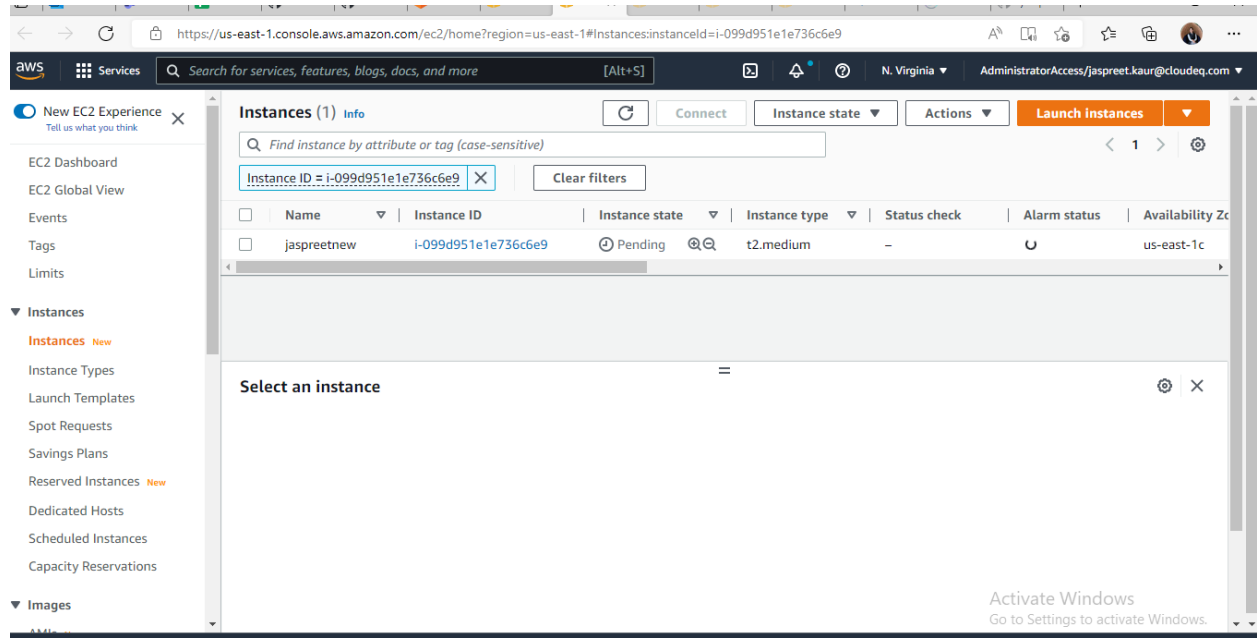


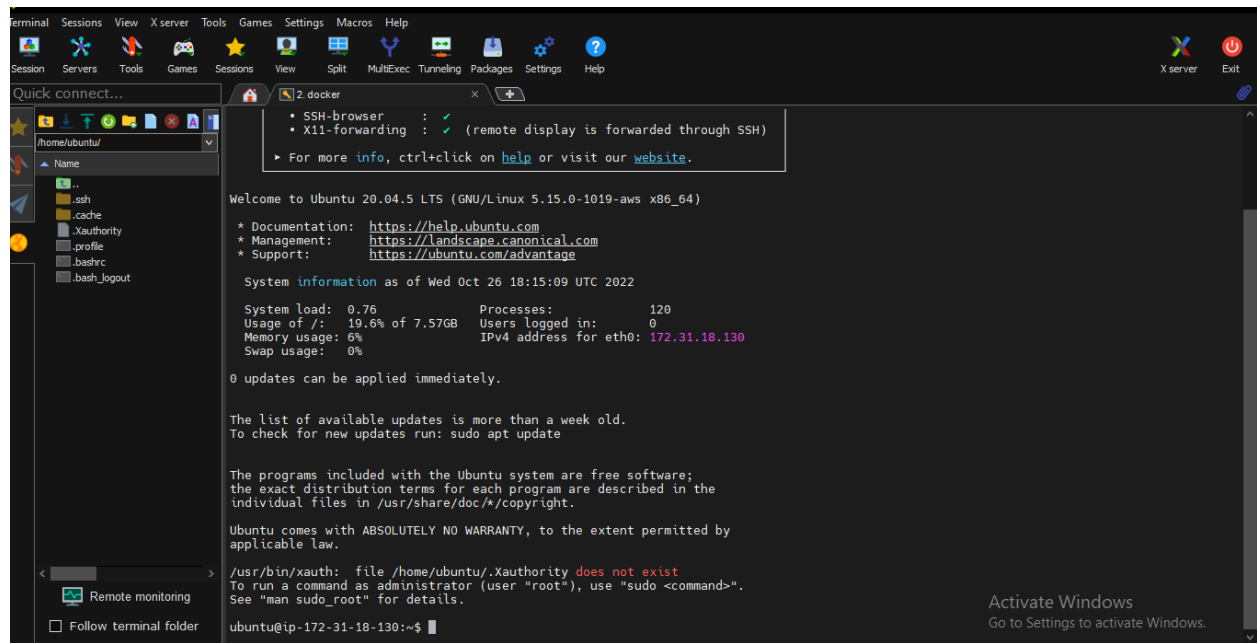
Docker-DAY3

Executing commands in mobaxterm

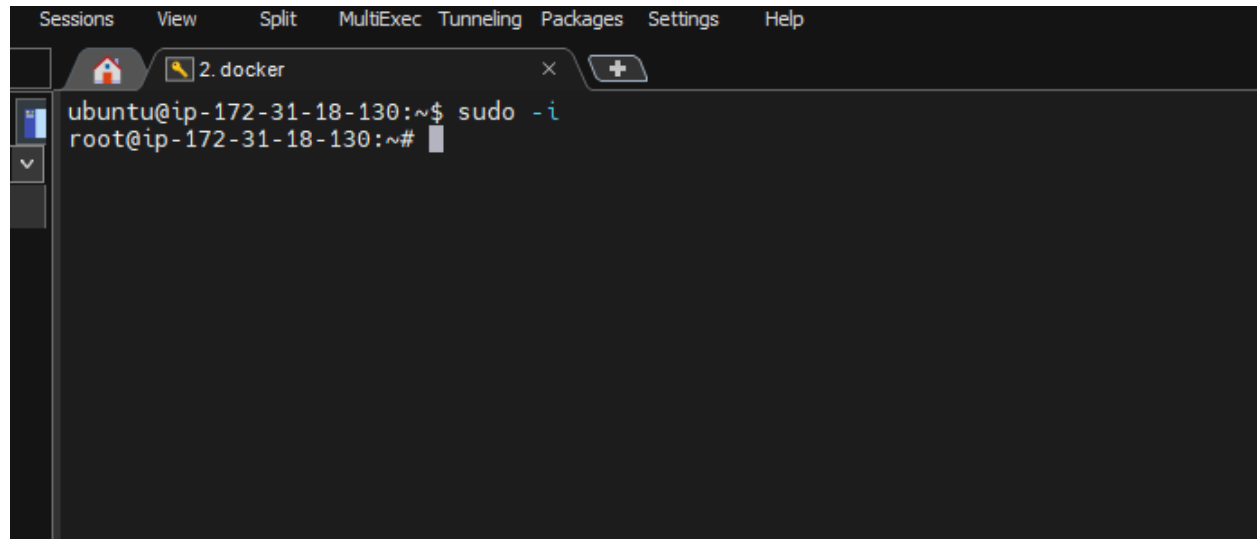
1.First we will create a EC2 instance



2. Next we will create a session use our public ip address

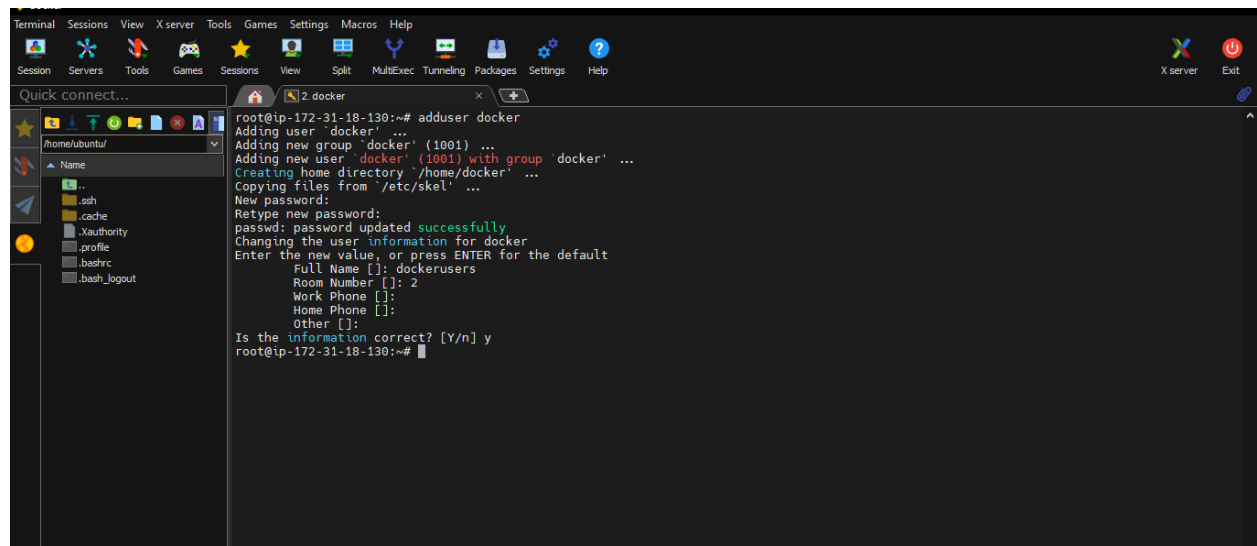


3. We will write “\$ sudo -i” to make our docker route user



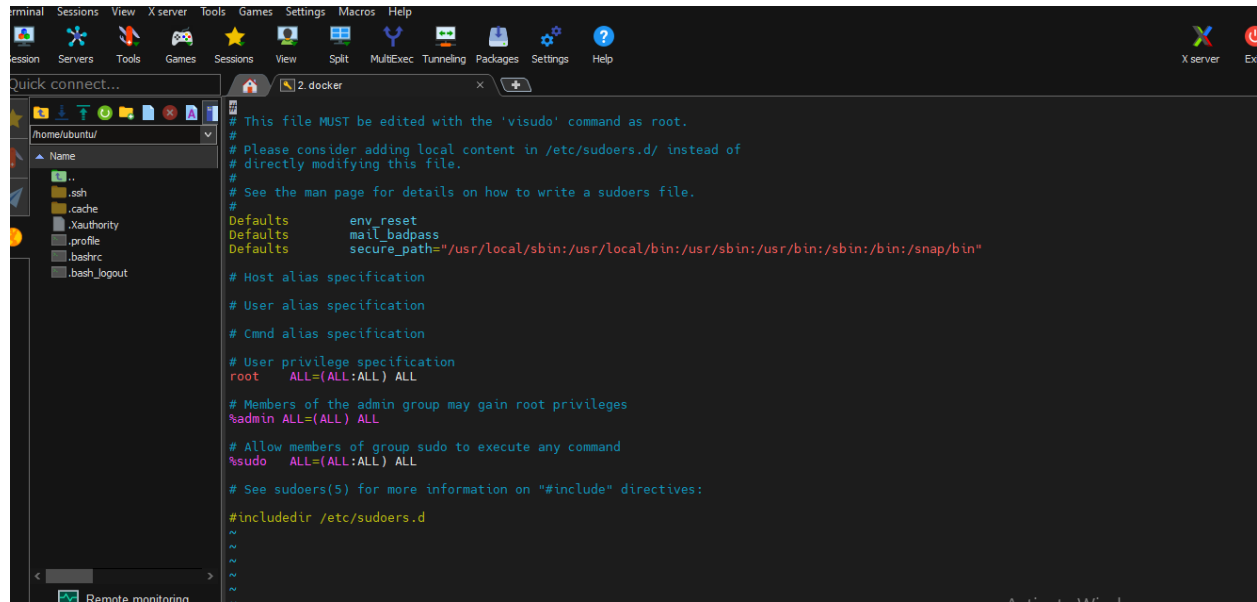
```
Sessions View Split MultiExec Tunneling Packages Settings Help
2. docker
ubuntu@ip-172-31-18-130:~$ sudo -i
root@ip-172-31-18-130:~#
```

