PROJECT ON NGINX WEB HOSTIG

BY

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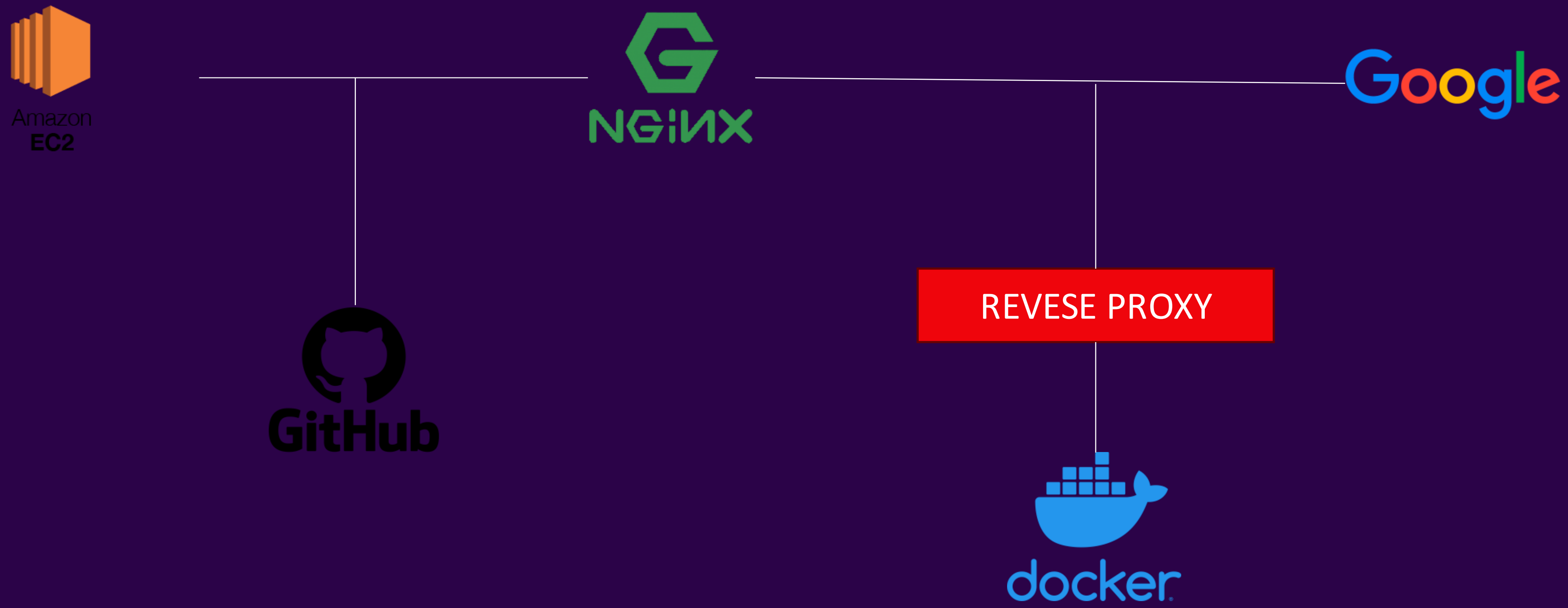
TO

ASHISH MITTAL SIR

REQUIREMENTS

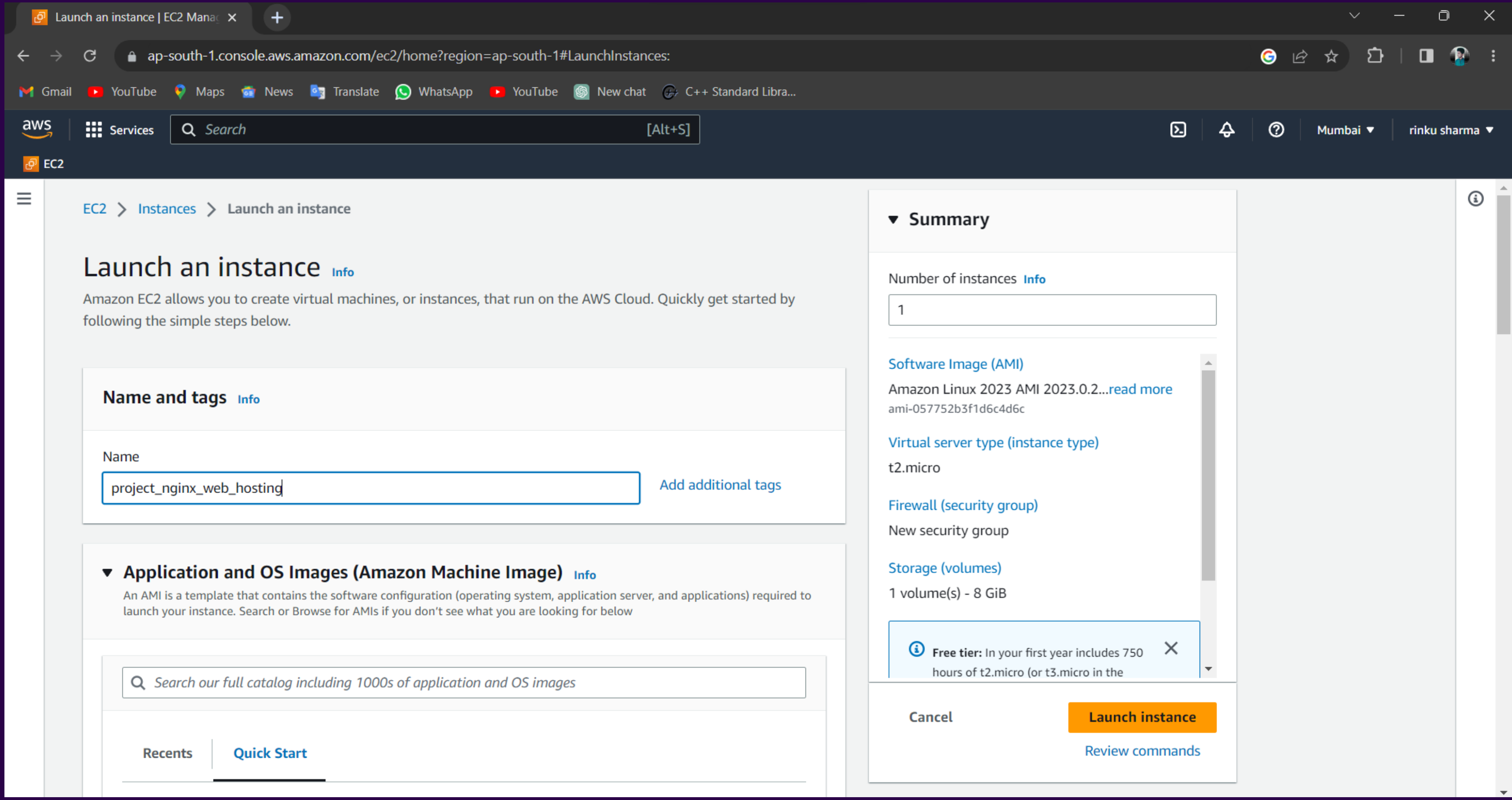
1. AWS EC2-INSTANCE (ANY IMAGE)
2. NGINX SERVER INSTALLED
3. GIT HUB (FOR WEB CODE)
4. DOCKER INSTALLED

METHOD WE USE



REVESE PROXY

LAUNCHING AWS EC2-INSTANCE



EC2 > Instances > Launch an instance

Launch an instance Info

Amazon EC2 allows you to create virtual machines, or instances, that run on the AWS Cloud. Quickly get started by following the simple steps below.

