Advance DevOps lab

Experiment 1

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Semester : V
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1) What is DevOps ?

Ans: DevOps is the combination of cultural philosophies, practises, and tools that improves an organization's capacity to deliver applications and services at high velocity: evolving and improving products more quickly than organisations using conventional software development and infrastructure management processes. Organizations are able to better service their clients and compete more successfully on the market because to this quickness.

2) What is AWS EC2? Why EC2?

Ans: Users can rent virtual computers on which to execute their own computer programmes using Amazon Elastic Compute Cloud (EC2), a component of Amazon Web Services, the company's cloud computing platform.

The following features are offered by Amazon EC2:

1. Instances, or virtual computing environments

2. Amazon Machine Images (AMIs), which are pre-configured templates for your instances that contain the operating system and any applications you require for your server.

3. Various CPU, memory, storage, and networking settings for your instances, referred to as instance types

4. Using key pairs, safeguard your instances' login information (AWS stores the public key, and you store the private key in a secure place)

5. Secure login information for your instances using key pairs (AWS stores the public key, and you store the private key in a secure place)

6. Instance store volumes are storage volumes for transient data that disappears when you suspend, hibernate, or terminate your instance.

7. Amazon Elastic Block Store (Amazon EBS)-based persistent storage volumes for your data, also known as Amazon EBS volumes

8. Regions and Availability Zones are different physical locations for your resources, including instances and Amazon EBS volumes.

9. a firewall that lets you use security groups to define the protocols, ports, and source IP ranges that can access your instances

10. Elastic IP addresses, or static IPv4 addresses, are used in dynamic cloud computing.

11. Tags are metadata that you can create and give to your Amazon EC2 resources.

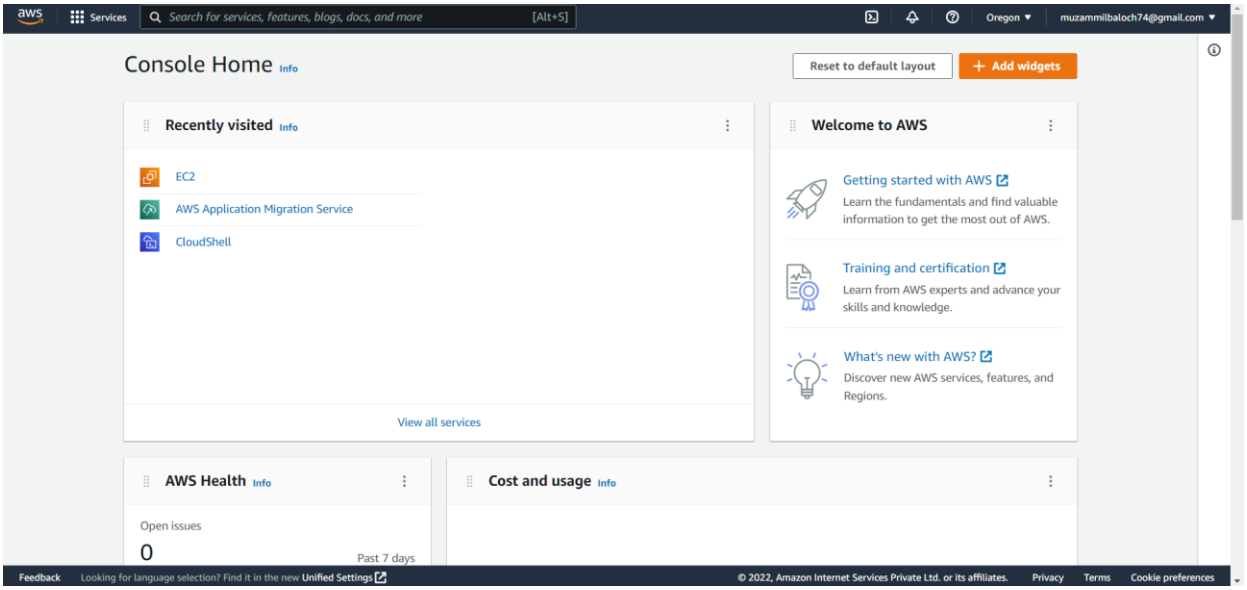
12. Virtual private clouds are virtual networks that can be created that are conceptually isolated from the rest of the AWS Cloud and can optionally connect to your own network (VPCs)

3) Launch two instances of AWS EC2, one in windows and another in ubuntu . Get connected to instances using RDP and MobaXterm client software. Explain each step of EC2 creation and launching with the help of screenshots.