4. Next we will adduser by writing “add user docker” and create a docker folder



```
Terminal Sessions View X server Tools Games Settings Macros Help
Quick connect...
/home/ubuntu/
Name
.ssh
.cache
.xauthority
.profile
.bashrc
.bash_logout
root@ip-172-31-18-130:~# 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 []: dockersusers
    Room Number []: 2
    Work Phone []:
    Home Phone []:
    Other []:
Is the information correct? [Y/n] y
root@ip-172-31-18-130:~#
```

5. We will give our root permissions by “vi /etc/sudoers”



```
terminal Sessions View X server Tools Games Settings Macros Help
Session Servers Tools Games Sessions View Split MultiExec Tunneling Packages Settings Help
Quick connect...
/home/ubuntu/
Name
ssh
.cache
.xauthority
.profile
.bashrc
.bash_logout
Remote monitoring

# 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

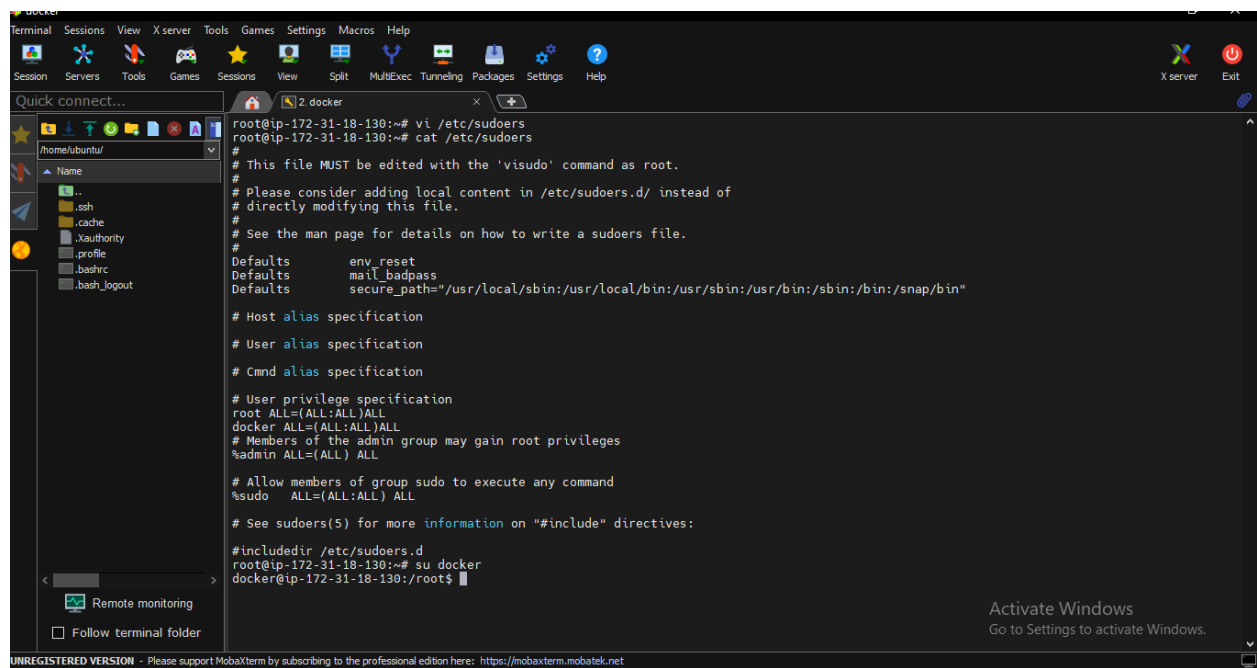
# Members of the admin group may gain root privileges
%admin   ALL=(ALL) ALL

# Allow members of group sudo to execute any command
%sudo   ALL=(ALL:ALL) ALL

# See sudoers(5) for more information on "#include" directives:

#include_dir /etc/sudoers.d
~
~
~
~
~
```

