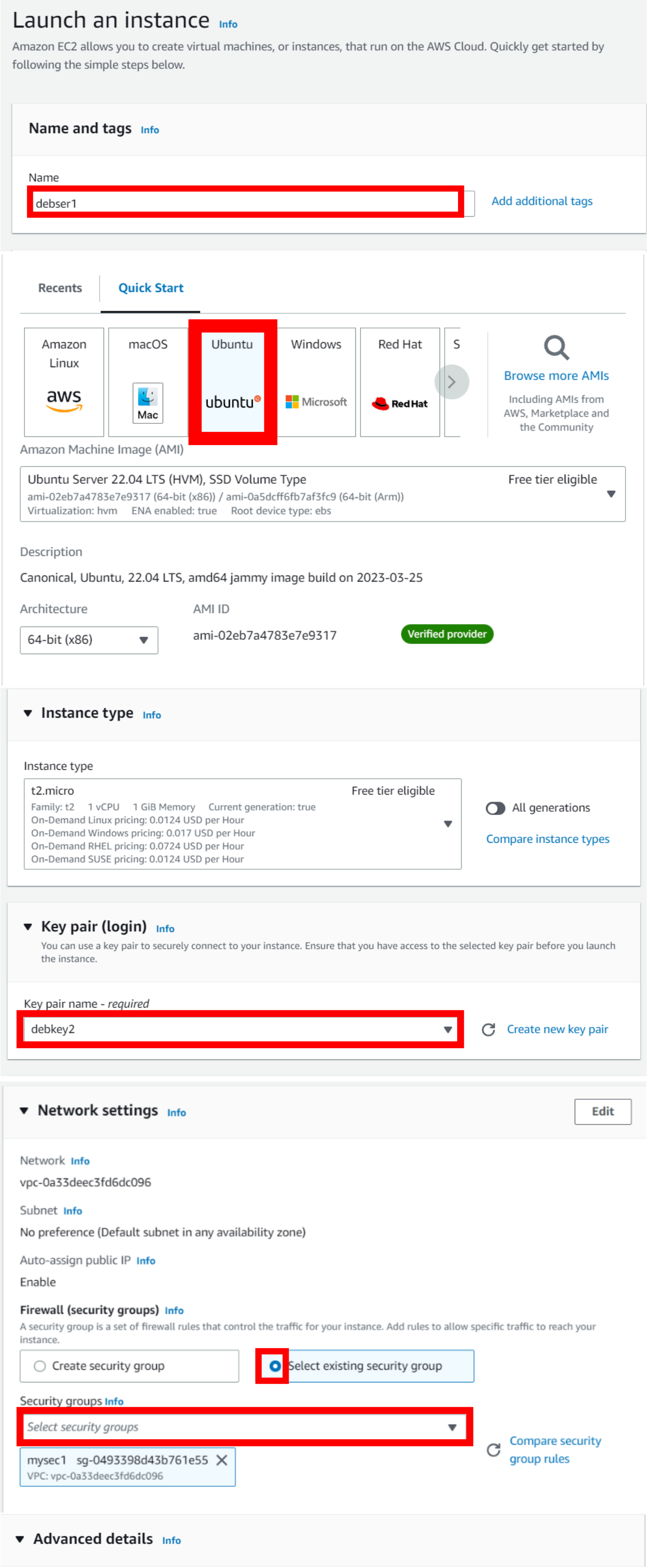
ASSIGNMENT-12

Problem Statement: Deploy a project from GitHub to EC2 without using port.

