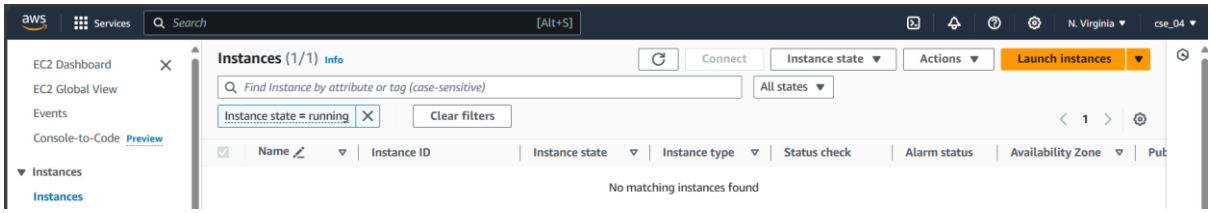
Assignment No: 12

Problem Statement: Deploy and run the project in AWS without using port.

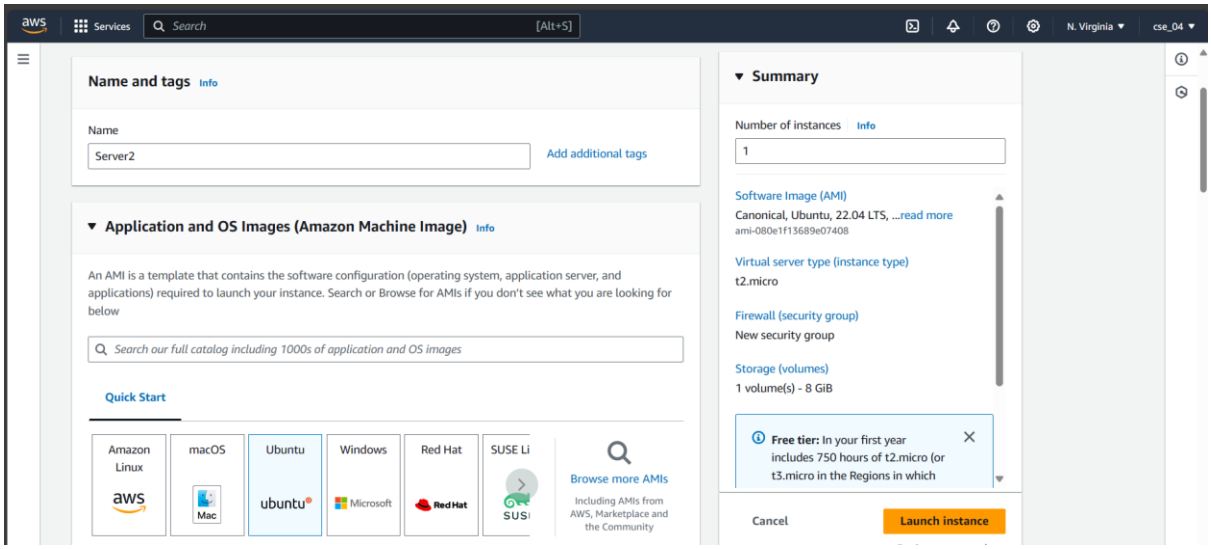
Steps:

1. At first go to EC2 and then click on **Security groups**. And create a Security Group or take previously created Security group.

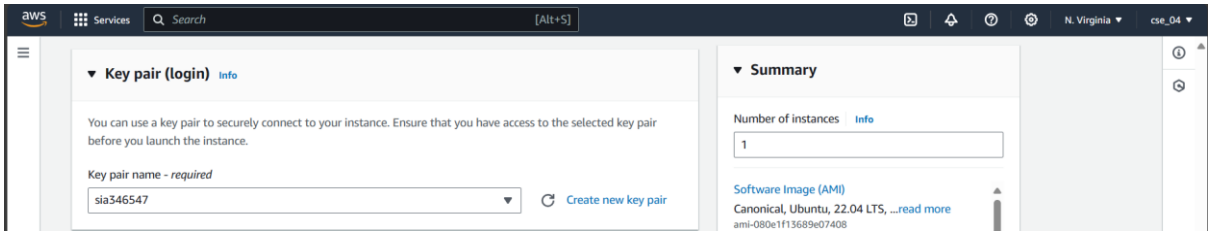
2. Now, go to EC2 dashboard and click on **Launch instance**.



