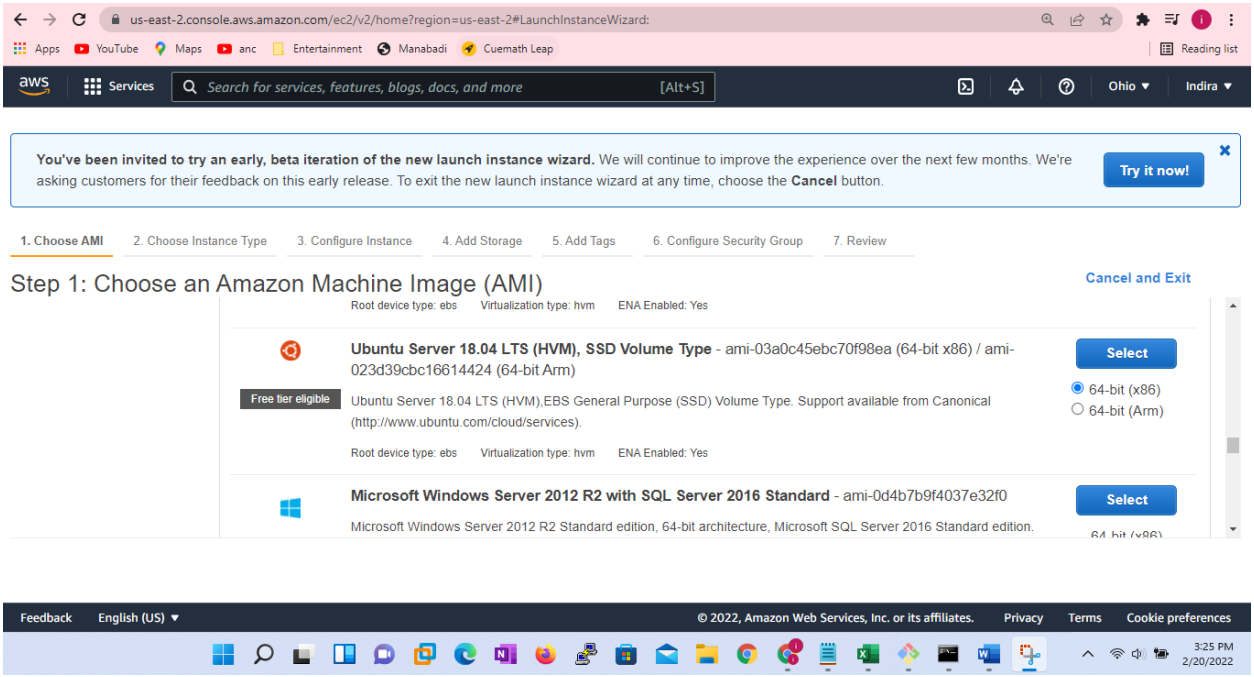
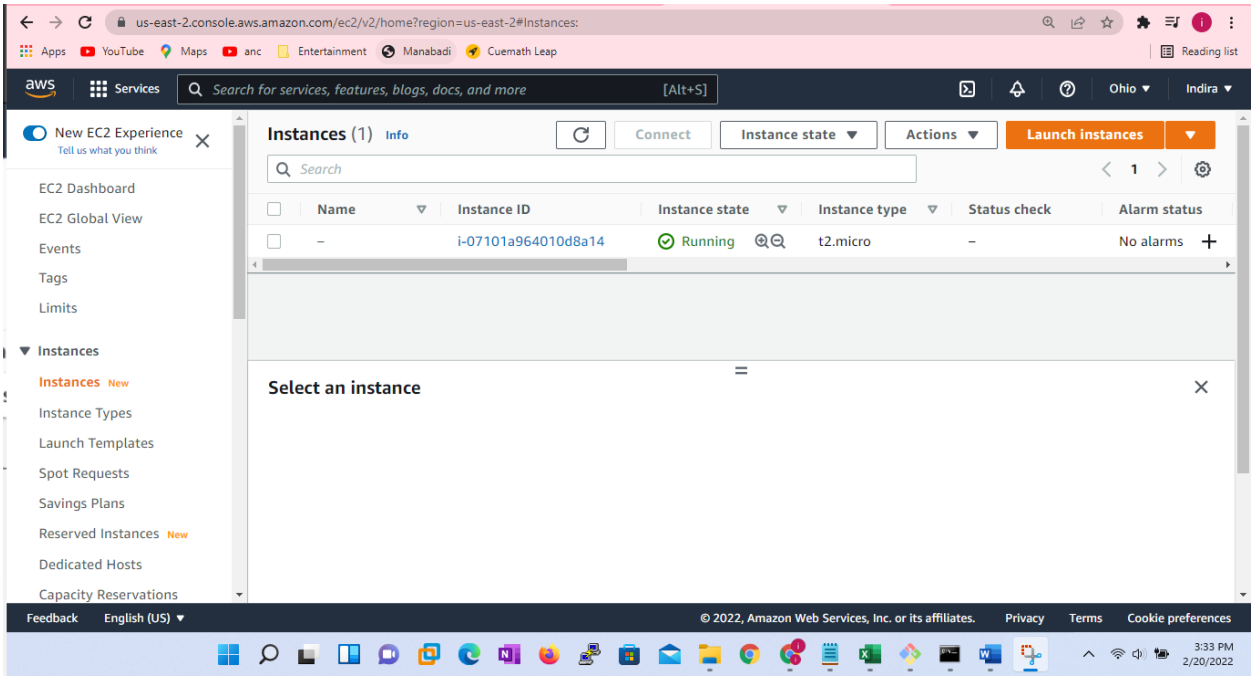
Ec2 Instance

