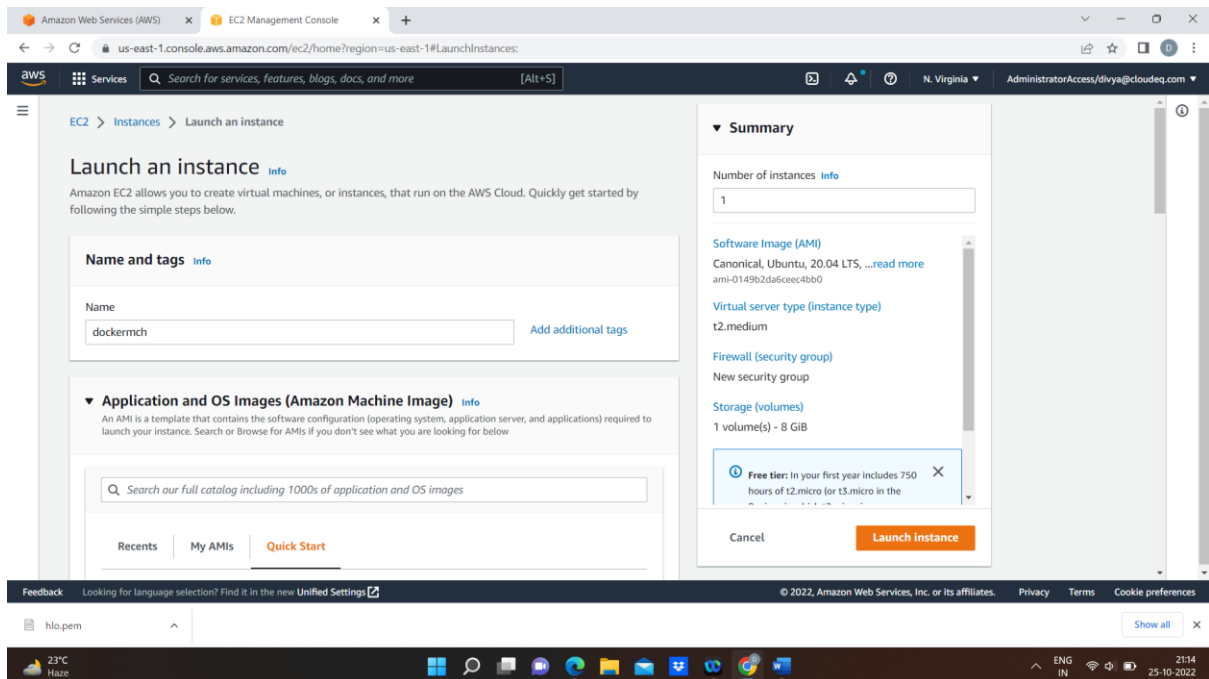
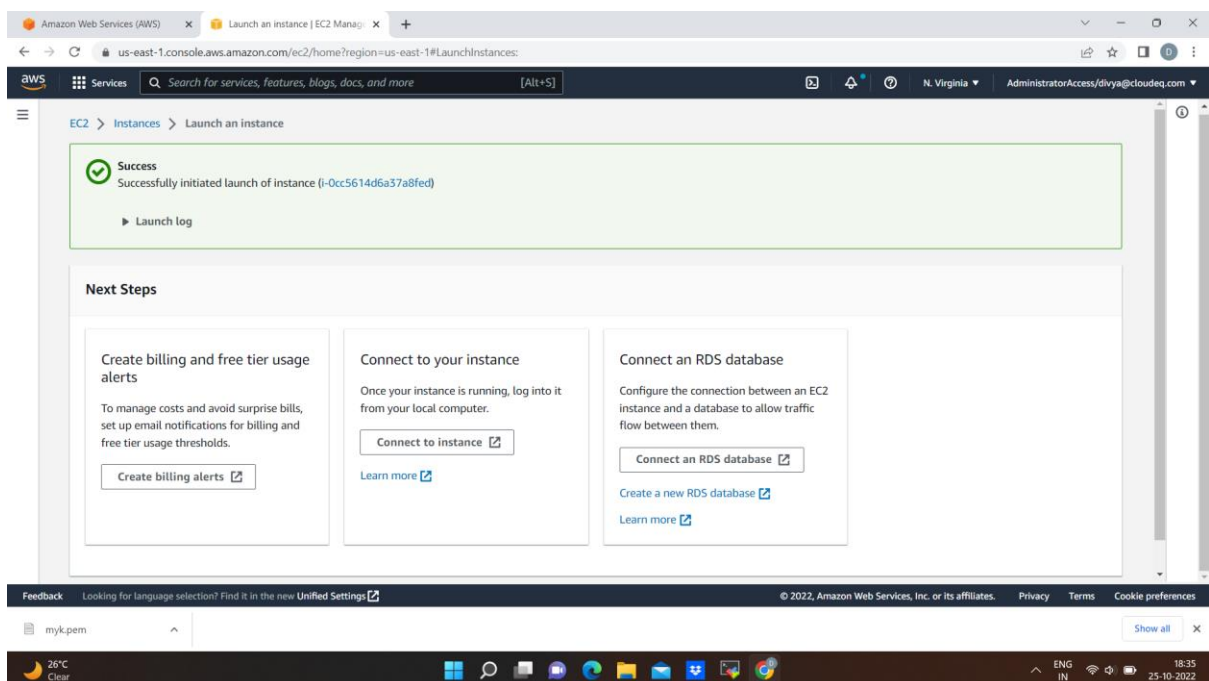


Sprint5(Day3 assignment)

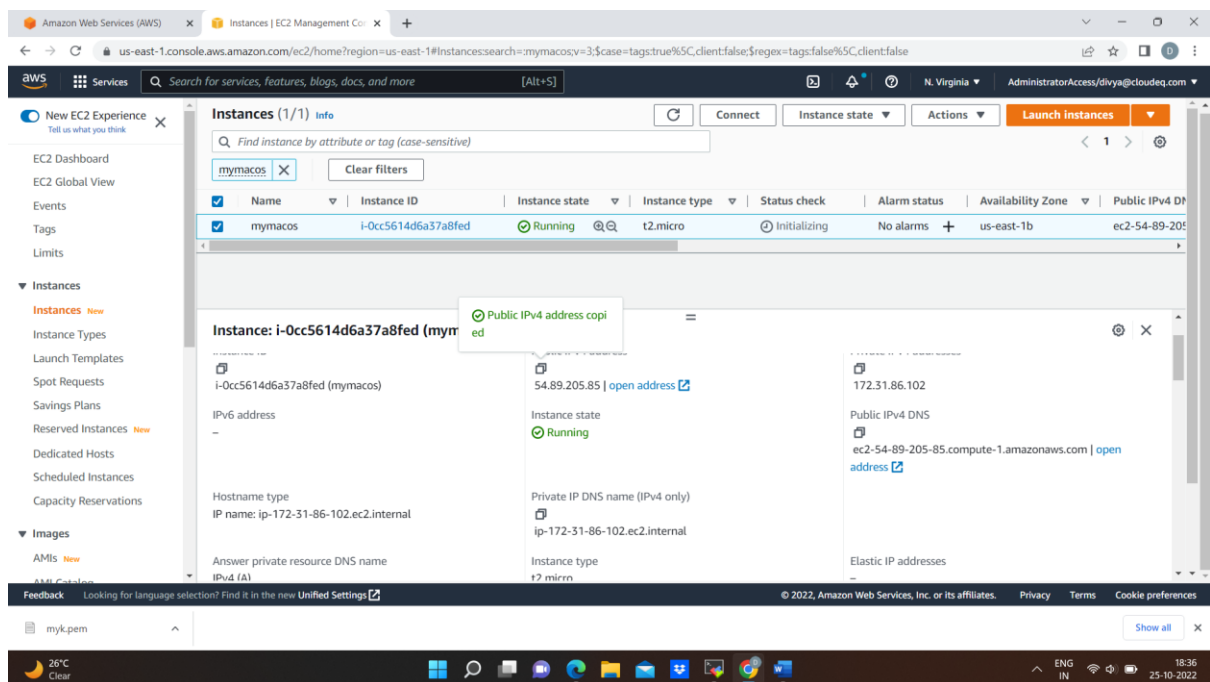
1) firstly I am creating one ec2 instance named dockermach and select the image as ubuntu and instance type is t2.medium then create the key and also you can select the existing key



