D Y PATIL INTERNATIONAL UNIVERSITY
AKURDI PUNE

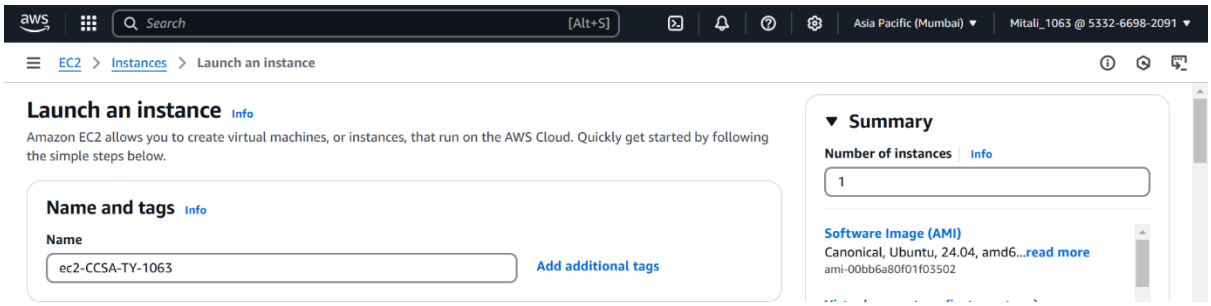
School of Computer Science, Engineering and Applications (SCSEA)
B.C.A. TY (CCSA)
Subject: Containers & Orchestration

Name of the Student: **Mitali Bhattad** **PRN: 20220801063**

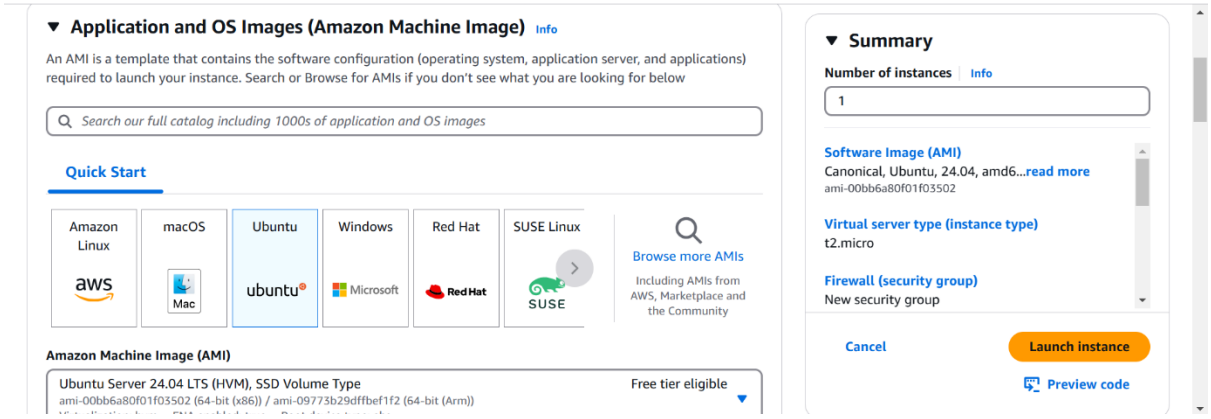
Title of Practical: **Deploying and securing docker community edition on AWS linux EC2 instance.**

