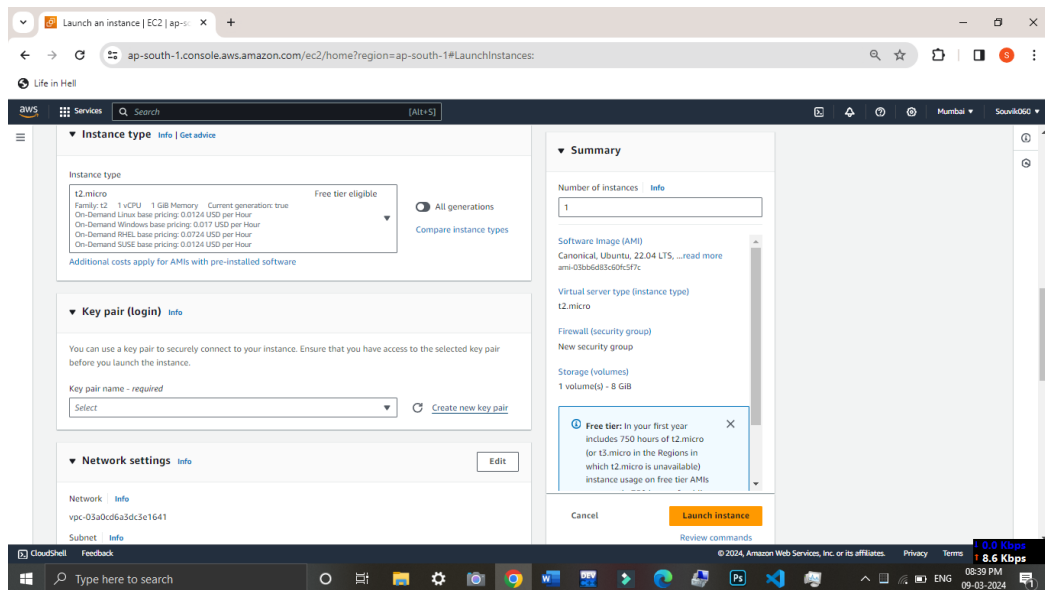
2. Click on 'Launch Instance'.



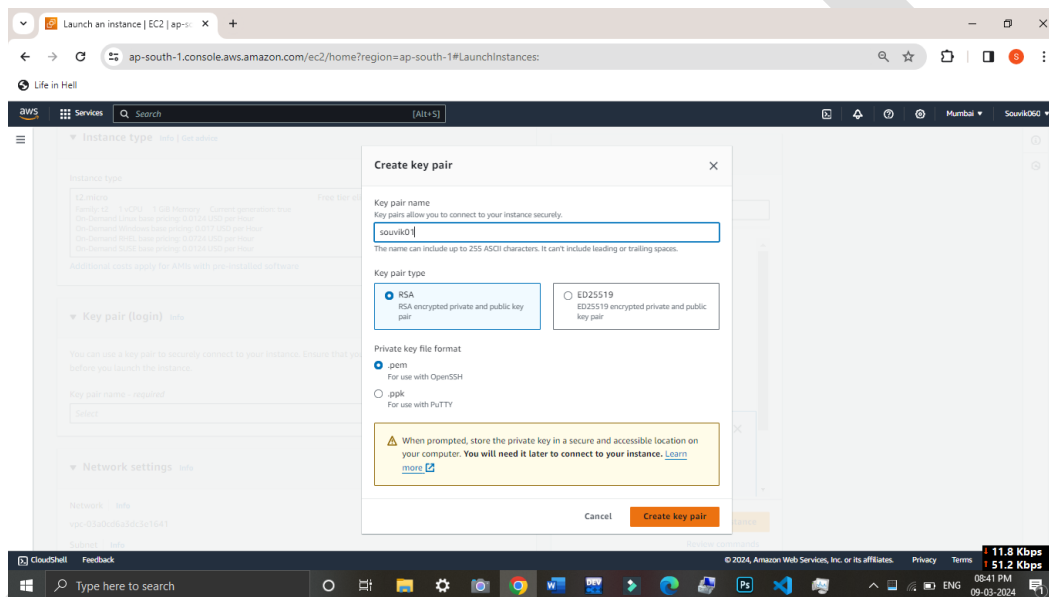
3. Give a name for our instance and select Ubuntu as our OS shown in below image.



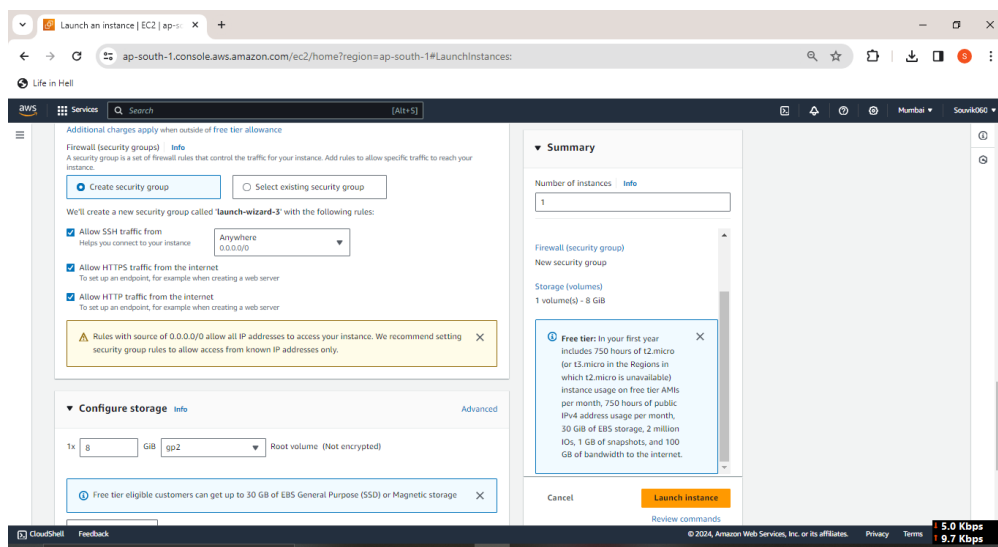
4. Now scroll down to Key pair(login) section and select “Create new key pair” or use an existing keypair whose .pem file is available, choose the required pair and skip the next step and go to to step 6.



