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
```

2. ssh into machine

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

3. Clone repo

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

💡 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/

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
```

6. Start backend

```
node index.js
```

Step 5 - Install the repo

Clone the repo

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

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:3000
```

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

Security group

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

```
http://your_domain:8080
```

Step 7 - nginx

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

What is a reverse proxy?

Installing nginx

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

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
```

```
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;
    }
    }
}
```

```
sudo nginx -s reload
```

Start the Backend server

```
node index.js
```

Visit the website

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

Step 8 - Certificate management

Use https://certbot.eff.org/