Step1: Launch an EC2 Instance

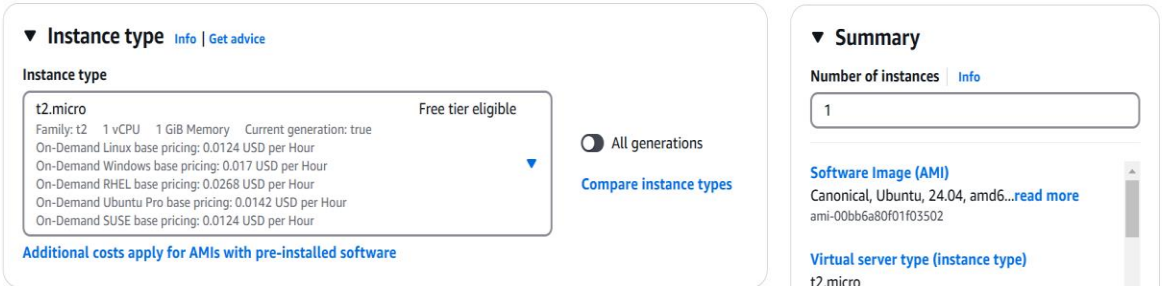
- Name the Instance



- Choose AMI: Ubuntu



- Select the instance type: t2 micro



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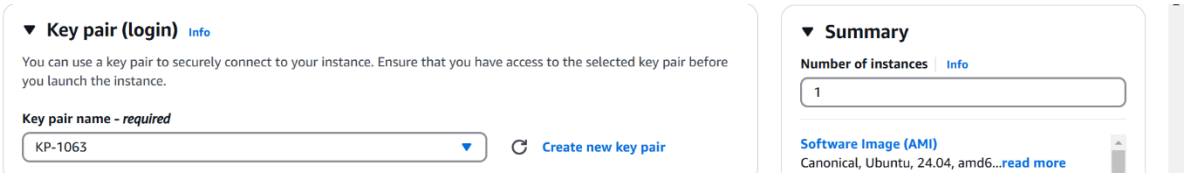
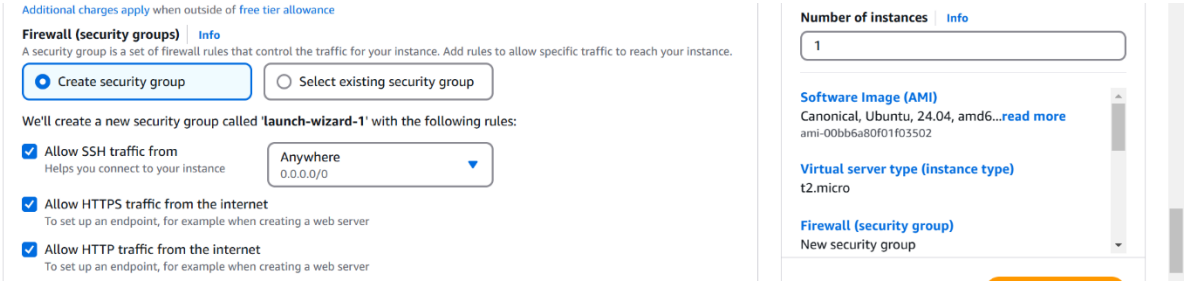
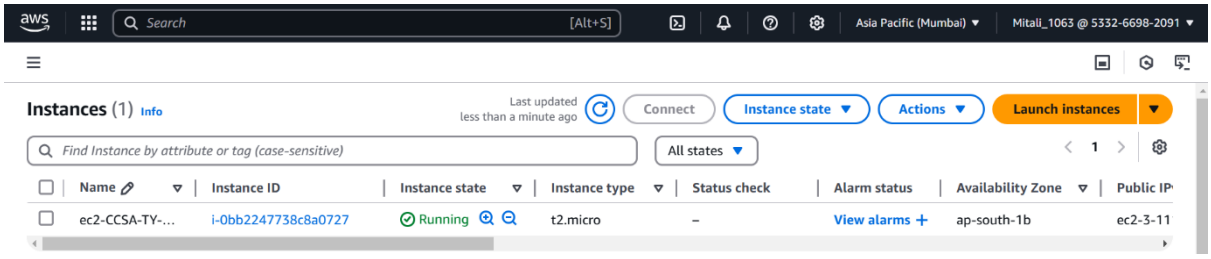
- Create a Key pair



- Security Group: Allow all the traffic



- Launch the instance

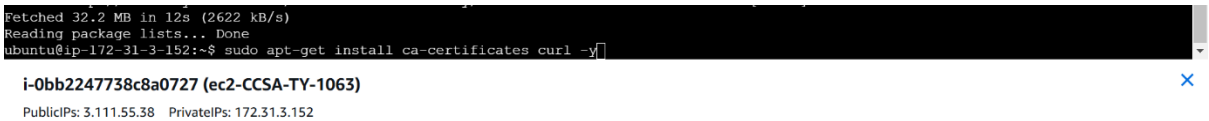


Step 2: Connect the EC2 Instance and run the following commands:

1. Set up Docker's apt repository.

   -sudo apt-get update -y

   -sudo apt-get install ca-certificates curl -y



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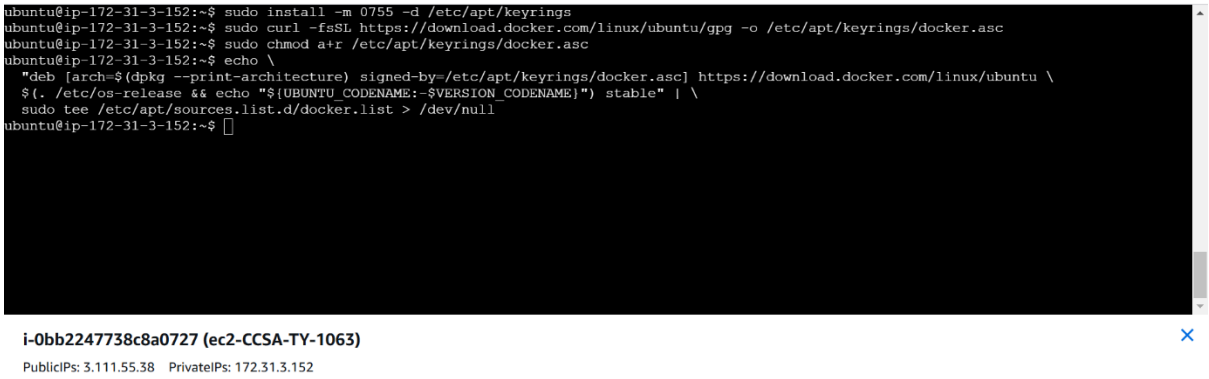
-sudo install -m 0755 -d /etc/apt/keyrings