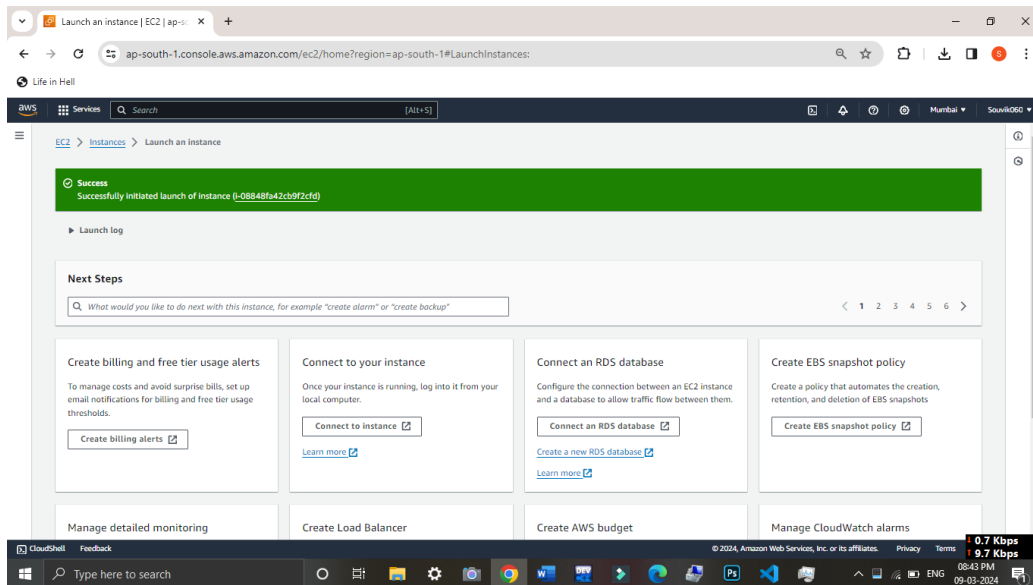
5. (For creating newkey pair) Now give a name for the key pair and choose RSA type and .pem format, then click on “Create key pair” . The respective .pem file should automatically be downloaded to our PC but if prompted, allow this download.



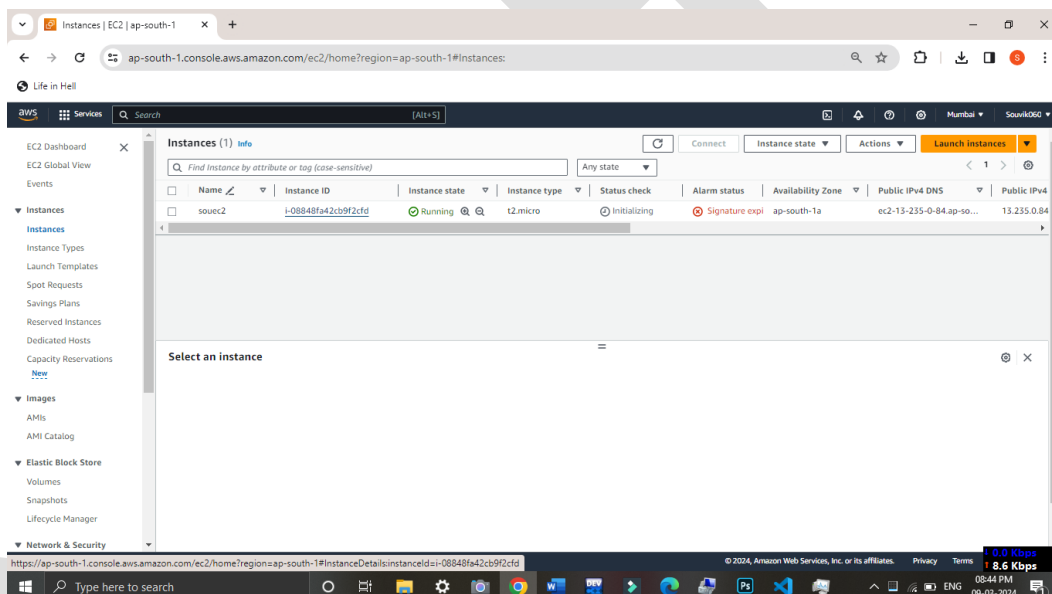
6. Now allow all 3 protocols SSH, HTTP, HTTPS and then click on “Launch Instance”.



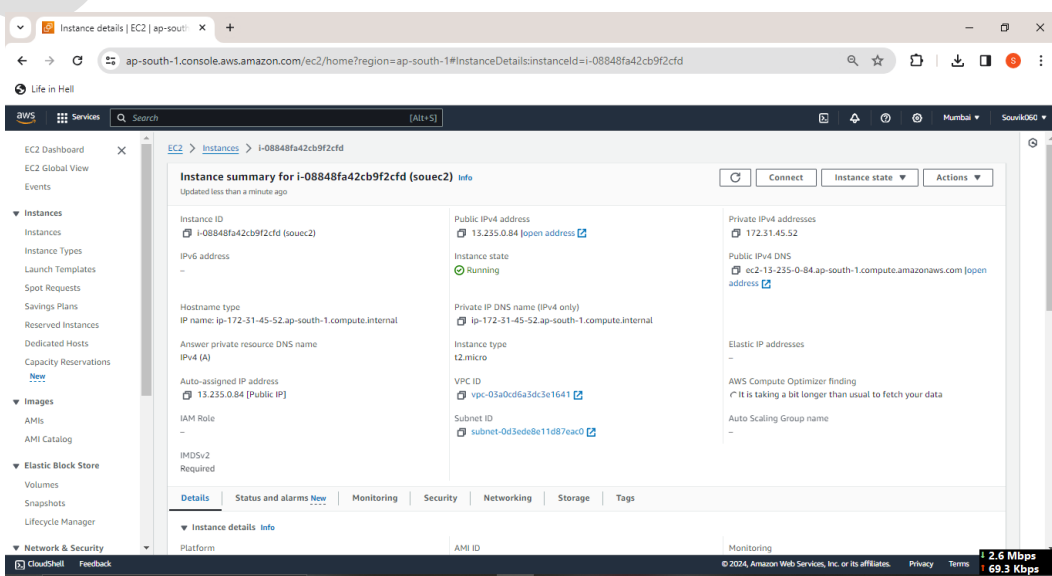
7. Now the instance is created successfully .