6. Then for checking our permissions assigned by “cat /etc/sudoers”



```
terminal Sessions View X server Tools Games Settings Macros Help
Session Servers Tools Games Sessions View Split MultiExec Tunneling Packages Settings Help
Quick connect...
/home/ubuntu/
Name
ssh
.cache
.xauthority
.profile
.bashrc
.bash_logout
Remote monitoring
Follow terminal folder

root@ip-172-31-18-130:~# vi /etc/sudoers
root@ip-172-31-18-130:~# 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

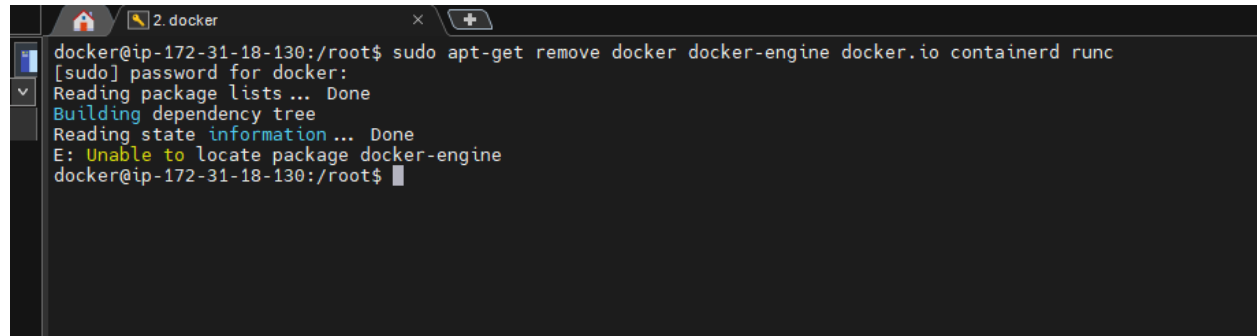
# See sudoers(5) for more information on "#include" directives:

#include_dir /etc/sudoers.d
root@ip-172-31-18-130:~# su docker
docker@ip-172-31-18-130:/root$
```

UNREGISTERED VERSION - Please support MobaXterm by subscribing to the professional edition here: <https://mobaxterm.mobatek.net>

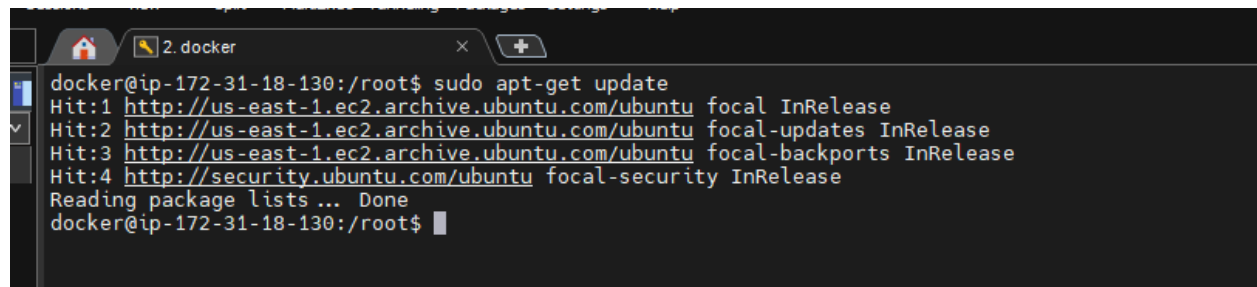
Activate Windows
Go to Settings to activate Windows.

7. Command used fo uninstall old versions" `sudo apt-get remove docker docker-engine docker.io containerd runc`"

A terminal window titled "2. docker" showing the execution of the command `sudo apt-get remove docker docker-engine docker.io containerd runc`. The prompt is `docker@ip-172-31-18-130:/root$`. The output shows the password prompt, successful reading of package lists and state information, and an error message: `E: Unable to locate package docker-engine`.

```
docker@ip-172-31-18-130:/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-172-31-18-130:/root$
```

8. This command "`sudo apt-get update`" Used for Updating the apt package index

A terminal window titled "2. docker" showing the execution of the command `sudo apt-get update`. The prompt is `docker@ip-172-31-18-130:/root$`. The output shows four hits for Ubuntu repositories and successful reading of package lists.

```
docker@ip-172-31-18-130:/root$ sudo apt-get update
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal InRelease
Hit:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates InRelease
Hit:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-backports InRelease
Hit:4 http://security.ubuntu.com/ubuntu focal-security InRelease
Reading package lists ... Done
docker@ip-172-31-18-130:/root$
```

This command is used for install packages to allow apt to use a repository over HTTPS

```
> 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.  
gnupg is already the newest version (2.2.19-3ubuntu2.2).  
gnupg set to manually installed.  
The following additional packages will be installed:  
  libcurl4  
The following packages will be upgraded:  
  curl libcurl4  
2 upgraded, 0 newly installed, 0 to remove and 52 not upgraded.  
Need to get 396 kB of archives.  
After this operation, 2048 B of additional disk space will be used.  
Do you want to continue? [Y/n] y  
Get:1 http://security.ubuntu.com/ubuntu focal-security/main amd64 curl amd64 7.68.0-1ubuntu2  
Get:2 http://security.ubuntu.com/ubuntu focal-security/main amd64 libcurl4 amd64 7.68.0-1ubu  
Fetched 396 kB in 0s (2001 kB/s)  
(Reading database ... 61718 files and directories currently installed.)  
Preparing to unpack .../curl_7.68.0-1ubuntu2.14_amd64.deb ...  
Unpacking curl (7.68.0-1ubuntu2.14) over (7.68.0-1ubuntu2.13) ...  
Preparing to unpack .../libcurl4_7.68.0-1ubuntu2.14_amd64.deb ...  
Unpacking libcurl4:amd64 (7.68.0-1ubuntu2.14) over (7.68.0-1ubuntu2.13) ...  
> Setting up libcurl4:amd64 (7.68.0-1ubuntu2.14) ...  
Setting up curl (7.68.0-1ubuntu2.14) ...  
Processing triggers for man-db (2.9.1-1) ...  
SProcessing triggers for libc-bin (2.31-0ubuntu9.9) ...  
docker@ip-172-31-18-130:/root$
```