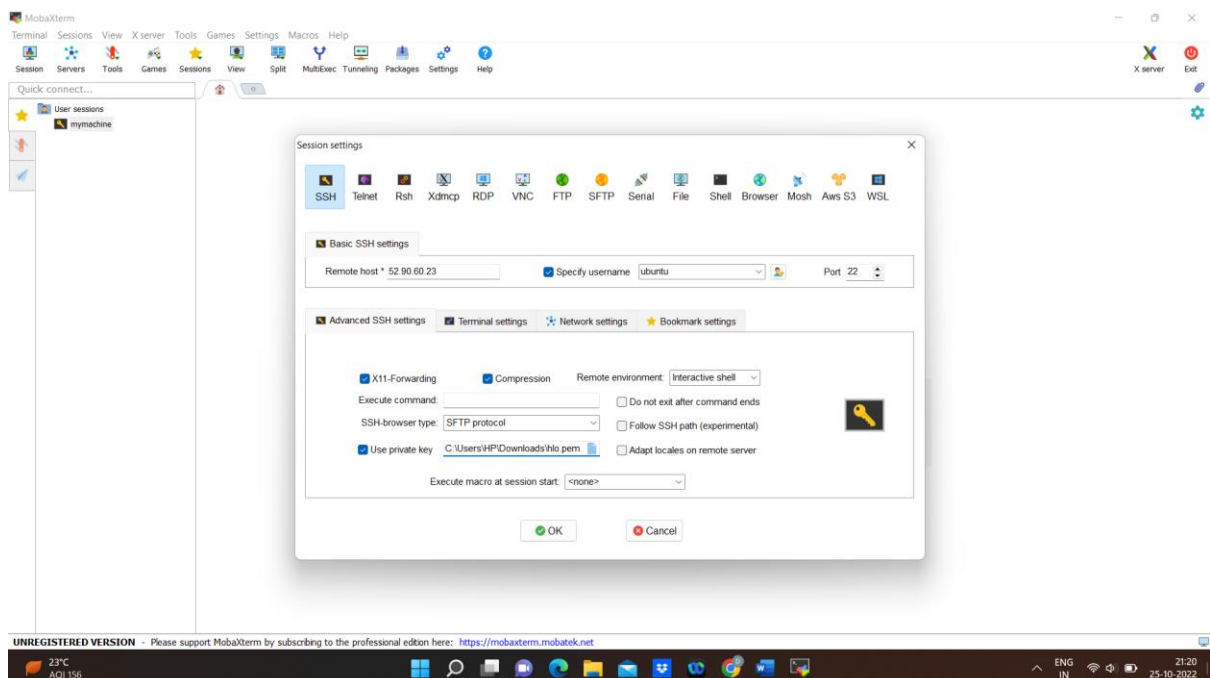
2) Then click on launch instance my instance is successfully launched



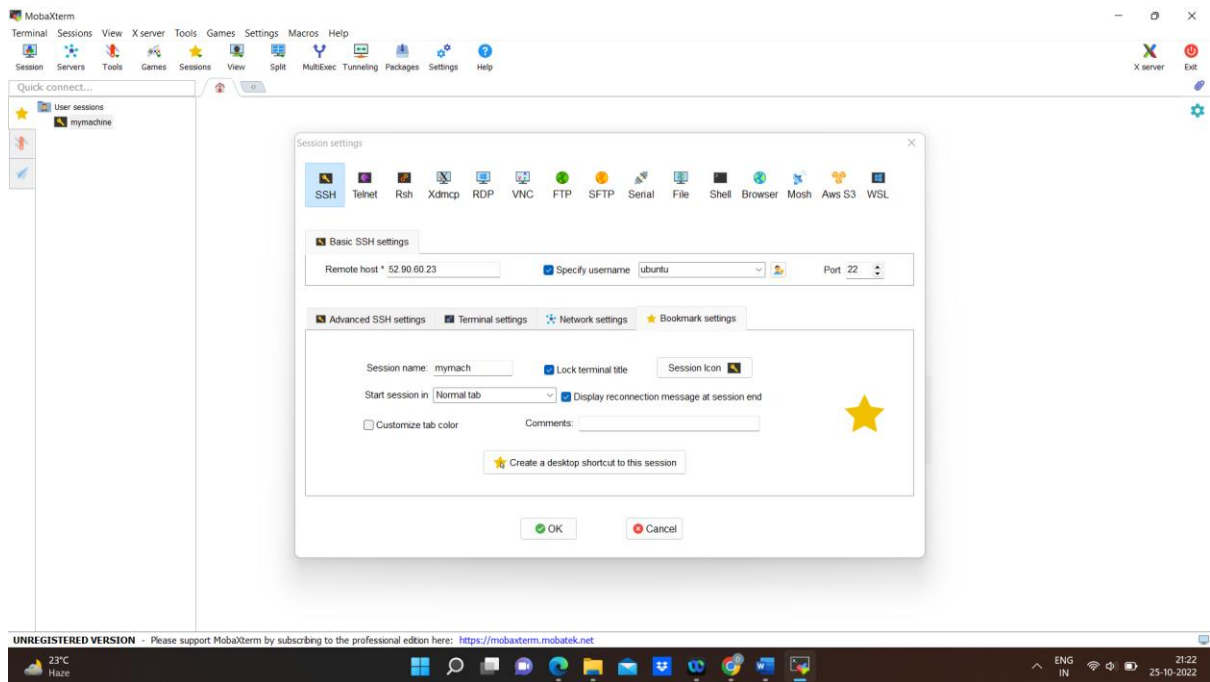
2)then I copy the public Ip address from the instance



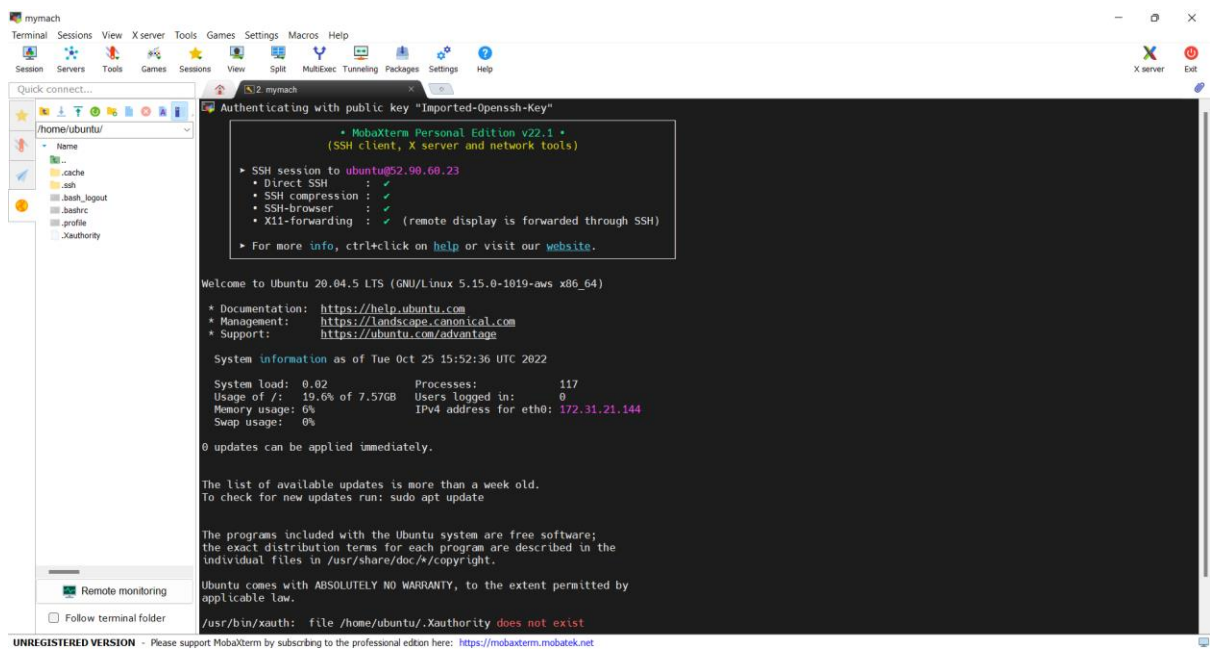
3)Then we paste the public IP address in the remote host in MobaXterm and give the username Then we select the key from the downloads in the Advanced SSH settings