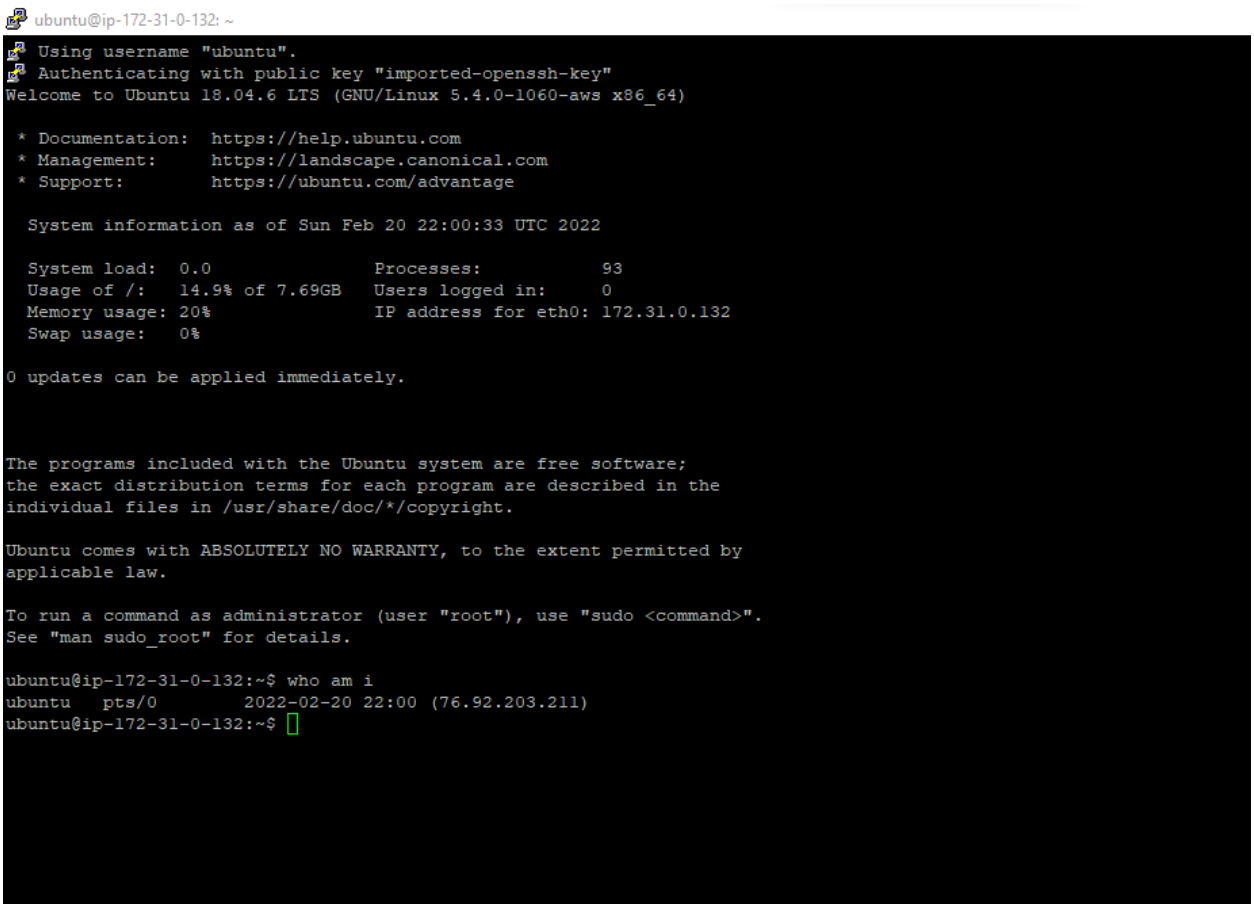
First go to the aws console select ec2 then select launch Instance then selected the Ubuntu server 18.04



