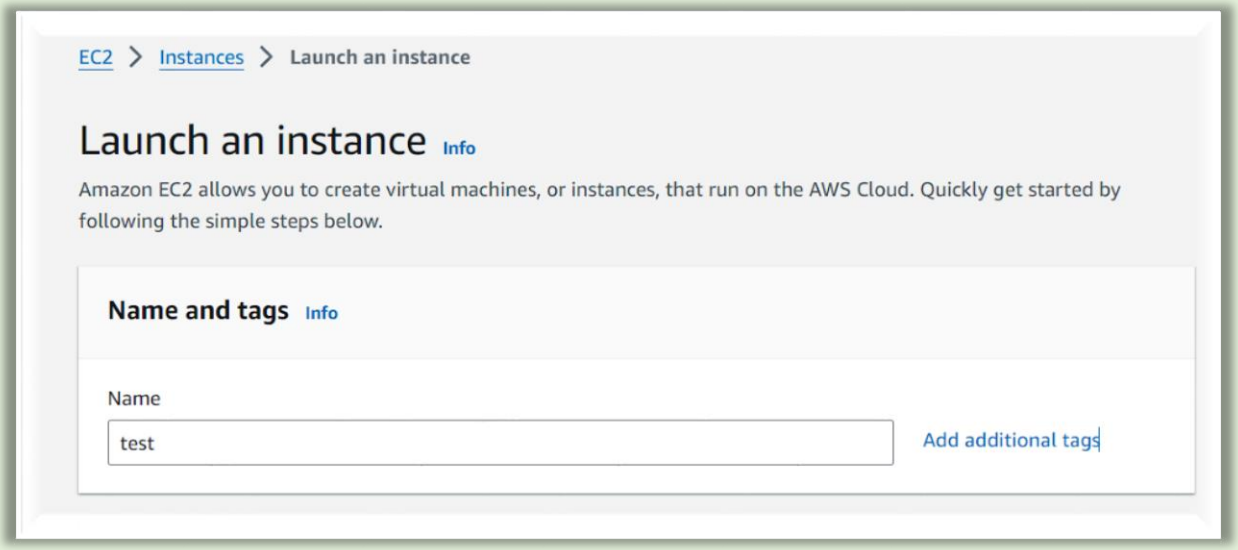
Name: - Harshal Pawar

Deploy Nginx on AWS EC2 with the custom directory.