Name and tags Info

Name: project_nginx_web_hosting

Add additional tags

▾ Application and OS Images (Amazon Machine Image) Info

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. Search or Browse for AMIs if you don't see what you are looking for below

Search our full catalog including 1000s of application and OS images

Recents | Quick Start

▾ Summary

Number of instances Info: 1

Software Image (AMI)
Amazon Linux 2023 AMI 2023.0.2...read more
ami-057752b3f1d6c4d6c

Virtual server type (instance type)
t2.micro

Firewall (security group)
New security group

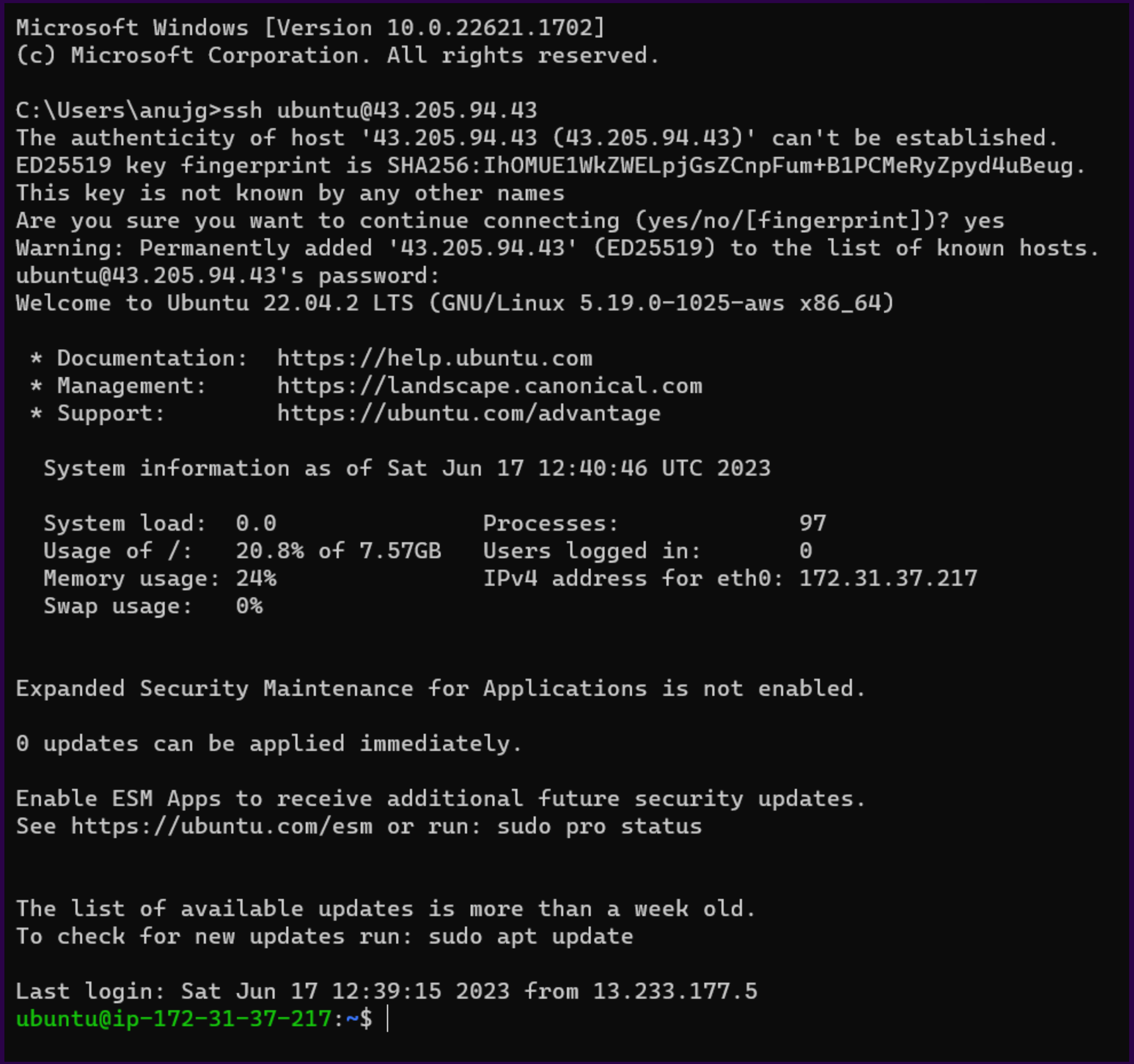
Storage (volumes)
1 volume(s) - 8 GiB

Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the

Cancel | Launch instance

Review commands

CONNECTING EC2 TO SSH USING PASSWORD



```
Microsoft Windows [Version 10.0.22621.1702]
(c) Microsoft Corporation. All rights reserved.

C:\Users\anujg>ssh ubuntu@43.205.94.43
The authenticity of host '43.205.94.43 (43.205.94.43)' can't be established.
ED25519 key fingerprint is SHA256:IhOMUE1WkZWELpjGsZCnpFum+B1PCMeRyZpyd4uBeug.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '43.205.94.43' (ED25519) to the list of known hosts.
ubuntu@43.205.94.43's password:
Welcome to Ubuntu 22.04.2 LTS (GNU/Linux 5.19.0-1025-aws x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:     https://landscape.canonical.com
 * Support:        https://ubuntu.com/advantage

  System information as of Sat Jun 17 12:40:46 UTC 2023

  System load:  0.0               Processes:             97
  Usage of /:   20.8% of 7.57GB   Users logged in:       0
  Memory usage: 24%               IPv4 address for eth0: 172.31.37.217
  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

Last login: Sat Jun 17 12:39:15 2023 from 13.233.177.5
ubuntu@ip-172-31-37-217:~$
```