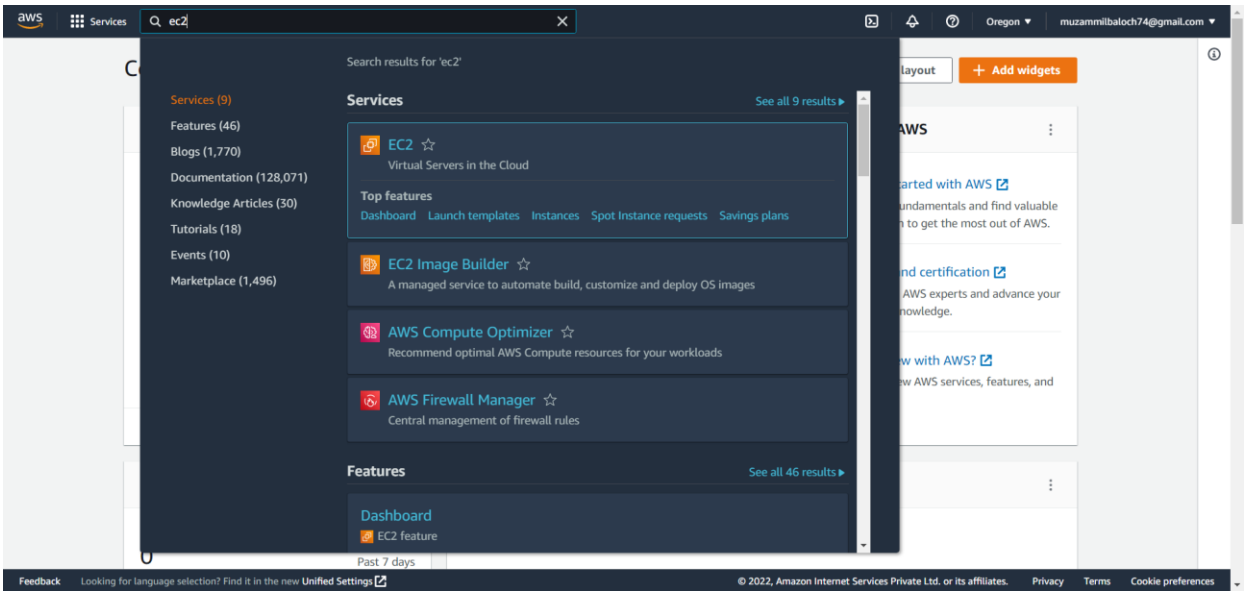
Open google.com form both the instances, search your own name.