1. Sign-in to **AWS console**.
2. Go to the **EC2 dashboard**. Now **go to** the **instances page**.
3. Click on the **create new instance** button.
4. Now create an **EC2 server** using **the Security Group** created earlier and enter the **user data** **(Refer to Ass10)**



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: debser1

Amazon Machine Image (AMI)

Ubuntu Server 22.04 LTS (HVM), SSD Volume Type — Free tier eligible
ami-02eb7a4783e7e9317 (64-bit (x86)) / ami-0a5dcff6fb7af3fc9 (64-bit (Arm))
Virtualization: hvm ENA enabled: true Root device type: ebs

Description

Canonical, Ubuntu, 22.04 LTS, amd64 jammy image build on 2023-03-25

Architecture: 64-bit (x86)

AMI ID: ami-02eb7a4783e7e9317 Verified provider

Instance type Info

Instance type

t2.micro — Free tier eligible
Family: t2 1 vCPU 1 GiB Memory Current generation: true
On-Demand Linux pricing: 0.0124 USD per Hour
On-Demand Windows pricing: 0.017 USD per Hour
On-Demand RHEL pricing: 0.0724 USD per Hour
On-Demand SUSE pricing: 0.0124 USD per Hour

Key pair (login) Info

You can use a key pair to securely connect to your instance. Ensure that you have access to the selected key pair before you launch the instance.

Key pair name - *required*: debkey2

Network settings Info

Network Info
vpc-0a33deec3fd6dc096

Subnet Info
No preference (Default subnet in any availability zone)

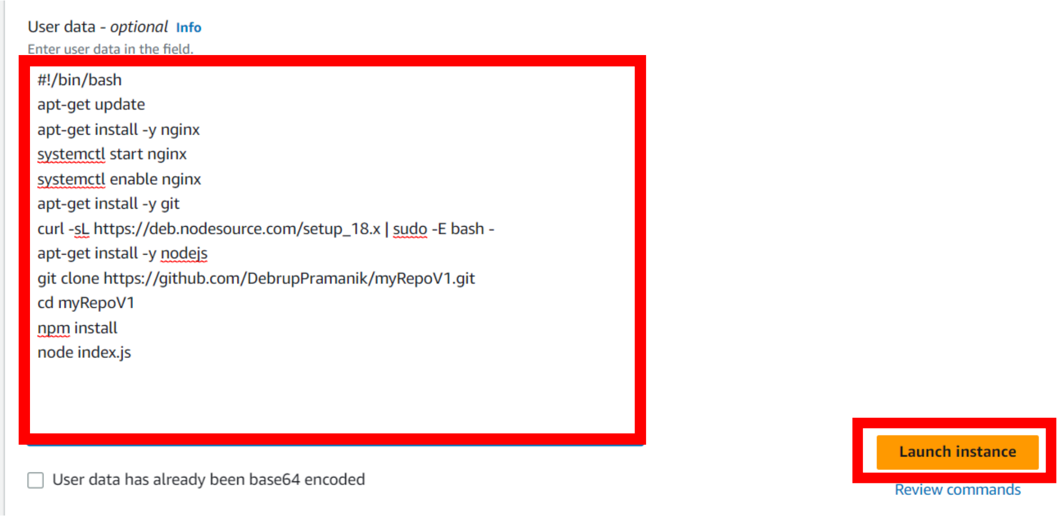
Auto-assign public IP Info
Enable

Firewall (security groups) Info
A security group is a set of firewall rules that control the traffic for your instance. Add rules to allow specific traffic to reach your instance.

○ Create security group ● Select existing security group

Security groups Info
Select security groups
mysec1 sg-0493398d43b761e55
VPC: vpc-0a33deec3fd6dc096

