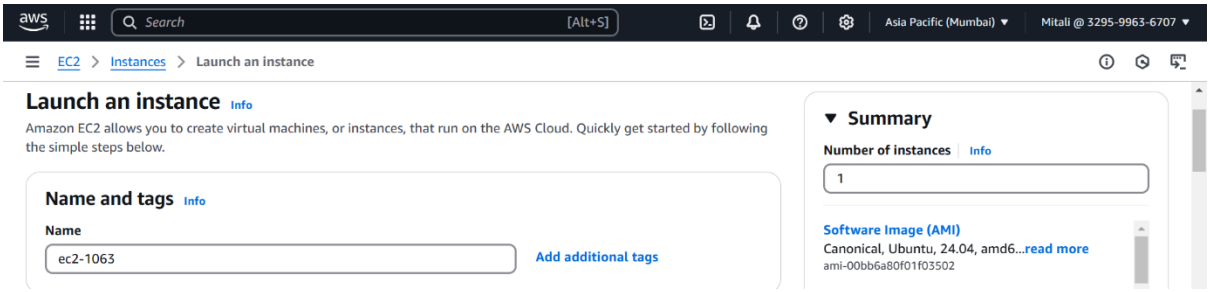
D Y PATIL INTERNATIONAL UNIVERSITY
AKURDI PUNE

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

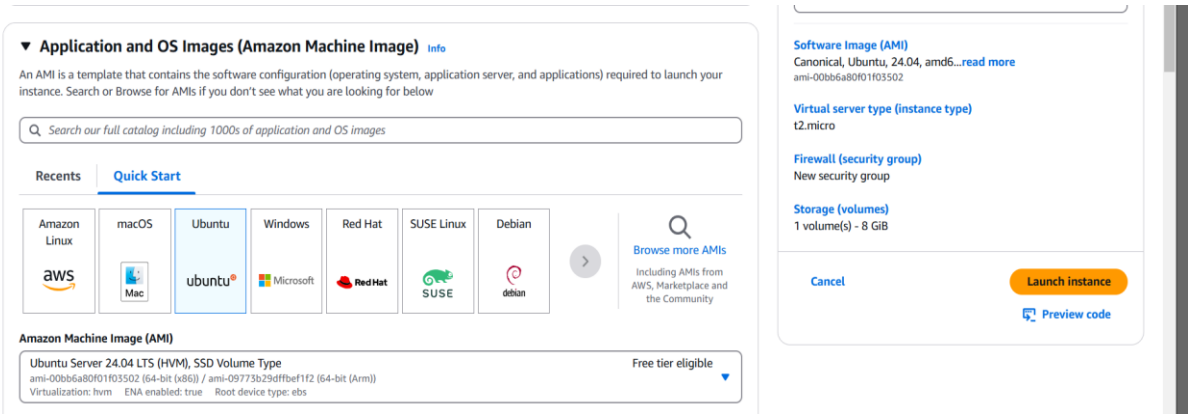
Name of the Student:	**Mitali Bhattad**	**PRN:**	**20220801063**
Title of Practical:	**Setting Up a MySQL Container and Configuring Database Access via MySQL Client to Interact with Running Containers**		