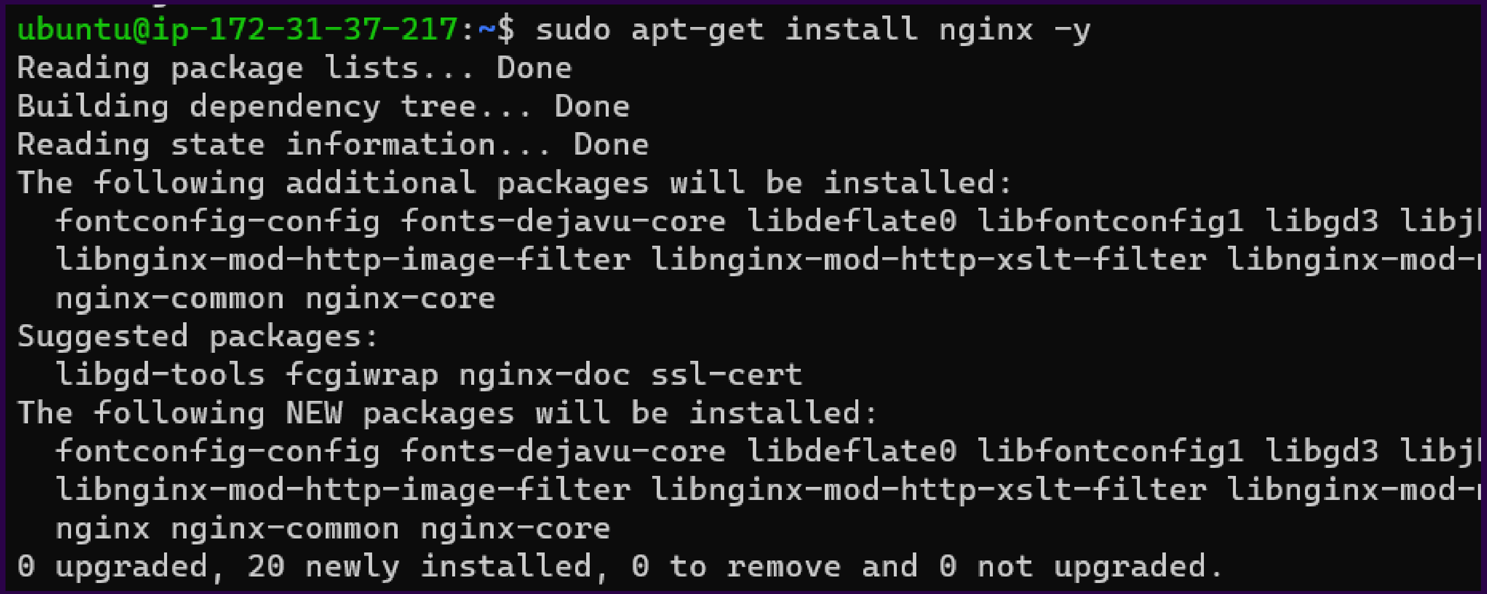
INSTALLING NGINX SERVER

In ubuntu :- sudo apt-get install nginx –y (optional)

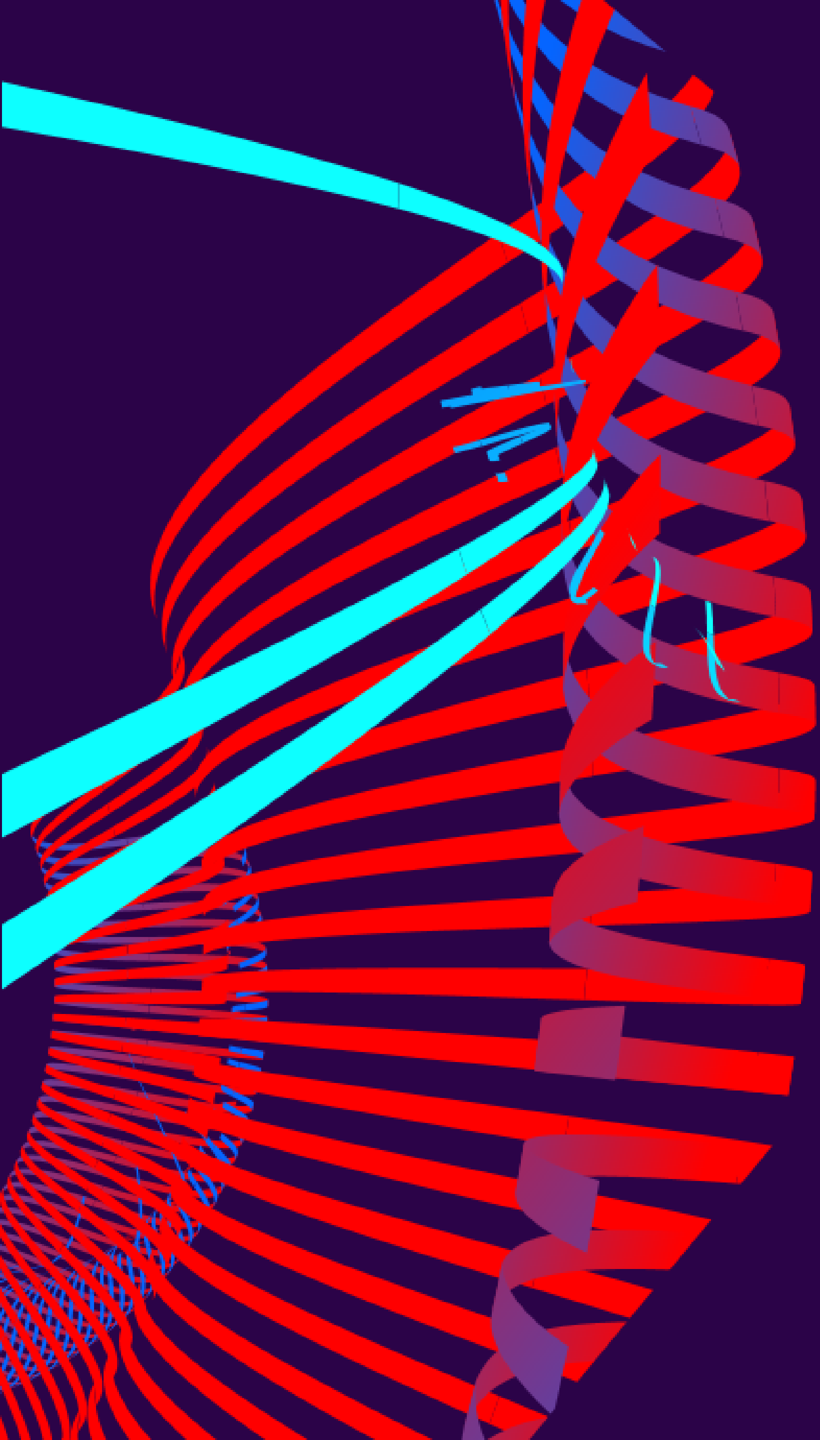
In amazon linux :- sudo yum install nginx –y (optional)

In redhat os :- sudo yum install nginx –y (optional)

In open suse os :- sudo zypper install nginx –y (optional)