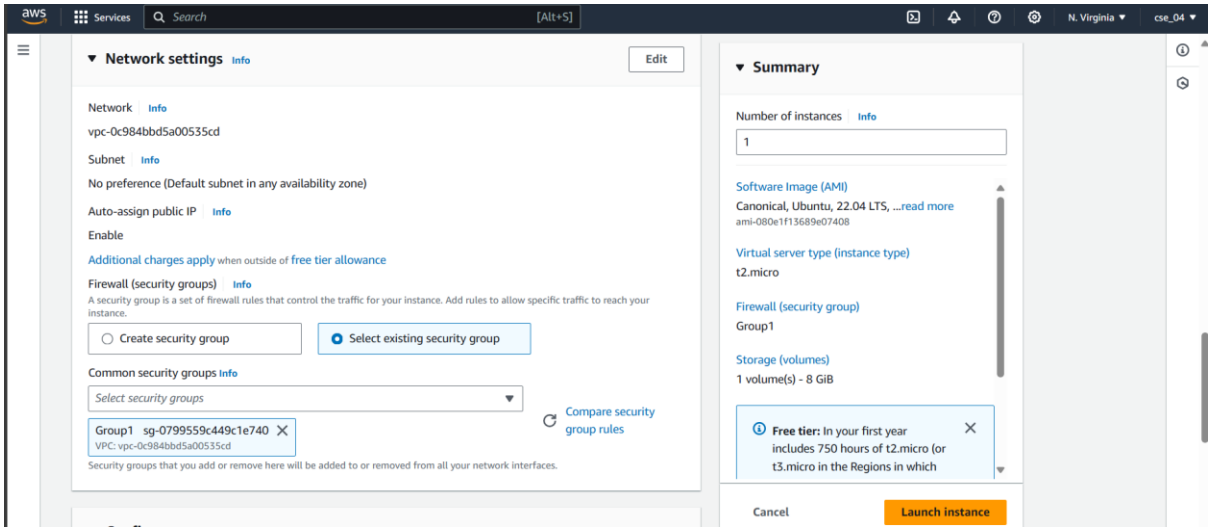
3. Fill up the **instance name** and select **Ubuntu** as the **AMI**.



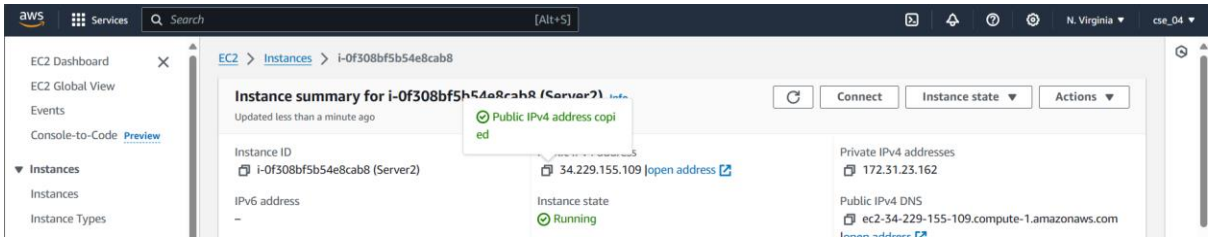
4. Select an **existing key pair** or create a new one.



