Step 1 - What is AWS

AWS is Amazon's `cloud` service.

It let's you

1. Rent servers
2. Manage domains
3. Upload objects (mp4 files, jpgs, mp3s ...)
4. Autoscale servers
5. Create k8s clusters

...

The offering we will be focussing on today is `Renting servers`

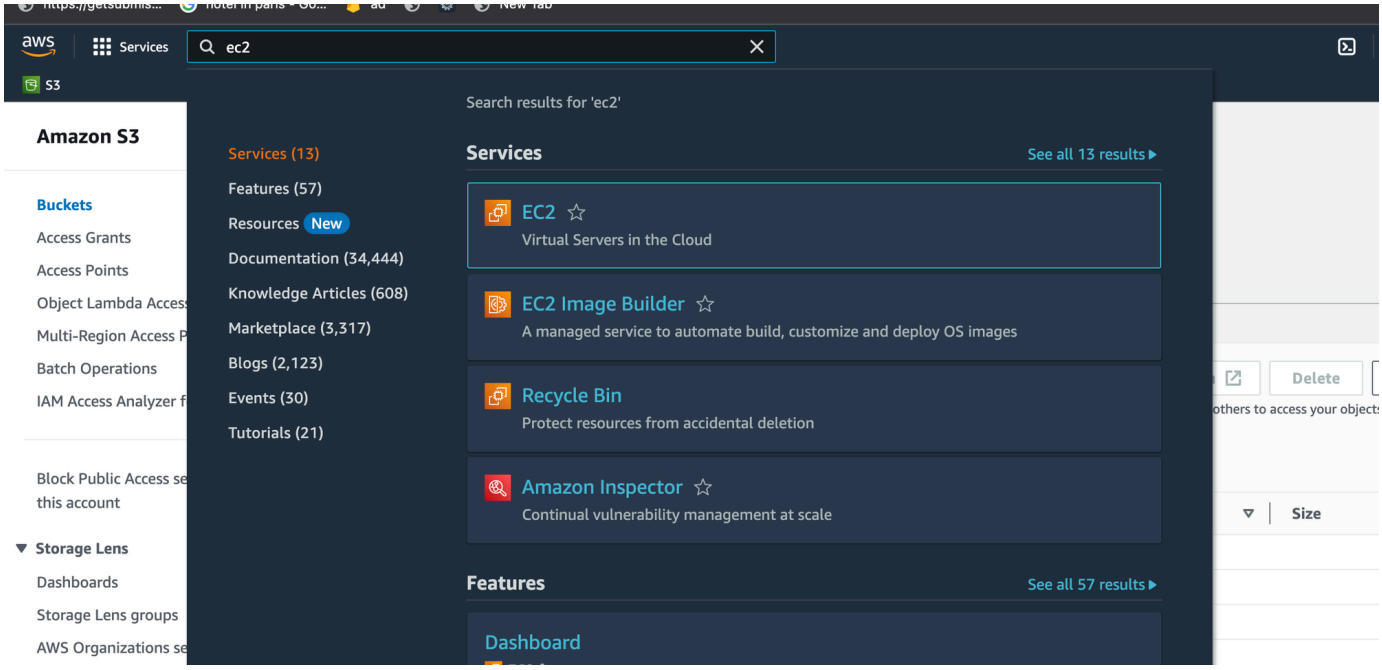
Step 2 - EC2 servers

VMs on AWS are called `EC2 Servers`

EC2 stands for Elastic compute Version 2.

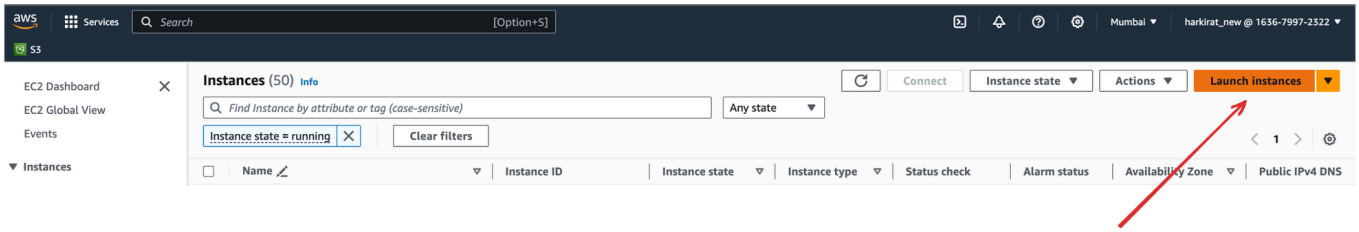
1. `Elastic` - Can increase/decrease the size of the machine
2. `Compute` - It is a machine