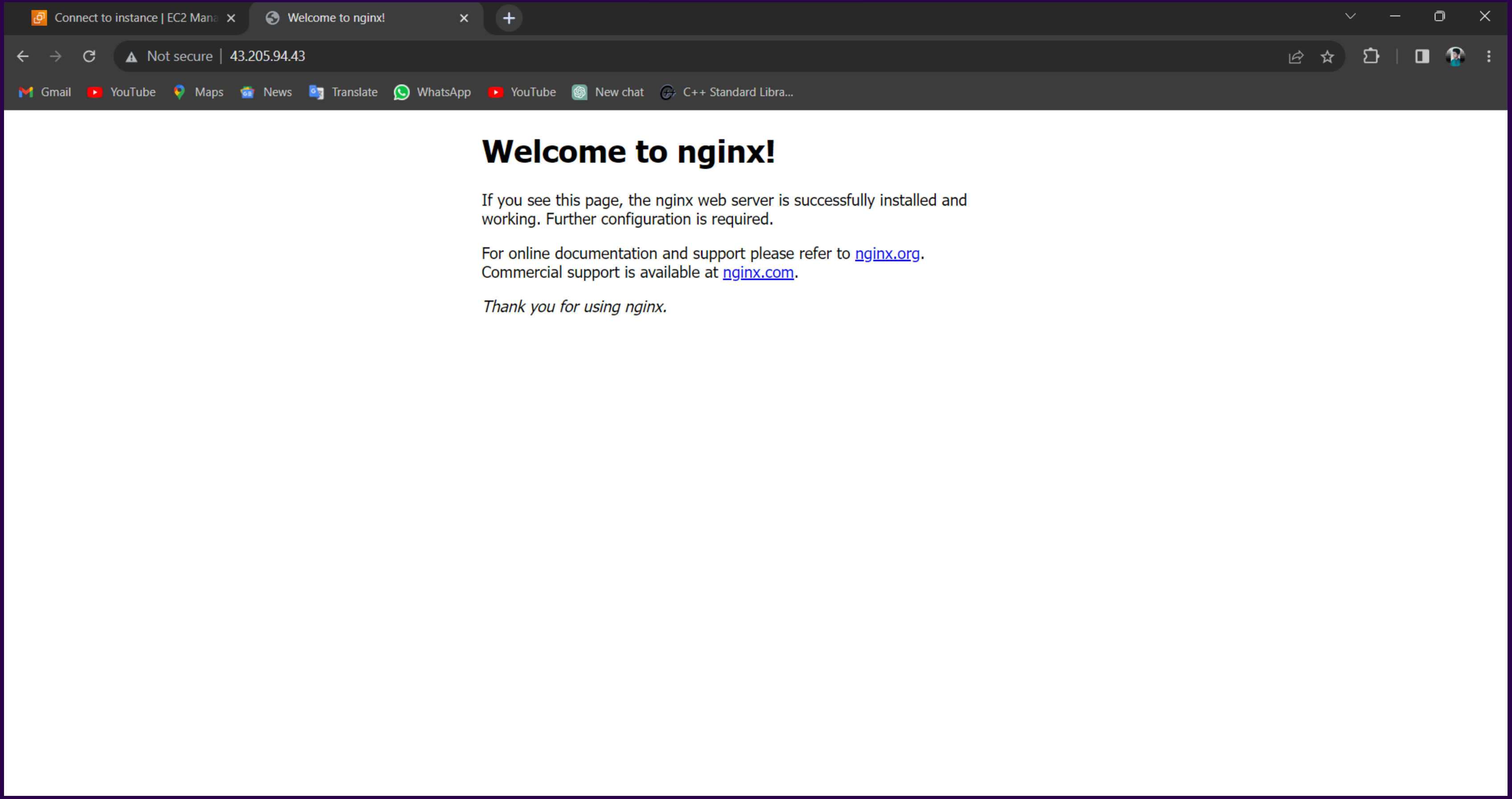


```
ubuntu@ip-172-31-37-217:~$ sudo apt-get install nginx -y
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  fontconfig-config fonts-dejavu-core libdeflate0 libfontconfig1 libgd3 libj
  libnginx-mod-http-image-filter libnginx-mod-http-xslt-filter libnginx-mod-
  nginx-common nginx-core
Suggested packages:
  libgd-tools fcgiwrap nginx-doc ssl-cert
The following NEW packages will be installed:
  fontconfig-config fonts-dejavu-core libdeflate0 libfontconfig1 libgd3 libj
  libnginx-mod-http-image-filter libnginx-mod-http-xslt-filter libnginx-mod-
  nginx nginx-common nginx-core
0 upgraded, 20 newly installed, 0 to remove and 0 not upgraded.
```



CHECK THE SERVER IS WORKING

Copy the public ip on chrome tab (any search engine)



Welcome to nginx!

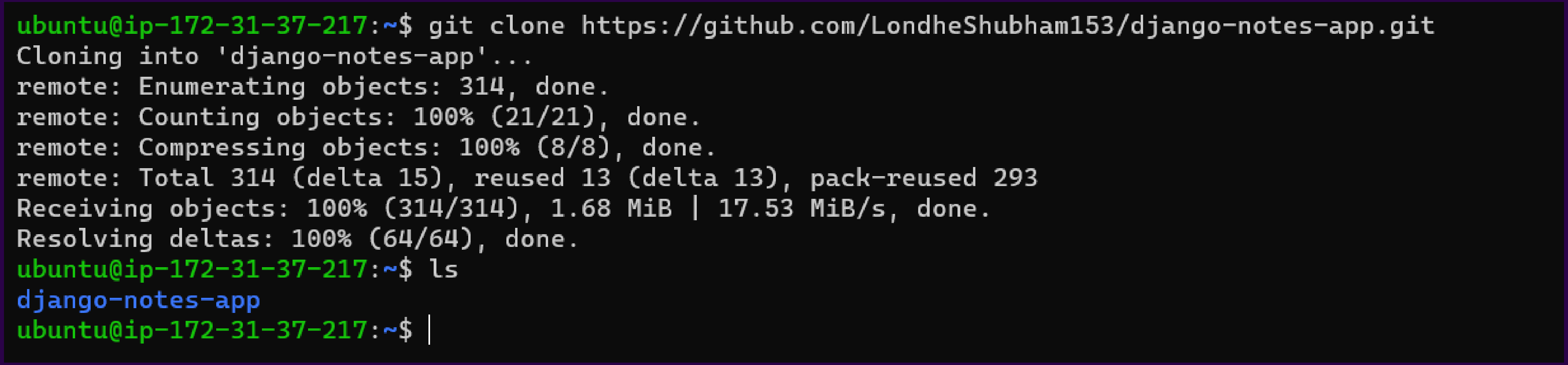
If you see this page, the nginx web server is successfully installed and working. Further configuration is required.

For online documentation and support please refer to nginx.org.
Commercial support is available at nginx.com.

Thank you for using nginx.

CLONING THE APPLICATION CODE

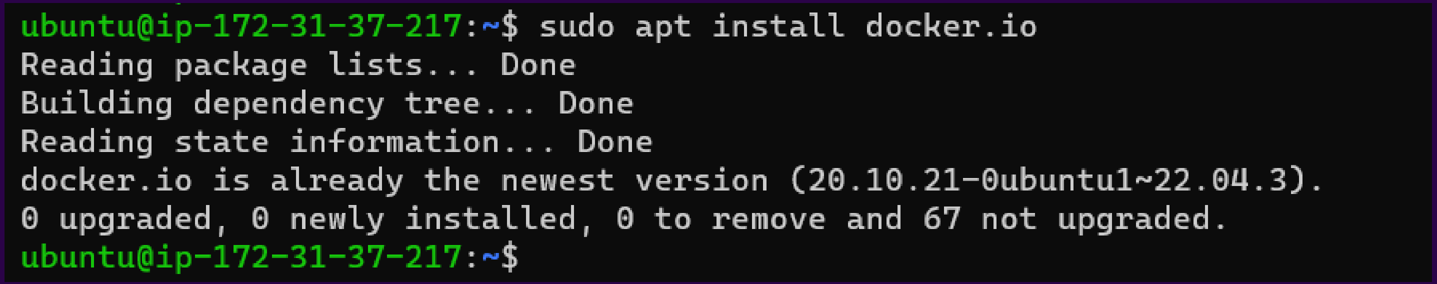
Just type :- git clone https://github.com/LondheShubham153/django-notes-app.git



```
ubuntu@ip-172-31-37-217:~$ git clone https://github.com/LondheShubham153/django-notes-app.git
Cloning into 'django-notes-app'...
remote: Enumerating objects: 314, done.
remote: Counting objects: 100% (21/21), done.
remote: Compressing objects: 100% (8/8), done.
remote: Total 314 (delta 15), reused 13 (delta 13), pack-reused 293
Receiving objects: 100% (314/314), 1.68 MiB | 17.53 MiB/s, done.
Resolving deltas: 100% (64/64), done.
ubuntu@ip-172-31-37-217:~$ ls
django-notes-app
ubuntu@ip-172-31-37-217:~$ |
```