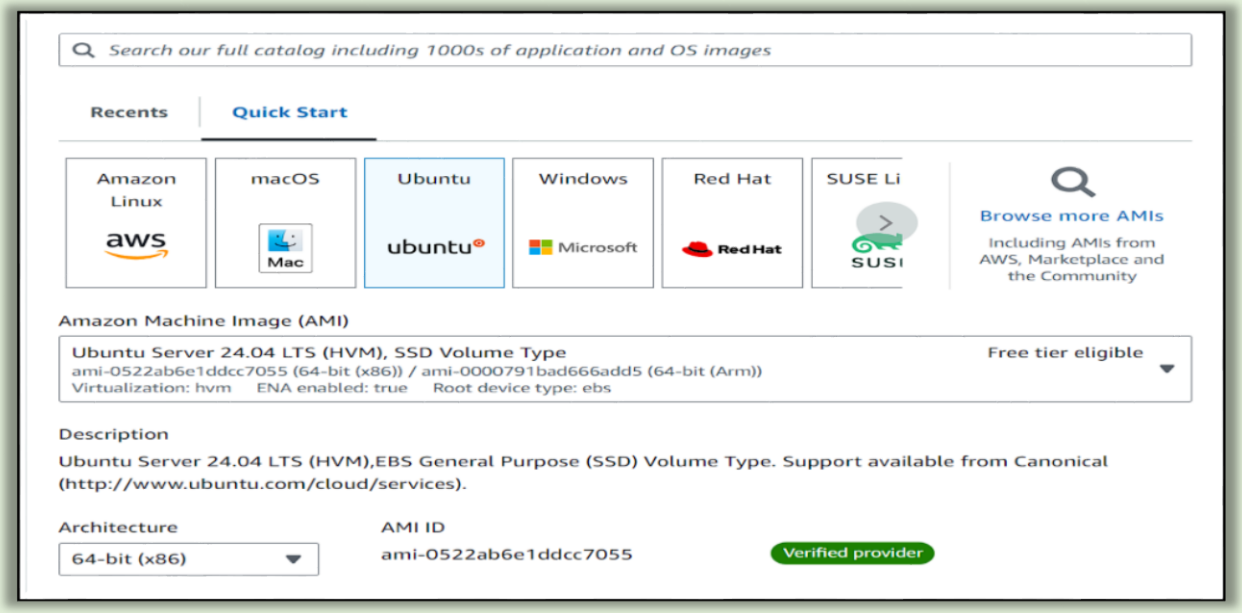
Launch an EC2 Instance

Log in to your AWS Management Console and navigate to **EC2**.



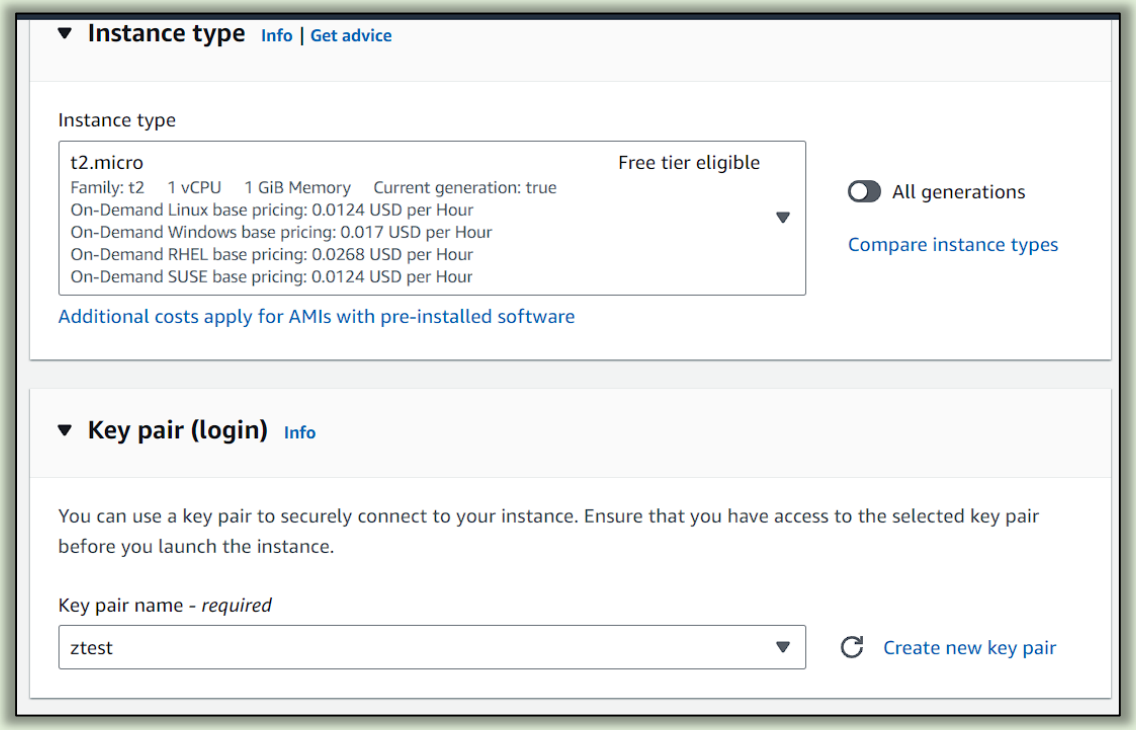
Launch a new instance:

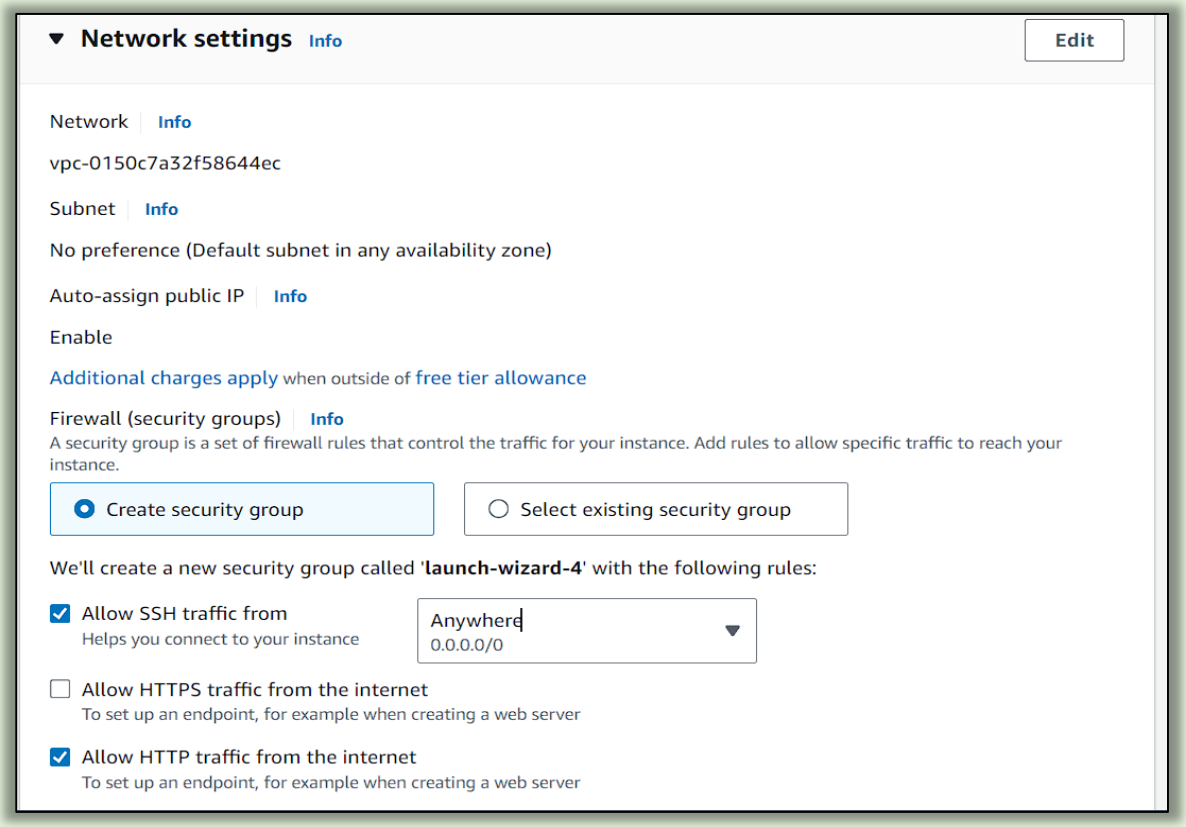
Choose Ubuntu as the AMI.



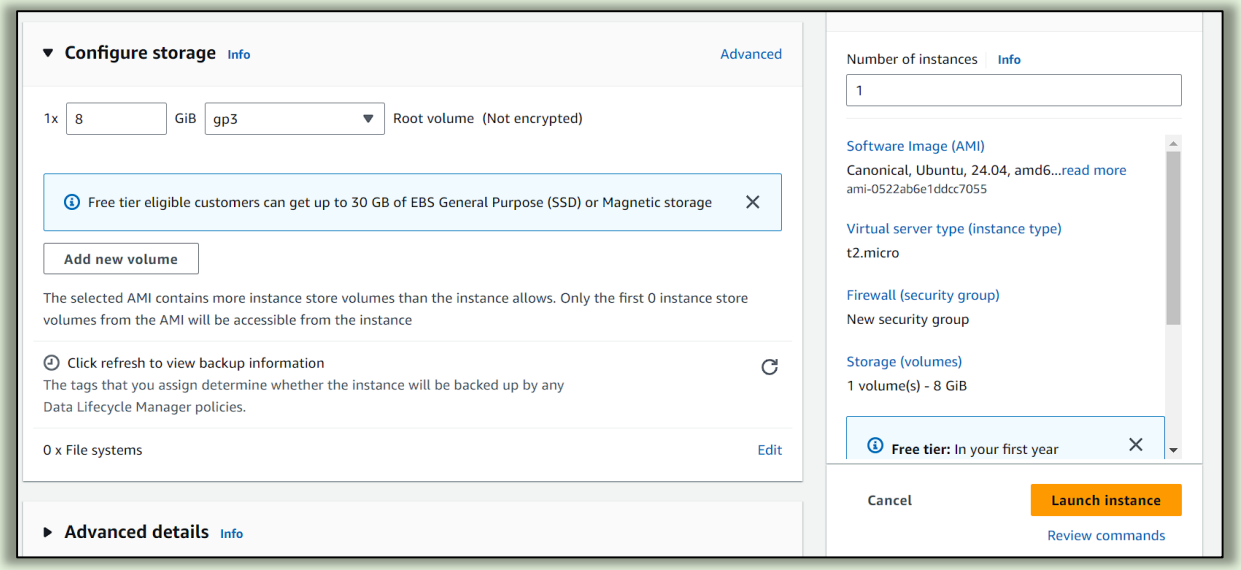
Select an appropriate instance type (e.g., t2.micro for free tier).