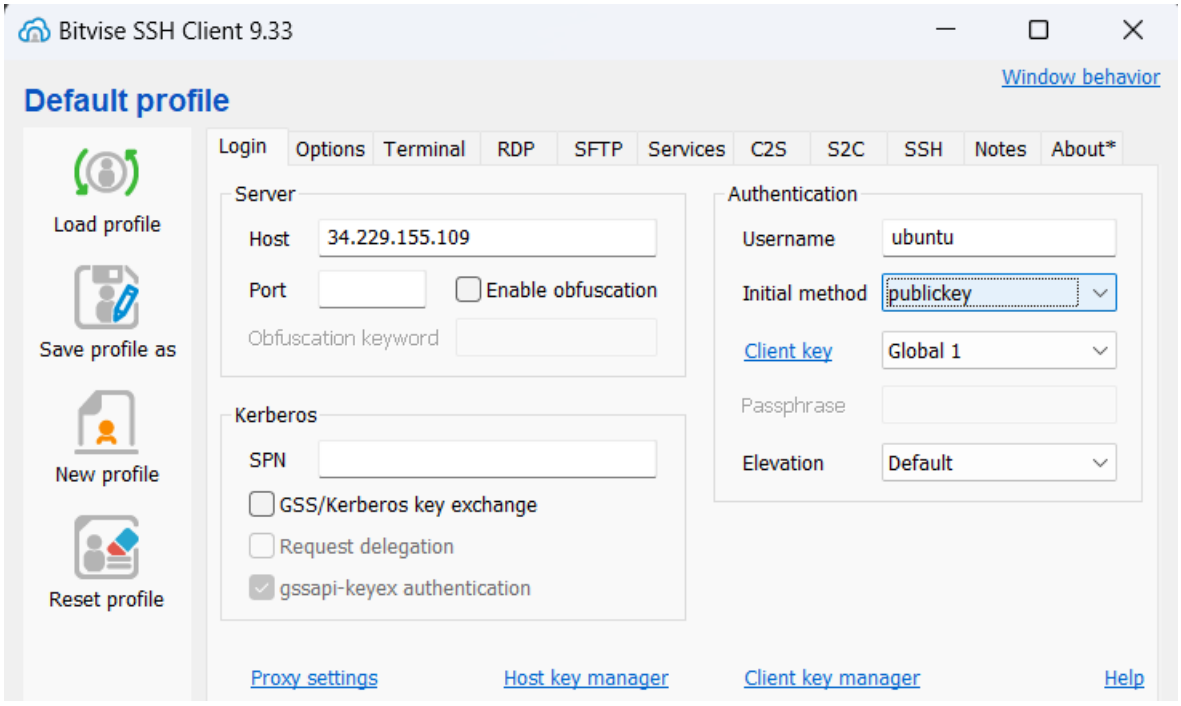
5. Now, select **Existing security group** and select the newly created security group, and click on **Launch Instance**.



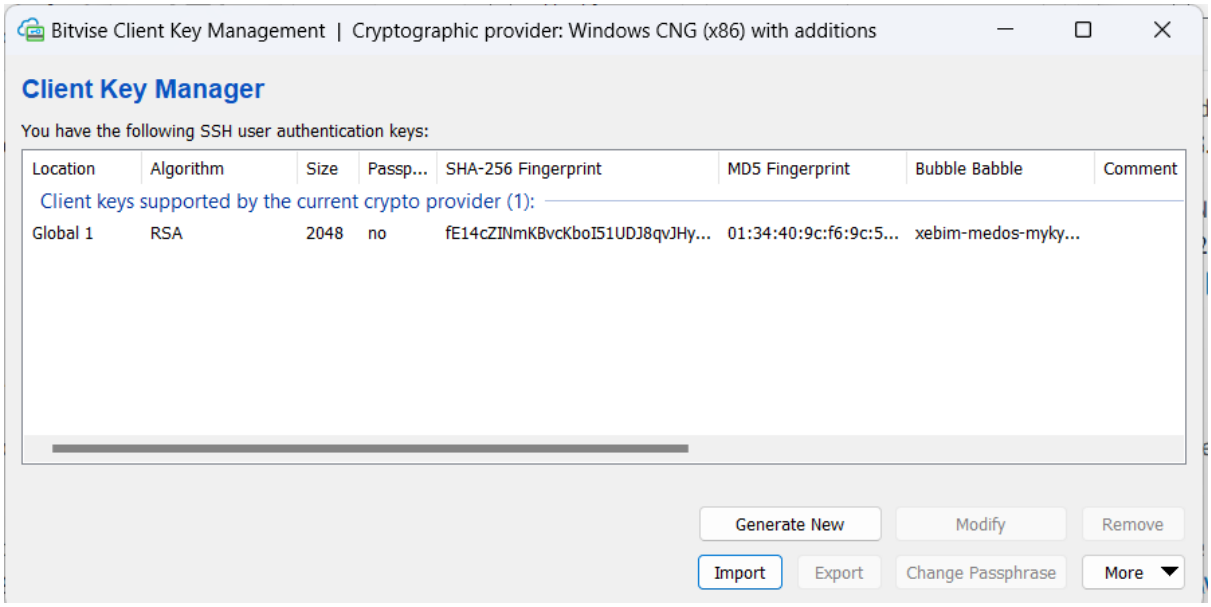
6. Click on **Instance** and copy **public IPv4 address**.