You can spin up a new EC2 instance from the aws dashboard

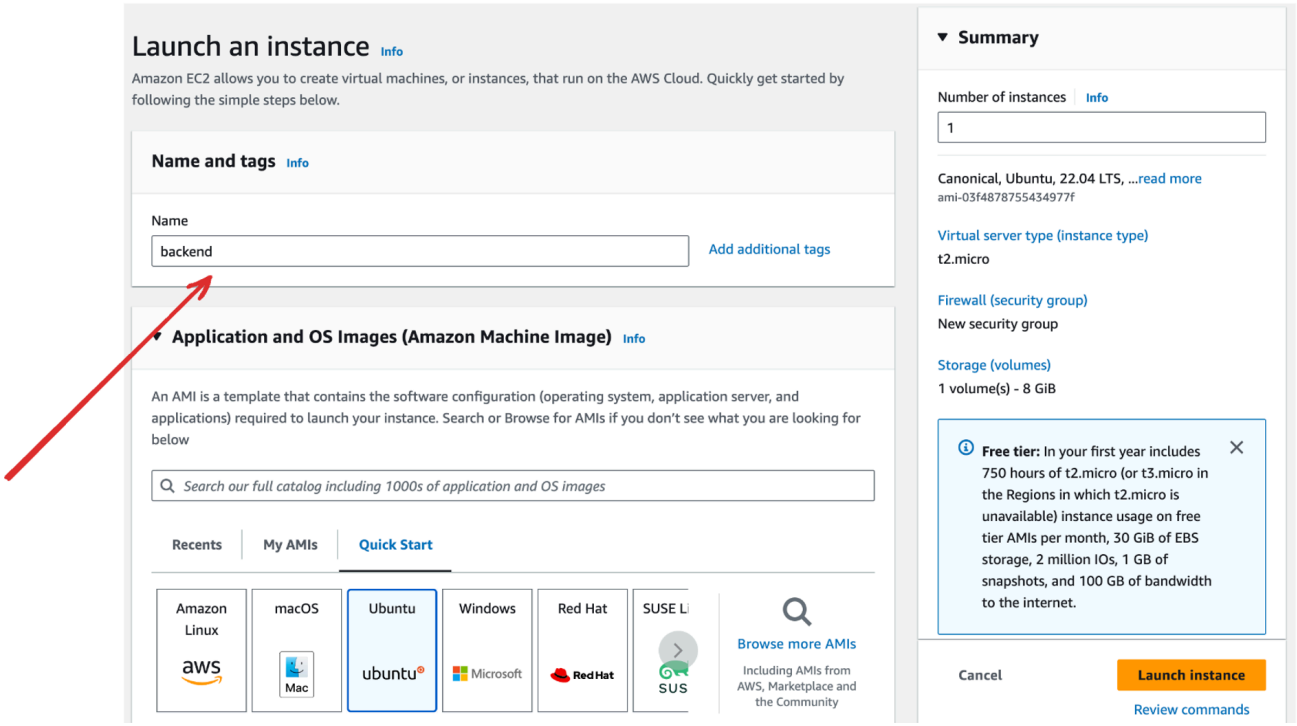


Step 3 - Creating a new EC2 server

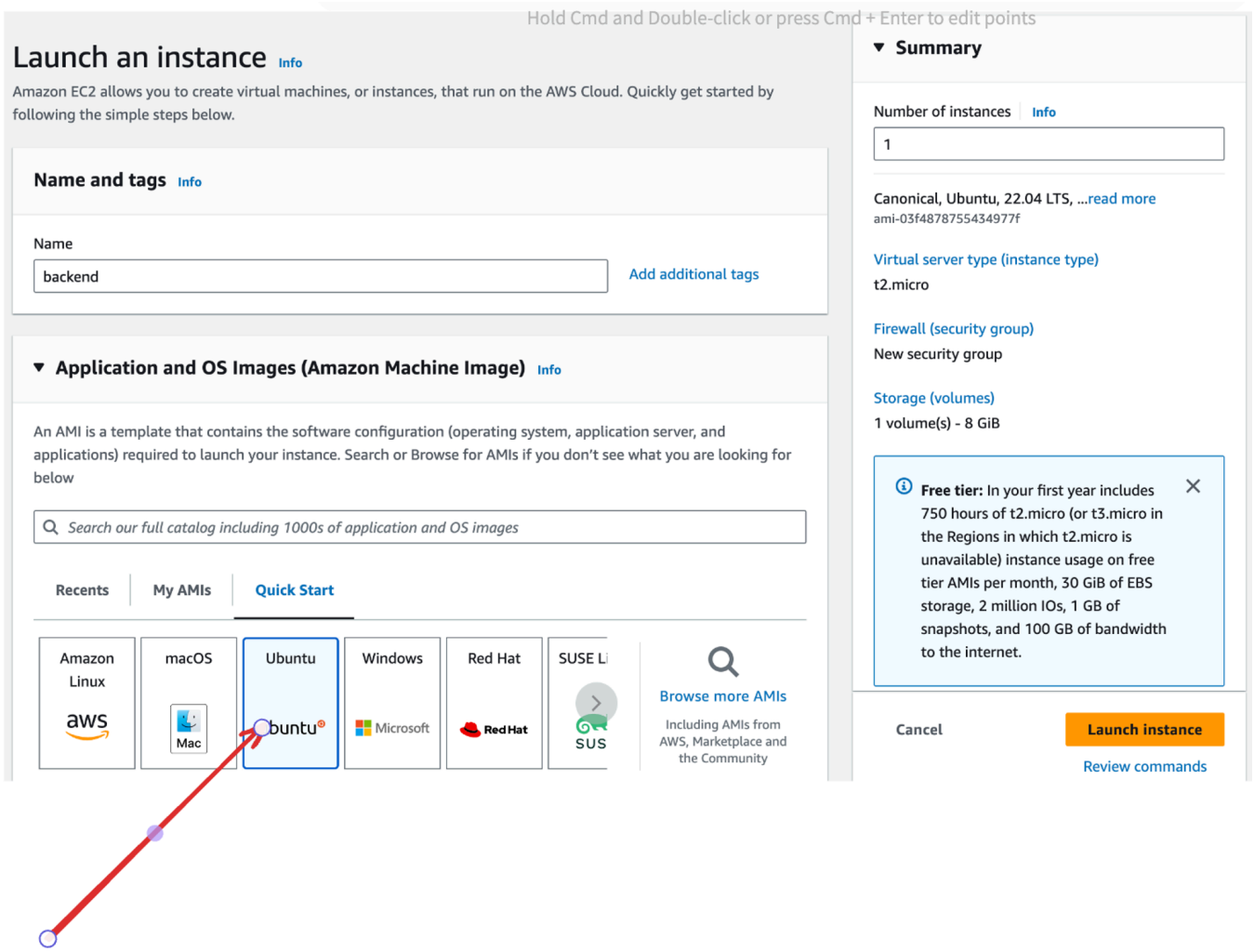
1. Click on `Launch a new instance`



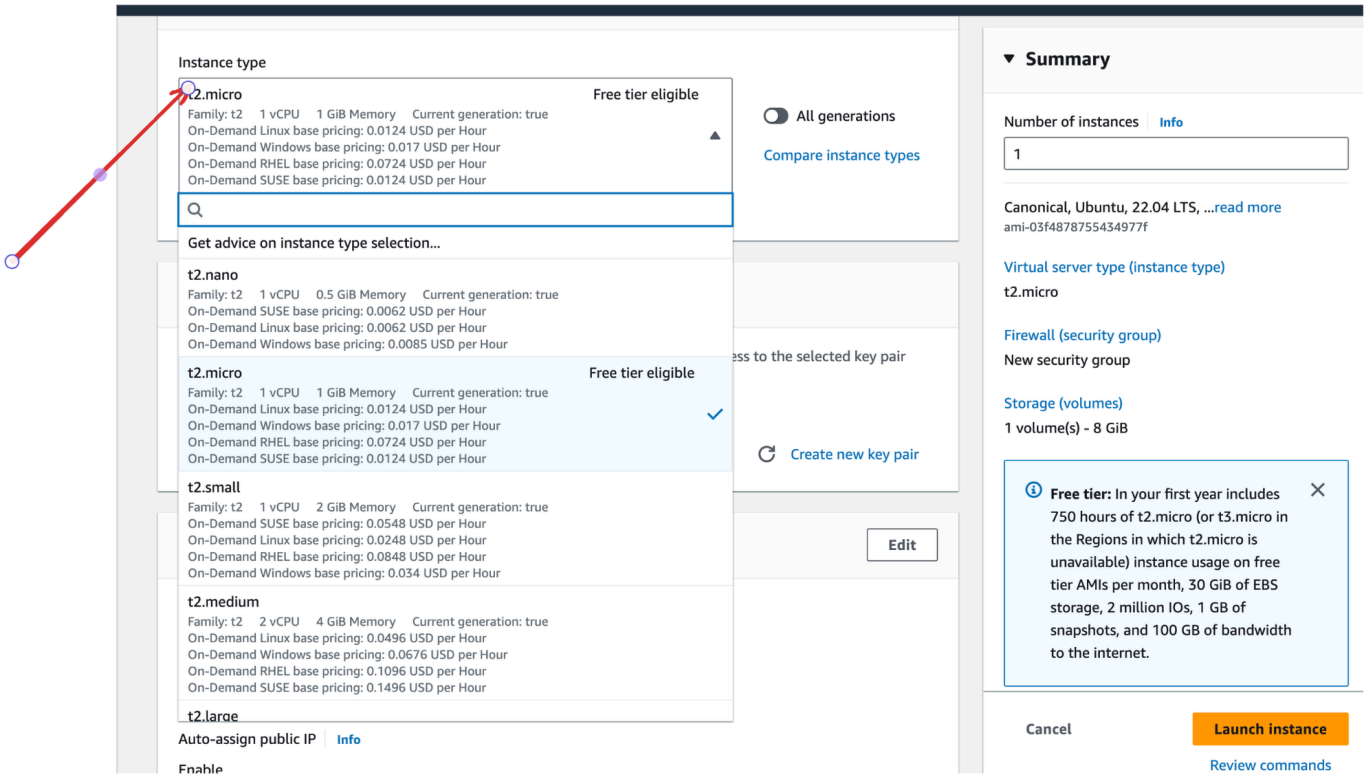