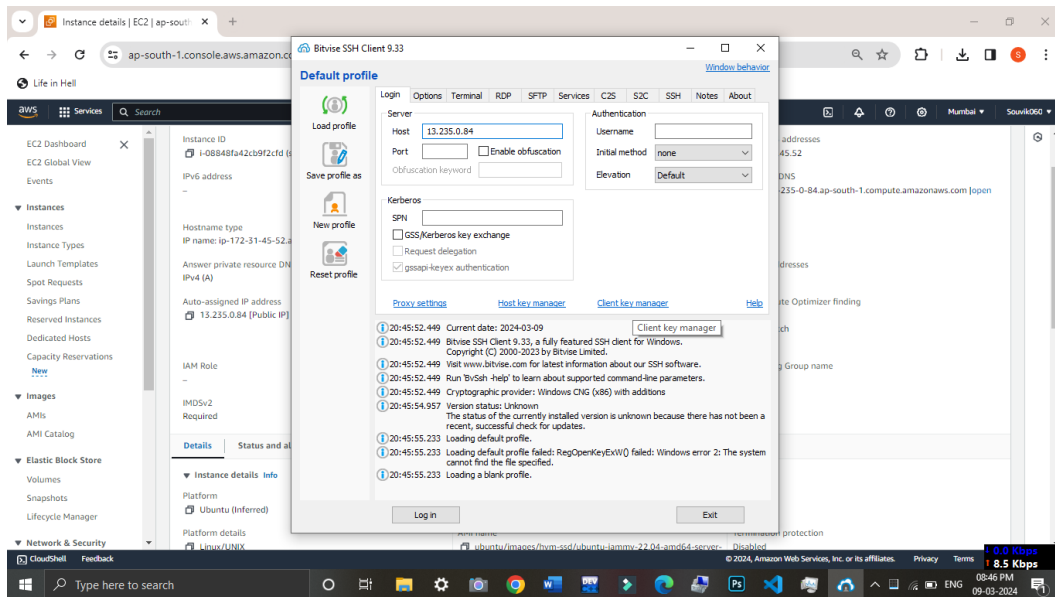
8 . After successful launch of instance, go to “Instances” section on the left hand menu. Now click of the Instance ID of our newly created instance.



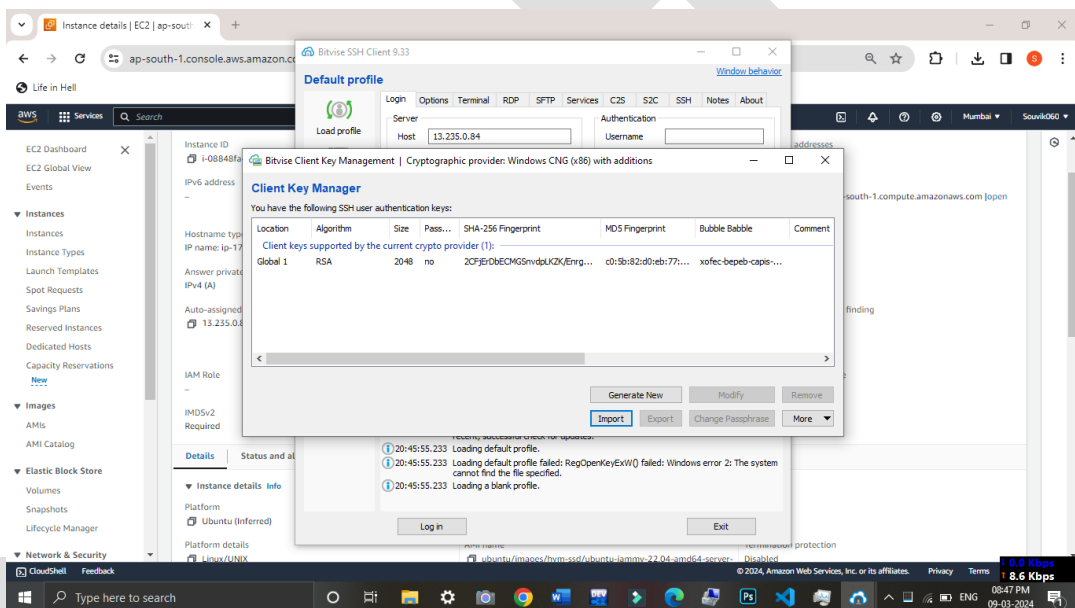
9. Now copy the Public IPv4 address(13.235.0.84).