And I flowed the steps launched the Instances



Ec2 instance connected to the putty



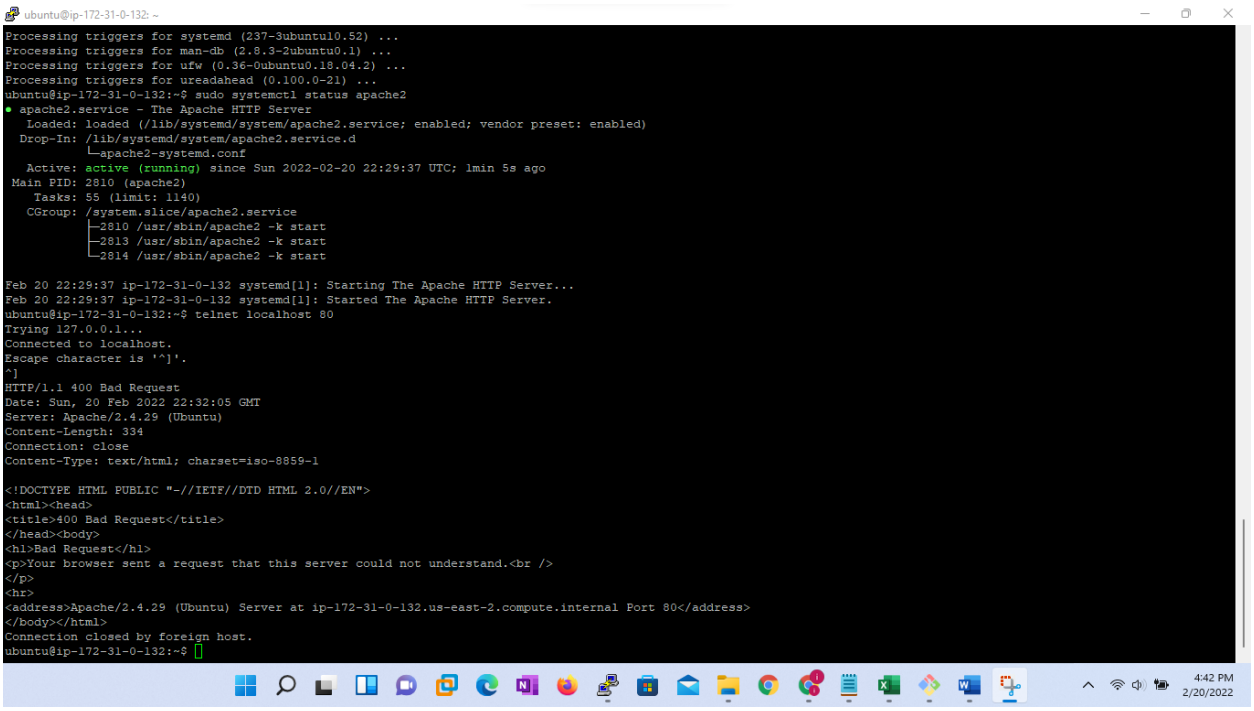
Now Install Apache on the Ubuntu machine. Login and run these commands to install and start the Apache Web server.