(a) Windows

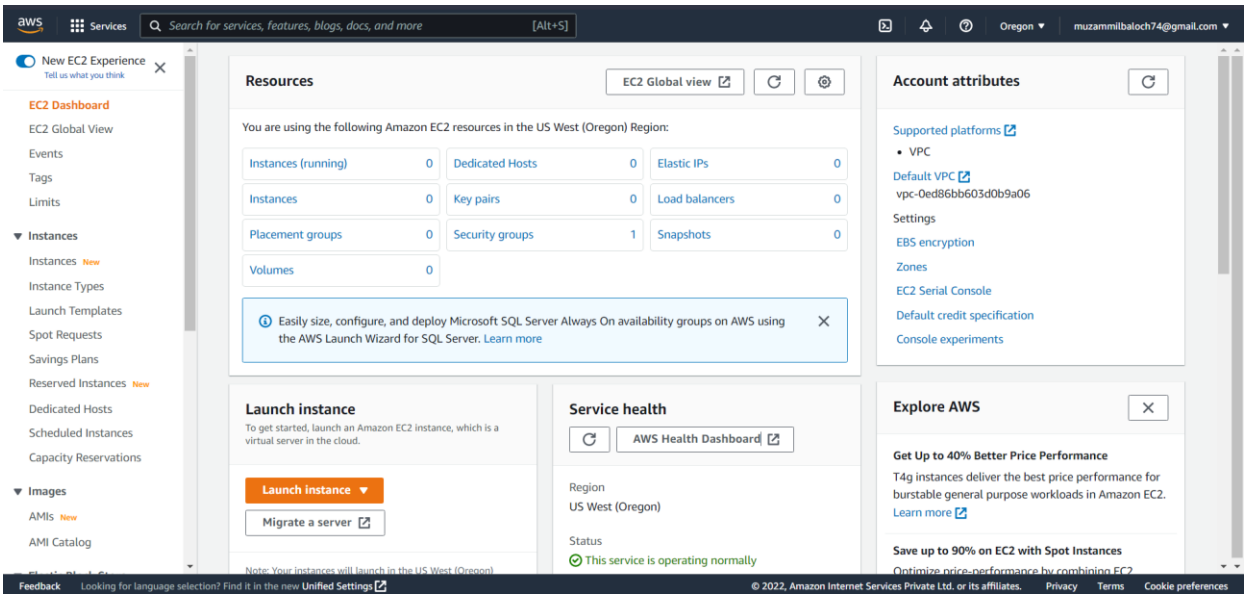
Step 1: Management Console Dashboard



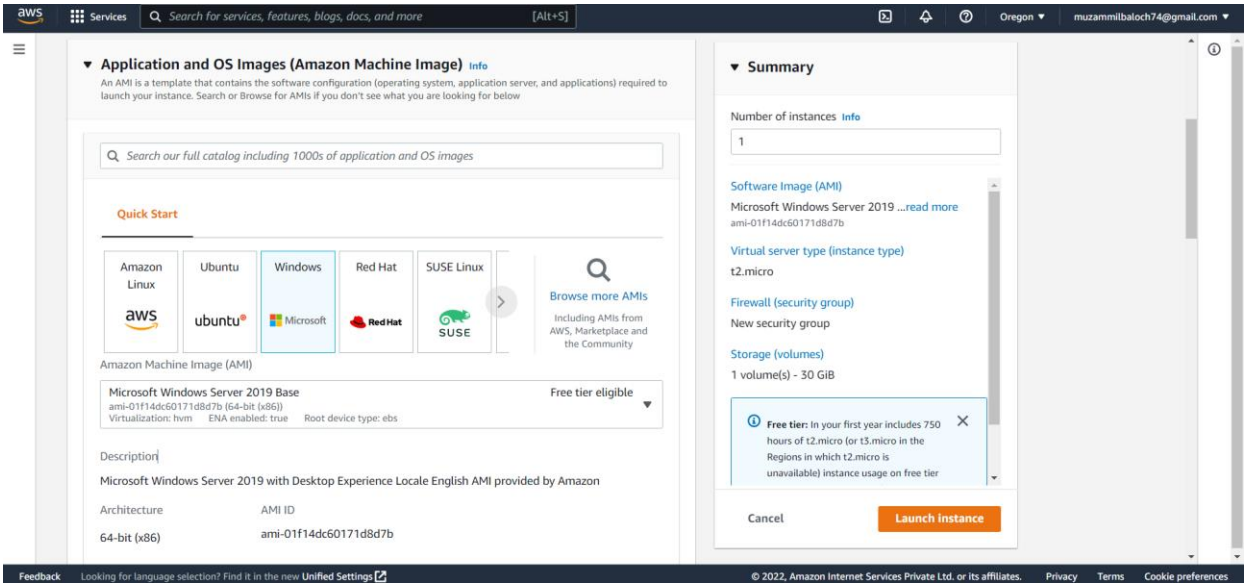
Step 2: Click on services and then click on EC2