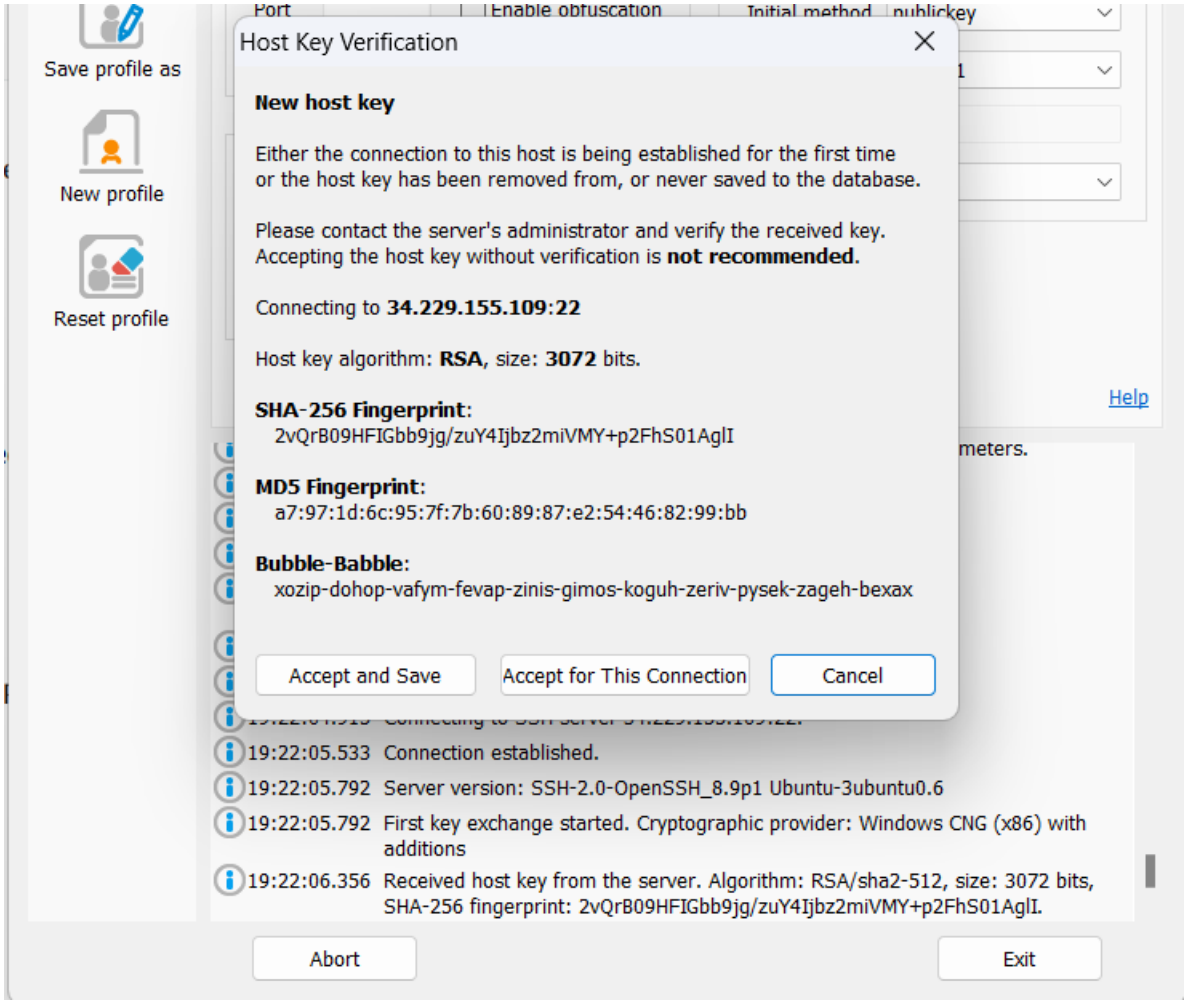
7. Paste the IPv4 address into the **host field** and enter Ubuntu as the **username** and **Client key** as global1 in Bit vise SSH Client.