2. Give a name



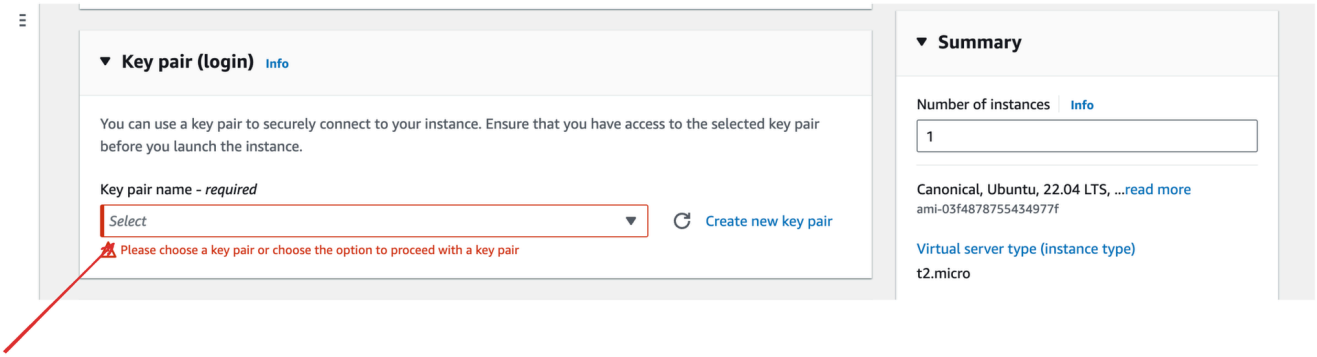
3. Select an OS



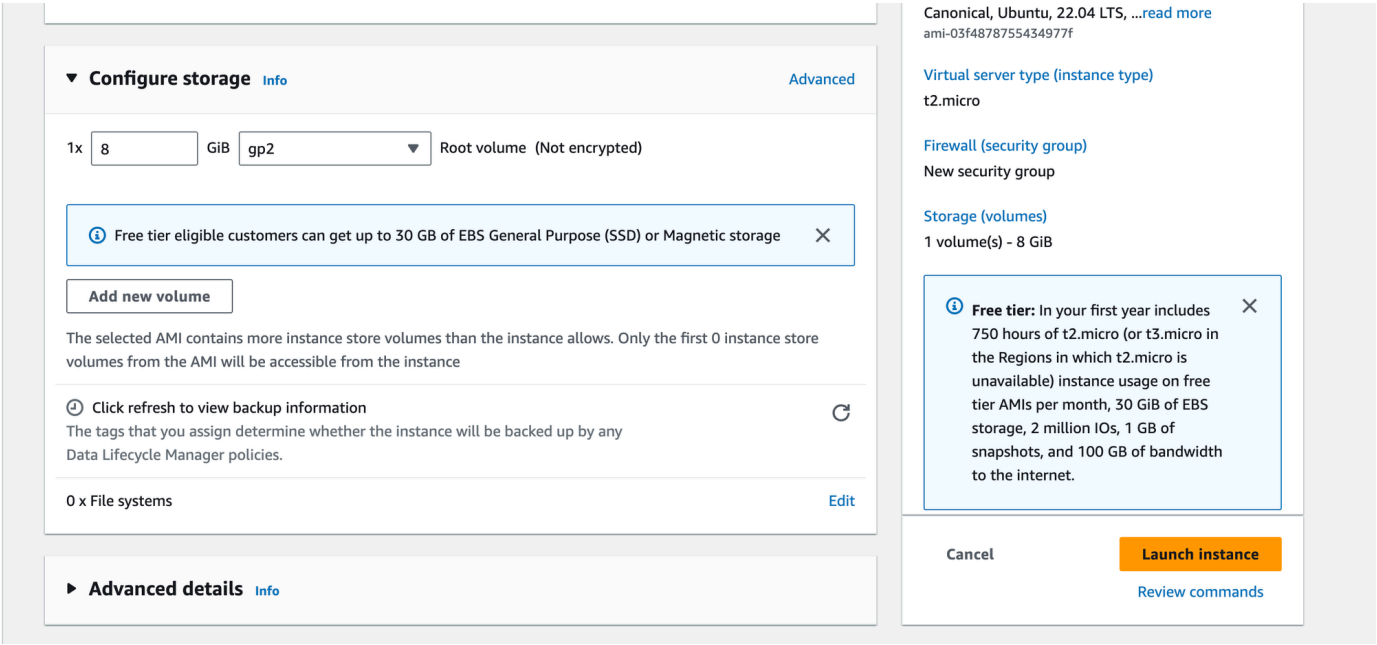
4. Select size



5. Create a new Key pair



6. Select Size



7. Allow traffic on http/https

Step 4 - SSH into server

1. Give ssh key permissions

```
chmod 700 kirat-class.pem
```

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2. ssh into machine

```
ssh -i kirat-class.pem ubuntu@ec2-65-0-180-32.ap-south-1.compute.amazonaws.com
```