sudo apt update

sudo apt install -y apache2

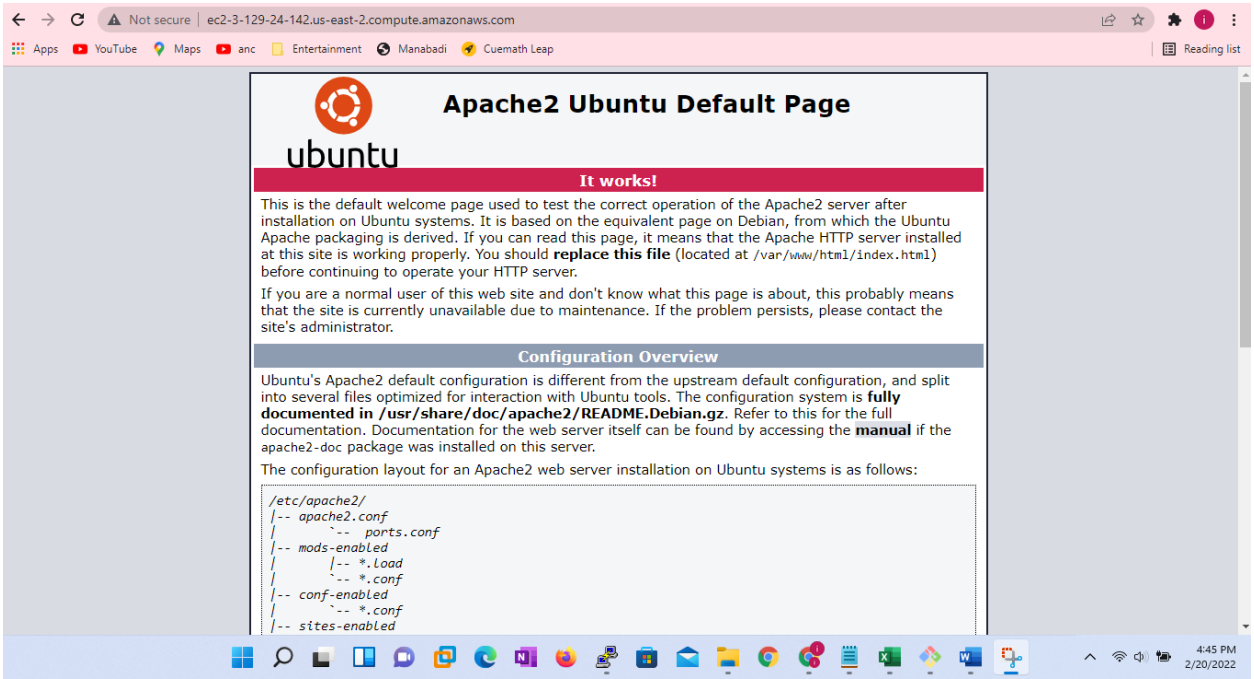
sudo systemctl status apache2

.



Go to the browser and try to access Apache Web Server using http://<public_ip>.

- If it is not opened then the link will not work. Now go to the security group and the new rule for port number 80 using **My IP**.
- Now the link should work without any issues. It will launch the default Apache Web Server Page for Ubuntu.



Public and Private IP Addresses:

Let us understand the concepts behind public and private IP addresses associated with AWS EC2 Instances.

- Typically, 2 IP Addresses and corresponding DNS aliases will be attached to each AWS EC2 Instance.
- Public DNS aliases start with **ec2** and Private DNS aliases start with **ip**.
- Public DNS alias or underlying Public IP address can be used to access EC2 instances or services running on it via the internet from outside of AWS.
- Private DNS alias or underlying Private IP address can be used for internal communication between EC2 instances within AWS VPC.
- By default, the Public DNS alias or Public IP address is ephemeral. It means if you stop and start an EC2 instance, most likely the Public DNS alias and Public IP address will change.

EC2 Life Cycle

Let us go through the life cycle of EC2 Instance. EC2 instance will be in one of these states as long as it is not terminated.

- Running
- Stopped
- Restarting

If you stop the EC2 instance, the public IP might be reset as it is ephemeral by default. You need to lease elastic IP and assign it to the EC2 instance so that public IP does not change.

As long as EC2 Instance is stopped you will not be charged for the instance. But, if you use EBS for storage, you have to pay for it.

Allocating and Assigning Elastic IP Addresses:

- Go to AWS Web Console and then go to EC2 Console. Go to **Elastic IPs** under **Network & Security**.
- Click on **Allocate Elastic IP address** to lease the IP address so that we can associate with the ec2 instance created earlier.