8. Go to **Client key manager** and import that downloaded key.



9. Now click on **log in** and also click on **accept and save.**



10. Now open **terminal console** after login and then write all commands:

- pwd

```
ubuntu@ip-172-31-23-162:~$ pwd
/home/ubuntu
```

- sudo apt-get update

```
ubuntu@ip-172-31-23-162:~$ sudo apt-get update
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy InRelease
Hit:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates InRelease
Hit:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports InRelease
Hit:4 http://security.ubuntu.com/ubuntu jammy-security InRelease
Reading package lists... Done
```

- sudo apt-get upgrade

```
ubuntu@ip-172-31-23-162:~$ 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:
  linux-aws linux-headers-aws linux-image-aws python3-update-manager ubuntu-advantage-tools
  ubuntu-pro-client-l10n update-manager-core
0 upgraded, 0 newly installed, 0 to remove and 7 not upgraded.
```

- sudo apt-get install nginx.
- curl -sL https://deb.nodesource.com/setup_18.x | sudo -E bash –

```
ubuntu@ip-172-31-23-162:~$ 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 7 not upgraded.
ubuntu@ip-172-31-23-162:~$ curl -sL https://deb.nodesource.com/setup_18.x | sudo -E bash -
2024-04-21 14:32:38 - Installing pre-requisites
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy InRelease
Hit:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates InRelease
curl is already the newest version (7.81.0-1ubuntu1.16).
gnupg is already the newest version (2.2.27-3ubuntu2.1).
apt-transport-https is already the newest version (2.4.12).
0 upgraded, 0 newly installed, 0 to remove and 7 not upgraded.
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy InRelease
Hit:2 http://security.ubuntu.com/ubuntu jammy-security InRelease
Hit:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates InRelease
Hit:4 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports InRelease
Get:5 https://deb.nodesource.com/node_18.x nodistro InRelease [12.1 kB]
Get:6 https://deb.nodesource.com/node_18.x nodistro/main amd64 Packages [8387 B]
Fetched 20.5 kB in 1s (23.7 kB/s)
Reading package lists... Done
2024-04-21 14:32:43 - Repository configured successfully. To install Node.js, run: apt-get install n
odejs -y
```

- Sudo apt install nodejs

```
ubuntu@ip-172-31-23-162:~$ sudo apt install nodejs
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following NEW packages will be installed:
  nodejs
0 upgraded, 1 newly installed, 0 to remove and 7 not upgraded.
Need to get 29.6 MB of archives.
After this operation, 187 MB of additional disk space will be used.
Get:1 https://deb.nodesource.com/node_18.x nodistro/main amd64 nodejs amd64 18.20.2-1nodesource1 [29
.6 MB]
Fetched 29.6 MB in 1s (53.2 MB/s)
Selecting previously unselected package nodejs.
(Reading database ... 65516 files and directories currently installed.)
Preparing to unpack .../nodejs_18.20.2-1nodesource1_amd64.deb ...
Unpacking nodejs (18.20.2-1nodesource1) ...
Setting up nodejs (18.20.2-1nodesource1) ...
Processing triggers for man-db (2.10.2-1)
```