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3. Clone repo

```
git clone https://github.com/hkirat/sum-server
```

Copy

💡 If your aws machine shows you the following error, your aws machine doesn't have access to the internet

Solution - https://www.tecmint.com/resolve-temporary-failure-in-name-resolution/

```
ubuntu@ip-172-31-11-253:~$ ping google.com
ping: google.com: Temporary failure in name resolution
ubuntu@ip-172-31-11-253:~$
```

4. Install Node.js

💡 https://www.digitalocean.com/community/tutorials/how-to-install-node-js-on-ubuntu-20-04

5. Install all dependencies

```
cd sum-server
npm install
```

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6. Start backend

```
node index.js
```
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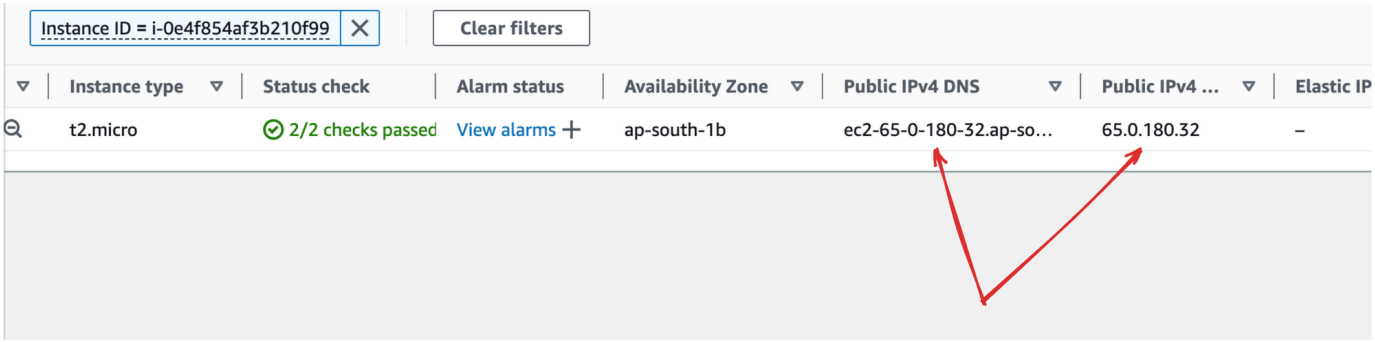
Step 5 - Install the repo