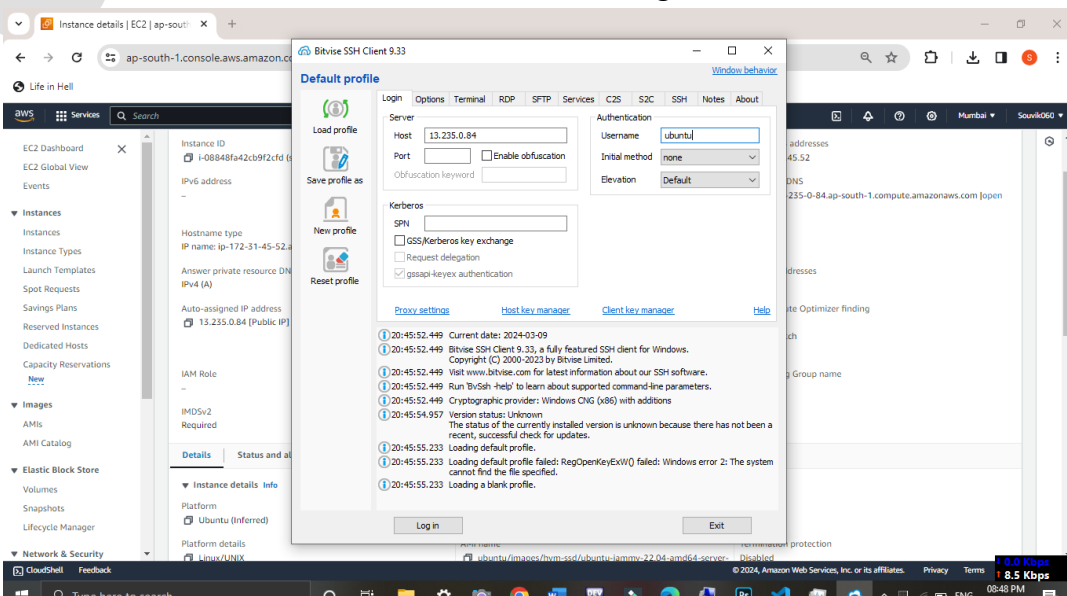
10. Open Bitwise SSH client and paste the copied IPv4 address in 'Host'. Then click on "Client key manager".



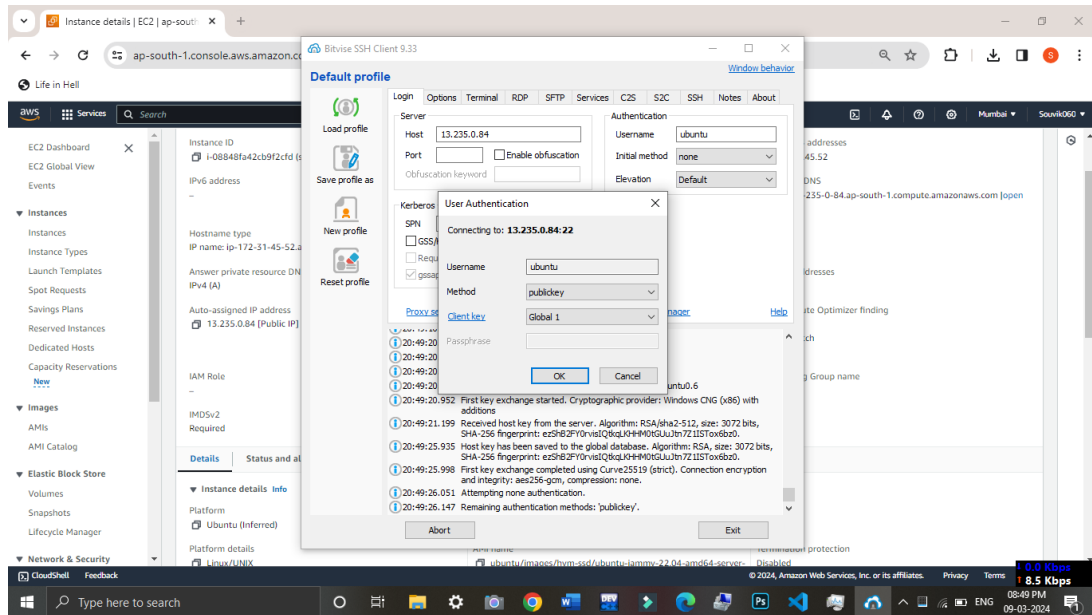
11. Remove if any key already present, then click on 'Import' and select the .pem file downloaded in Step 5 and Import it.



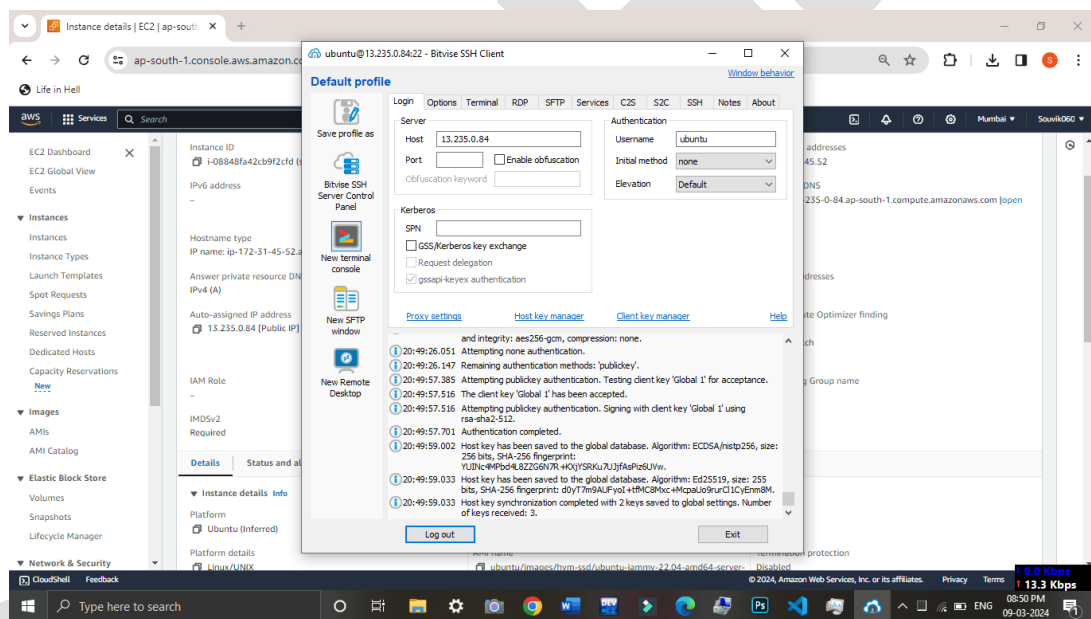
12. Now, set username as 'ubuntu' and click on "Log in".