Select newly allocated elastic IP address, go to **Actions** and click on **Associate Elastic IP address**

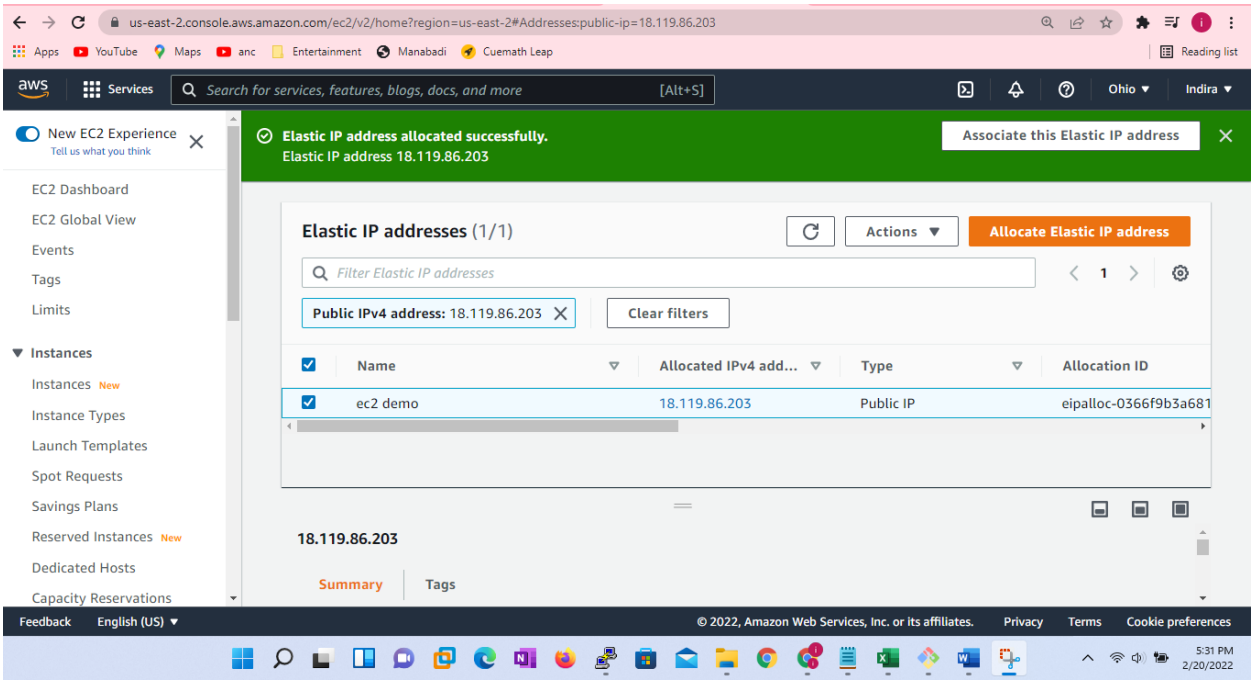
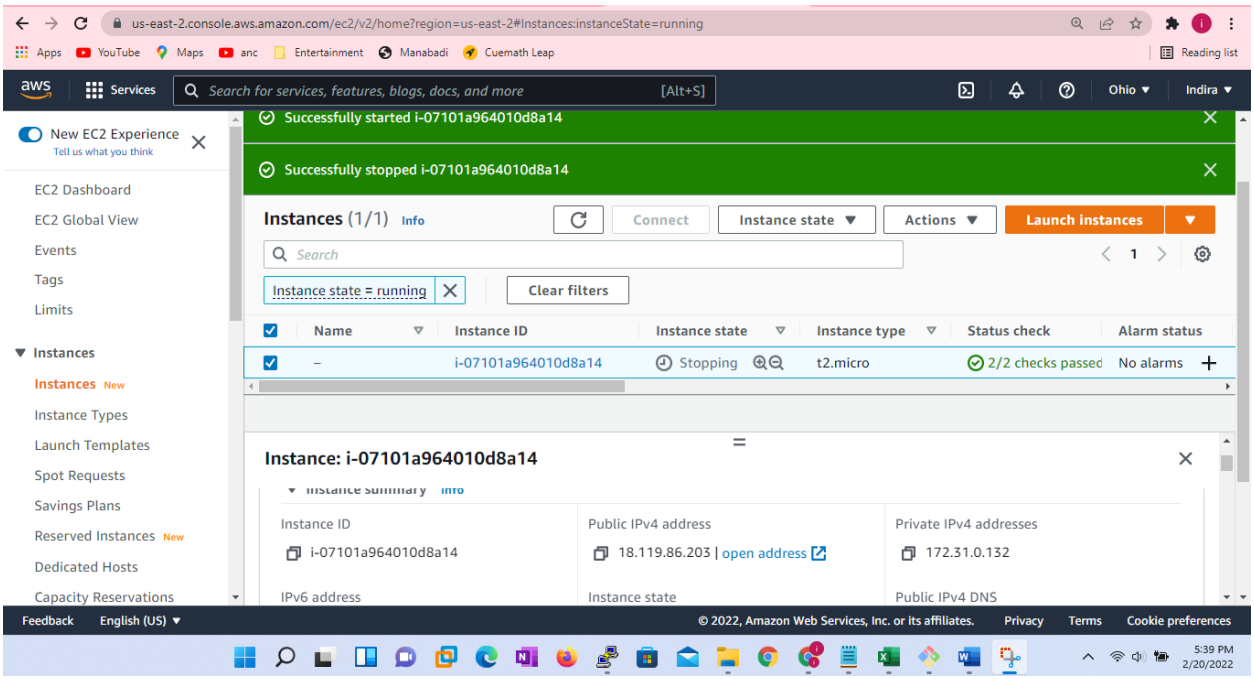
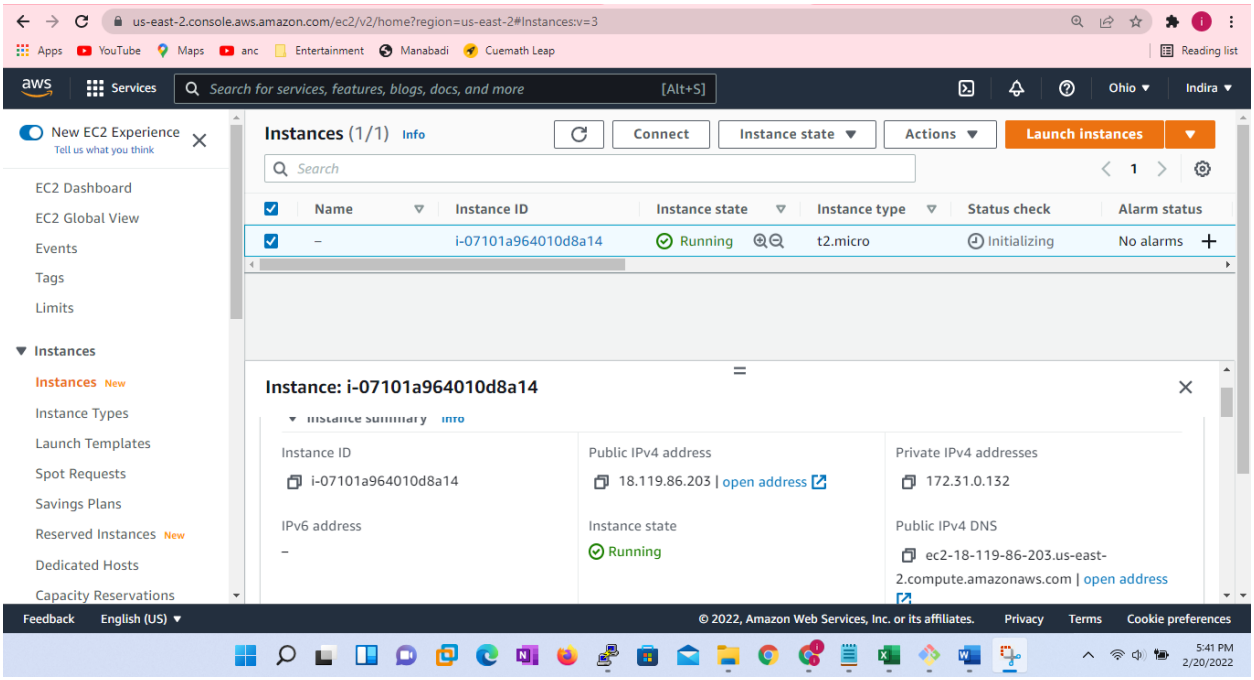