Clone the repo

```
https://github.com/hkirat/sum-server
```
Copy

Step 6 - Try hitting the server

You have an ip/DNS that you can hit to access your ec2 server



Try visiting the backend

```
your_domain:5000
```
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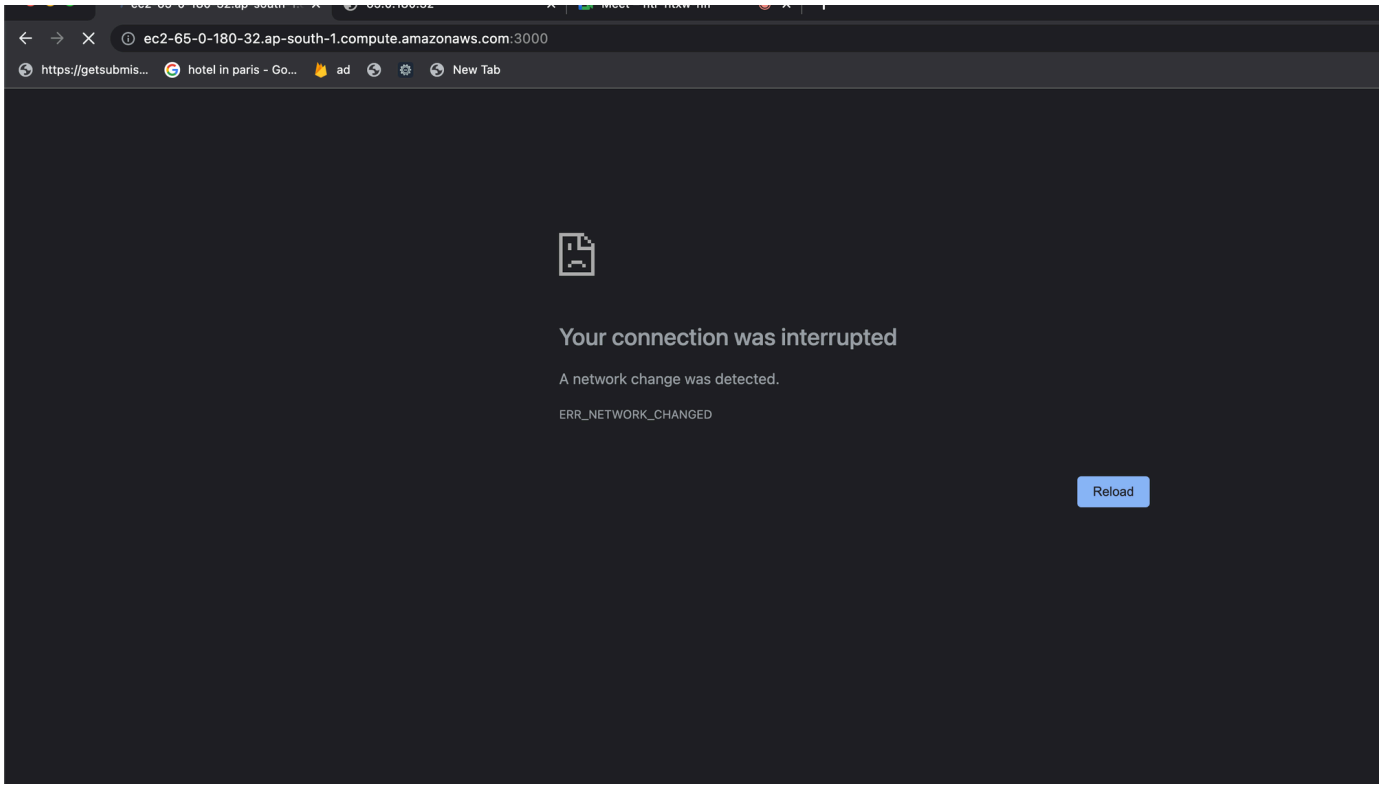
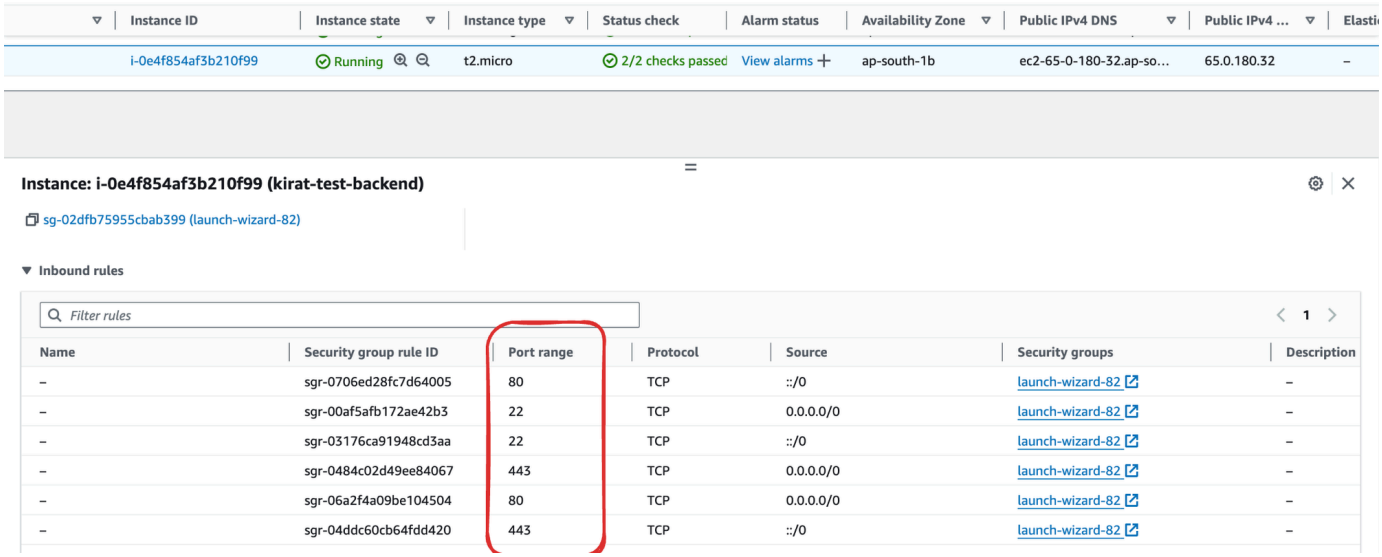
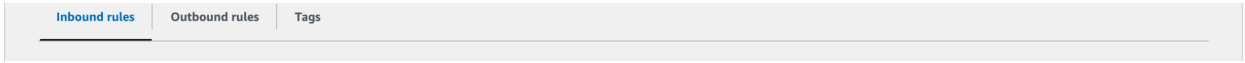
Notice you `can't` visit the website during this time