Create or choose an existing key pair for SSH access.



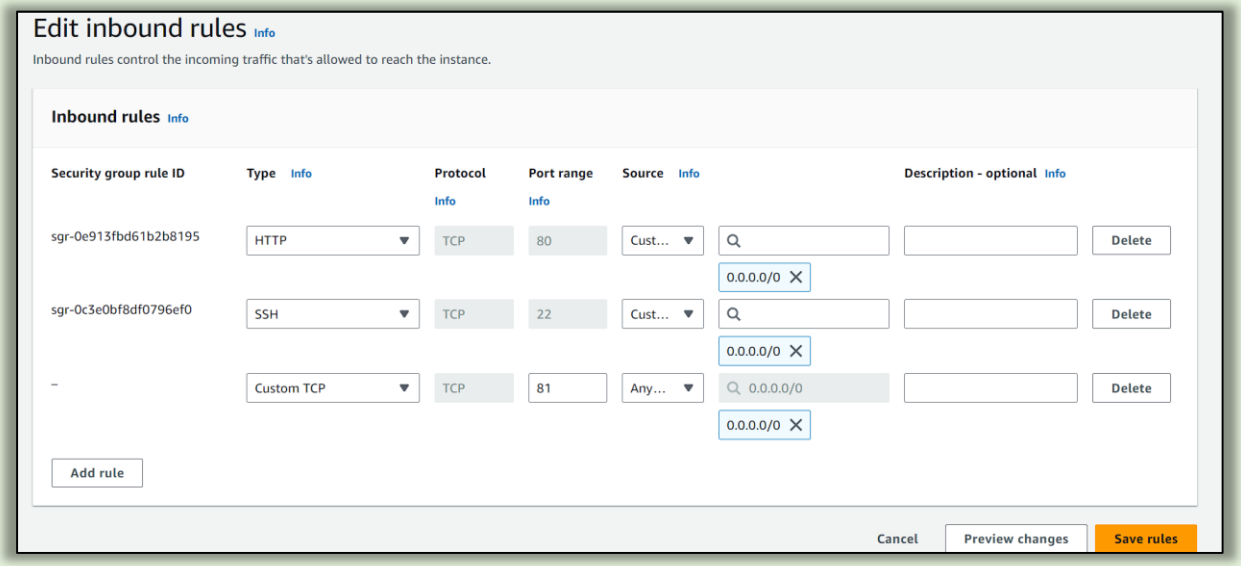


Configure Storage and click on Launch Instance.