This command is used for Adding Docker's official GPG key:

```
docker@ip-172-31-18-130:/root$ sudo mkdir -p /etc/apt/keyrings  
docker@ip-172-31-18-130:/root$
```

This command is used to set up the repository:

```
docker@ip-172-31-18-130:/root$ sudo mkdir -p /etc/apt/keyrings  
docker@ip-172-31-18-130:/root$ curl -fsSL https://download.docker.com/linux/ubuntu/gpg | sudo gpg --dearmor -o /etc/apt/keyrings/docker.g  
pg  
docker@ip-172-31-18-130:/root$
```

For Updating the apt package index:

```
docker@ip-172-31-18-130:/root$ sudo mkdir -p /etc/apt/keyrings
docker@ip-172-31-18-130:/root$ curl -fsSL https://download.docker.com/linux/ubuntu/gpg | sudo gpg --dearmor -o /etc/apt/keyrings/docker.gpg
docker@ip-172-31-18-130:/root$ echo \
> "deb [arch=$(dpkg --print-architecture) signed-by=/etc/apt/keyrings/docker.gpg] https://download.docker.com/linux/ubuntu \
> $(lsb_release -cs) stable" | sudo tee /etc/apt/sources.list.d/docker.list > /dev/null
docker@ip-172-31-18-130:/root$
```

```
2. docker
docker@ip-172-31-18-130:/root$ sudo apt-get update
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal InRelease
Hit:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates InRelease
Hit:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-backports InRelease
Get:4 https://download.docker.com/linux/ubuntu focal InRelease [57.7 kB]
Hit:5 http://security.ubuntu.com/ubuntu focal-security InRelease
Get:6 https://download.docker.com/linux/ubuntu focal/stable amd64 Packages [20.8 kB]
Fetched 78.5 kB in 0s (178 kB/s)
Reading package lists ... Done
docker@ip-172-31-18-130:/root$
```

```

docker@ip-172-31-18-130:/root$ sudo apt-get update
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal InRelease
Hit:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates InRelease
Hit:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-backports InRelease
Get:4 https://download.docker.com/linux/ubuntu focal InRelease [57.7 kB]
Hit:5 http://security.ubuntu.com/ubuntu focal-security InRelease
Get:6 https://download.docker.com/linux/ubuntu focal/stable amd64 Packages [20.8 kB]
Fetched 78.5 kB in 0s (178 kB/s)
Reading package lists ... Done
docker@ip-172-31-18-130:/root$ sudo chmod a+r /etc/apt/keyrings/docker.gpg
docker@ip-172-31-18-130:/root$ sudo apt-get update
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal InRelease
Hit:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates InRelease
Hit:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-backports InRelease
Hit:4 https://download.docker.com/linux/ubuntu focal InRelease
Hit:5 http://security.ubuntu.com/ubuntu focal-security InRelease
Reading package lists ... Done
docker@ip-172-31-18-130:/root$ █

