```
mishra@mishra-VirtualBox:~/Desktop$ sudo apt-get remove docker docker-engine docker.io containerd runc
[sudo] password for mishra:
Reading package lists... Done
Building dependency tree
Reading state information... Done
E: Unable to locate package docker-engine
mishra@mishra-VirtualBox:~/Desktop$ sudo apt-get update
Ign:1 https://pkg.jenkins.io/debian-stable binary/ InRelease
Hit:2 https://pkg.jenkins.io/debian-stable binary/ Release
Hit:4 http://archive.ubuntu.com/ubuntu focal InRelease
Get:5 http://archive.ubuntu.com/ubuntu focal-updates InRelease [114 kB]
Get:6 http://archive.ubuntu.com/ubuntu focal-backports InRelease [108 kB]
Get:7 http://archive.ubuntu.com/ubuntu focal-security InRelease [114 kB]
Get:8 http://archive.ubuntu.com/ubuntu focal-updates/main i386 Packages [600 kB]
Get:9 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 Packages [1,562 kB]

Get:10 http://archive.ubuntu.com/ubuntu focal-updates/main Translation-en [301 kB]

Get:11 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 DEP-11 Metadata [282 kB]

Get:12 http://archive.ubuntu.com/ubuntu focal-updates/main DEP-11 48x48 Icons [60.8 kB]

Get:13 http://archive.ubuntu.com/ubuntu focal-updates/main DEP-11 64x64 Icons [98.3 kB]

Get:14 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 c-n-f Metadata [14.7 kB]

Get:15 http://archive.ubuntu.com/ubuntu focal-updates/restricted amd64 Packages [798 kB]

Get:16 http://archive.ubuntu.com/ubuntu focal-updates/restricted i386 Packages [23.2 kB]

Get:17 http://archive.ubuntu.com/ubuntu focal-updates/restricted Translation-en [114 kB]
```

```
Reading package lists... Done
mishra@mishra-VirtualBox:~/Desktop$ 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 (20210119~20.04.2).
ca-certificates set to manually installed.
gnupg is already the newest version (2.2.19-3ubuntu2.1).
gnupg set to manually installed.
The following additional packages will be installed:
```

```
mishra@mishra-VirtualBox:~/Desktop$  curl -fsSL https://download.docker.com/linux/ubuntu/gpg | sudo gpg --dearmor -o /usr/
share/keyrings/docker-archive-keyring.gpg
mishra@mishra-VirtualBox:~/Desktop$ echo \
>   "deb [arch=$(dpkg --print-architecture) signed-by=/usr/share/keyrings/docker-archive-keyring.gpg] https://download.doc
ker.com/linux/ubuntu \
>   $(lsb_release -cs) stable" | sudo tee /etc/apt/sources.list.d/docker.list > /dev/null
```

```
mishra@mishra-VirtualBox:~/Desktop$ sudo apt-get update
Get:2 https://download.docker.com/linux/ubuntu focal InRelease [57.7 kB]
Ign:1 https://pkg.jenkins.io/debian-stable binary/ InRelease
Hit:3 https://pkg.jenkins.io/debian-stable binary/ Release
Get:4 https://download.docker.com/linux/ubuntu focal/stable amd64 Packages [13.5 kB]
Hit:6 http://archive.ubuntu.com/ubuntu focal InRelease
Hit:7 http://archive.ubuntu.com/ubuntu focal-updates InRelease
Hit:8 http://archive.ubuntu.com/ubuntu focal-backports InRelease
Hit:9 http://archive.ubuntu.com/ubuntu focal-security InRelease
Fetched 71.2 kB in 2s (40.4 kB/s)
Reading package lists... Done
mishra@mishra-VirtualBox:~/Desktop$ sudo apt-get install docker-ce docker-ce-cli containerd.io
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-scan-plugin pigz slirp4netns
0 upgraded, 7 newly installed, 0 to remove and 104 not upgraded.
Need to get 97.2 MB of archives.
After this operation, 409 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 https://download.docker.com/linux/ubuntu focal/stable amd64 containerd.io amd64 1.4.12-1 [23.7 MB]
```

```
mishra@mishra-VirtualBox:~/Desktop$ sudo docker run hello-world
Unable to find image 'hello-world:latest' locally
latest: Pulling from library/hello-world
2db29710123e: Pull complete

Digest: sha256:507ecde44b8eb741278274653120c2bf793b174c06ff4eaa672b713b3263477b
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

Share images, automate workflows, and more with a free Docker ID:
 https://hub.docker.com/

For more examples and ideas, visit:
 https://docs.docker.com/get-started/
```

Theory:

1. Docker vs Virtualization
2. Docker life cycle/staging area
3. Docker command with output

docker command-----> Descriptiong that command

screenshot

docer --version ------> use to see docker version

```
mishra@mishra-VirtualBox:~/Desktop$ sudo docker pull ubuntu
[sudo] password for mishra:
Using default tag: latest
latest: Pulling from library/ubuntu
08c01a0ec47e: Pull complete
Digest: sha256:669e010b58baf5beb2836b253c1fd5768333f0d1dbcb834f7c07a4dc93f474be
Status: Downloaded newer image for ubuntu:latest
docker.io/library/ubuntu:latest
mishra@mishra-VirtualBox:~/Desktop$ docker images
Got permission denied while trying to connect to the Docker daemon socket at unix:///var/run/docker.sock: Get "http://
ar%2Frun%2Fdocker.sock/v1.24/images/json": dial unix /var/run/docker.sock: connect: permission denied
mishra@mishra-VirtualBox:~/Desktop$ sudo docker images
REPOSITORY      TAG        IMAGE ID       CREATED        SIZE
ubuntu          latest     54c9d81cbb44   6 days ago     72.8MB
hello-world     latest     feb5d9fea6a5   4 months ago   13.3kB
mishra@mishra-VirtualBox:~/Desktop$ sudo docker run -it -d 54c9d81cbb4
df215055d586a3332c7d50f0e4f225cd1727bfc43b8839788f269b8867628739
mishra@mishra-VirtualBox:~/Desktop$ sudo docker ps
CONTAINER ID    IMAGE          COMMAND     CREATED        STATUS         PORTS       NAMES
df215055d586    54c9d81cbb4    "bash"      13 seconds ago Up 11 seconds              sleepy_lehmann
mishra@mishra-VirtualBox:~/Desktop$ sudo docker ps -a
CONTAINER ID    IMAGE          COMMAND     CREATED              STATUS                   PORTS       NAMES
df215055d586    54c9d81cbb4    "bash"      About a minute ago   Up About a minute                    sleepy_lehmann
8ba5629476e8    hello-world    "/hello"    48 minutes ago       Exited (0) 48 minutes ago            bold_mendeleev
mishra@mishra-VirtualBox:~/Desktop$ sudo docker exec it df215055d586 bash
Error: No such container: it
mishra@mishra-VirtualBox:~/Desktop$ sudo docker exec -it df215055d586 bash
root@df215055d586:/# ls
bin  boot  dev  etc  home  lib  lib32  lib64  libx32  media  mnt  opt  proc  root  run  sbin  srv  sys  tmp  usr  var
root@df215055d586:/#
```