Advanced details Info



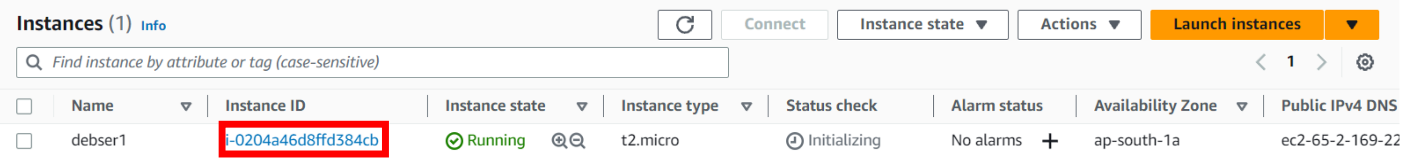
User data - *optional* Info

Enter user data in the field.

```
#!/bin/bash
apt-get update
apt-get install -y nginx
systemctl start nginx
systemctl enable nginx
apt-get install -y git
curl -sL https://deb.nodesource.com/setup_18.x | sudo -E bash -
apt-get install -y nodejs
git clone https://github.com/DebrupPramanik/myRepoV1.git
cd myRepoV1
npm install
node index.js
```

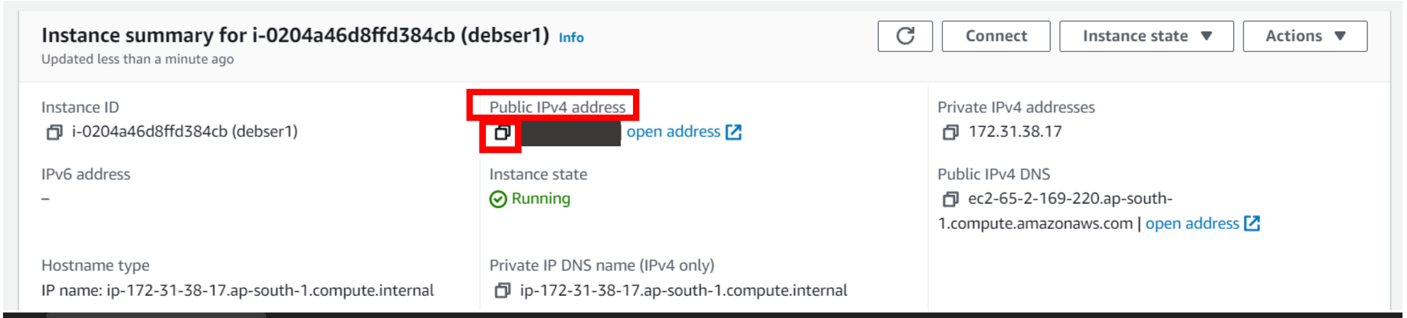
□ User data has already been base64 encoded

5. Create the instance and **click** on the **instance** after creation.



	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS
□	debser1	i-0204a46d8ffd384cb	Running	t2.micro	Initializing	No alarms	ap-south-1a	ec2-65-2-169-22

6. **Copy the public IPv4 address** and **paste it in another browser**. The nginx homepage will show up.



Instance summary for i-0204a46d8ffd384cb (debser1) Info

Updated less than a minute ago

Instance ID: i-0204a46d8ffd384cb (debser1)

Public IPv4 address: [redacted] | open address

Private IPv4 addresses: 172.31.38.17

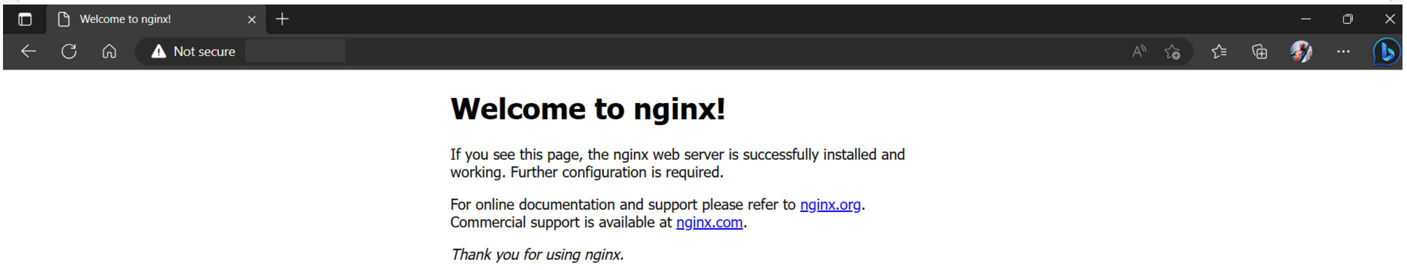
IPv6 address: –

Instance state: Running

Public IPv4 DNS: ec2-65-2-169-220.ap-south-1.compute.amazonaws.com | open address

Hostname type: IP name: ip-172-31-38-17.ap-south-1.compute.internal

Private IP DNS name (IPv4 only): ip-172-31-38-17.ap-south-1.compute.internal



[redacted]

Welcome to nginx!