- git clone https://github.com/mampi6das/Repo1.git

```
ubuntu@ip-172-31-23-162:~$ git clone https://github.com/mampi6das/Repo1.git
Cloning into 'Repo1'...
remote: Enumerating objects: 6, done.
remote: Counting objects: 100% (6/6), done.
remote: Compressing objects: 100% (6/6), done.
remote: Total 6 (delta 0), reused 6 (delta 0), pack-reused 0
Receiving objects: 100% (6/6), 48.00 KiB | 8.00 MiB/s, done.
```

- cd Repo1
- ls

```
ubuntu@ip-172-31-23-162:~$ cd Repo1
ubuntu@ip-172-31-23-162:~/Repo1$ ls
'New Text Document.txt'   index.js   package-lock.json   package.json
```

- npm install

```
ubuntu@ip-172-31-23-162:~/Repo1$ npm install
npm WARN deprecated uuid@3.4.0: Please upgrade  to version 7 or higher.  Older versions may use Math
.random() in certain circumstances, which is known to be problematic.  See https://v8.dev/blog/math-
random for details.

added 258 packages, and audited 259 packages in 9s

18 packages are looking for funding
  run `npm fund` for details

12 vulnerabilities (10 moderate, 2 critical)

To address all issues, run:
  npm audit fix

Run `npm audit` for details.
npm notice
npm notice New patch version of npm available! 10.5.0 -> 10.5.2
npm notice Changelog: https://github.com/npm/cli/releases/tag/v10.5.2
npm notice Run npm install -g npm@10.5.2 to update!
npm notice
```

- node index.js

```
ubuntu@ip-172-31-23-162:~/Repo1$ node index js
Started server
```

11. Now server has started. If we paste public IPv4 in Browser we can see nginx has started.

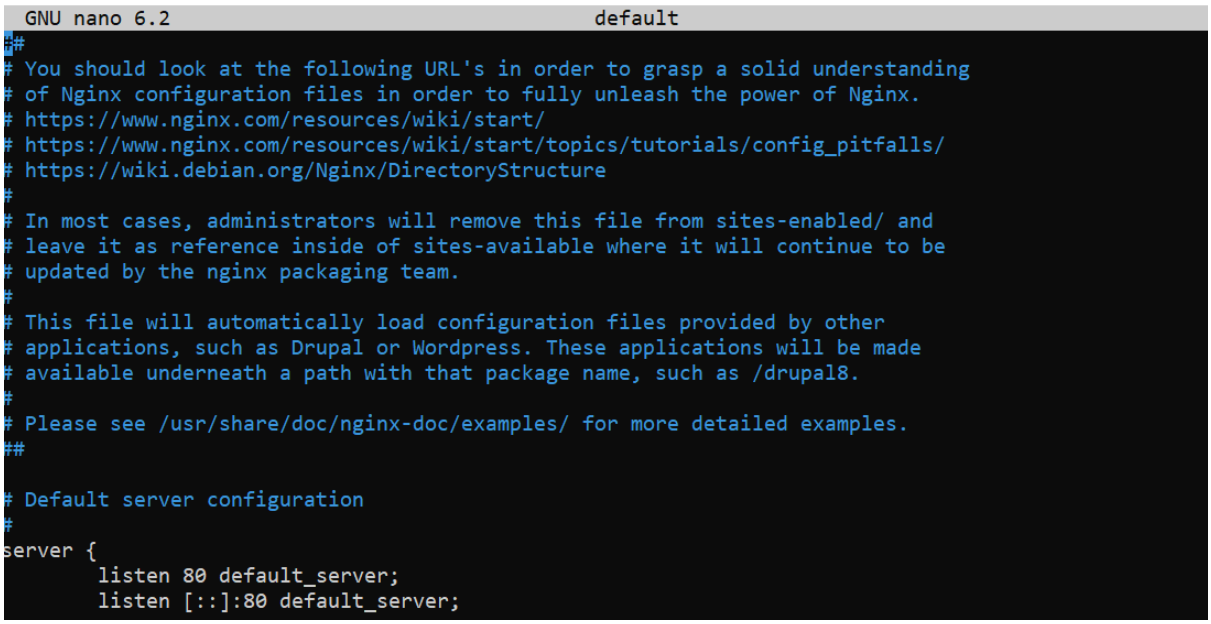
12. Now stop the server using ctrl + c on keyboard.

```
ubuntu@ip-172-31-23-162:~/Repo1$ node index js
Started server
^C
ubuntu@ip-172-31-23-162:~/Repo1$
```