4)Then we give the session name under the bookmark settings



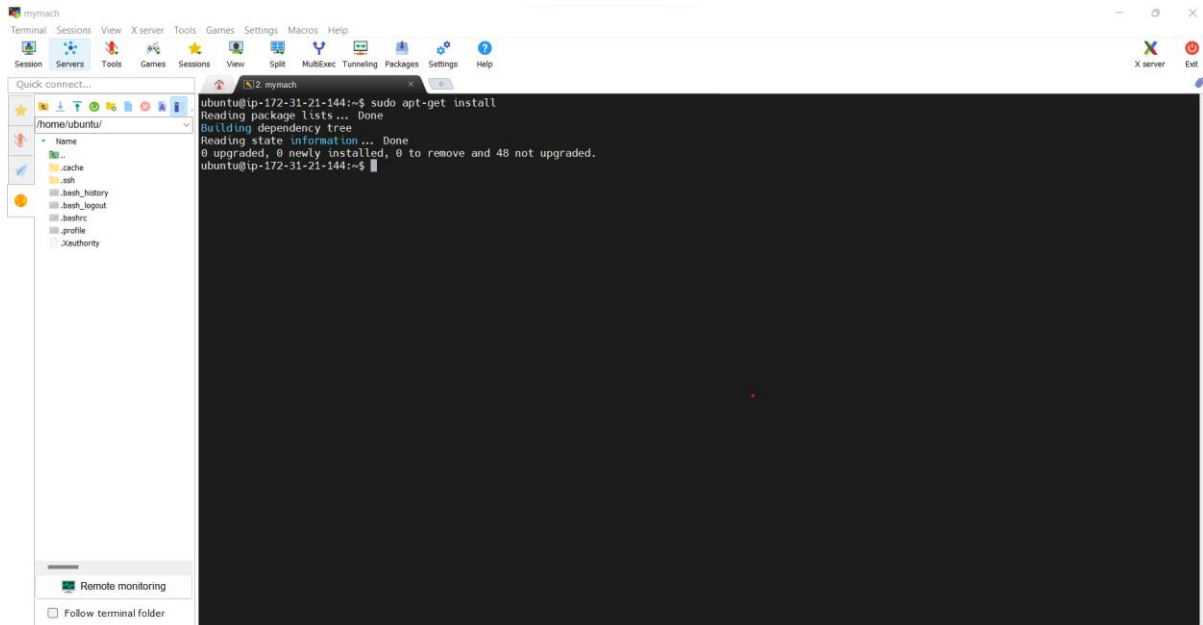
5) Then click on ok button our session will be created