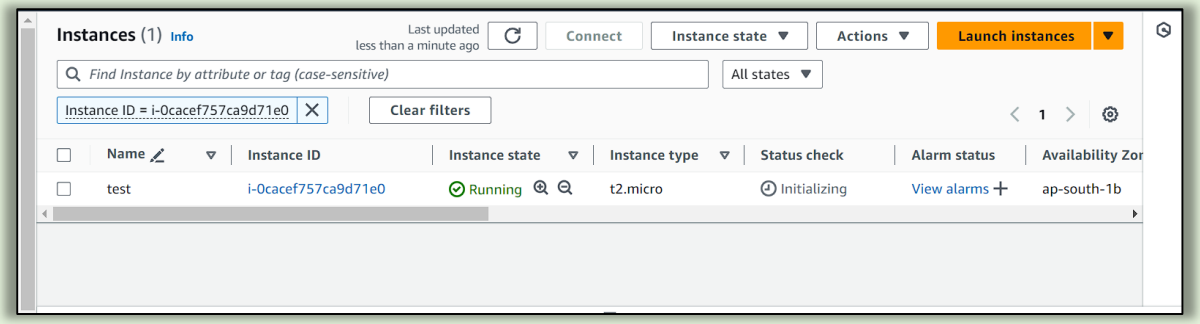
Prerequisites

An AWS EC2 instance (Ubuntu) with security group rules allowing inbound traffic on port 81 and SSH (port 22).



Now save rules.

Click on connect Instance.



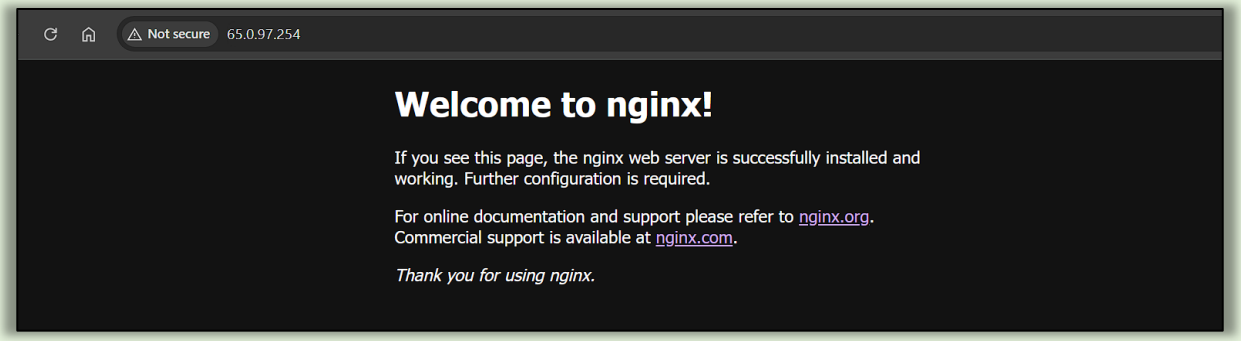
Update Package list.

```
ubuntu@ip-172-31-9-223:~$ sudo apt update
Hit:1 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble InRelease
Get:2 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
Get:3 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-backports InRelease [126 kB]
Get:4 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 Packages [15.0 MB]
Get:5 http://security.ubuntu.com/ubuntu noble-security InRelease [126 kB]
Get:6 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/universe Translation-en [5982 kB]
Get:7 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 Components [3871 kB]
```

Install Nginx server.

```
ubuntu@ip-172-31-9-223:~$ sudo apt install nginx
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  nginx-common
Suggested packages:
  fcgiwrap nginx-doc ssl-cert
The following NEW packages will be installed:
  nginx nginx-common
```

Try to access on default port 80 using public IP, following page will display.



“Welcome to nginx” mean we have successfully install nginx server on Ubuntu.

Create Custom directory mkdir /tutorial on location /var/www, and create index.html file inside custom directory.

```
ubuntu@ip-172-31-9-223:/var/www$ sudo mkdir tutorial
ubuntu@ip-172-31-9-223:/var/www$ cd tutorial/
ubuntu@ip-172-31-9-223:/var/www/tutorial$ sudo vim index.html
```

Paste the following to the index.html file:

```
<!doctype html>
<html>
<head>
    <meta charset="utf-8">
    <title>Hello, Nginx!</title>
</head>
<body>
    <h1>Hello, Nginx!</h1>
    <p>We have just configured our Nginx web server on Ubuntu Server!</p>
</body>
</html>
~
~
~
~
```

Save this file. In next step we are going to set up virtual host to make Nginx use pages from this location.