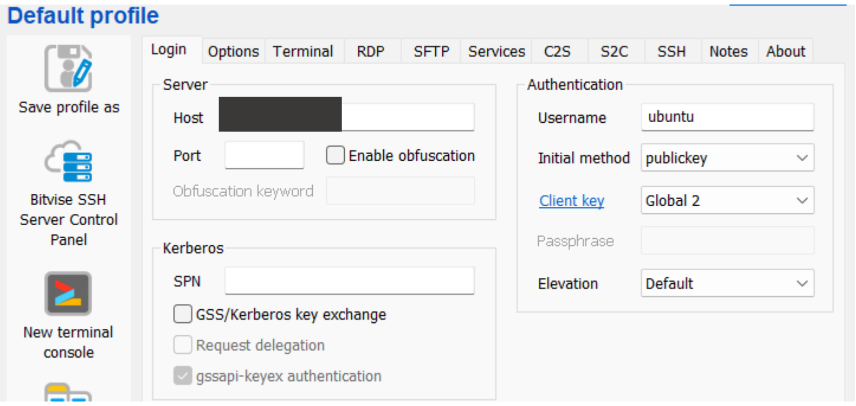
If you see this page, the nginx web server is successfully installed and working. Further configuration is required.

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

Thank you for using nginx.

Our server is working perfectly. Note**, in previous assignments** we used to connect to our project webpages **using port no**. **However**, in **this exercise we are going to access our project webpage without using any port no.**

7. **Copy the Public IPv4 address** of the server instance and use this to connect it to the server **using Bitvise SSH client. (Refer Ass7)**



Default profile

Server

Host [redacted]

Port

□ Enable obfuscation

Obfuscation keyword

Kerberos

SPN

□ GSS/Kerberos key exchange

□ Request delegation

☑ gssapi-keyex authentication

Authentication

Username: ubuntu

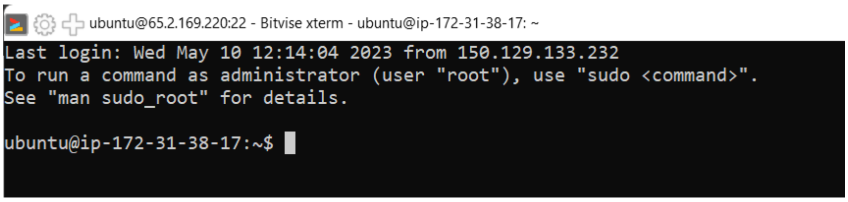
Initial method: publickey

Client key: Global 2

Passphrase

Elevation: Default

8. Now open the terminal in Bitvise.

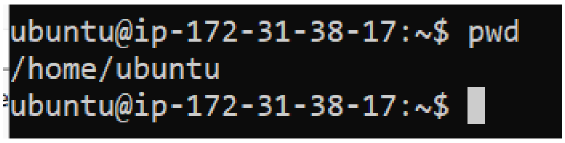

ubuntu@65.2.169.220:22 - Bitvise xterm - ubuntu@ip-172-31-38-17: ~

```
Last login: Wed May 10 12:14:04 2023 from 150.129.133.232
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

ubuntu@ip-172-31-38-17:~$
```

9. Enter the **following commands** in it.

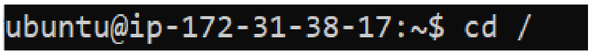
➔ **pwd**



```
ubuntu@ip-172-31-38-17:~$ pwd
/home/ubuntu
ubuntu@ip-172-31-38-17:~$
```

