# EC2

EC2 Stands for Elastic Compute Cloud. It is a web service that provides security and resizable computer capacity in the cloud which is designed to used by developer easier.

To launch ec2 instance there will be seven steps needs to be performed

STEPS:

Step 1: First, login into your AWS account and click on **"services"** present on the left of the AWS management console, i.e. the primary screen. And from the drop-down menu of options, tap on **"EC2"**.
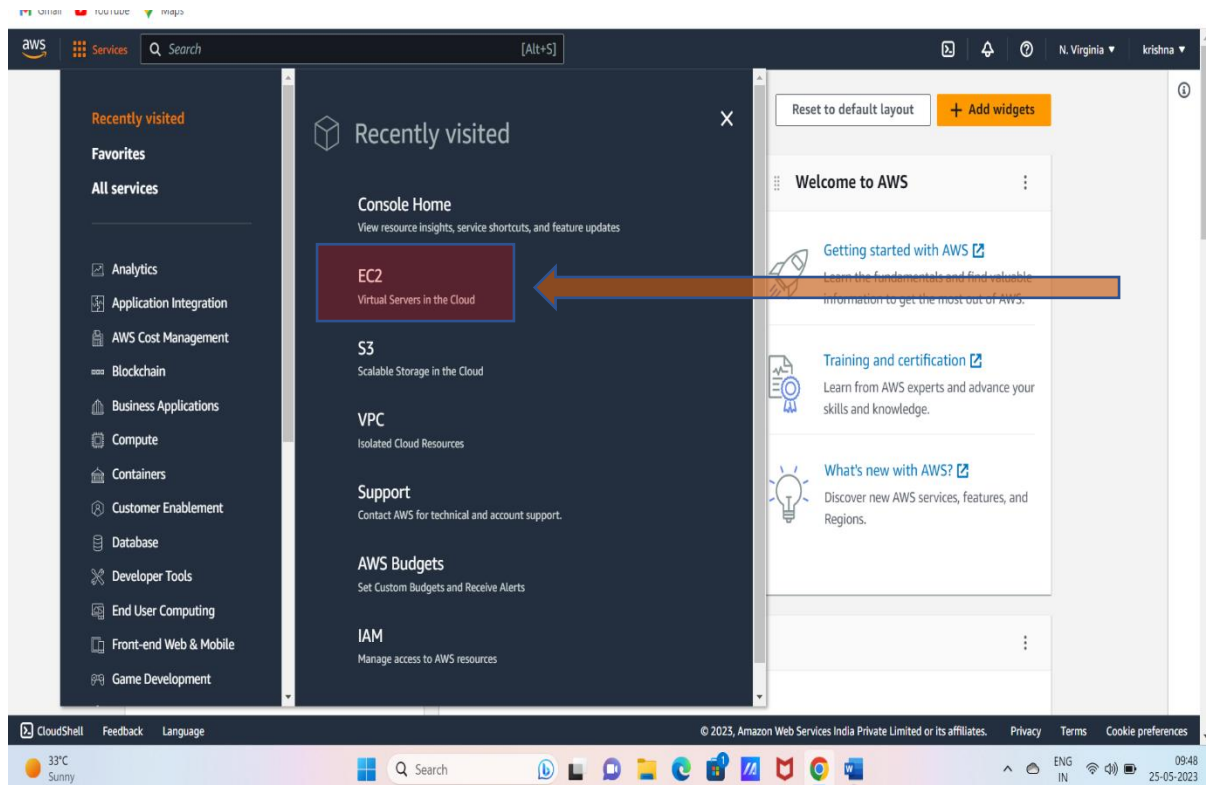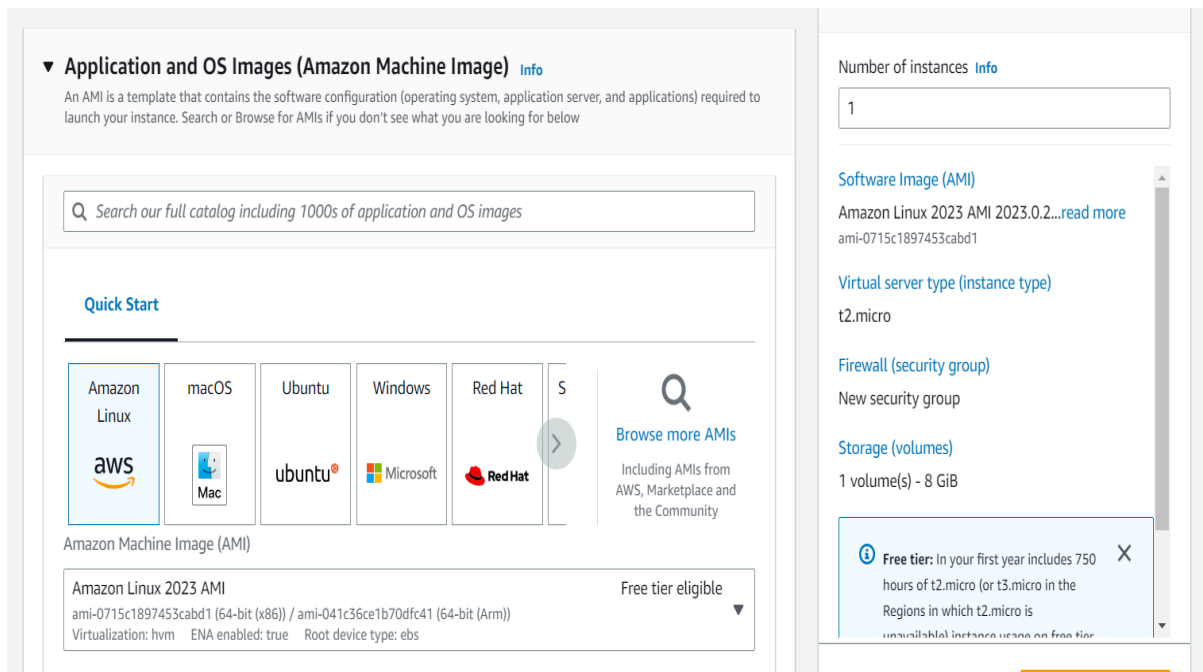