Step1: Launch an EC2 Instance

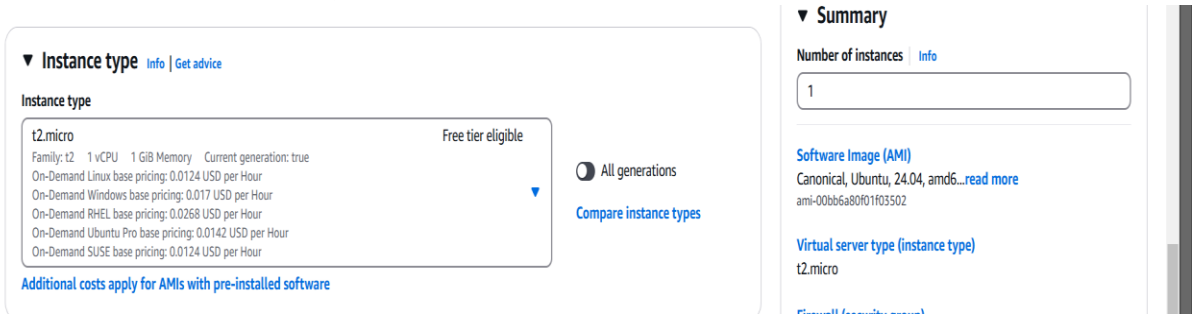
- Name the Instance



- Choose AMI: Ubuntu



- Select the instance type: t2 micro



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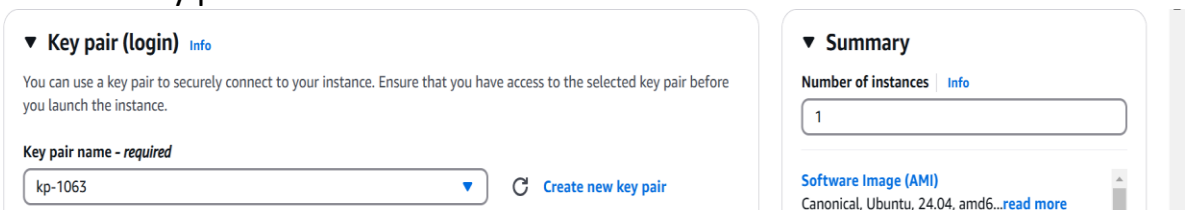
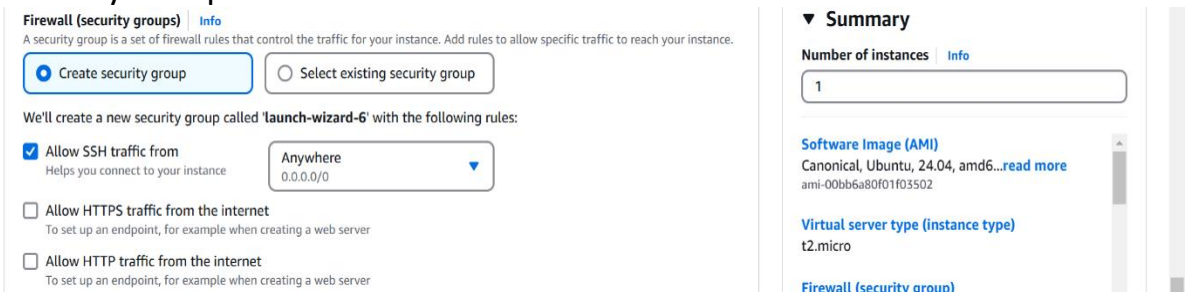
- Create a Key pair



- Security Group



- Launch the instance

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

1. Switch to root user and update and upgrade system packages
- sudo -i
- sudo apt-get update && sudo apt-get upgrade -y

```
ubuntu@ip-172-31-13-88:~$ sudo -i
root@ip-172-31-13-88:~# sudo apt-get update && sudo apt-get upgrade -y
```

3. Install Docker
- sudo apt install docker.io -y

```
root@ip-172-31-13-88:~# sudo apt install docker.io -y
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
```

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4. Pull mysql image
- docker pull mysql:latest

```
root@ip-172-31-13-88:~# docker pull mysql:latest
latest: Pulling from library/mysql
43759093d4f6: Pull complete
d255dceb9ed5: Pull complete
23d22e42ea50: Pull complete
431b106548a3: Pull complete
2be0d473cadf: Pull complete
f56a22f949f9: Pull complete
277ab5f6ddde: Pull complete
df1ba1ac457a: Pull complete
cc9646b08259: Pull complete
893b018337e2: Pull complete
Digest: sha256:146682692a3aa409eae7b7dc6a30f637c6cb49b6ca901c2cd160becc81127d3b
Status: Downloaded newer image for mysql:latest
docker.io/library/mysql:latest
root@ip-172-31-13-88:~#
```

5. Run Mysql Container
- docker run –-name mysql_container -e MYSQL_ROOT_PASSWORD=MITALI -p 3306:3306 -d mysql:latest

```
root@ip-172-31-13-88:~# docker run --name mysql_container -e MYSQL_ROOT_PASSWORD=MITALI -p 3306:3306 -d mysql:latest
3ca1e883c5981a9bd5412ec872c8cab74bd0572b14626db4c2ecfc2c6751c99f
```

6. Execute the following command to access the MySQL shell inside a running Docker container:
- docker exec -it mysql_container mysql -u root -p

```
root@ip-172-31-13-88:~# docker exec -it mysql_container mysql -u root -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 9
Server version: 9.2.0 MySQL Community Server - GPL

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owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql>
```

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7. Create a table and insert values in it

```
mysql> CREATE DATABASE HELLO;
Query OK, 1 row affected (0.01 sec)

mysql> USE HELLO;
Database changed
mysql> CREATE TABLE SUBJECTS (
    -> Subject varchar(50),
    -> Credit int
    -> );
Query OK, 0 rows affected (0.03 sec)

mysql> INSERT INTO SUBJECTS (Subject,Credit) VALUES ('Cloud Computing', 6), ('Python', 6);
Query OK, 2 rows affected (0.02 sec)
Records: 2  Duplicates: 0  Warnings: 0

mysql> Select * from SUBJECTS;
+-----------------+--------+
| Subject         | Credit |
+-----------------+--------+
| Cloud Computing |      6 |
| Python          |      6 |
+-----------------+--------+
2 rows in set (0.00 sec)
```

8. Install Mysql client

- sudo apt-get install mysql-client

```
root@ip-172-31-13-88:~# sudo apt-get install mysql-client
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
```

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9. Connect to MySQL server using the following command:
- mysql -u root -h (ip add) -P3306 -pMITALI

```
root@ip-172-31-13-88:~# mysql -u root -h 43.204.143.82 -P3306 -pMITALI
mysql: [Warning] Using a password on the command line interface can be insecure.
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 10
Server version: 9.2.0 MySQL Community Server - GPL

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owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.
```

10. Read the content of table

```
mysql> USE HELLO;
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed
mysql> SELECT * FROM SUBJECTS;
+-----------------+--------+
| Subject         | Credit |
+-----------------+--------+
| Cloud Computing |      6 |
| Python          |      6 |
+-----------------+--------+
2 rows in set (0.00 sec)
```