```

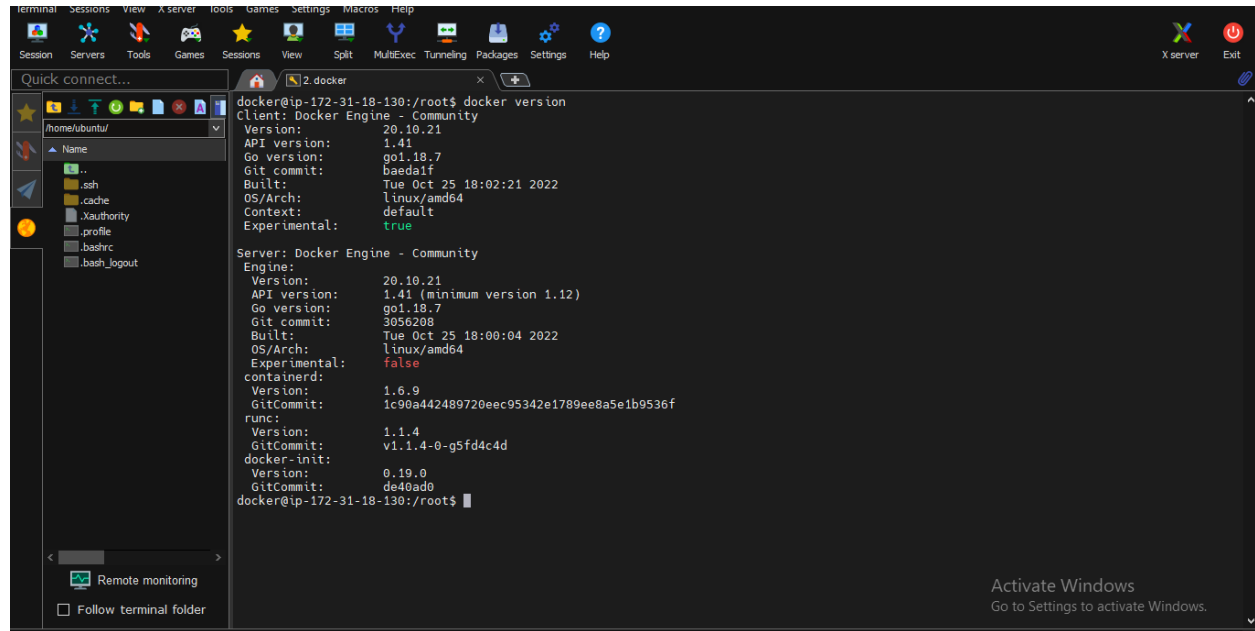
This "sudo apt-get install docker-ce docker-ce-cli containerd.io docker-compose-plugin" is Installed for Docker Engine, containerd, and Docker Compose.

```

docker@ip-172-31-18-130:/root$ sudo apt-get update
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal InRelease
Hit:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates InRelease
Hit:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-backports InRelease
Get:4 https://download.docker.com/linux/ubuntu focal InRelease [57.7 kB]
Hit:5 http://security.ubuntu.com/ubuntu focal-security InRelease
Get:6 https://download.docker.com/linux/ubuntu focal/stable amd64 Packages [20.8 kB]
Fetched 78.5 kB in 0s (178 kB/s)
Reading package lists ... Done
docker@ip-172-31-18-130:/root$ sudo chmod a+r /etc/apt/keyrings/docker.gpg
docker@ip-172-31-18-130:/root$ sudo apt-get update
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal InRelease
Hit:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates InRelease
Hit:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-backports InRelease
Hit:4 https://download.docker.com/linux/ubuntu focal InRelease
Hit:5 http://security.ubuntu.com/ubuntu focal-security InRelease
Reading package lists ... Done
docker@ip-172-31-18-130:/root$ sudo apt-get install docker-ce docker-ce-cli containerd.io docker-compose-plugin
Reading package lists ... Done
Building dependency tree
Reading state information ... Done
The following additional packages will be installed:
  docker-ce-rootless-extras docker-scan-plugin pigz slirp4netns
Suggested packages:
  aufs-tools cgroupfs-mount | cgroup-lite
The following NEW packages will be installed:
  containerd.io docker-ce docker-ce-cli docker-ce-rootless-extras docker-compose-plugin docker-scan-plugin pigz slirp4netns
0 upgraded, 8 newly installed, 0 to remove and 52 not upgraded.
Need to get 111 MB of archives.
After this operation, 428 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal/universe amd64 pigz amd64 2.4-1 [57.4 kB]
Get:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal/universe amd64 slirp4netns amd64 0.4.3-1 [74.3 kB]
Get:3 https://download.docker.com/linux/ubuntu focal/stable amd64 containerd.io amd64 1.6.9-1 [27.7 MB]
Get:4 https://download.docker.com/linux/ubuntu focal/stable amd64 docker-ce-cli amd64 5:20.10.21~3-0~ubuntu-focal [41.5 MB]
Get:5 https://download.docker.com/linux/ubuntu focal/stable amd64 docker-ce amd64 5:20.10.21~3-0~ubuntu-focal [20.9 MB]
Get:6 https://download.docker.com/linux/ubuntu focal/stable amd64 docker-ce-rootless-extras amd64 5:20.10.21~3-0~ubuntu-focal [8394 kB]
Get:7 https://download.docker.com/linux/ubuntu focal/stable amd64 docker-compose-plugin amd64 2.12.2~ubuntu-focal [9567 kB]