Commands

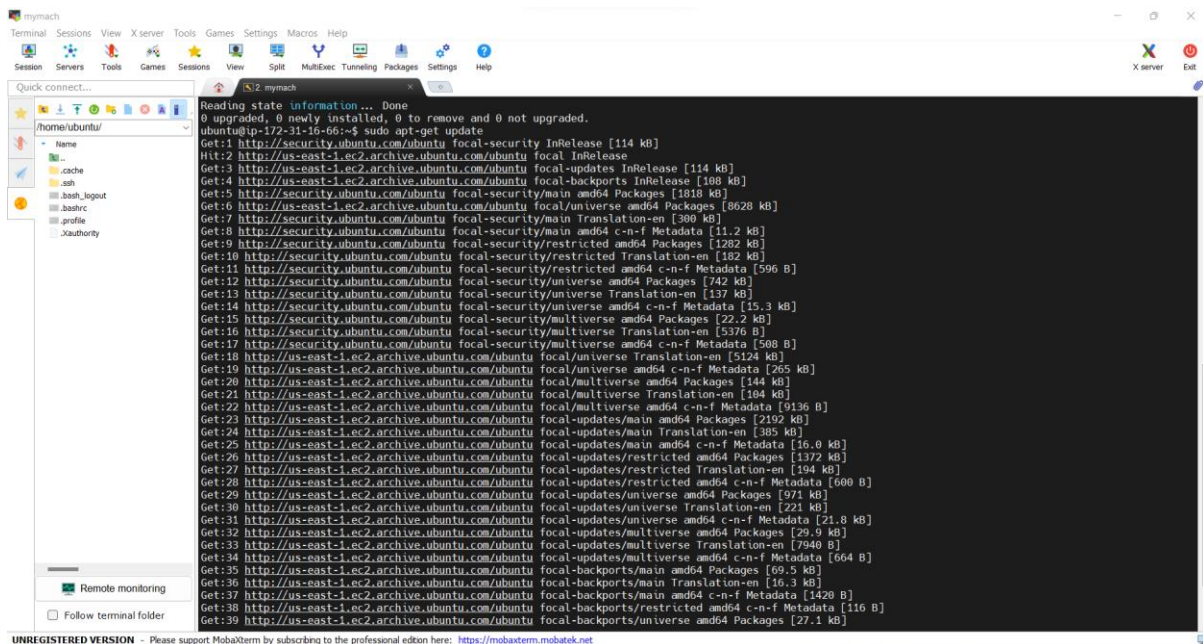
1) To install the docker

sudo apt-get install



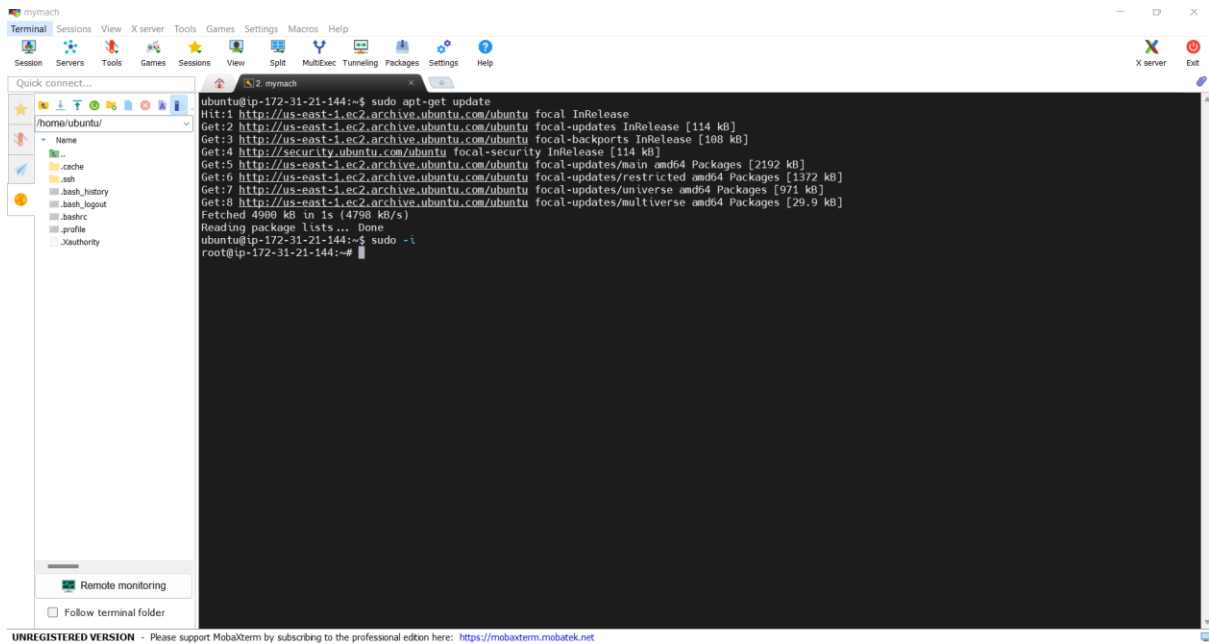
2) To update the docker

sudo apt-get update



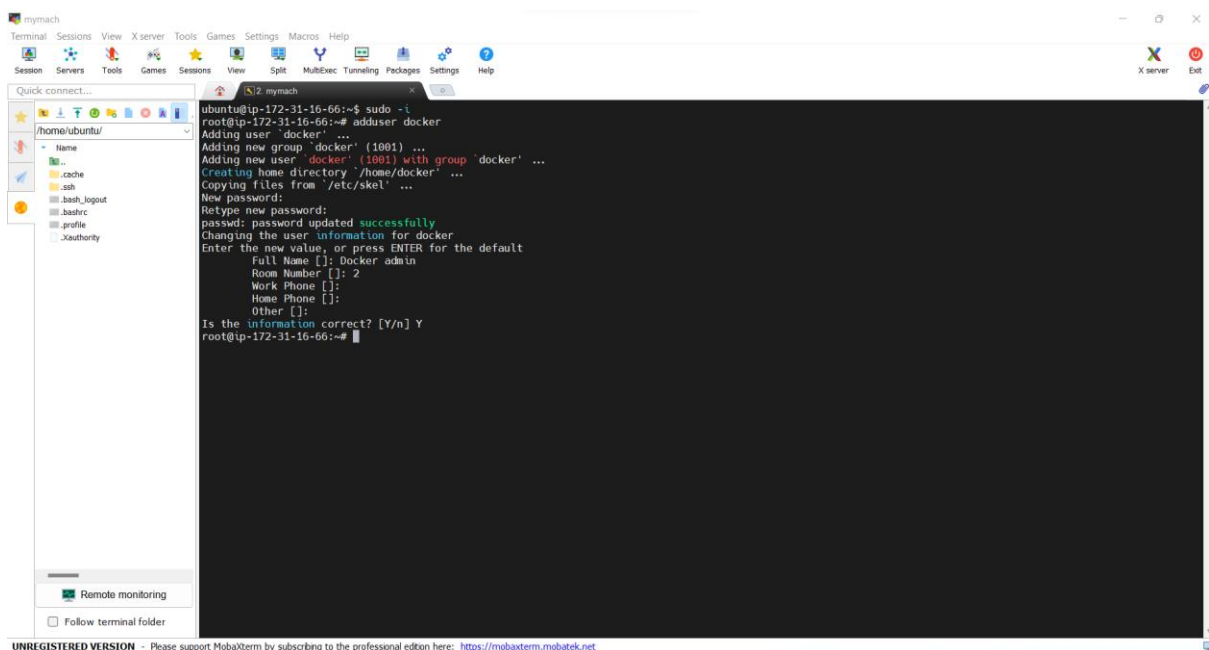
3) To Make our docker root user

sudo -i



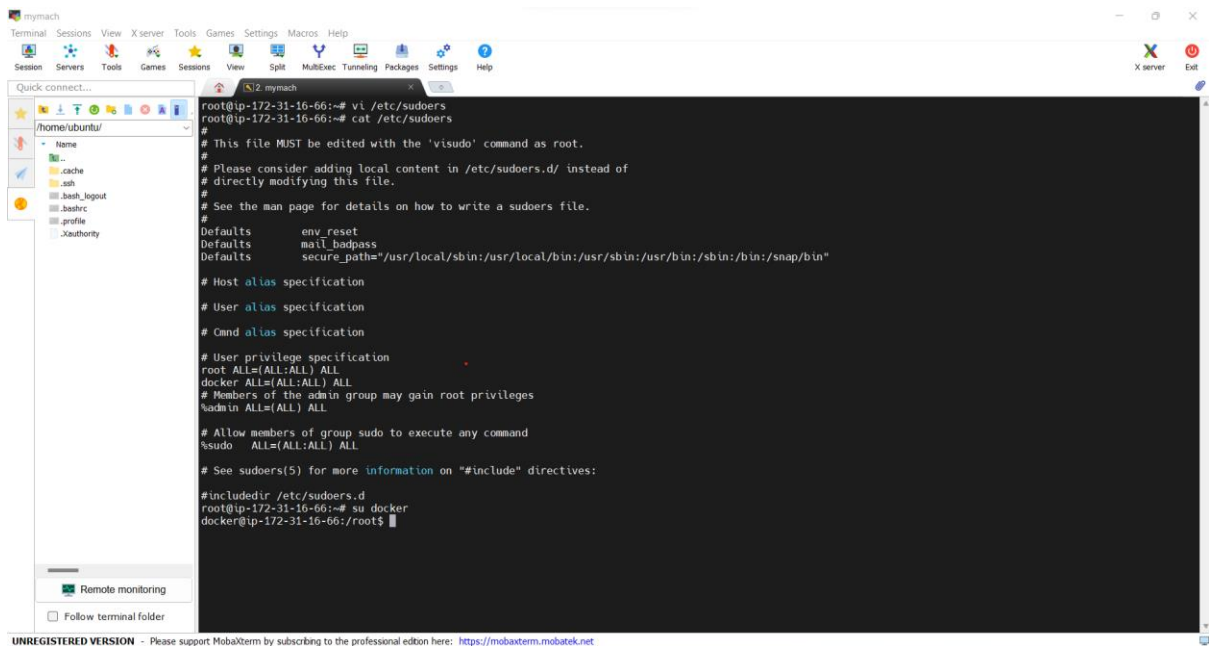
```
ubuntu@ip-172-31-21-144:~$ sudo apt-get update
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal InRelease
Get:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates InRelease [114 kB]
Get:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-backports InRelease [108 kB]
Get:4 http://security.ubuntu.com/ubuntu focal-security InRelease [114 kB]
Get:5 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates/main amd64 Packages [2192 kB]
Get:6 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates/restricted amd64 Packages [1372 kB]
Get:7 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates/universe amd64 Packages [971 kB]
Get:8 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates/multiverse amd64 Packages [29.9 kB]
Fetched 4900 kB in 1s (4798 kB/s)
Reading package lists... Done
ubuntu@ip-172-31-21-144:~$ sudo -i
root@ip-172-31-21-144:~#
```

4) To add a user adduser docker



```
ubuntu@ip-172-31-16-66:~$ sudo -i
root@ip-172-31-16-66:~# adduser docker
Adding user 'docker' ...
Adding new group 'docker' (1001) ...
Adding new user 'docker' (1001) with group 'docker' ...
Creating home directory '/home/docker' ...
Copying files from /etc/skel ...
New password:
Retype new password:
passwd: password updated successfully
Changing the user information for docker
Enter the new value, or press ENTER for the default
Full Name []: Docker admin
Room Number []: 2
Work Phone []:
Home Phone []:
Other []:
Is the information correct? [Y/n] Y
root@ip-172-31-16-66:~#
```