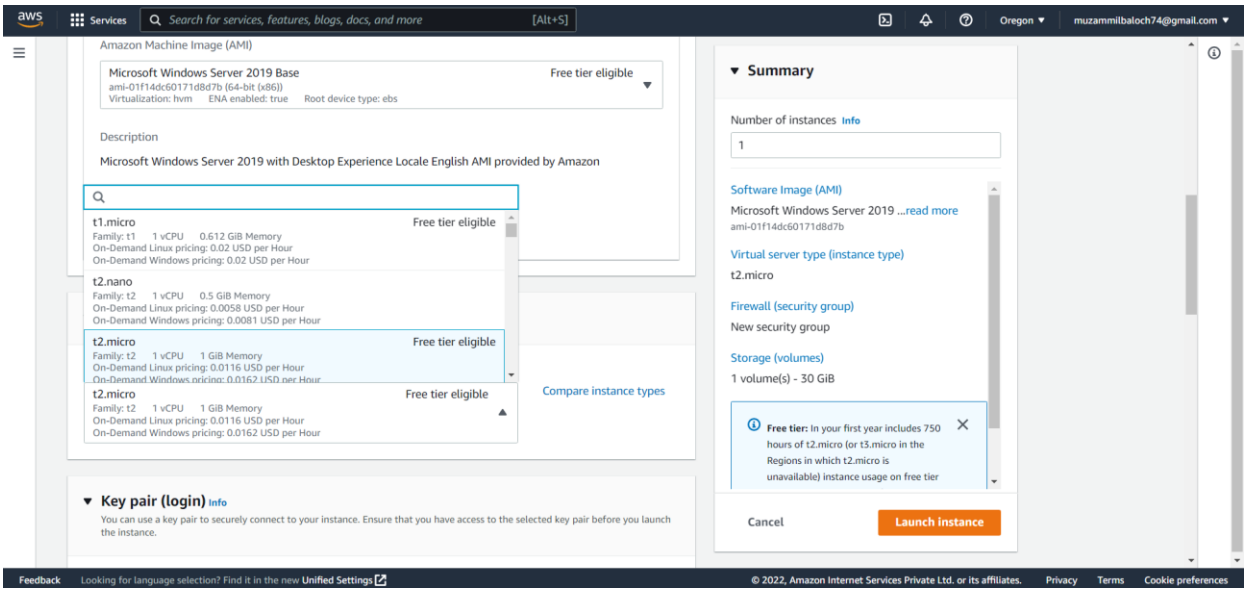
Step 3: Launch instance



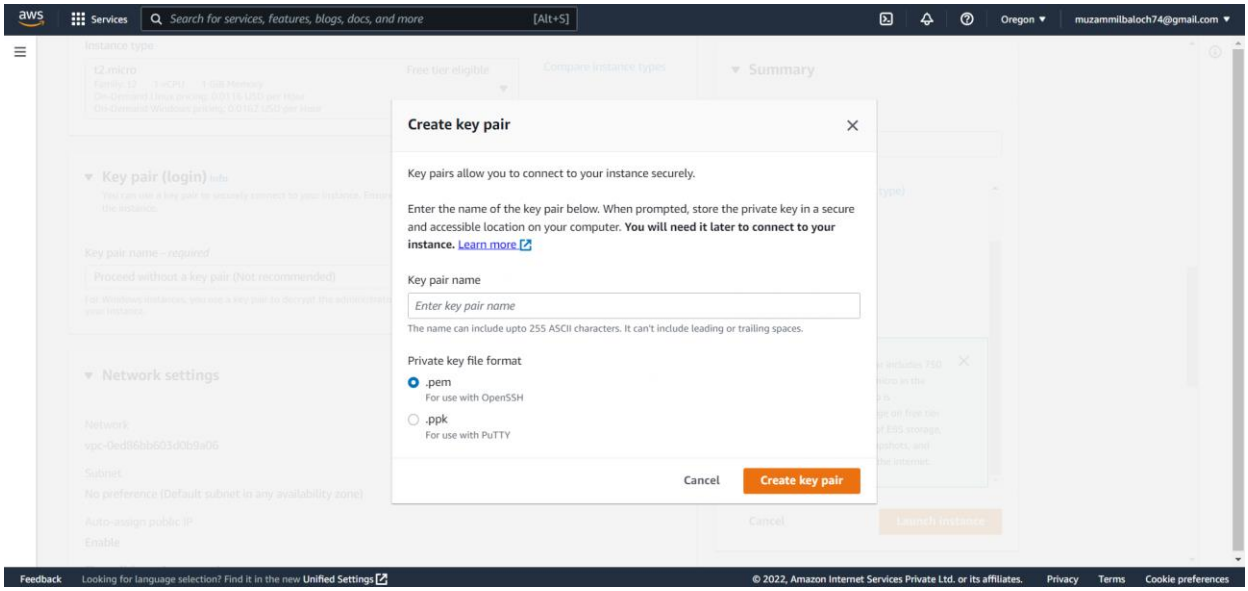
Step 4: Select Windows



Step 5: Select instance with free tier



Step 6: Create a login key which is required for logging in to the instance



Summary

Number of instances **Info**

1

Virtual server type (instance type)

t2.micro

Firewall (security group)

New security group

Storage (volumes)

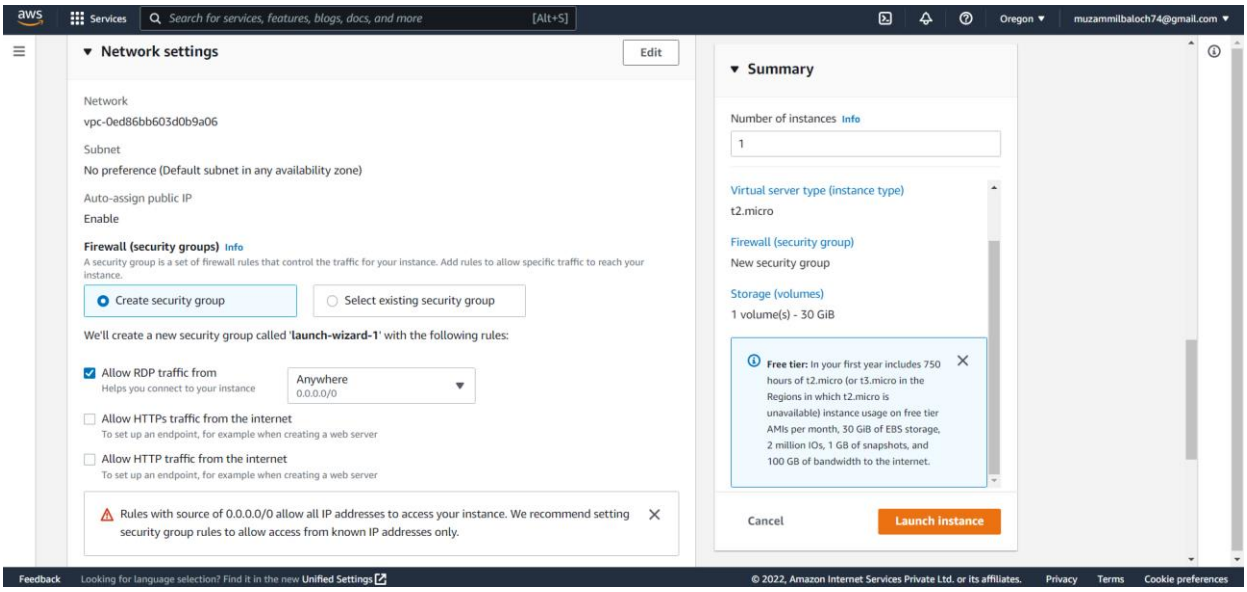
1 volume(s) - 30 GiB

Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month, 30 GiB of EBS storage, 2 million IOs, 1 GB of snapshots, and 100 GB of bandwidth to the internet.