Security group



You can either open port 8080, or process on port `80`

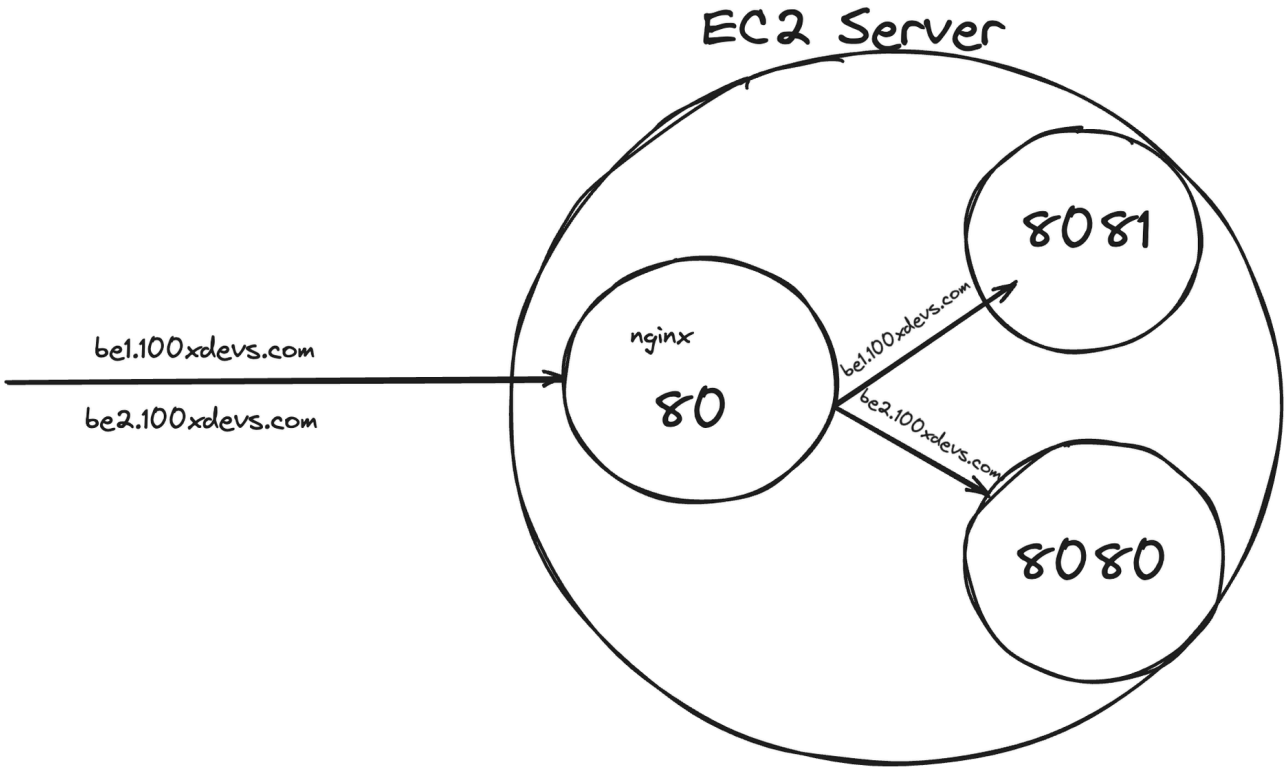


Step 7 - nginx

https://www.nginx.com/resources/glossary/nginx/

NGINX is open source software for web serving, reverse proxying, caching, load balancing, media streaming, and more. It started out as a web server designed for maximum performance and stability. In addition to its HTTP server capabilities, NGINX can also function as a proxy server for email (IMAP, POP3, and SMTP) and a reverse proxy and load balancer for HTTP, TCP, and UDP servers.

What is a reverse proxy?



Installing nginx

```
sudo apt update
sudo apt install nginx
```

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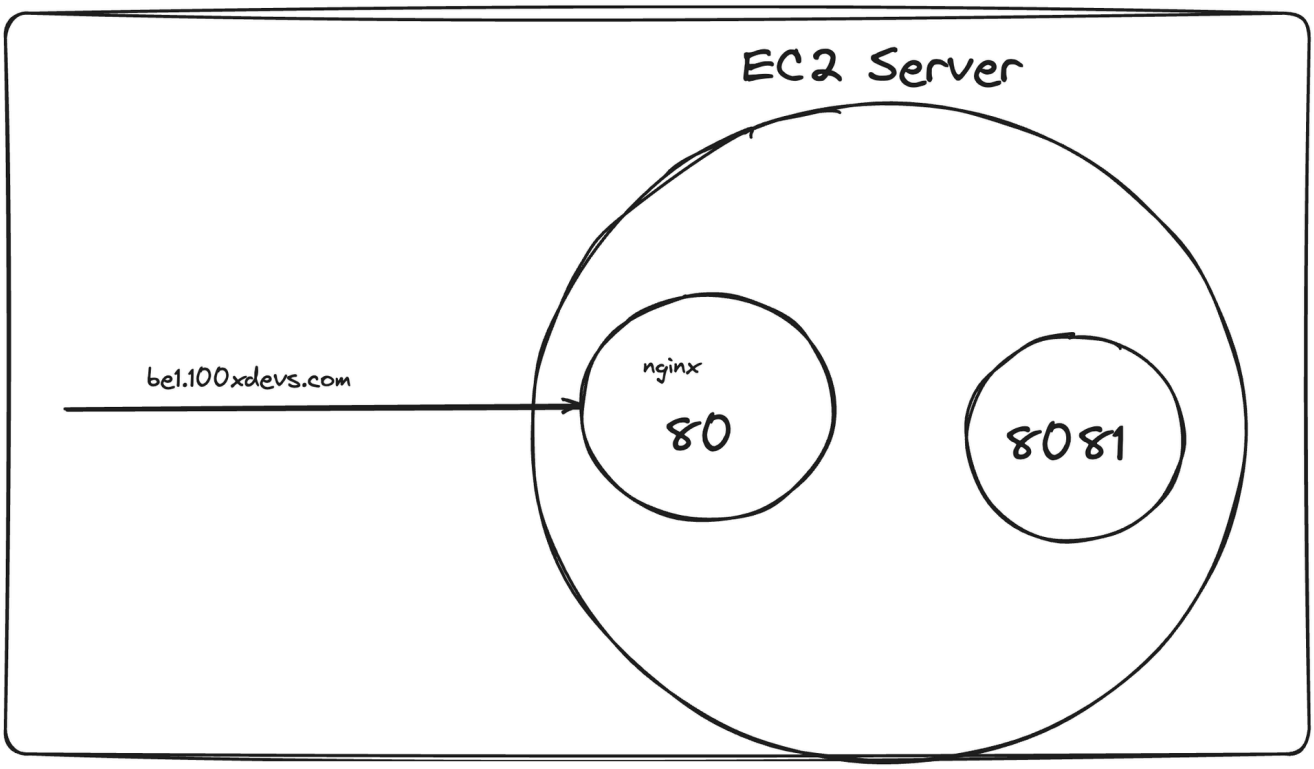
This should start a `nginx server` on port 80