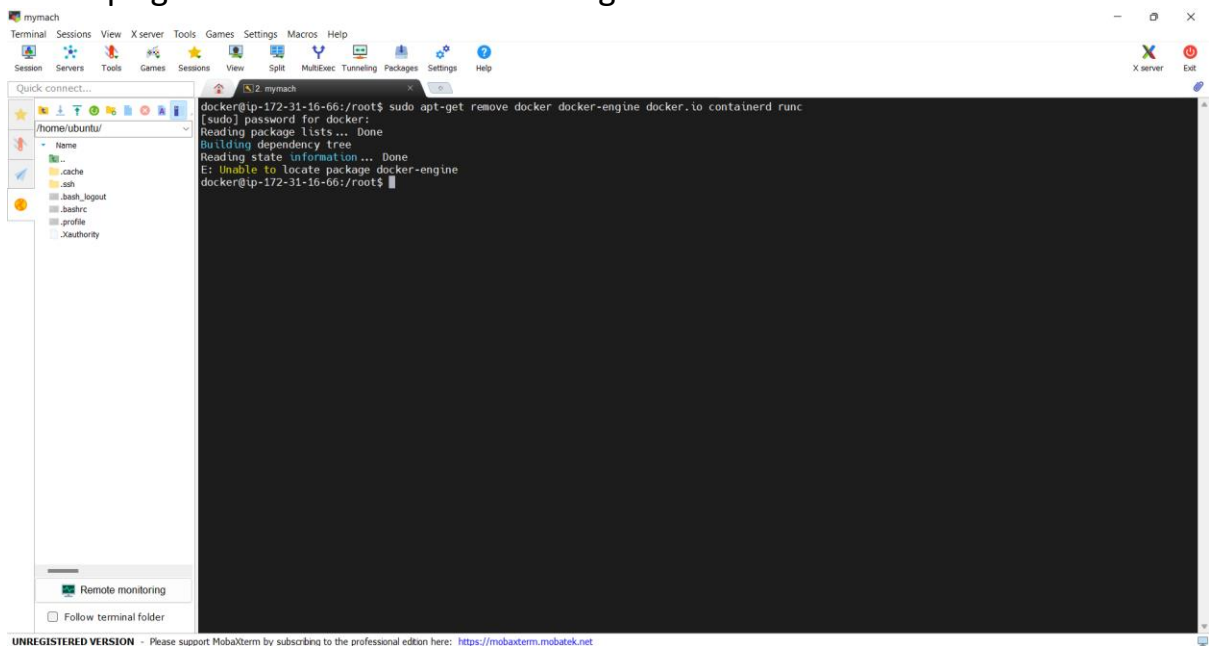
5) To give the root permissions vi /etc/sudoers



```
root@ip-172-31-16-66:~# vi /etc/sudoers
root@ip-172-31-16-66:~# cat /etc/sudoers
#
# This file MUST be edited with the 'visudo' command as root.
#
# Please consider adding local content in /etc/sudoers.d/ instead of
# directly modifying this file.
#
# See the man page for details on how to write a sudoers file.
#
Defaults    env_reset
Defaults    mail_badpass
Defaults    secure_path="/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin:/snap/bin"
# Host alias specification
#
# User alias specification
#
# Cmnd alias specification
#
# User privilege specification
root ALL=(ALL:ALL) ALL
docker ALL=(ALL:ALL) ALL
# Members of the admin group may gain root privileges
%admin ALL=(ALL) ALL
#
# Allow members of group sudo to execute any command
%sudo  ALL=(ALL:ALL) ALL
#
# See sudoers(5) for more information on "#include" directives:
#includedir /etc/sudoers.d
root@ip-172-31-16-66:~# su docker
docker@ip-172-31-16-66:/root$
```

7) To uninstall the previous docker machine

sudo apt-get remove docker docker-engine docker.io containerd runc



```
docker@ip-172-31-16-66:/root$ sudo apt-get remove docker docker-engine docker.io containerd runc
[sudo] password for docker:
Reading package lists... Done
Building dependency tree
Reading state information... Done
E: Unable to locate package docker-engine
docker@ip-172-31-16-66:/root$
```

8) first we need to update our box

sudo apt-get update

```
docker@ip-172-31-16-66:/root$ sudo apt-get remove docker docker-engine docker.io containerd runc
[sudo] password for docker:
Reading package lists... Done
Building dependency tree
Reading state information... Done
E: Unable to locate package docker-engine
docker@ip-172-31-16-66:/root$ sudo apt-get update
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal InRelease
Get:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates InRelease [114 kB]
Get:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-backports InRelease [108 kB]
Get:4 http://security.ubuntu.com/ubuntu focal-security InRelease [114 kB]
Fetched 336 kB in 0s (683 kB/s)
Reading package lists... Done
docker@ip-172-31-16-66:/root$
```

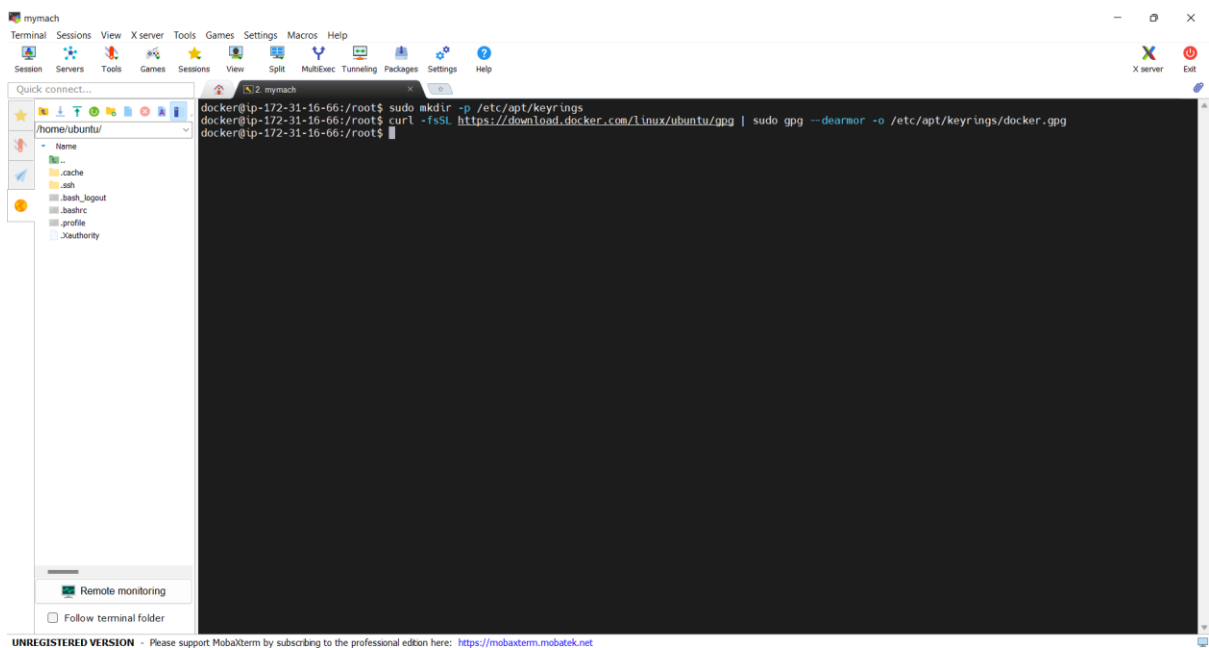
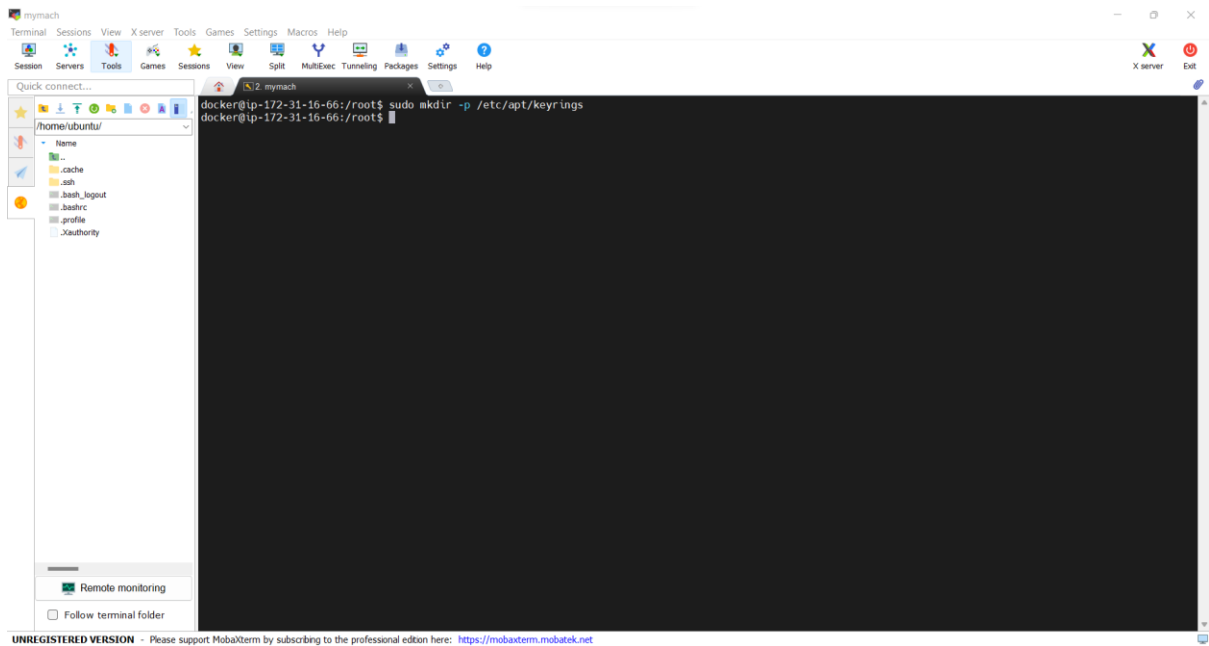
Now we need a certificate