Cancel

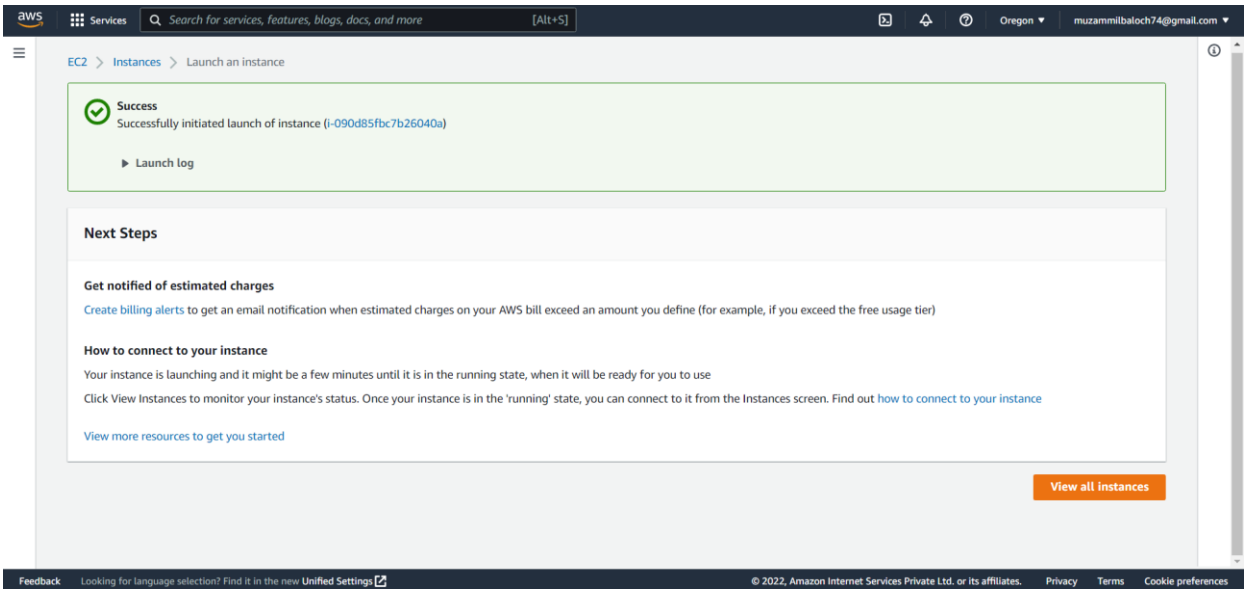
Launch instance

Step 7: Security: Select Anywhere so that we can access the instance from any IP address.