(To check current directory)

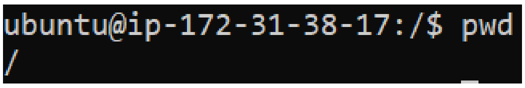
➔ **cd /**



```
ubuntu@ip-172-31-38-17:~$ cd /
```

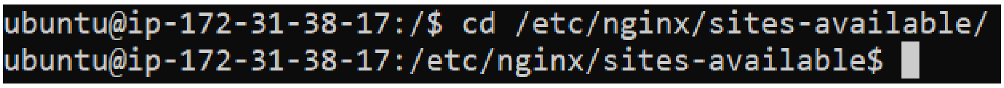
(To go to root folder)

➔ **pwd**



```
ubuntu@ip-172-31-38-17:/$ pwd
/
```

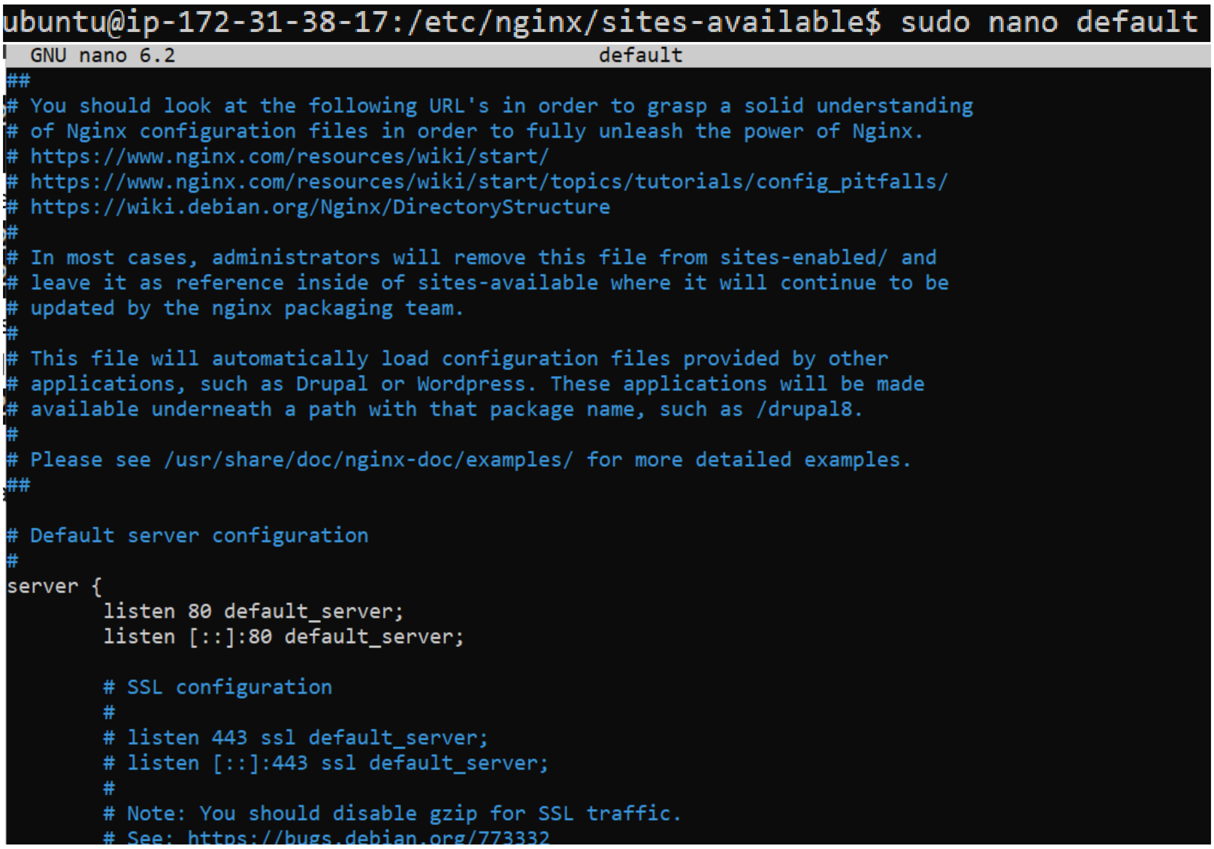
➔ **cd /etc/nginx/sites-available/**



```
ubuntu@ip-172-31-38-17:/$ cd /etc/nginx/sites-available/
ubuntu@ip-172-31-38-17:/etc/nginx/sites-available$
```