sudo apt-get install \
ca-certificates \
curl \
gnupg \
lsb-release

```
docker@ip-172-31-16-66:/root$ sudo apt-get install ca-certificates curl gnupg lsb-release
Reading package lists... Done
Building dependency tree
Reading state information... Done
lsb-release is already the newest version (11.1.0ubuntu2).
lsb-release set to manually installed.
ca-certificates is already the newest version (20211016~20.04.1).
ca-certificates set to manually installed.
curl is already the newest version (7.68.0-1ubuntu2.13).
curl set to manually installed.
gnupg is already the newest version (2.2.19-3ubuntu2.2).
gnupg set to manually installed.
0 upgraded, 0 newly installed, 0 to remove and 15 not upgraded.
docker@ip-172-31-16-66:/root$
```

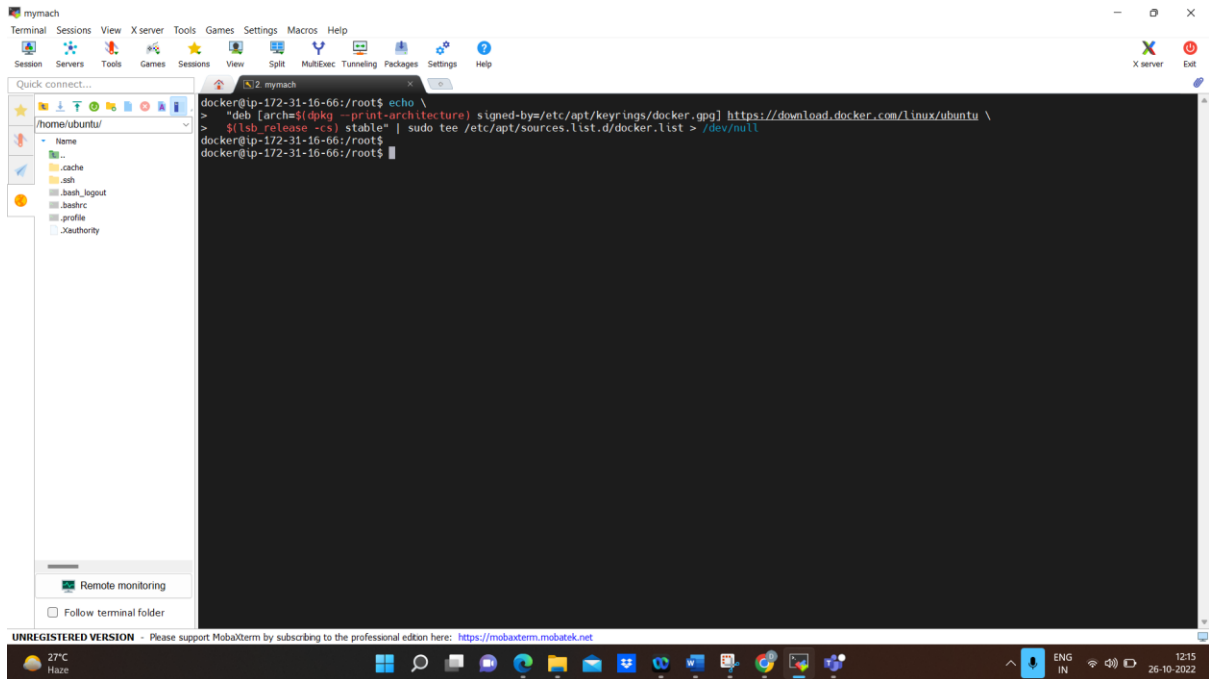
9)To add a docker official GPG key

- 1)sudo mkdir -p /etc/apt/keyrings
- 2)curl -fsSL https://download.docker.com/linux/ubuntu/gpg | sudo gpg --dearmor -o /etc/apt/keyrings/docker.gpg