- Under Resources >> Click on "Instances running" — It will show if any EC2 instances are running or not.
- Click on **launch instance**
- Click on launch instance, after clicking on it you will be redirected to a launch page where we can create instance.

Create a name for the instance

- Name the instance
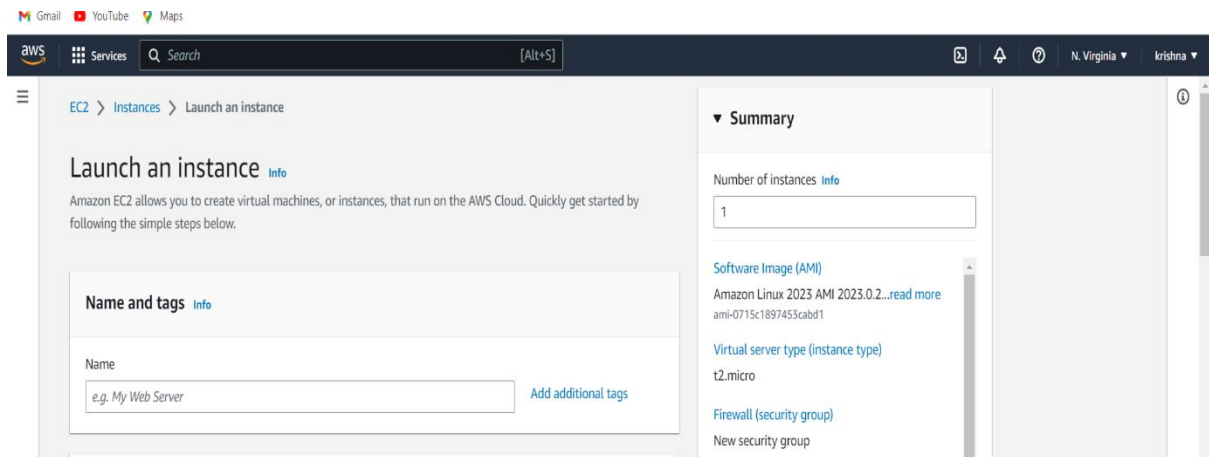
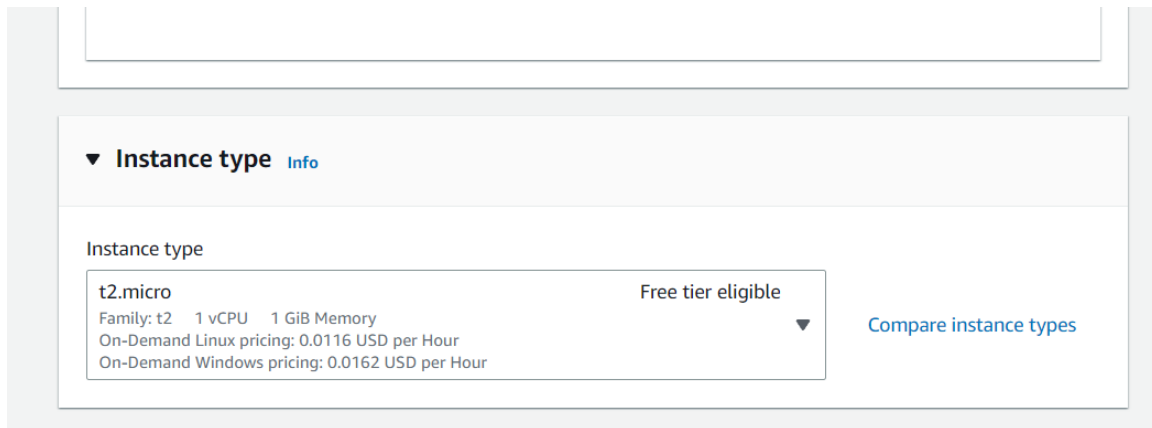## Select AMI – Required operating system from the available

Amazon Machine Image

I am selecting windows AMI as we need to create LINUX instance.