INSTALLING DOCKER

TYPE :- sudo apt-get install docker.io



```
ubuntu@ip-172-31-37-217:~$ sudo apt install docker.io
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
docker.io is already the newest version (20.10.21-0ubuntu1~22.04.3).
0 upgraded, 0 newly installed, 0 to remove and 67 not upgraded.
ubuntu@ip-172-31-37-217:~$
```

User not have to run docker command

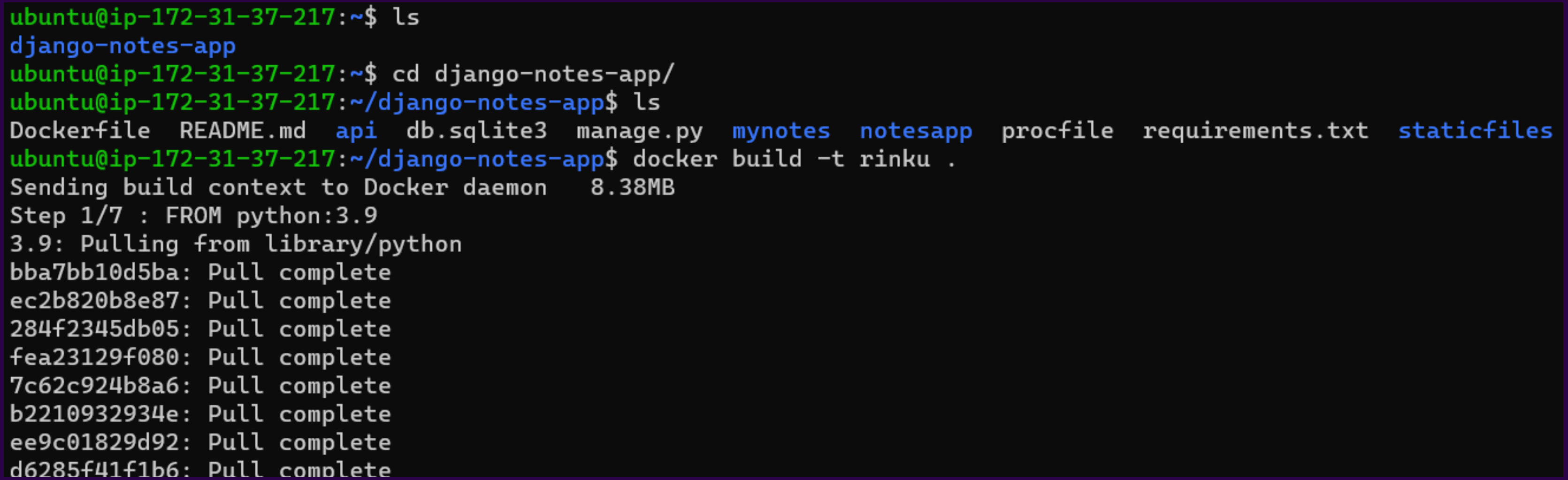
Run :- sudo usermod –aG docker $USER

And reboot the system

NOW INSTALLING THE APPLICATION

Go to the directory (django-notes-app)

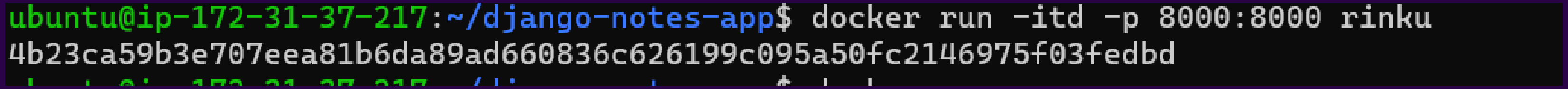
RUN :- docker build –t rinku .



```
ubuntu@ip-172-31-37-217:~$ ls
django-notes-app
ubuntu@ip-172-31-37-217:~$ cd django-notes-app/
ubuntu@ip-172-31-37-217:~/django-notes-app$ ls
Dockerfile  README.md  api  db.sqlite3  manage.py  mynotes  notesapp  procfile  requirements.txt  staticfiles
ubuntu@ip-172-31-37-217:~/django-notes-app$ docker build -t rinku .
Sending build context to Docker daemon   8.38MB
Step 1/7 : FROM python:3.9
3.9: Pulling from library/python
bba7bb10d5ba: Pull complete
ec2b820b8e87: Pull complete
284f2345db05: Pull complete
fea23129f080: Pull complete
7c62c924b8a6: Pull complete
b2210932934e: Pull complete
ee9c01829d92: Pull complete
d6285f41f1b6: Pull complete
```

Creating a container with port no. at 8000 from your image

Run :- docker run –itd –p 8000:8000 rinku

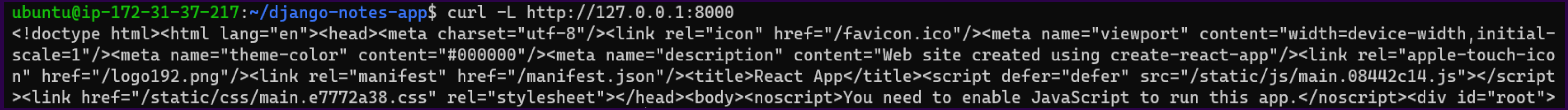


```
ubuntu@ip-172-31-37-217:~/django-notes-app$ docker run -itd -p 8000:8000 rinku
4b23ca59b3e707eea81b6da89ad660836c626199c095a50fc2146975f03fedbd
```

Checking the app is working

Just run :- curl –L http://127.0.0.1:8000

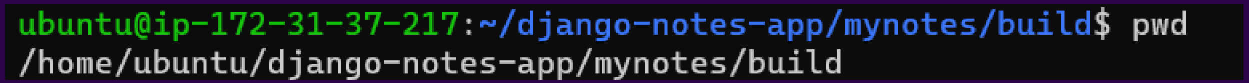
This is your local host address



```
ubuntu@ip-172-31-37-217:~/django-notes-app$ curl -L http://127.0.0.1:8000
<!doctype html><html lang="en"><head><meta charset="utf-8"/><link rel="icon" href="/favicon.ico"/><meta name="viewport" content="width=device-width,initial-
scale=1"/><meta name="theme-color" content="#000000"/><meta name="description" content="Web site created using create-react-app"/><link rel="apple-touch-ico
n" href="/logo192.png"/><link rel="manifest" href="/manifest.json"/><title>React App</title><script defer="defer" src="/static/js/main.08442c14.js"></script
><link href="/static/css/main.e7772a38.css" rel="stylesheet"></head><body><noscript>You need to enable JavaScript to run this app.</noscript><div id="root">
```