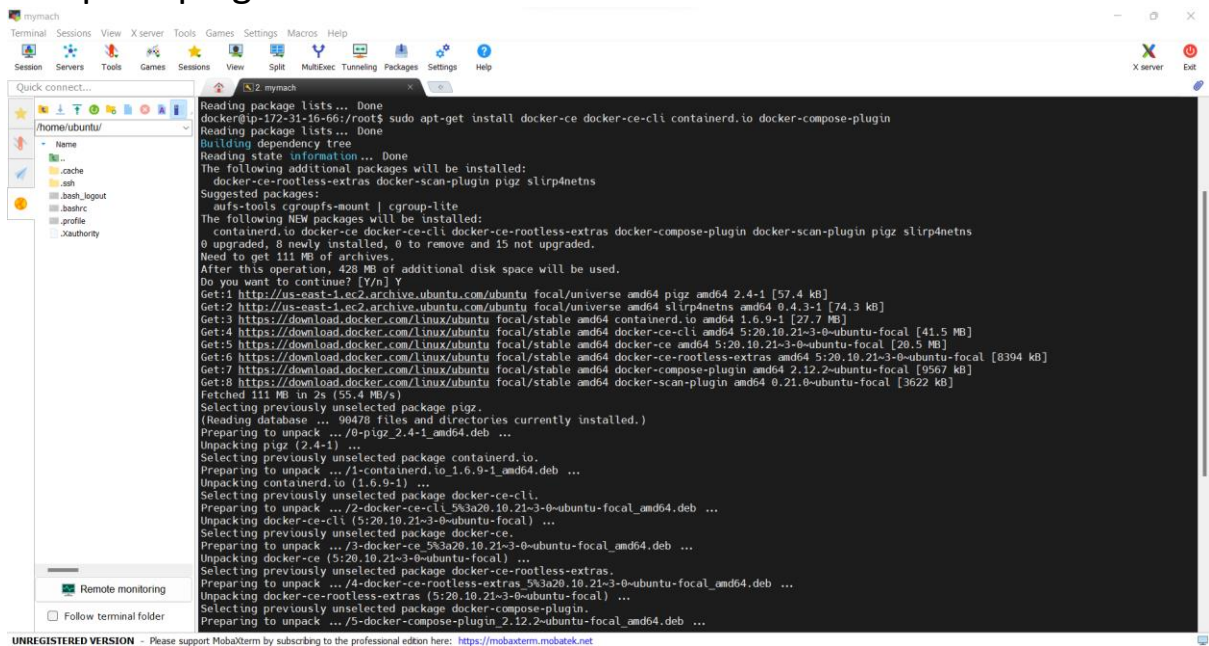
10) To setup the repository

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



11) To install the latest version

sudo apt-get install docker-ce docker-ce-cli containerd.io docker-compose-plugin



12) To see the docker version

docker version or docker --version

The screenshot shows a MobaXterm terminal window with a dark background. The terminal output displays the results of the `docker version` command. It shows the client and server versions, API versions, Go versions, Git commit hashes, build dates, OS/architectures, contexts, and experimental flags. The client version is 20.10.21, and the server version is also 20.10.21. The API version is 1.41, and the Go version is go1.18.7. The Git commit is baedalf. The build date is Tue Oct 25 18:02:21 2022. The OS/Arch is linux/amd64. The context is default. The experimental flag is true. The server version is also 20.10.21, and the API version is 1.41 (minimum version 1.12). The Go version is go1.18.7. The Git commit is 3056208. The build date is Tue Oct 25 18:00:04 2022. The OS/Arch is linux/amd64. The experimental flag is false. The containerd version is 1.6.9, and the runc version is 1.1.4. The Docker-Init version is 0.19.0. The terminal prompt is `docker@ip-172-31-16-66:/root$`.

```
docker@ip-172-31-16-66:/root$ docker version
Client: Docker Engine - Community
Version: 20.10.21
API version: 1.41
Go version: go1.18.7
Git commit: baedalf
Built: Tue Oct 25 18:02:21 2022
OS/Arch: linux/amd64
Context: default
Experimental: true

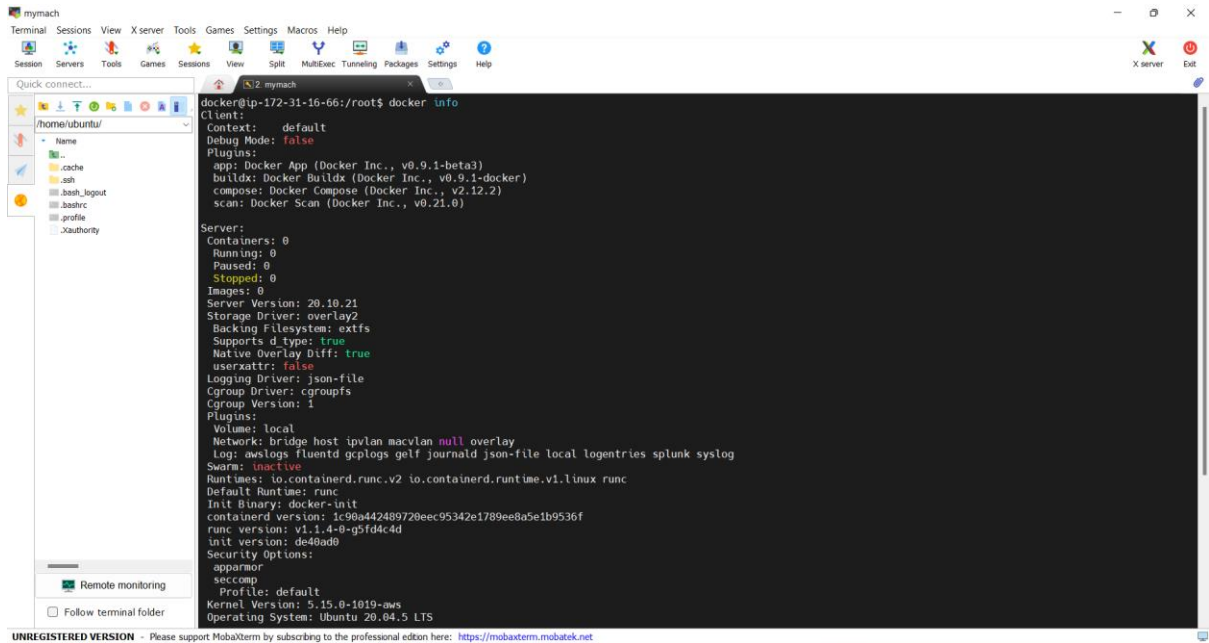
Server: Docker Engine - Community
Engine:
Version: 20.10.21
API version: 1.41 (minimum version 1.12)
Go version: go1.18.7
Git commit: 3056208
Built: Tue Oct 25 18:00:04 2022
OS/Arch: linux/amd64
Experimental: false
containerd:
Version: 1.6.9
GitCommit: 1c90a442489720e0c95342e1789ee8a5e1b9536f
runc:
Version: 1.1.4
GitCommit: v1.1.4-0-g5fd4c4d
docker-init:
Version: 0.19.0
GitCommit: de40ad0
docker@ip-172-31-16-66:/root$
```

13) To see Docker is working fine or not service docker status

The screenshot shows a MobaXterm terminal window with a dark background. The terminal output displays the results of the `service docker status` command. It shows the Docker service is active (running) since Wed 2022-10-26 06:51:42 UTC, 4min 12s ago. The triggered by is docker.socket. The docs are https://docs.docker.com. The main PID is 25487 (dockerd). The tasks are 0. The memory is 22.9M. The CGROUP is /system.slice/docker.service. The command is `/usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock`. The terminal prompt is `docker@ip-172-31-16-66:/root$`.

```
docker@ip-172-31-16-66:/root$ service docker status
● docker.service - Docker Application Container Engine
Loaded: loaded (/lib/systemd/system/docker.service; enabled; vendor preset: enabled)
Active: active (running) since Wed 2022-10-26 06:51:42 UTC; 4min 12s ago
TriggeredBy: ● docker.socket
Docs: https://docs.docker.com
Main PID: 25487 (dockerd)
Tasks: 0
Memory: 22.9M
CGroup: /system.slice/docker.service
└─25487 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock
docker@ip-172-31-16-66:/root$
```

14) To get the complete information of the docker client and docker engine docker info



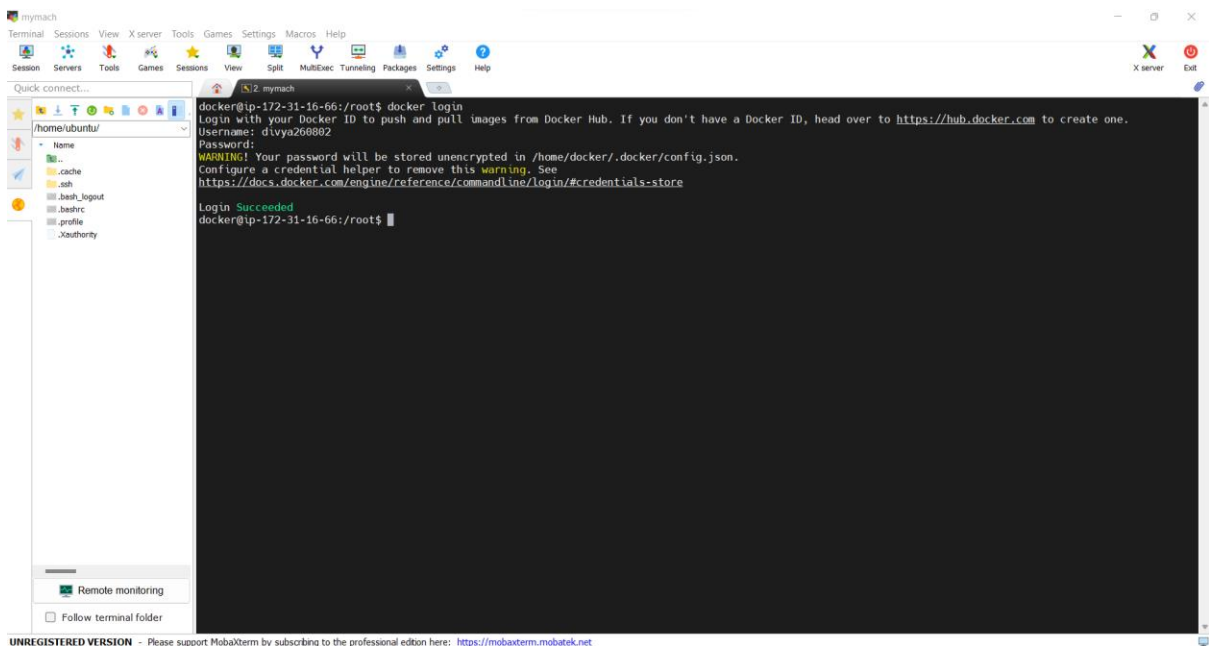
```
docker@ip-172-31-16-66:/root$ docker info
Client:
Context: default
Debug Mode: false

Plugins:
  app: Docker App (Docker Inc., v0.9.1-beta3)
  buildx: Docker Buildx (Docker Inc., v0.9.1-docker)
  compose: Docker Compose (Docker Inc., v2.12.2)
  scan: Docker Scan (Docker Inc., v0.21.0)

Server:
Containers: 0
Running: 0
Paused: 0
Stopped: 0
Images: 0
Server Version: 20.10.21
Storage Driver: overlay2
  Backing Filesystem: extfs
  Supports d_type: true
  Native Overlay Diff: true
  userxattr: false
Logging Driver: json-file
Cgroup Driver: cgroups
Cgroup Version: 1
Plugins:
  Volume: local
  Network: bridge host ipvlan macvlan null overlay
  Log: awslogs fluentd gcplogs gelf journald json-file local logentries splunk syslog
Swarm: inactive
Runtimes: io.containerd.runc.v2 io.containerd.runtime.v1.linux runc
Default Runtime: runc
Init Binary: docker-init
  containerd version: 1c98a442489728e6c95342e1789ee8a5e1b9536f
  runc version: v1.1.4-0-g5fd4c4d
  init version: de48ad0
Security Options:
  apparmor
  seccomp
   Profile: default
Kernel Version: 5.15.0-1019-aws
Operating System: Ubuntu 20.04.5 LTS
```