13. In the login window, select the respective key, here “Global 1”. Then click on ok to login.



14. After successfully log in click on ‘New terminal console’.



15. Now run the commands

➔ sudo apt-get update

➔ sudo apt-get upgrade

in the terminal.

```
ubuntu@ip-172-31-45-52:~$ sudo apt-get update
* Documentation: https://help.ubuntu.com
* Management: https://landscape.canonical.com
* Support: https://ubuntu.com/pro

System information as of Sat Mar 9 15:26:19 UTC 2024

System load: 0.05859375 Processes: 95
Usage of /: 20.3% of 7.57GB Users logged in: 0
Memory usage: 21% IPv4 address for eth0: 172.31.45.52
Swap usage: 0%

Expanded Security Maintenance for Applications is not enabled.

0 updates can be applied immediately.

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

The list of available updates is more than a week old.
To check for new updates run: sudo apt update

The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/*copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

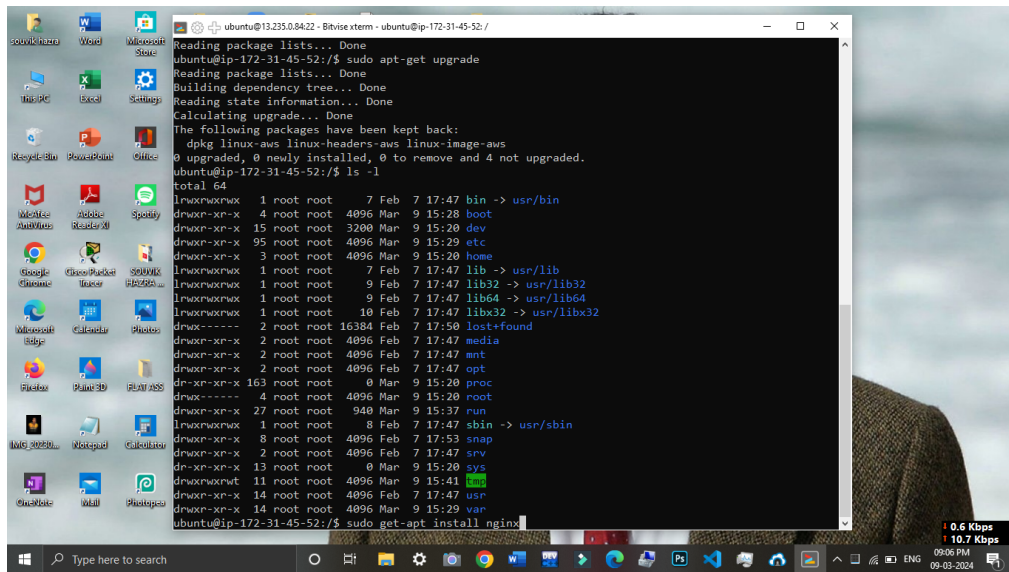
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

ubuntu@ip-172-31-45-52:~$ sudo apt-get update
```

```
ubuntu@ip-172-31-45-52:~$ sudo apt-get upgrade
Get:17 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/universe amd64 c-n-f Metadata [22.1 kB]
Get:18 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/multiverse amd64 Packages [42.1 kB]
Get:19 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/multiverse Translation-en [10.1 kB]
Get:20 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/multiverse amd64 c-n-f Metadata [472 B]
Get:21 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/main amd64 Packages [41.7 kB]
Get:22 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/main Translation-en [10.5 kB]
Get:23 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/main amd64 c-n-f Metadata [38 B]
Get:24 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/restricted amd64 c-n-f Metadata [116 B]
Get:25 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/universe amd64 Packages [24.3 kB]
Get:26 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/universe Translation-en [16.5 kB]
Get:27 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/universe amd64 c-n-f Metadata [644 B]
Get:28 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/multiverse amd64 c-n-f Metadata [116 B]
Get:29 http://security.ubuntu.com/ubuntu jammy-security/main amd64 Packages [1239 kB]
Get:30 http://security.ubuntu.com/ubuntu jammy-security/main Translation-en [222 kB]
Get:31 http://security.ubuntu.com/ubuntu jammy-security/restricted amd64 Packages [1523 kB]
Get:32 http://security.ubuntu.com/ubuntu jammy-security/restricted Translation-en [253 kB]
Get:33 http://security.ubuntu.com/ubuntu jammy-security/universe amd64 Packages [848 kB]
Get:34 http://security.ubuntu.com/ubuntu jammy-security/universe Translation-en [162 kB]
Get:35 http://security.ubuntu.com/ubuntu jammy-security/universe amd64 c-n-f Metadata [16.8 kB]
Get:36 http://security.ubuntu.com/ubuntu jammy-security/multiverse amd64 Packages [37.1 kB]
Get:37 http://security.ubuntu.com/ubuntu jammy-security/multiverse Translation-en [7476 B]
Get:38 http://security.ubuntu.com/ubuntu jammy-security/multiverse amd64 c-n-f Metadata [260 B]
Fetched 30.0 MB in 6s (5366 kB/s)
Reading package lists... Done
ubuntu@ip-172-31-45-52:~$ sudo apt-get upgrade
```