```

This command is used for checking the version used in docker

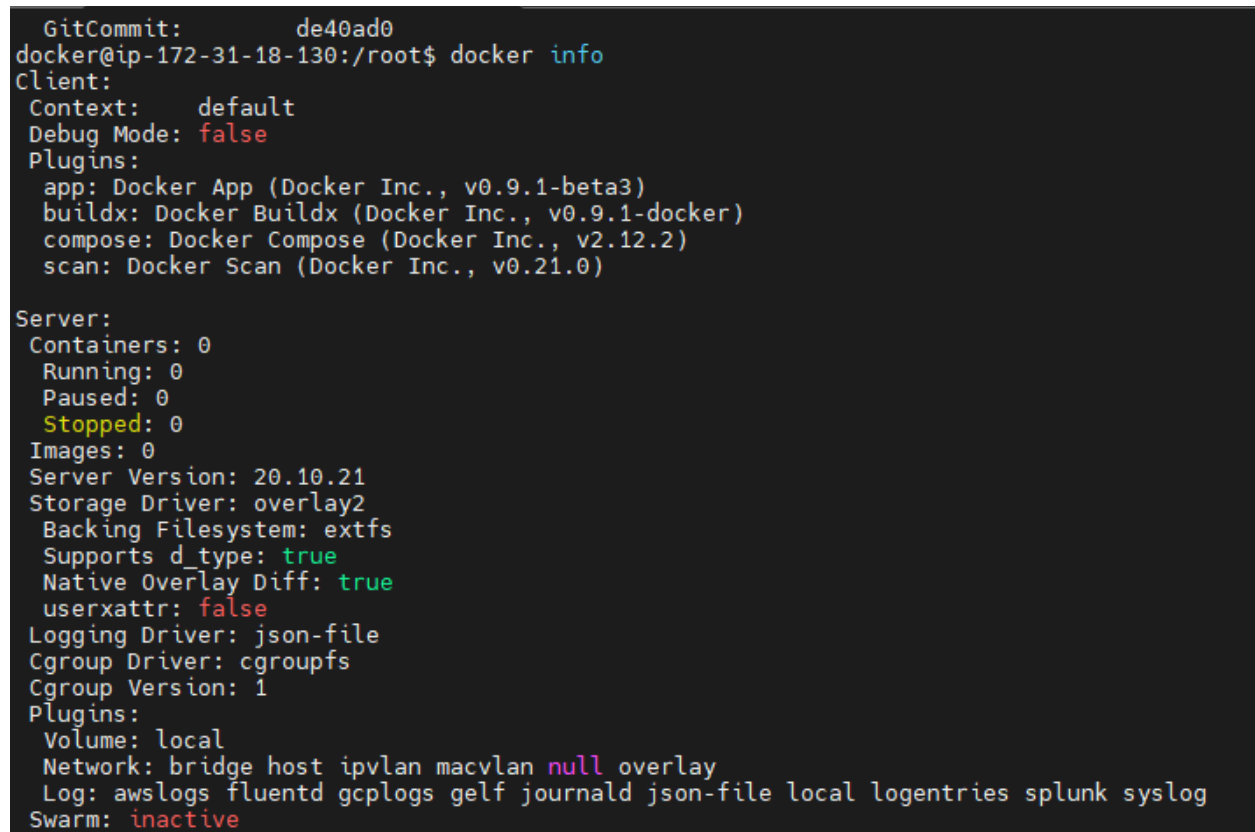


The screenshot shows a terminal window with the command `docker version` executed. The output displays the client and server versions of Docker Engine, along with various system details like API version, Go version, Git commit, build date, OS/architecture, context, and experimental features. The client version is 20.10.21, and the server version is also 20.10.21. The server is identified as Docker Engine - Community. The output also shows the version of containerd (1.6.9), runc (1.1.4), and docker-init (0.19.0).

```
docker@ip-172-31-18-130:/root$ docker version
Client: Docker Engine - Community
Version: 20.10.21
API version: 1.41
Go version: go1.18.7
Git commit: baeda1f
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: 1c90a442489720eec95342e1789ee8a5e1b9536f
runc:
Version: 1.1.4
GitCommit: v1.1.4-0-g5fd4c4d
docker-init:
Version: 0.19.0
GitCommit: de40ad0
docker@ip-172-31-18-130:/root$
```

“docker info” command is used for checking the info

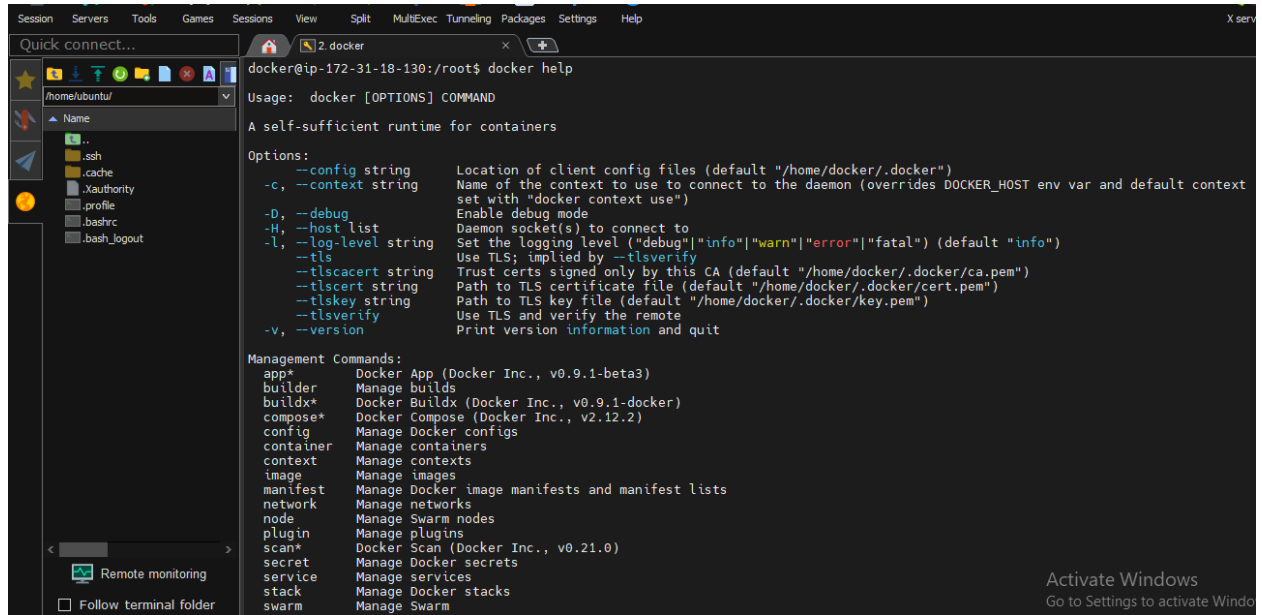


The screenshot shows a terminal window with the command `docker info` executed. The output provides detailed information about the Docker environment, including client context, plugins (app, buildx, compose, scan), server status (containers, images), storage driver (overlay2), logging driver (json-file), and various plugins (volume, network, log, swarm). The server is currently inactive.

```
GitCommit: de40ad0
docker@ip-172-31-18-130:/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: cgroupfs
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
```