(To open the sites-available directory under nginx)

➔ **sudo nano default**



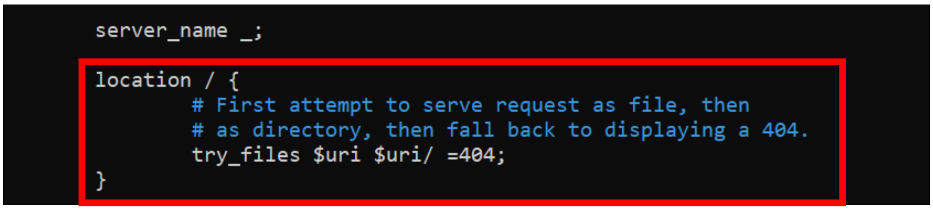
```
ubuntu@ip-172-31-38-17:/etc/nginx/sites-available$ sudo nano default
  GNU nano 6.2                                           default
##
# You should look at the following URL's in order to grasp a solid understanding
# of Nginx configuration files in order to fully unleash the power of Nginx.
# https://www.nginx.com/resources/wiki/start/
# https://www.nginx.com/resources/wiki/start/topics/tutorials/config_pitfalls/
# https://wiki.debian.org/Nginx/DirectoryStructure
#
# In most cases, administrators will remove this file from sites-enabled/ and
# leave it as reference inside of sites-available where it will continue to be
# updated by the nginx packaging team.
#
# This file will automatically load configuration files provided by other
# applications, such as Drupal or Wordpress. These applications will be made
# available underneath a path with that package name, such as /drupal8.
#
# Please see /usr/share/doc/nginx-doc/examples/ for more detailed examples.
##

# Default server configuration
#
server {
        listen 80 default_server;
        listen [::]:80 default_server;

        # SSL configuration
        #
        # listen 443 ssl default_server;
        # listen [::]:443 ssl default_server;
        #
        # Note: You should disable gzip for SSL traffic.
        # See: https://bugs.debian.org/773332
```

(To open the default file in the nano editor)