16. Now run the command

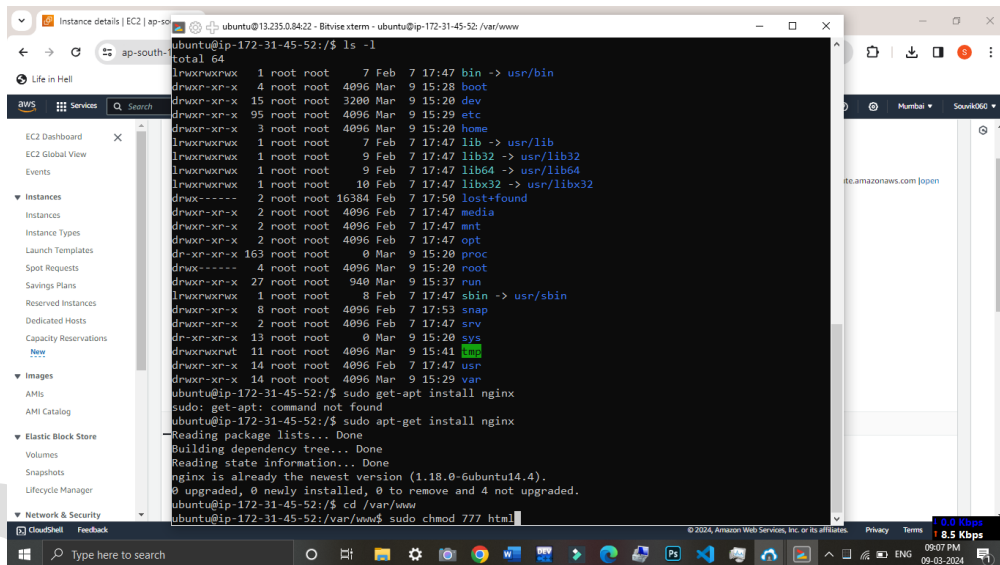
➔ `sudo apt-get install nginx`
to install nginx.



```
ubuntu@ip-172-31-45-52:~$ sudo apt-get install nginx
Reading package lists... Done
ubuntu@ip-172-31-45-52:~$ sudo apt-get upgrade
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Calculating upgrade... Done
The following packages have been kept back:
  dpkg linux-aws linux-headers-aws linux-image-aws
0 upgraded, 0 newly installed, 0 to remove and 4 not upgraded.
ubuntu@ip-172-31-45-52:~$ ls -l
total 64
drwxr-xr-x 1 root root 7 Feb 7 17:47 bin -> usr/bin
drwxr-xr-x 4 root root 4096 Mar 9 15:28 boot
drwxr-xr-x 15 root root 3200 Mar 9 15:20 dev
drwxr-xr-x 95 root root 4096 Mar 9 15:29 etc
drwxr-xr-x 3 root root 4096 Mar 9 15:20 home
drwxr-xr-x 1 root root 7 Feb 7 17:47 lib -> usr/lib
drwxr-xr-x 1 root root 9 Feb 7 17:47 lib32 -> usr/lib32
drwxr-xr-x 1 root root 9 Feb 7 17:47 lib64 -> usr/lib64
drwxr-xr-x 1 root root 10 Feb 7 17:47 libx32 -> usr/libx32
drwx----- 2 root root 16384 Feb 7 17:50 lost+found
drwxr-xr-x 2 root root 4096 Feb 7 17:47 media
drwxr-xr-x 2 root root 4096 Feb 7 17:47 mnt
drwxr-xr-x 2 root root 4096 Feb 7 17:47 opt
drwxr-xr-x 163 root root 0 Mar 9 15:20 proc
drwx----- 4 root root 4096 Mar 9 15:20 root
drwxr-xr-x 27 root root 948 Mar 9 15:37 run
drwxr-xr-x 1 root root 8 Feb 7 17:47/sbin -> usr/sbin
drwxr-xr-x 8 root root 4096 Feb 7 17:53 snap
drwxr-xr-x 2 root root 4096 Feb 7 17:47 srv
dr-xr-xr-x 13 root root 0 Mar 9 15:20 sys
drwxr-xr-x 11 root root 4096 Mar 9 15:41 tmp
drwxr-xr-x 14 root root 4096 Feb 7 17:47 usr
drwxr-xr-x 14 root root 4096 Mar 9 15:29 var
ubuntu@ip-172-31-45-52:~$ sudo apt-get install nginx
get-apt: command not found
ubuntu@ip-172-31-45-52:~$ sudo apt-get install nginx
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
nginx is already the newest version (1.18.0-6ubuntu14.4).
0 upgraded, 0 newly installed, 0 to remove and 4 not upgraded.
ubuntu@ip-172-31-45-52:~$ cd /var/www
ubuntu@ip-172-31-45-52:/var/www$ sudo chmod 777 html
```

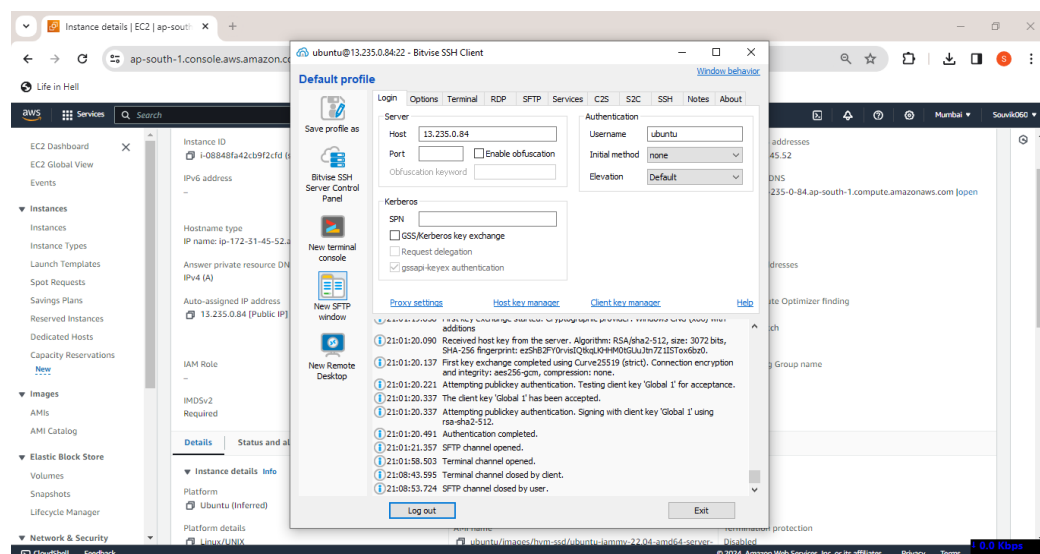
17. Now we need to access the contents of `/var/www/html` folder for this we need to modify the permissions of the folder using the following commands.