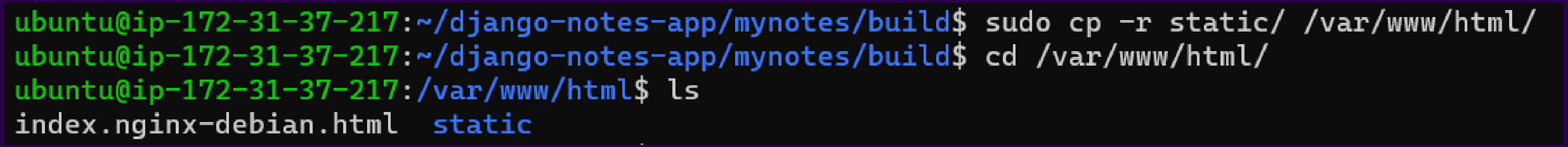
Now copy the app file to /var/www/html/

Go django-notes-app/mynotes/build



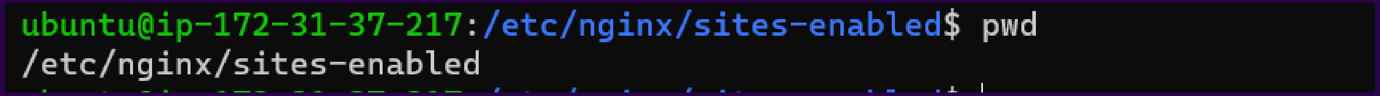
```
ubuntu@ip-172-31-37-217:~/django-notes-app/mynotes/build$ pwd
/home/ubuntu/django-notes-app/mynotes/build
```

Copy the static file into html directory
Run :- sudo cp –r static /var/www/html/



```
ubuntu@ip-172-31-37-217:~/django-notes-app/mynotes/build$ sudo cp -r static/ /var/www/html/
ubuntu@ip-172-31-37-217:~/django-notes-app/mynotes/build$ cd /var/www/html/
ubuntu@ip-172-31-37-217:/var/www/html$ ls
index.nginx-debian.html  static
```

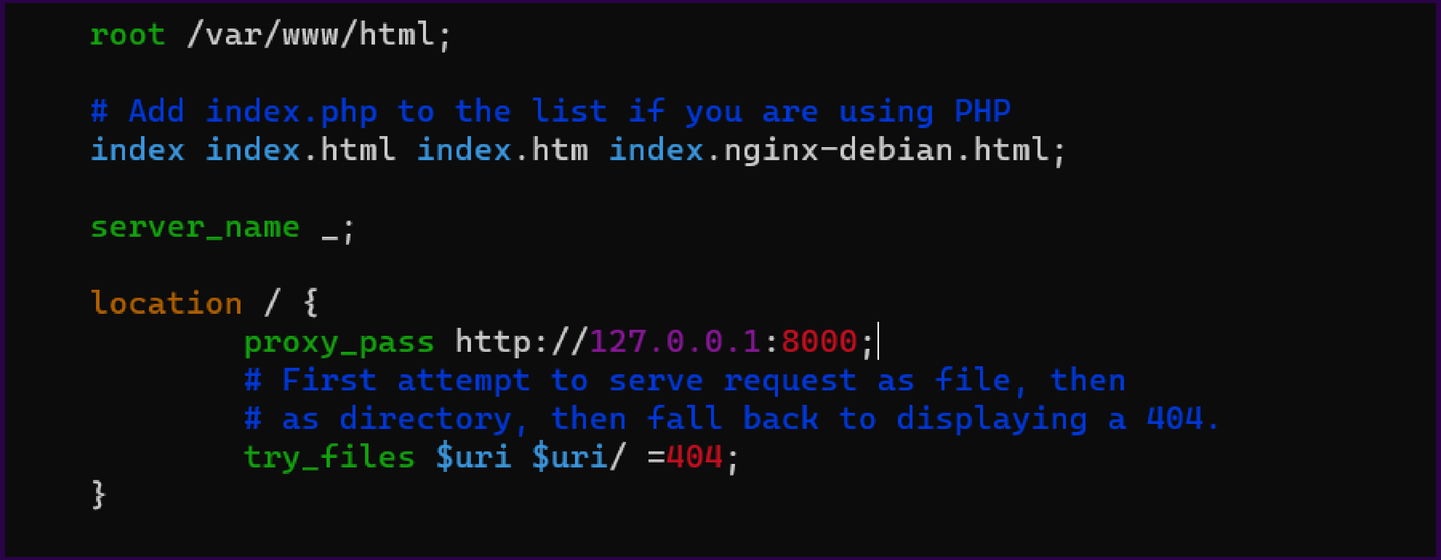
Go to the /etc/nginx/sites-enabled and list the directory



```
ubuntu@ip-172-31-37-217:/etc/nginx/sites-enabled$ pwd
/etc/nginx/sites-enabled
```

Now edit default file of nginx server

Add :- proxy_pass http://127.0.0.1:8000:



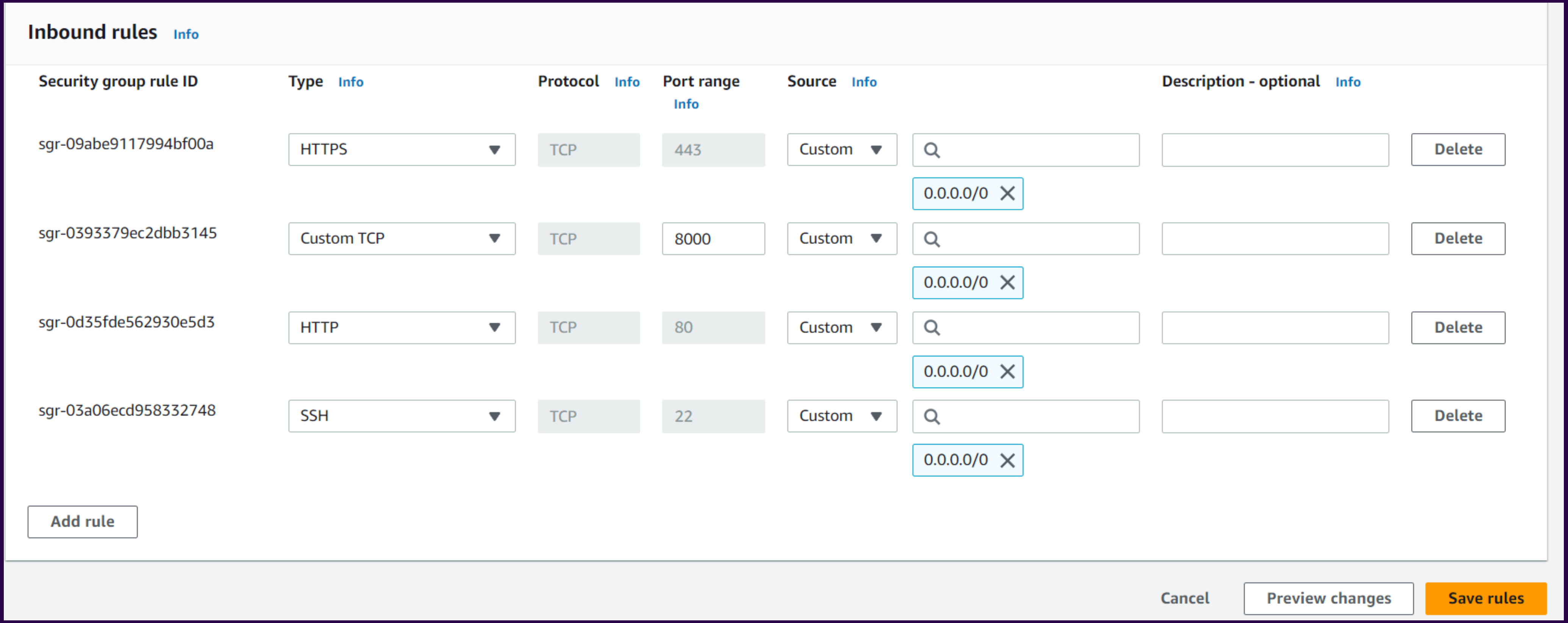
```
    root /var/www/html;

    # Add index.php to the list if you are using PHP
    index index.html index.htm index.nginx-debian.html;

    server_name _;

    location / {
            proxy_pass http://127.0.0.1:8000;
            # First attempt to serve request as file, then
            # as directory, then fall back to displaying a 404.
            try_files $uri $uri/ =404;
    }
```