Step 8: Launch instance

Success message will be shown after successfully creation of instance

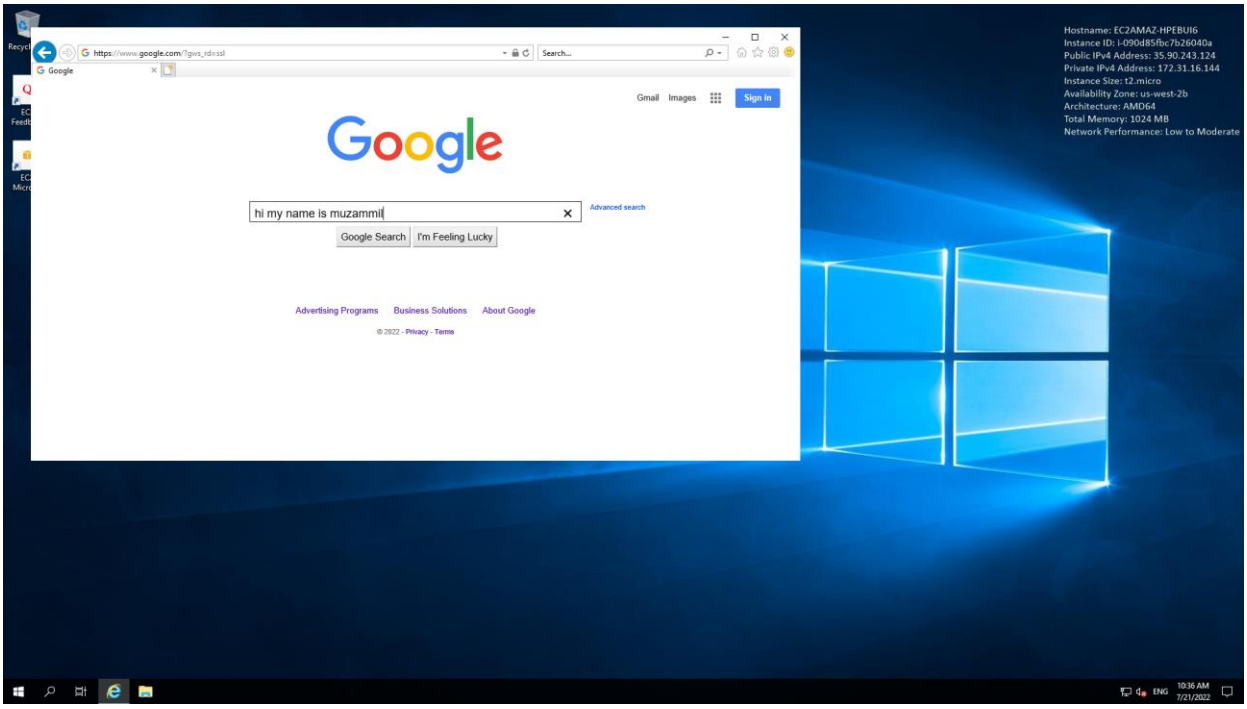


Step 9: RDP connection :

For connection we have to download the desktop file as shown in the image below

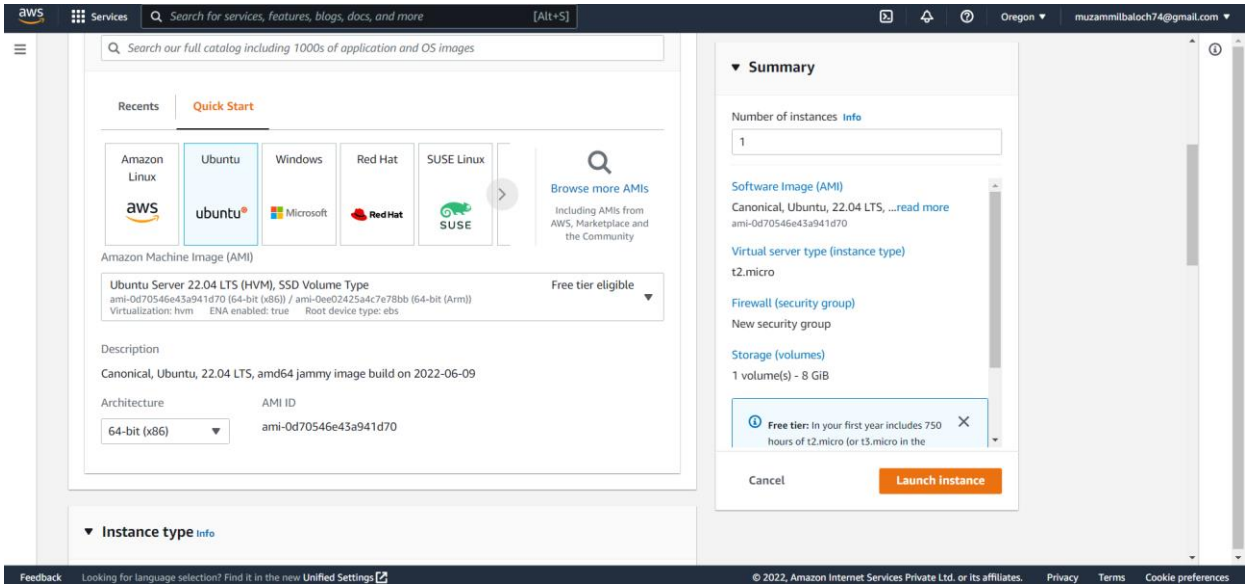
And have to decrypt the password which we downloaded by login key in the form of .pem file After that simply run the desktop file . the instance will start running.