➔ `cd /var/www`
➔ `sudo chmod 777 html`



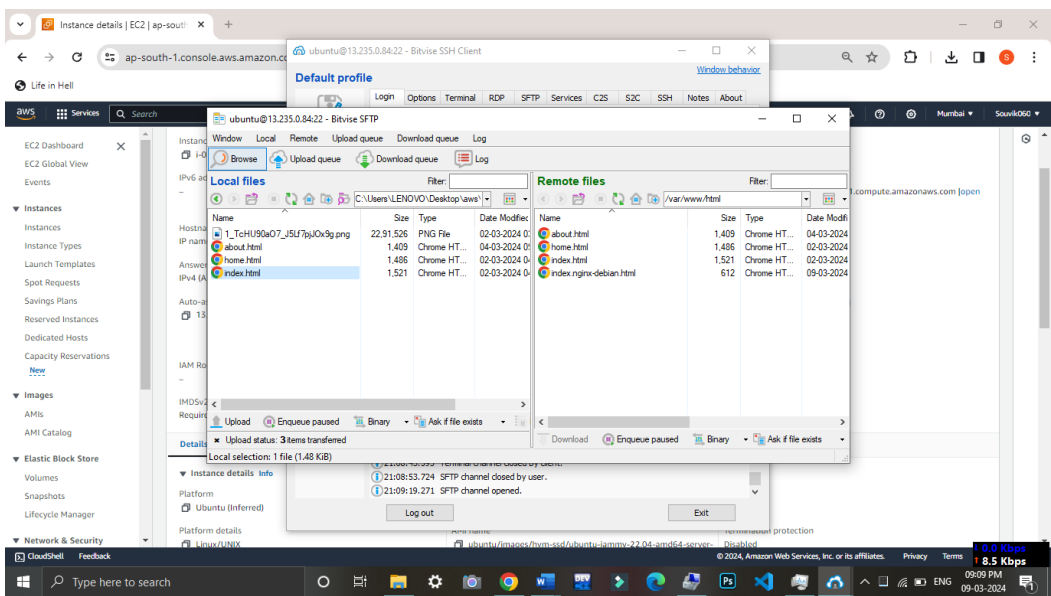
```
ubuntu@ip-172-31-45-52:/var/www$ ls -l
total 64
drwxr-xr-x 1 root root 7 Feb 7 17:47 bin -> usr/bin
drwxr-xr-x 4 root root 4096 Mar 9 15:28 boot
drwxr-xr-x 15 root root 3200 Mar 9 15:20 dev
drwxr-xr-x 95 root root 4096 Mar 9 15:29 etc
drwxr-xr-x 3 root root 4096 Mar 9 15:20 home
drwxr-xr-x 1 root root 7 Feb 7 17:47 lib -> usr/lib
drwxr-xr-x 1 root root 9 Feb 7 17:47 lib32 -> usr/lib32
drwxr-xr-x 1 root root 9 Feb 7 17:47 lib64 -> usr/lib64
drwxr-xr-x 1 root root 10 Feb 7 17:47 libx32 -> usr/libx32
drwx----- 2 root root 16384 Feb 7 17:50 lost+found
drwxr-xr-x 2 root root 4096 Feb 7 17:47 media
drwxr-xr-x 2 root root 4096 Feb 7 17:47 mnt
drwxr-xr-x 2 root root 4096 Feb 7 17:47 opt
drwxr-xr-x 163 root root 0 Mar 9 15:20 proc
drwx----- 4 root root 4096 Mar 9 15:20 root
drwxr-xr-x 27 root root 948 Mar 9 15:37 run
drwxr-xr-x 1 root root 8 Feb 7 17:47/sbin -> usr/sbin
drwxr-xr-x 8 root root 4096 Feb 7 17:53 snap
drwxr-xr-x 2 root root 4096 Feb 7 17:47 srv
dr-xr-xr-x 13 root root 0 Mar 9 15:20 sys
drwxr-xr-x 11 root root 4096 Mar 9 15:41 tmp
drwxr-xr-x 14 root root 4096 Feb 7 17:47 usr
drwxr-xr-x 14 root root 4096 Mar 9 15:29 var
ubuntu@ip-172-31-45-52:/var/www$ sudo apt-get install nginx
get-apt: command not found
ubuntu@ip-172-31-45-52:/var/www$ sudo apt-get install nginx
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
nginx is already the newest version (1.18.0-6ubuntu14.4).
0 upgraded, 0 newly installed, 0 to remove and 4 not upgraded.
ubuntu@ip-172-31-45-52:/var/www$ cd /var/www
ubuntu@ip-172-31-45-52:/var/www$ sudo chmod 777 html
```