This "docker help" command is used for taking help from docker



```
docker@ip-172-31-18-130:/root$ docker help

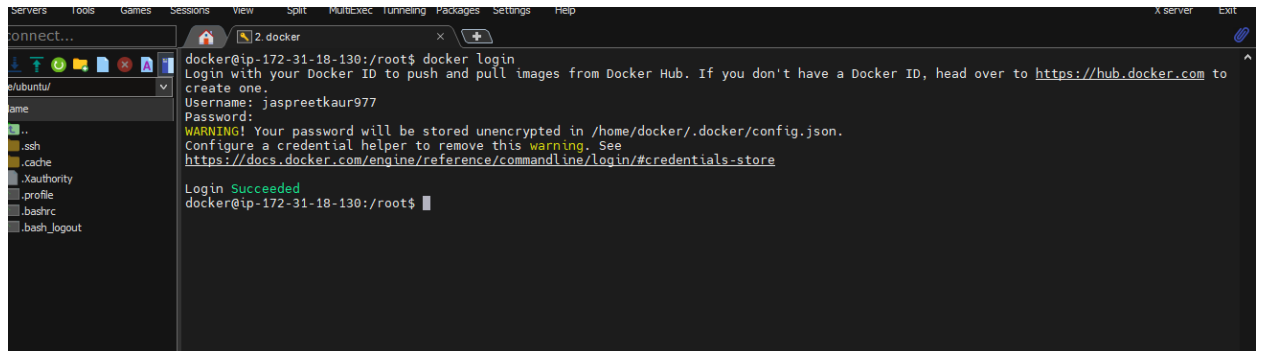
Usage: docker [OPTIONS] COMMAND

A self-sufficient runtime for containers

Options:
  --config string      Location of client config files (default "/home/docker/.docker")
  -c, --context string  Name of the context to use to connect to the daemon (overrides DOCKER_HOST env var and default context set with "docker context use")
  -D, --debug           Enable debug mode
  -H, --host list       Daemon socket(s) to connect to
  -l, --log-level string Set the logging level ("debug"|"info"|"warn"|"error"|"fatal") (default "info")
  --tls                Use TLS; implied by --tlsverify
  --tlscacert string    Trust certs signed only by this CA (default "/home/docker/.docker/ca.pem")
  --tlscert string       Path to TLS certificate file (default "/home/docker/.docker/cert.pem")
  --tlskey string        Path to TLS key file (default "/home/docker/.docker/key.pem")
  --tlsverify           Use TLS and verify the remote
  -v, --version         Print version information and quit

Management Commands:
  app*      Docker App (Docker Inc., v0.9.1-beta3)
  builder   Manage builds
  buildx*   Docker Buildx (Docker Inc., v0.9.1-docker)
  compose*  Docker Compose (Docker Inc., v2.12.2)
  config    Manage Docker configs
  container Manage containers
  context   Manage contexts
  image     Manage images
  manifest  Manage Docker image manifests and manifest lists
  network   Manage networks
  node      Manage Swarm nodes
  plugin    Manage plugins
  scan*     Docker Scan (Docker Inc., v0.21.0)
  secret    Manage Docker secrets
  service   Manage services
  stack     Manage Docker stacks
  swarm    Manage Swarm
```

"docker login" command is used for login in the docker hub account

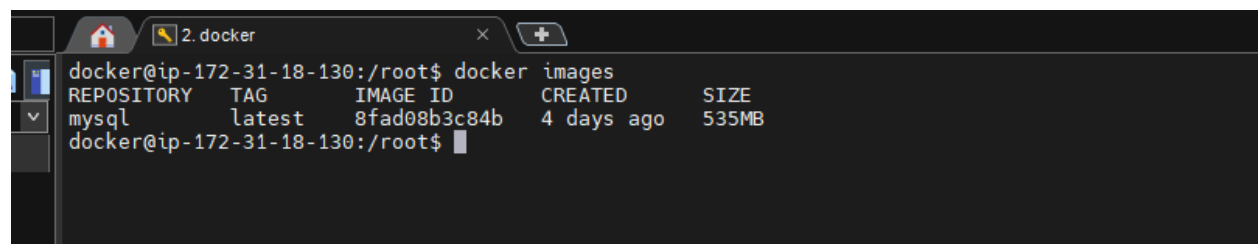


```
docker@ip-172-31-18-130:/root$ docker login
Login with your Docker ID to push and pull images from Docker Hub. If you don't have a Docker ID, head over to https://hub.docker.com to create one.
Username: jaspreetkaur977
Password:
WARNING! Your password will be stored unencrypted in /home/docker/.docker/config.json.
Configure a credential helper to remove this warning. See
https://docs.docker.com/engine/reference/commandline/login/#credentials-store

Login Succeeded
docker@ip-172-31-18-130:/root$
```

```
docker@ip-172-31-18-130:/root$ docker run mysql
Unable to find image 'mysql:latest' locally
latest: Pulling from library/mysql
50cbc88660a5: Pull complete
92ca853f7184: Pull complete
9a2047696230: Pull complete
fe3fea56f9fb: Pull complete
b058249d3104: Pull complete
9d5014a20163: Pull complete
906aa7388ee2: Pull complete
86b5e2150967: Pull complete
7c6b15dcd4e: Pull complete
21de4337b977: Pull complete
35dab154f2ae: Pull complete
Digest: sha256:06314a7a220f6043436cfd72fd9c7f174fd58ef69fe4b788625fa53be4ab66aa
Status: Downloaded newer image for mysql:latest
2022-10-26 19:10:55+00:00 [Note] [Entrypoint]: Entrypoint script for MySQL Server 8.0.31-1.el8 started.
2022-10-26 19:10:55+00:00 [Note] [Entrypoint]: Switching to dedicated user 'mysql'
2022-10-26 19:10:55+00:00 [Note] [Entrypoint]: Entrypoint script for MySQL Server 8.0.31-1.el8 started.
2022-10-26 19:10:55+00:00 [ERROR] [Entrypoint]: Database is uninitialized and password option is not specified
```

To know about the image of our machine we use docker images



```
docker@ip-172-31-18-130:/root$ docker images
REPOSITORY    TAG       IMAGE ID       CREATED        SIZE
mysql          latest    8fad08b3c84b   4 days ago    535MB
docker@ip-172-31-18-130:/root$
```