Try visiting the website



Create reverse proxy

```
sudo rm sudo vi /etc/nginx/nginx.conf
sudo vi /etc/nginx/nginx.conf
```

Copy

```
events {
    # Event directives...
}

http {
    server {
    listen 80;
    server_name be1.100xdevs.com;

    location / {
        proxy_pass http://localhost:8080;
        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;
    }
    }
}
```

Copy

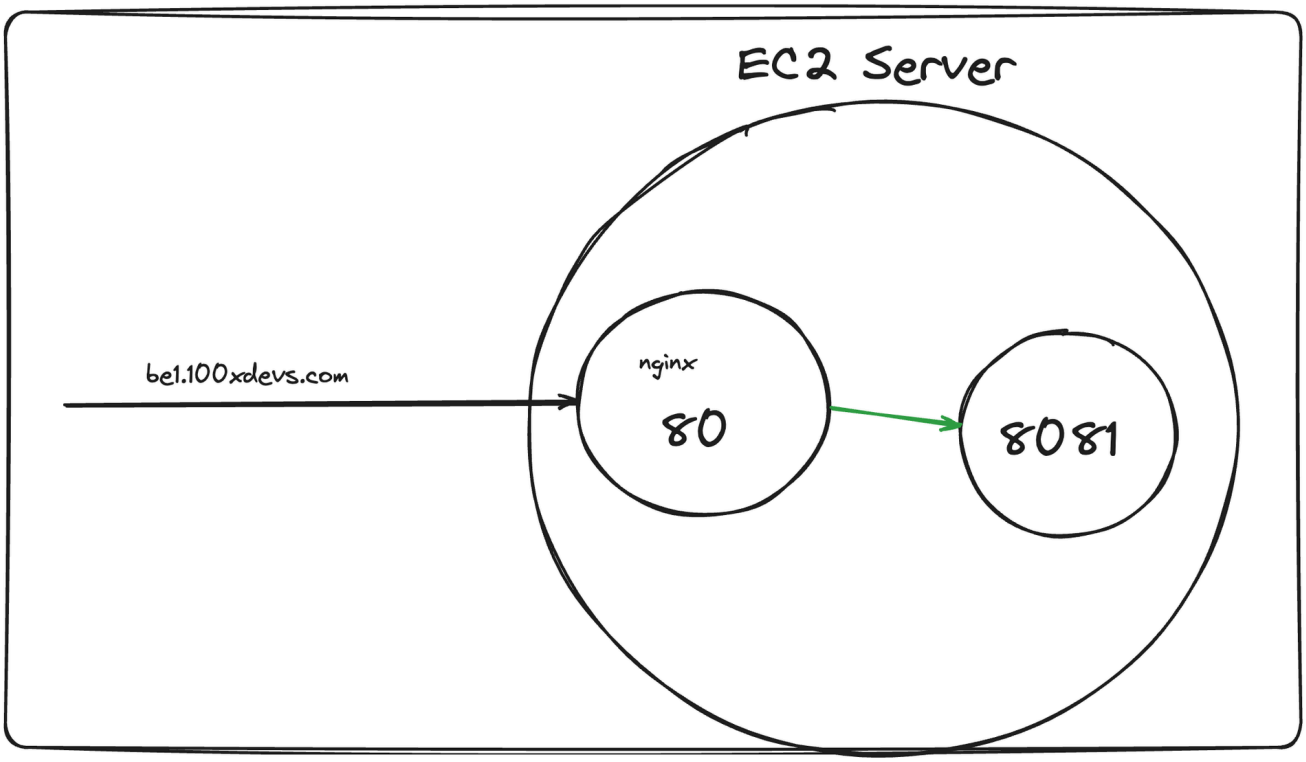
```
sudo nginx -s reload
```
Copy

Start the Backend server

```
node index.js
```
Copy

Visit the website

```
https://be1.100xdevs.com/
```
Copy



Step 8 - Certificate management

Use https://certbot.eff.org/