Go to the ec2-instance and edit the inbound rules and add port no. 8000

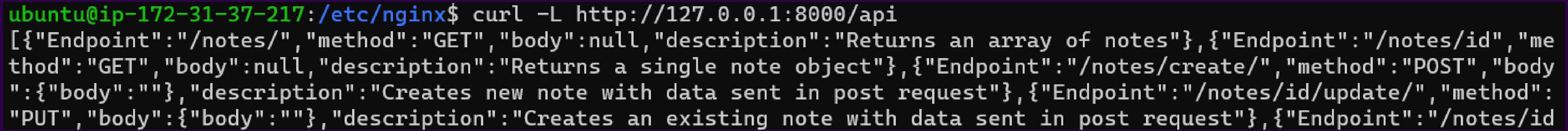


Inbound rules Info

Security group rule ID	Type Info	Protocol Info	Port range Info	Source Info		Description - optional Info
sgr-09abe9117994bf00a	HTTPS	TCP	443	Custom	0.0.0.0/0	
sgr-0393379ec2dbb3145	Custom TCP	TCP	8000	Custom	0.0.0.0/0	
sgr-0d35fde562930e5d3	HTTP	TCP	80	Custom	0.0.0.0/0	
sgr-03a06ecd958332748	SSH	TCP	22	Custom	0.0.0.0/0	

NOW LETS CONNECT THE BACKEND

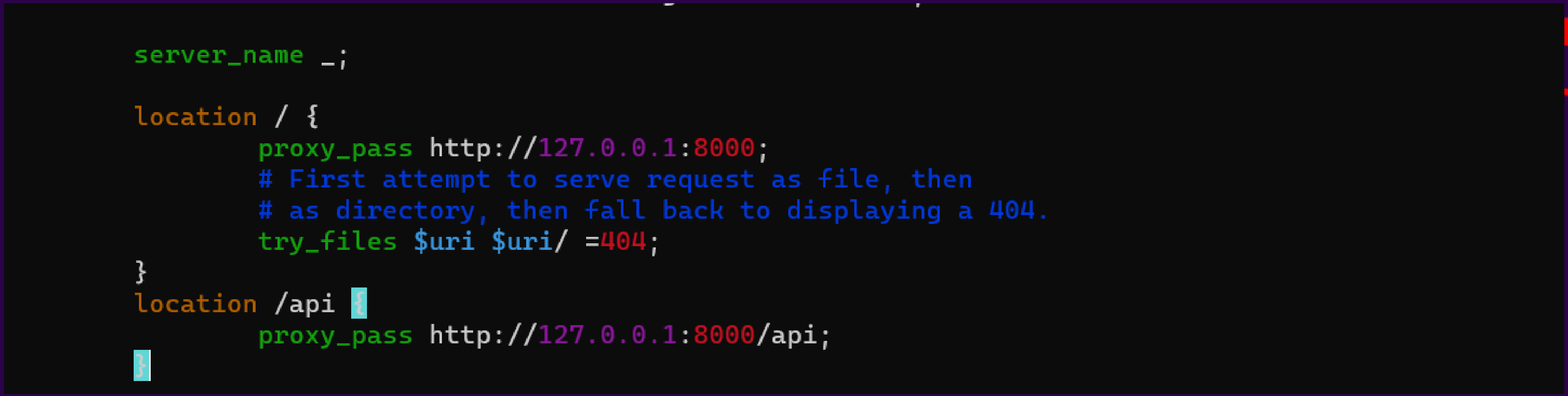
Check the backend is working or not
Run :- curl –L http://127.0.0.1:8000/api
Give a output like this is working



```
ubuntu@ip-172-31-37-217:/etc/nginx$ curl -L http://127.0.0.1:8000/api
[{"Endpoint":"/notes/","method":"GET","body":null,"description":"Returns an array of notes"},{"Endpoint":"/notes/id","me
thod":"GET","body":null,"description":"Returns a single note object"},{"Endpoint":"/notes/create/","method":"POST","body
":{"body":""},"description":"Creates new note with data sent in post request"},{"Endpoint":"/notes/id/update/","method":
"PUT","body":{"body":""},"description":"Creates an existing note with data sent in post request"},{"Endpoint":"/notes/id
```