Figure 1This is the allocated ipaddress

- Select the EC2 instance in the drop-down related to Instance.



Again started the instances



Now we can observe that when the instances is stopped and started again the public DNS did not changed because of the Elastic ip address is allocated to that instance.

Upgrade or Downgrade EC2 Instances

- Increasing Memory or CPU or both is called Upgrading the EC2 Instance.
- Go to EC2 Console and choose the instance to which you want to upgrade.
- Go to **Instance State** and stop the instance. You can also use CLI to stop the instance.
- Go to **Actions**, then choose **Instance Settings** and then click on **Change Instance Type**.
- As of now, the EC2 Instance is of type **t2. Micro**, upgrade it to **t2. medium**.

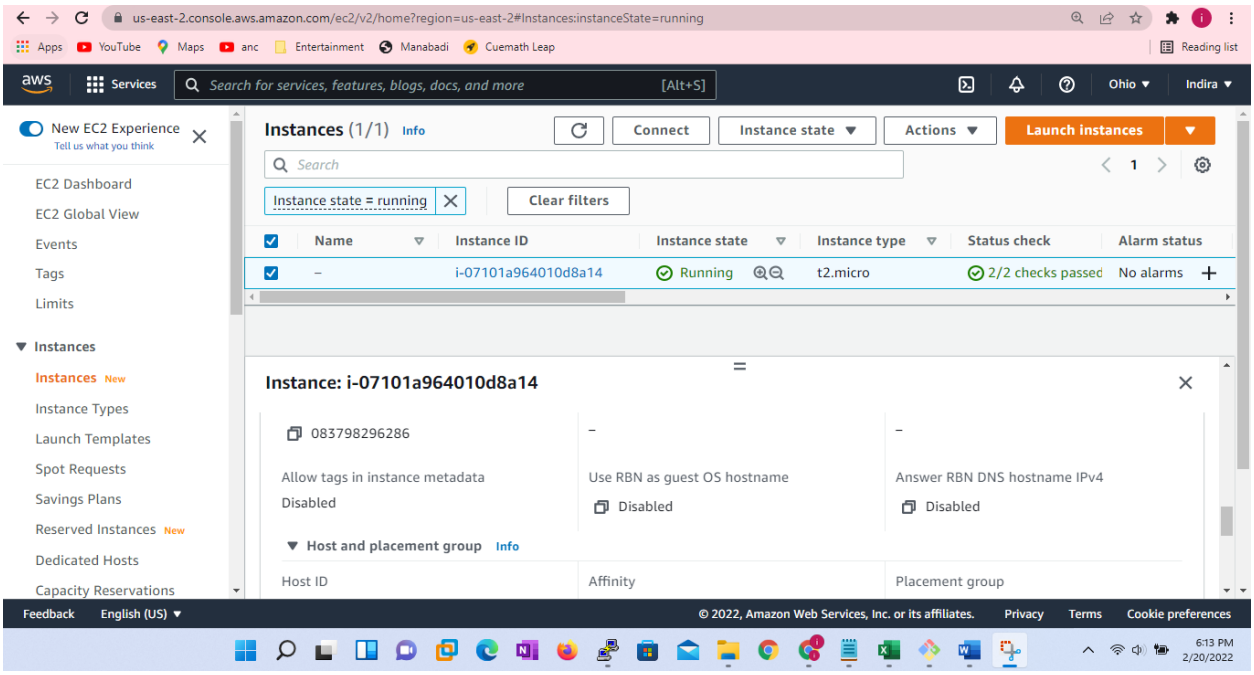


Figure 2Instance type is t2.micro

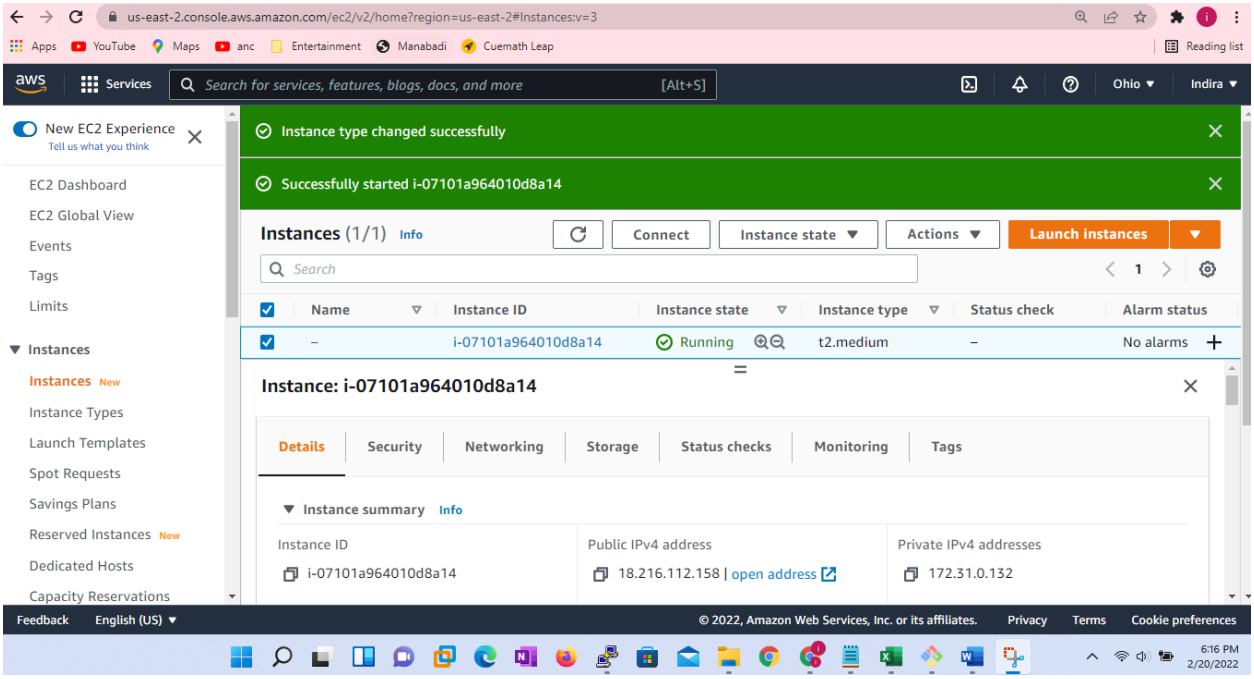
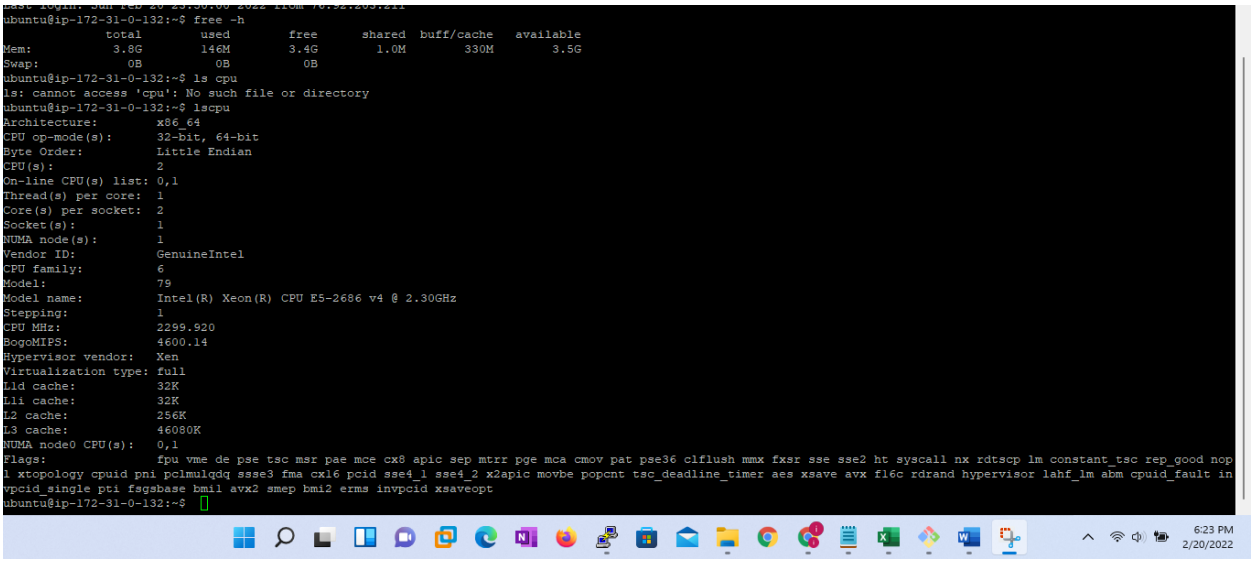


Figure 3Here the instance type is t2.medium

Now the instance is downgrade

- We can run the below commands to confirm the memory and CPU configuration from within the server.



Generate the JSON and review it to understand the structure of the metadata.

aws ec2 describe-instances-status