18. Now open a SFTP window by clicking on “New SFTP window” in Bitwise Client.

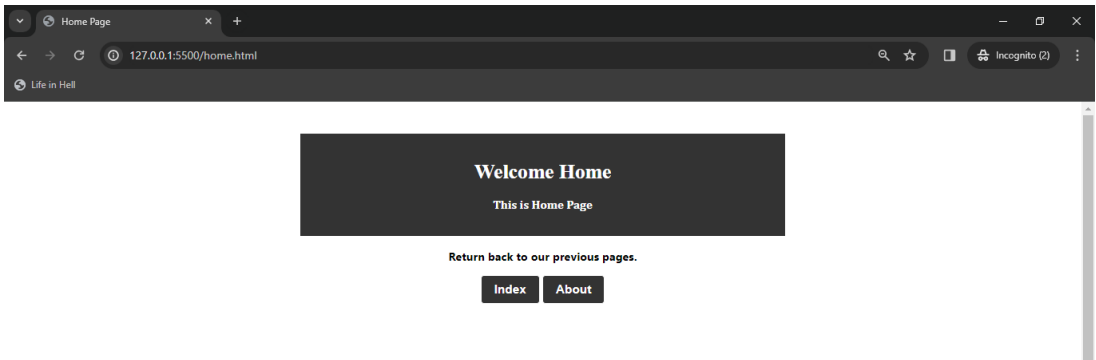
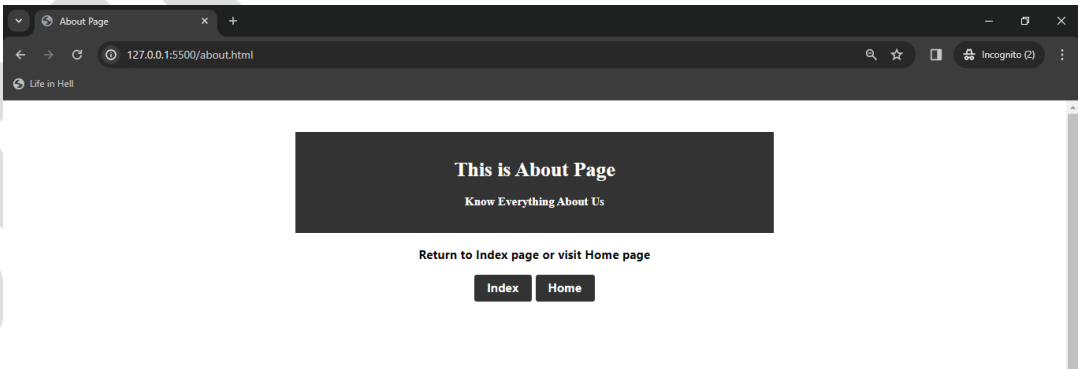
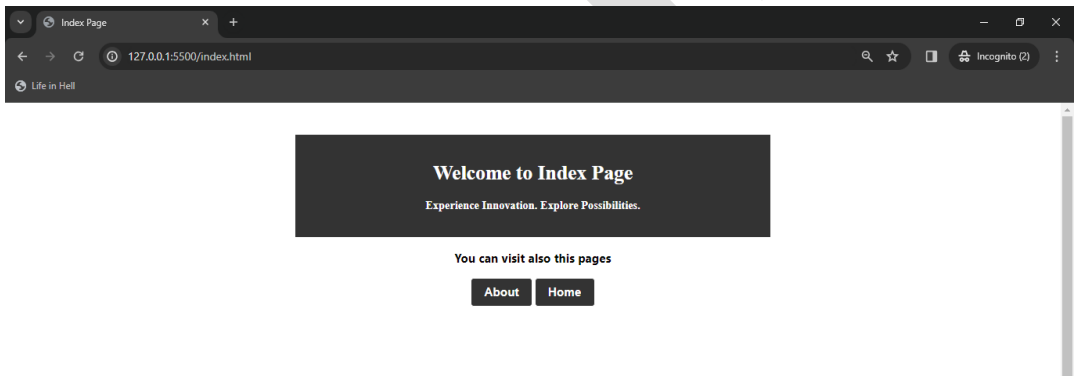


```
ubuntu@ip-172-31-45-52:/var/www$ ls -l
total 64
drwxr-xr-x 1 root root 7 Feb 7 17:47 bin -> usr/bin
drwxr-xr-x 4 root root 4096 Mar 9 15:28 boot
drwxr-xr-x 15 root root 3200 Mar 9 15:20 dev
drwxr-xr-x 95 root root 4096 Mar 9 15:29 etc
drwxr-xr-x 3 root root 4096 Mar 9 15:20 home
drwxr-xr-x 1 root root 7 Feb 7 17:47 lib -> usr/lib
drwxr-xr-x 1 root root 9 Feb 7 17:47 lib32 -> usr/lib32
drwxr-xr-x 1 root root 9 Feb 7 17:47 lib64 -> usr/lib64
drwxr-xr-x 1 root root 10 Feb 7 17:47 libx32 -> usr/libx32
drwx----- 2 root root 16384 Feb 7 17:50 lost+found
drwxr-xr-x 2 root root 4096 Feb 7 17:47 media
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drwxr-xr-x 2 root root 4096 Feb 7 17:47 opt
drwxr-xr-x 163 root root 0 Mar 9 15:20 proc
drwx----- 4 root root 4096 Mar 9 15:20 root
drwxr-xr-x 27 root root 948 Mar 9 15:37 run
drwxr-xr-x 1 root root 8 Feb 7 17:47/sbin -> usr/sbin
drwxr-xr-x 8 root root 4096 Feb 7 17:53 snap
drwxr-xr-x 2 root root 4096 Feb 7 17:47 srv
dr-xr-xr-x 13 root root 0 Mar 9 15:20 sys
drwxr-xr-x 11 root root 4096 Mar 9 15:41 tmp
drwxr-xr-x 14 root root 4096 Feb 7 17:47 usr
drwxr-xr-x 14 root root 4096 Mar 9 15:29 var
ubuntu@ip-172-31-45-52:/var/www$ sudo apt-get install nginx
get-apt: command not found
ubuntu@ip-172-31-45-52:/var/www$ sudo apt-get install nginx
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
nginx is already the newest version (1.18.0-6ubuntu14.4).
0 upgraded, 0 newly installed, 0 to remove and 4 not upgraded.
ubuntu@ip-172-31-45-52:/var/www$ cd /var/www
ubuntu@ip-172-31-45-52:/var/www$ sudo chmod 777 html
```

19. Now in the client side open the folder where html files for the website are stored and in the server side open /var/www/html folder .Then drag all the required files from client side to the server side as below image.



20. Now paste the Public IPv4 address of our instance on a new browser window or incognito tab to view our website. It is hosted successfully .



Souvik Hazra