13. Now write these all commands:

- cd /
- Pwd
- cd etc/nginx/sites-available/
- sudo nano default

```
ubuntu@ip-172-31-23-162:~/Repo1$ cd /
ubuntu@ip-172-31-23-162:/$ pwd
/
ubuntu@ip-172-31-23-162:/$ cd etc/nginx/sites-available/
ubuntu@ip-172-31-23-162:/etc/nginx/sites-available$ sudo nano default
ubuntu@ip-172-31-23-162:/etc/nginx/sites-available$
```



14. A new window will be opened. There at first go to location area and comment all codes and the write:

location / {

proxy_pass http://localhost:4000;

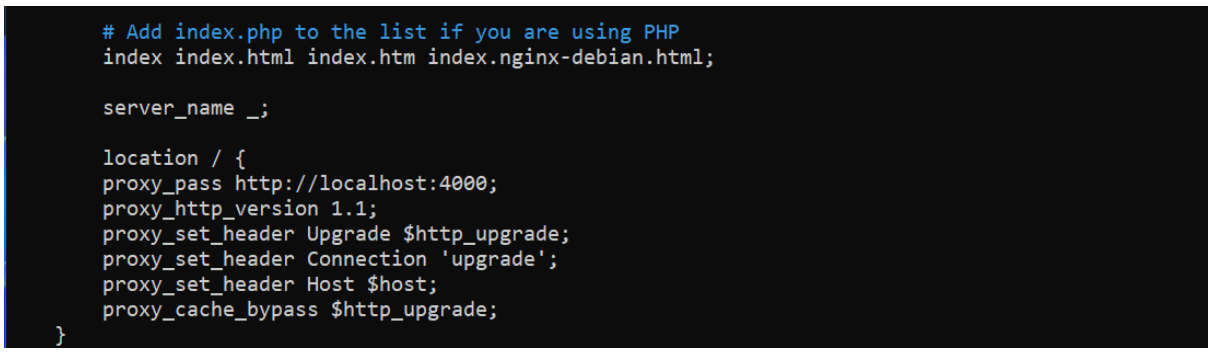
proxy_http_version 1.1;

proxy_set_header Upgrade $http_upgrade;

proxy_set_header Connection 'upgrade';

proxy_set_header Host $host;

proxy_cache_bypass $http_upgrade;}



15. After it click ctrl + x, then y then press enter.

```
        server_name _;

        location / {
        proxy_pass http://localhost:4000;
        proxy_http_version 1.1;
        proxy_set_header Upgrade $http_upgrade;
        proxy_set_header Connection 'upgrade';
        proxy_set_header Host $host;
        proxy_cache_bypass $http_upgrade;
    }

                # First attempt to serve request as file, then
                # as directory, then fall back to displaying a 404.
Save modified buffer?
 Y Yes
 N No            ^C Cancel
```

16. Now open new server terminal and write **cd Repo1**.

```
ubuntu@ip-172-31-23-162:~$ cd Repo1
ubuntu@ip-172-31-23-162:~/Repo1$
```

17. Write **sudo systemctl restart nginx**.

```
ubuntu@ip-172-31-1-148:~/repo$ sudo systemctl restart nginx
ubuntu@ip-172-31-1-148:~/repo$
```

18. Started the server by execute **node index.js**.

```
ubuntu@ip-172-31-23-162:~/Repo1$ node index js
Started server
```

19. Now copy that public IPv4 address again and paste it in URL and there you can see that without giving port (:4000) with URL we have hosted the website.