15) To login the docker

docker login

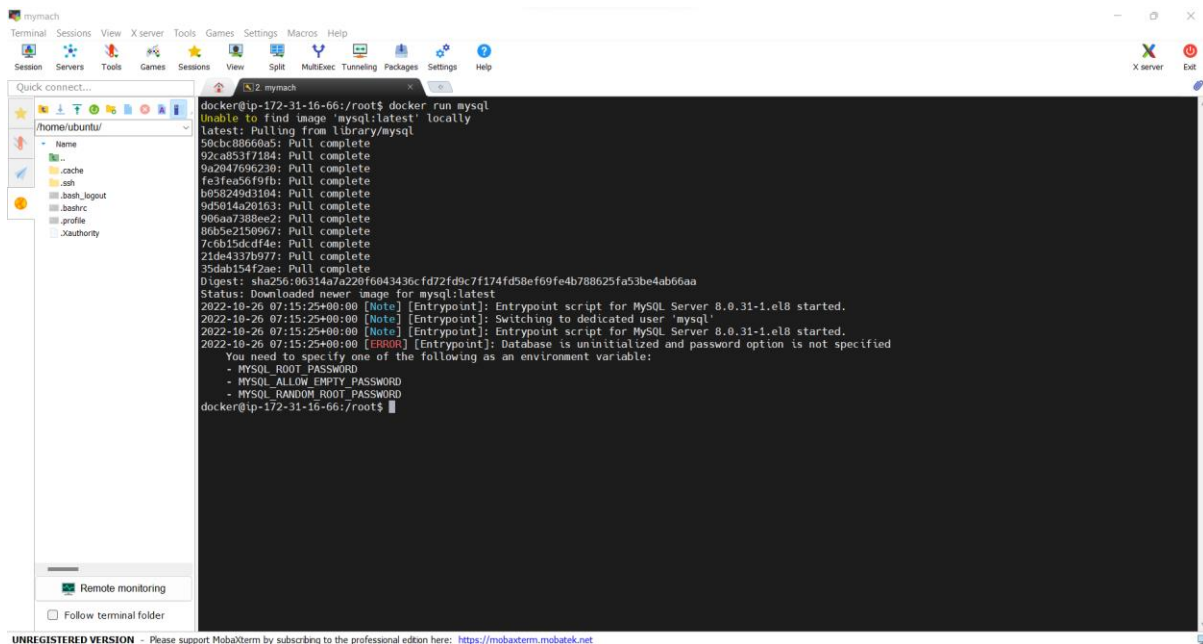


```
docker@ip-172-31-16-66:/root$ docker login
Login with your Docker ID to push and pull images from Docker Hub. If you don't have a Docker ID, head over to https://hub.docker.com to create one.
Username: divya268892
Password:
WARNING! Your password will be stored unencrypted in /home/docker/.docker/config.json.
Configure a credential helper to remove this warning. See
https://docs.docker.com/engine/reference/commandline/login/#credentials-store

Login Succeeded
docker@ip-172-31-16-66:/root$
```

16) To install docker mysql

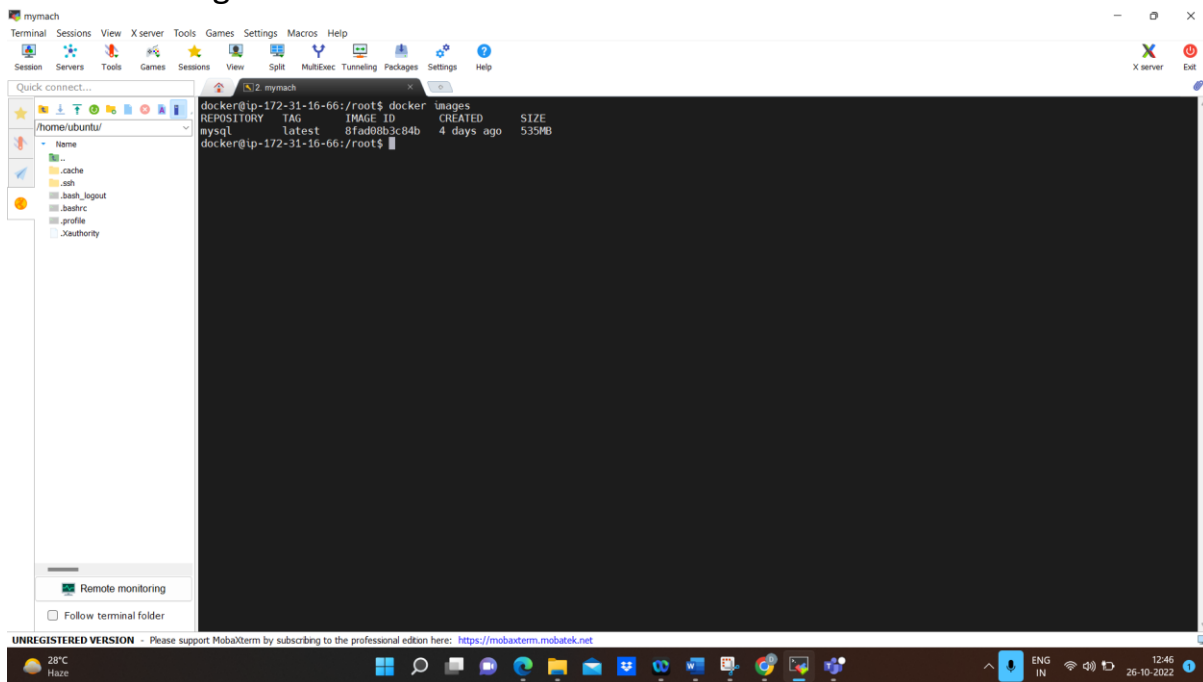
docker run mysql



```
docker@ip-172-31-16-66:/root$ docker run mysql
Unable to find image 'mysql:latest' locally
latest: Pulling from library/mysql
58cbc88668a5: Pull complete
92ca853f7184: Pull complete
9a2047696230: Pull complete
fe3fe56f9fb: Pull complete
b658249d3104: Pull complete
9d5014a20163: Pull complete
9b6aa7388ee2: Pull complete
80b5e2150967: Pull complete
7c6b15dcdf4e: Pull complete
21de4337b977: Pull complete
35dab154f2ae: Pull complete
Digest: sha256:06314a7a220f6043436cfd72fd9c7f174fd58ef69fe4b788625fa53be4ab66aa
Status: Downloaded newer image for mysql:latest
2022-10-26 07:15:25+00:00 [Note] [Entrypoint]: Entrypoint script for MySQL Server 8.0.31-1.el8 started.
2022-10-26 07:15:25+00:00 [Note] [Entrypoint]: Switching to dedicated user 'mysql'
2022-10-26 07:15:25+00:00 [Note] [Entrypoint]: Entrypoint script for MySQL Server 8.0.31-1.el8 started.
2022-10-26 07:15:25+00:00 [ERROR] [Entrypoint]: Database is uninitialized and password option is not specified
You need to specify one of the following as an environment variable:
- MYSQL_ROOT_PASSWORD
- MYSQL_ALLOW_EMPTY_PASSWORD
- MYSQL_RANDOM_ROOT_PASSWORD
docker@ip-172-31-16-66:/root$
```

17)To see the images

Docker images



```
docker@ip-172-31-16-66:/root$ docker images
REPOSITORY TAG IMAGE ID CREATED SIZE
mysql latest 8fad88b3c84b 4 days ago 535MB
docker@ip-172-31-16-66:/root$
```

18)To remove the image mysql

Docker rmi -f imageid