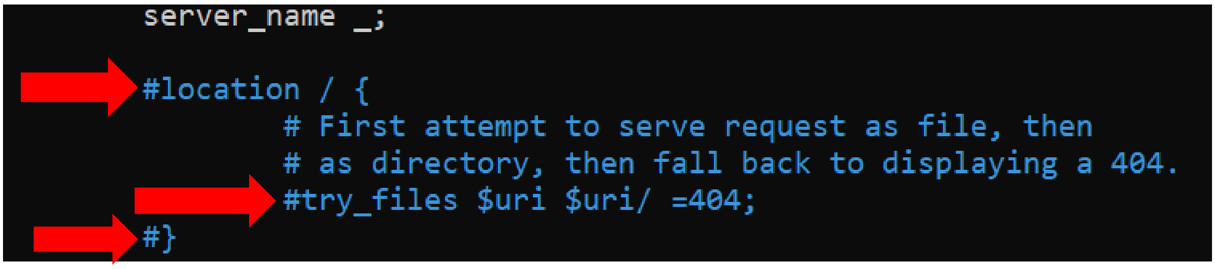
10. After opening the default file in the nano editor, **search for the location / {}.** It should be **after server_name _;**



```
        server_name _;

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

11. Comment out the location block and each and every line inside the block.

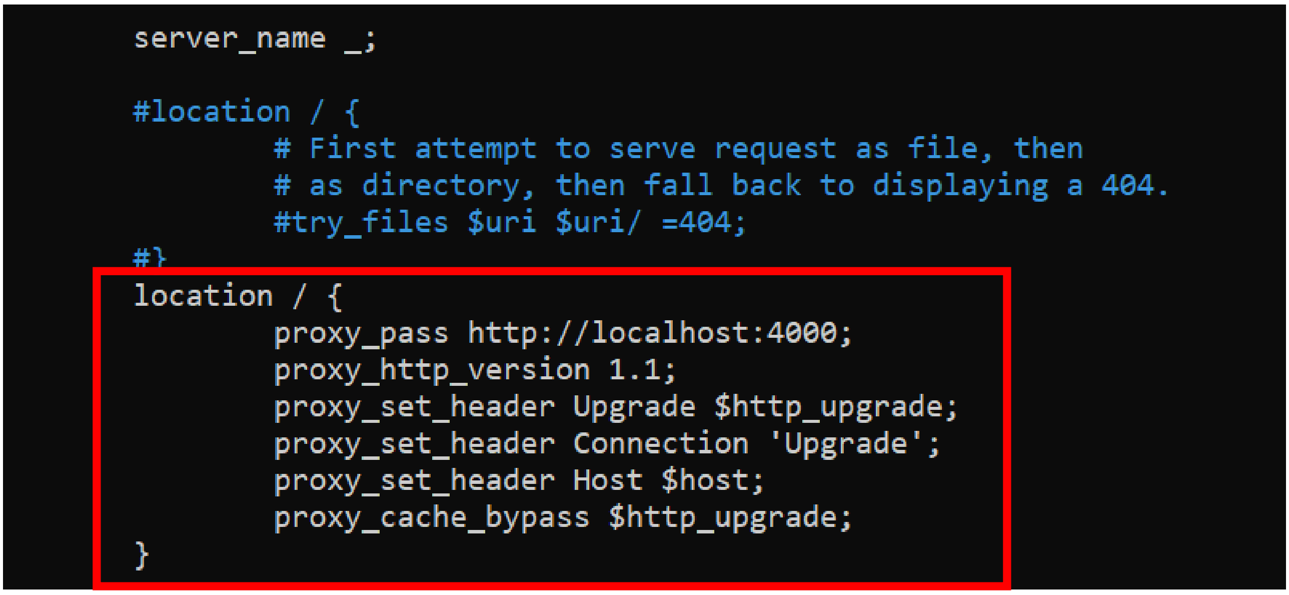


```
        server_name _;

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

12. Now paste the following code just under the server_name line.

```
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;
    }
```



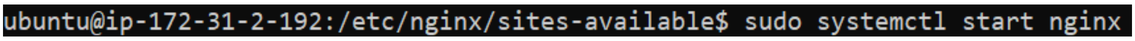
```
        server_name _;

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

13. Now **save** it by **Ctrl+X** and **exit nano editor**.

14. You will be **reverted back to the terminal**. Type the following **command**…..

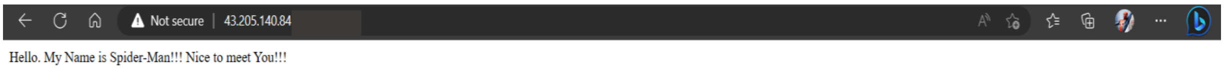
- ➔ **sudo systemctl restart nginx**



```
ubuntu@ip-172-31-2-192:/etc/nginx/sites-available$ sudo systemctl start nginx
```

(To restart the nginx engine)

15. Now paste the public IPv4 address in your browser. Now **press Enter**. **Our project page will show up without entering our port no.**



Hello. My Name is Spider-Man!!! Nice to meet You!!!

We have successfully deployed a project from GitHub to EC2 without using port.