Step 10: Opening google.com to search name

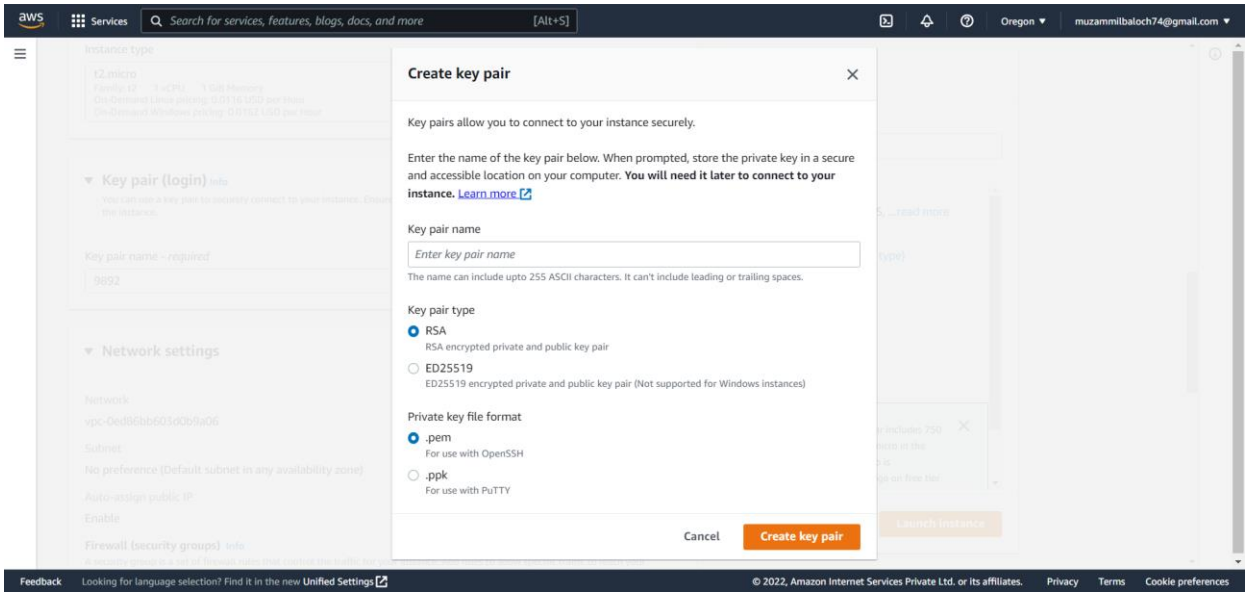


(b) For ubuntu:

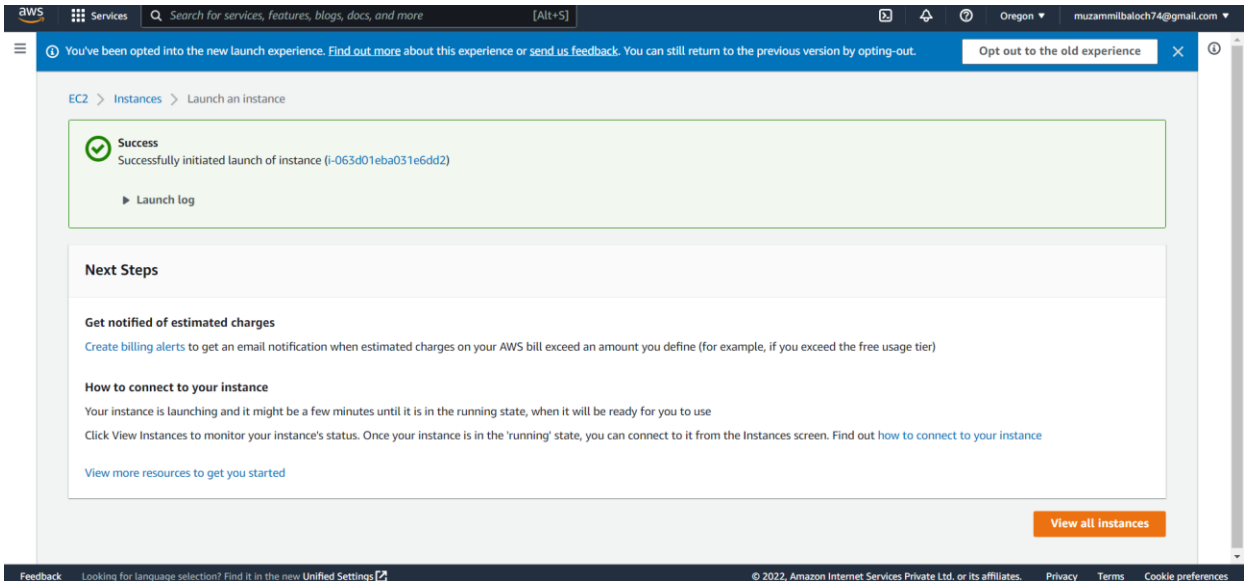
Step 1: Select ubuntu



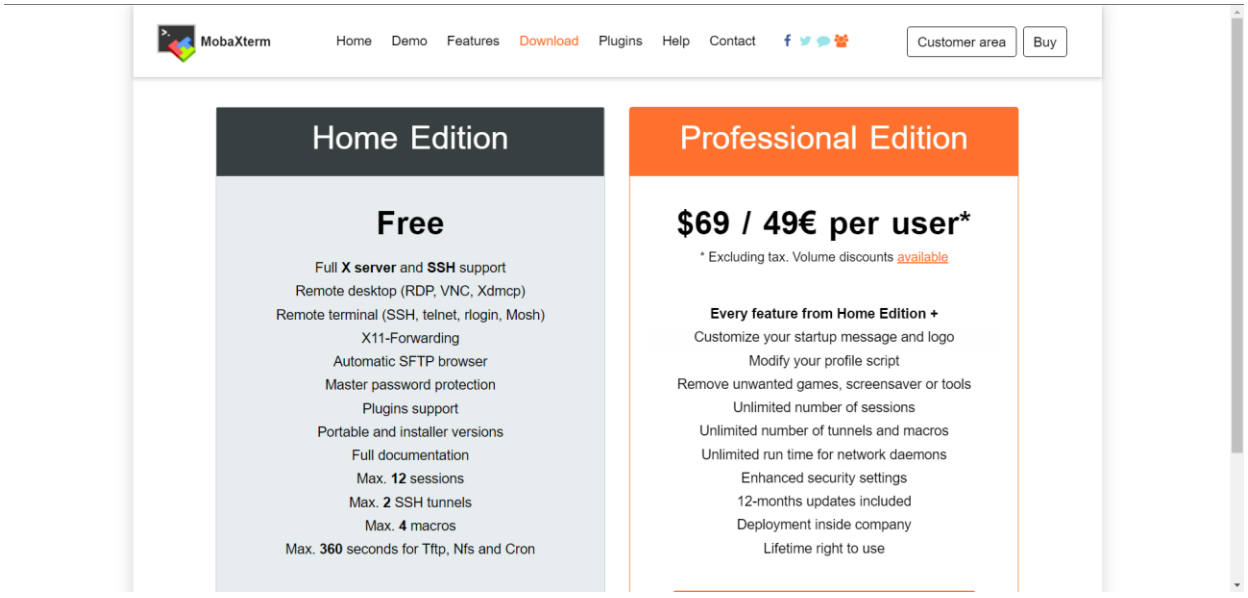
Step 2: Login key



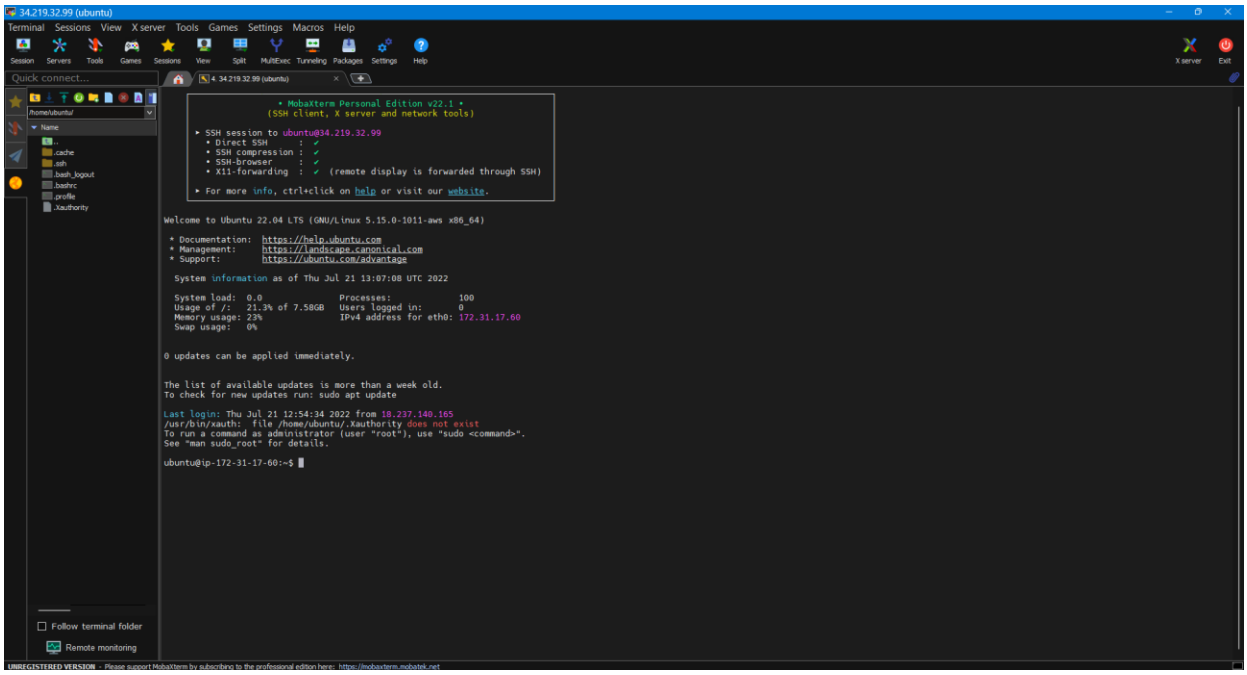
Step 3: Launch Ubuntu instance



Step 4: MobaXterm download



Step 5: Creating a connection with an AWS instance via the Mobaxterm ssh server



Step 6 : writing few commands to run Google Chrome through Ubuntu server

Which are as follows :

sudo su

sudo apt update

sudo apt install wget

wget https://dl.google.com/linux/direct/google-chrome-stable_current_amd64.deb

sudo apt install ./google-chrome-stable_current_amd64.deb

Step 7 : Launching Google and typing in our name