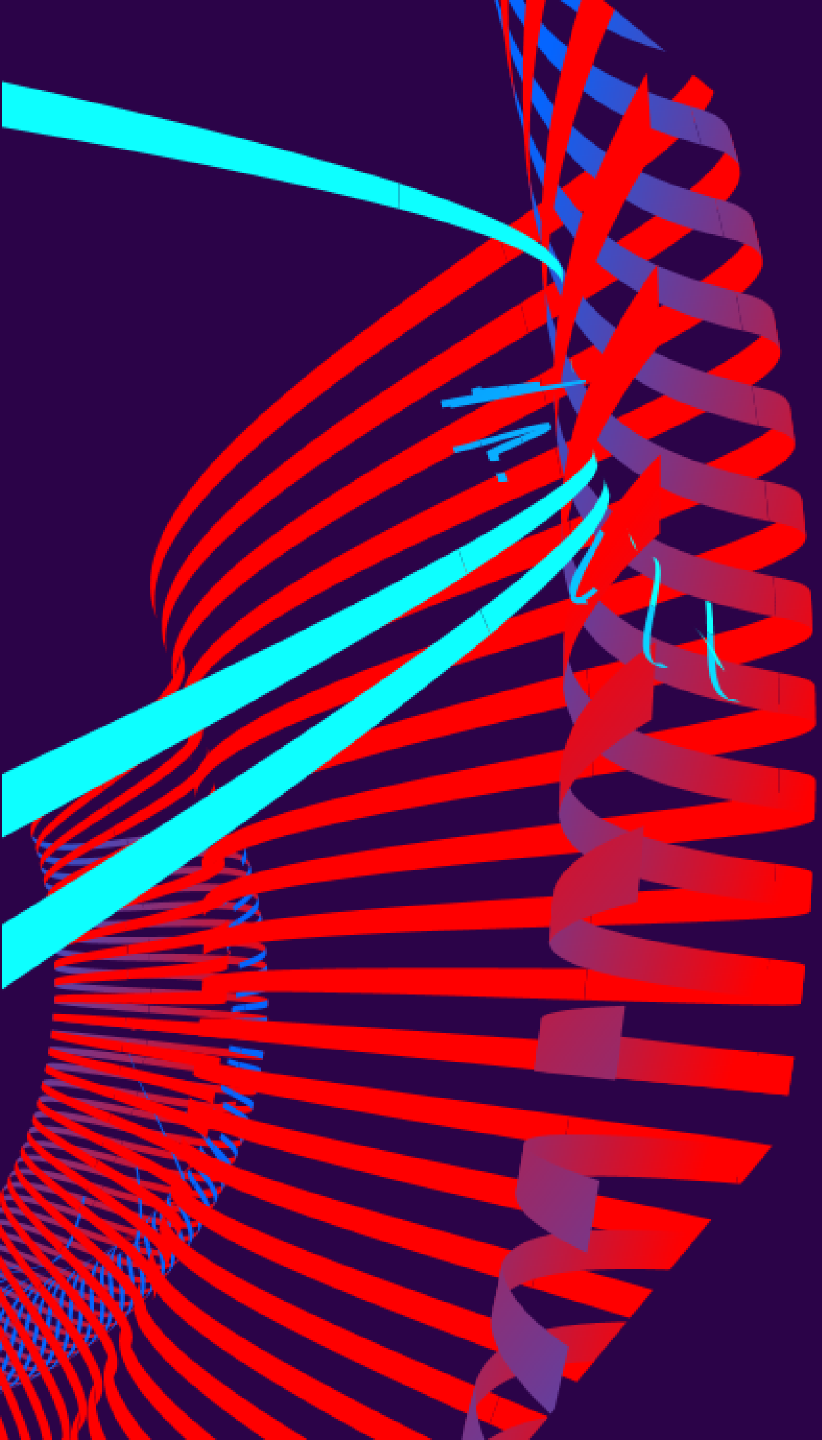
Now adding the backend to the server

Go to /etc/nginx/sites-enabled
Edit default file
Add :- location /api{
                proxy_pass http://127.0.0.1:800/api:
}

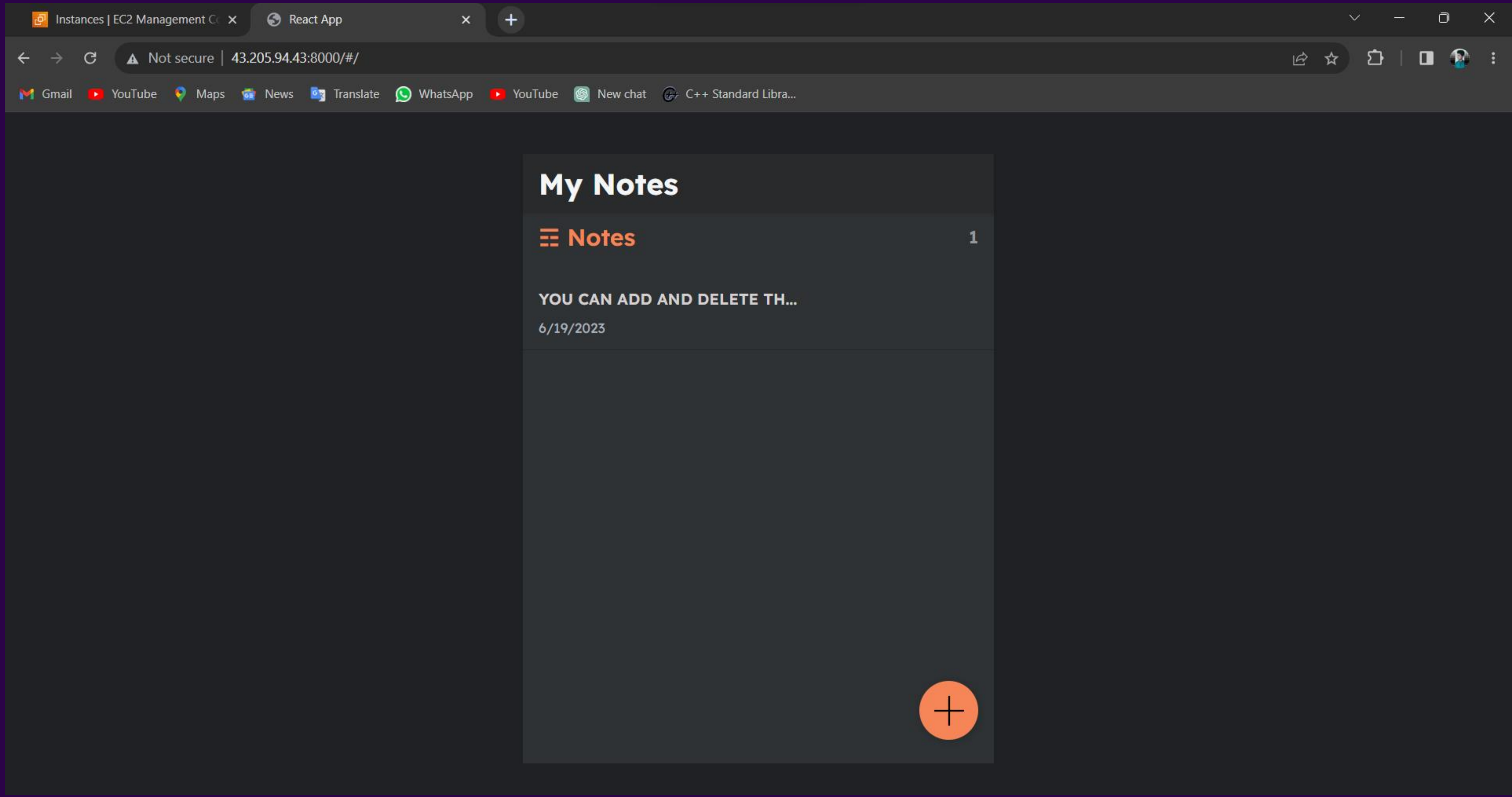


```
        server_name _;

        location / {
                proxy_pass http://127.0.0.1:8000;
                # First attempt to serve request as file, then
                # as directory, then fall back to displaying a 404.
                try_files $uri $uri/ =404;
        }
        location /api {
                proxy_pass http://127.0.0.1:8000/api;
        }
```



NOW COPY THE PUBLIC IP AND PASTE IN NEW TAB WITH PORT NO. 8000



43.205.94.43:8000/#/

My Notes

☰ Notes 1

YOU CAN ADD AND DELETE TH...

6/19/2023

+

THANK YOU

RINKU SHARMA

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