***By default, it selects a free tier storage.(IF YOU ARE ELIGIBLE FOR FREE TIER)***
From the available storage specifications, select a free tier eligible storage service.

Select instance type

By default, instance type is "t2.micro" which is free tier eligible service.

Now, create a key value pair, by clicking on "Create new key pair". A linux will pop for creating key-pair as shown below.
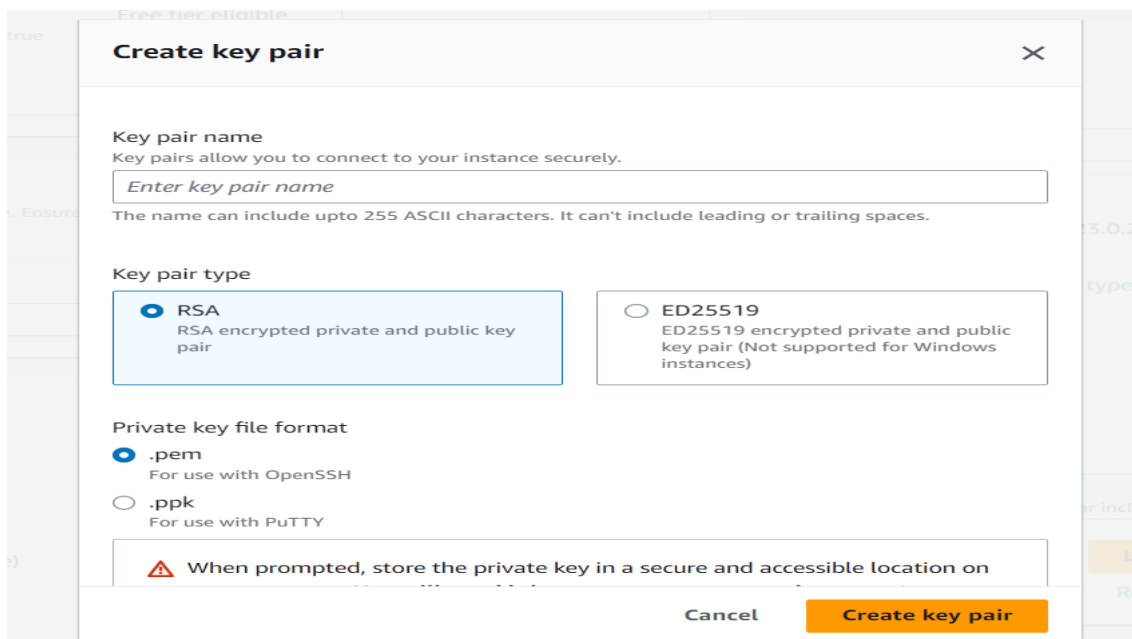
Create Key-Pair

Enter name>>Select ".pem" and create. Automatically key-pair which was created will be downloaded.

Select the created key-pair.

Keep the network settings as default settings and make changes if required.
Storage
As mentioned in the picture, Free tier eligible can get up-to 30 GB of EBS Storage.

Launching Instance

At last, Check if all the selected are eligible for free tier or not and click on "Launch instance".

That's it, an instance will be created.

The common EC2 instance states are Pending, Running, Stopping, Stopped, Terminated, Shutting Down and Reebooted.

1. Pending: When you launch an EC2 instance, it enters the pending state. This means that AWS is in the process of creating the instance and initializing all of the necessary components, such as the virtual machine and the associated networking resources. During this time, you won't be able to access the instance, as it is not yet ready to be used.

2. Running: Once an EC2 instance has finished initializing, it enters the running state. This means that the instance is up and running and is ready to be used. In this state, you can log in to the instance and start using it to run your applications and services.

3. Stopping: If you manually stop an EC2 instance, or if it is part of an auto-scaling group and is being terminated, it enters the stopping state. During this state, AWS prepares the instance for shutdown by stopping any processes or applications running on the instance and disconnecting it from the network. However, the instance's configuration and data are preserved, so you can start the instance again later if you need to.

4. Stopped: Once an EC2 instance has been stopped, it enters the stopped state. In this state, the instance is not running and is not available for use. However, the instance's configuration and data are preserved, so you can start the instance again later if you need to. You might stop an instance if you don't need it for a period of time but don't want to terminate it entirely.

5. Terminated: If you manually terminate an EC2 instance, or if it is part of an auto-scaling group and is being terminated, it enters the terminated state. In this state, the instance is permanently deleted, and all of its configuration and data are lost. You might terminate an instance if you no longer need it, or if you want to replace it with a new instance.

6. Shutting-down: If AWS is retiring an instance, it goes into the "Shutting-down" state for a brief period before the instance is terminated. During this time, the instance is no longer available for use, and the data and configuration are preserved. This state is similar to the stopping state, but with an added step of preparing the instance for retirement.

7. Rebooting: If you choose to reboot an EC2 instance, it enters the rebooting state. During this state, the instance's operating system is shut down and then restarted, but the instance's configuration and data are preserved. You might reboot an instance if you need to apply updates or make changes to the instance's configuration.