Setting up virtual host

To set up virtual host, we need to create file in /etc/nginx/sites-enabled/ directory.

```
ubuntu@ip-172-31-9-223:~$ cd /etc/nginx/sites-enabled/
ubuntu@ip-172-31-9-223:/etc/nginx/sites-enabled$ sudo vim tutorial
```

For this tutorial, we will make our site available on 81 port, not the standard 80 port.

```
server {
        listen 81;
        listen [::]:81;

        server_name 65.0.97.254;

        root /var/www/tutorial;
        index index.html;

        location / {
                try_files $uri $uri/ =404;
        }
}
```

Root is a directory where we have placed our .html file. Index is used to specify file available when visiting root directory of site.

server_name is our public IP, now save and exit the file.

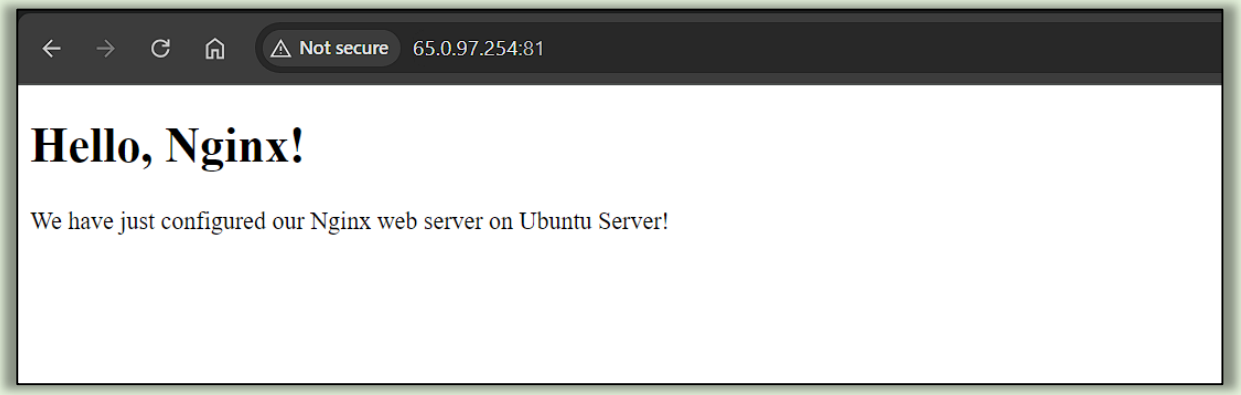
Activating virtual host and testing results

To make our site working, simply restart, enable and check status of nginx service.

```
ubuntu@ip-172-31-9-223:/etc/nginx/sites-enabled$ sudo systemctl restart nginx
ubuntu@ip-172-31-9-223:/etc/nginx/sites-enabled$ sudo systemctl enable nginx
Synchronizing state of nginx.service with SysV service script with /usr/lib/systemd/systemd-sysv-install.
Executing: /usr/lib/systemd/systemd-sysv-install enable nginx
ubuntu@ip-172-31-9-223:/etc/nginx/sites-enabled$ sudo systemctl status nginx
● nginx.service - A high performance web server and a reverse proxy server
     Loaded: loaded (/usr/lib/systemd/system/nginx.service; enabled; preset: enabled)
     Active: active (running) since Thu 2024-09-19 05:19:56 UTC; 24s ago
       Docs: man:nginx(8)
   Main PID: 2585 (nginx)
      Tasks: 2 (limit: 1130)
     Memory: 1.7M (peak: 1.9M)
        CPU: 10ms
     CGroup: /system.slice/nginx.service
             ├─2585 "nginx: master process /usr/sbin/nginx -g daemon on; master_process on;"
             └─2586 "nginx: worker process"

Sep 19 05:19:56 ip-172-31-9-223 systemd[1]: Starting nginx.service - A high performance web server and a reverse proxy server...
Sep 19 05:19:56 ip-172-31-9-223 systemd[1]: Started nginx.service - A high performance web server and a reverse proxy server.
ubuntu@ip-172-31-9-223:/etc/nginx/sites-enabled$
```

Access Website.



Congratulations! Everything works as it should. We have just configured Nginx web server.