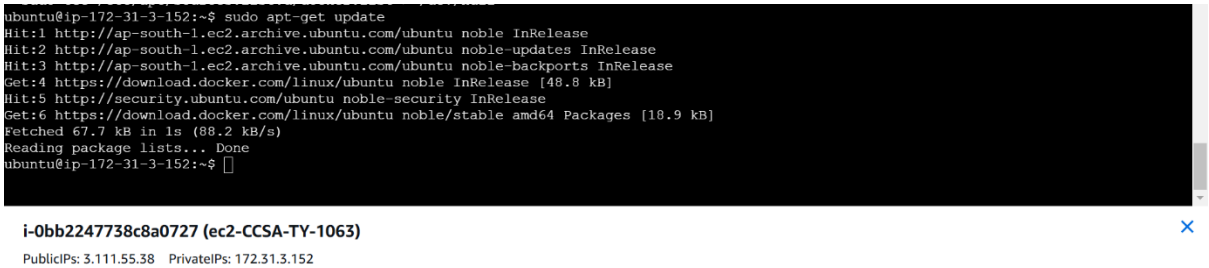
-sudo curl -fsSL https://download.docker.com/linux/ubuntu/gpg -o /etc/apt/keyrings/docker.asc

-sudo chmod a+r /etc/apt/keyrings/docker.asc

-echo \
"deb [arch=$(dpkg --print-architecture) signed-by=/etc/apt/keyrings/docker.asc] https://download.docker.com/linux/ubuntu \
$(. /etc/os-release && echo "$VERSION_CODENAME") stable" | \
sudo tee /etc/apt/sources.list.d/docker.list > /dev/null



-sudo apt-get update



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2. Install the Docker packages.
   -sudo apt-get install docker-ce docker-ce-cli containerd.io docker-buildx-plugin docker-compose-plugin

```
ubuntu@ip-172-31-3-152:~$ sudo apt-get install docker-ce docker-ce-cli containerd.io docker-buildx-plugin docker-compose-plugin
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
```

3. To verify the docker installation:
   Run the following commands:
   - docker -v

```
ubuntu@ip-172-31-3-152:~$ docker -v
Docker version 27.5.1, build 9f9e405
ubuntu@ip-172-31-3-152:~$
```

i-0bb2247738c8a0727 (ec2-CCSA-TY-1063)
PublicIPs: 3.111.55.38 PrivateIPs: 172.31.3.152

4. Verify that the installation is successful by running the hello-world image
   - sudo docker run hello-world

```
ubuntu@ip-172-31-3-152:~$ sudo docker run hello-world
Unable to find image 'hello-world:latest' locally
latest: Pulling from library/hello-world
e6590344b1a5: Pull complete
Digest: sha256:d715f14f9eca81473d9112df50457893aa4d099adeb4729f679006bf5ea12407
Status: Downloaded newer image for hello-world:latest

Hello from Docker!
This message shows that your installation appears to be working correctly.

To generate this message, Docker took the following steps:
 1. The Docker client contacted the Docker daemon.
 2. The Docker daemon pulled the "hello-world" image from the Docker Hub.
    (amd64)
 3. The Docker daemon created a new container from that image which runs the
    executable that produces the output you are currently reading.
 4. The Docker daemon streamed that output to the Docker client, which sent it
    to your terminal.

To try something more ambitious, you can run an Ubuntu container with:
 $ docker run -it ubuntu bash
```

i-0bb2247738c8a0727 (ec2-CCSA-TY-1063)
PublicIPs: 3.111.55.38 PrivateIPs: 172.31.3.152

5. Now, check the docker images
   - sudo docker images

```
ubuntu@ip-172-31-3-152:~$ sudo docker images
REPOSITORY    TAG       IMAGE ID       CREATED       SIZE
hello-world   latest    74cc54e27dc4   2 weeks ago   10.1kB
ubuntu@ip-172-31-3-152:~$
```

i-0bb2247738c8a0727 (ec2-CCSA-TY-1063)
PublicIPs: 3.111.55.38 PrivateIPs: 172.31.3.152

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6. Now, to check running containers
   - sudo docker container ls

7. To check all the container including exited one also (-a stands for all, live and dead also)
   - sudo docker container ls -a ()