Docker Basic Operations – Documentation

1. Create Virtual Machine (VM)

Objective:

To create an isolated environment (VM) where Docker will be installed and containers can run safely.

Steps (Using Ubuntu Example):

1. Open your cloud provider (AWS / Azure / GCP) or local hypervisor (VirtualBox / VMware).

2. Create a new VM instance:

   - **OS:** Ubuntu 22.04 LTS

   - **vCPUs:** 2

   - **Memory:** 2–4 GB

   - **Storage:** 20 GB minimum

3. Connect to the VM:

   ssh username@<VM-IP>

```
ubuntu@ip-172-31-27-146:~$ sudo hostnamectl set-hostname Docker
ubuntu@ip-172-31-27-146:~$ sudo init 6client_loop: send disconnect: Connection reset
PS C:\Users\MSI 1\Downloads> ssh -i "Work-Key.pem" ubuntu@ec2-54-152-222-141.compute-1.amazonaws.com
Connection closed by 54.152.222.141 port 22
```

4. Update the system:

   sudo apt update && sudo apt upgrade -y

```
ubuntu@ip-172-31-27-146:~$ sudo apt -y update
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble InRelease
Get:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
Get:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports InRelease [126 kB]
Get:4 http://security.ubuntu.com/ubuntu noble-security InRelease [126 kB]
```

What is Docker?

Docker is an open platform for developing, shipping, and running applications. Docker enables you to separate your applications from your infrastructure so you can deliver software quickly. With Docker, you can manage your infrastructure in the same ways you manage your applications.

2. Install Docker

Steps:

Using the command given below download Docker:

    sudo apt install -y docker.io

```
ubuntu@ip-172-31-27-146:~$ docker
Command 'docker' not found, but can be installed with:
sudo apt install docker.io        # version 28.2.2-0ubuntu1~24.04.1, or
sudo apt install podman-docker  # version 4.9.3+ds1-1ubuntu0.2
ubuntu@ip-172-31-27-146:~$ sudo apt install docker.io
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
```

Verify installation:

docker --version

```
ubuntu@Docker:~$ docker --version
Docker version 28.2.2, build 28.2.2-0ubuntu1~24.04.1
ubuntu@Docker:~$
```

---

3. Change Permissions

Objective:

Allow a non-root user to run Docker commands without sudo.

Steps:

1. Change the permissions for the Docker group using the command:

a. Sudo chmod 666 /var/run/docker.sock

```
ubuntu@ip-172-31-27-146:~$ sudo chmod 666 /var/run/docker.sock
```

2.Verify:

b. docker ps

```
ubuntu@Docker:~$ sudo chmod 666 /var/run/docker.sock
ubuntu@Docker:~$ docker ps
CONTAINER ID   IMAGE     COMMAND   CREATED   STATUS    PORTS     NAMES
ubuntu@Docker:~$
```

---

4. Pull Image

Objective:

Download Docker images from Docker Hub or any other registry.

Command Syntax:

docker pull <image_name>:<tag>

Example:

docker pull centos:centos7

Explanation:

- centos → Image name

- centos7 → Tag (optional, defaults to latest)

1. Check for the images in the Local database.

```
ubuntu@ip-172-31-27-146:~$ docker images
REPOSITORY     TAG           IMAGE ID    CREATED    SIZE
ubuntu@ip-172-31-27-146:~$
```

2. Download Docker image from Docker Registry.

```
ubuntu@ip-172-31-27-146:~$ docker pull centos:centos7
centos7: Pulling from library/centos
2d473b07cdd5: Pull complete
Digest: sha256:be65f488b7764ad3638f236b7b515b3678369a5124c47b8d32916d6487418ea4
Status: Downloaded newer image for centos:centos7
docker.io/library/centos:centos7
```

```
ubuntu@ip-172-31-27-146:~$ docker images
REPOSITORY    TAG       IMAGE ID       CREATED       SIZE
centos        centos7   eeb6ee3f44bd   4 years ago   204MB
ubuntu@ip-172-31-27-146:~$
```

```
ubuntu@ip-172-31-27-146:~$ docker pull centos:centos8
centos8: Pulling from library/centos
a1d0c7532777: Pull complete
Digest: sha256:a27fd8080b517143cbbbab9dfb7c8571c40d67d534bbdee55bd6c473f432b177
Status: Downloaded newer image for centos:centos8
docker.io/library/centos:centos8
ubuntu@ip-172-31-27-146:~$
```

```
ubuntu@ip-172-31-27-146:~$ docker images
REPOSITORY    TAG       IMAGE ID       CREATED       SIZE
centos        centos7   eeb6ee3f44bd   4 years ago   204MB
centos        centos8   5d0da3dc9764   4 years ago   231MB
ubuntu@ip-172-31-27-146:~$ docker ps -a
CONTAINER ID   IMAGE          COMMAND       CREATED         STATUS                   PORTS     NAMES
ee5fb671dda9   eeb6ee3f44bd   "/bin/bash"   4 minutes ago   Exited (0) 3 minutes ago           jolly_jones
ubuntu@ip-172-31-27-146:~$
```

---

5. Run Container (-it / -dt options)

Docker runs processes in isolated containers. A container is a process which runs on a host. The host may be local or remote. When you execute docker run, the container process that runs is isolated in that it has its own file system, its own networking, and its own isolated process tree separate from the host.

Docker offers two primary running modes: **Interactive Mode** and **Detached Mode**, each serving different use cases. Let's break down these modes and explore when and why to use them.

Interactive Mode:
In **Interactive Mode**, the Docker container runs attached to your terminal, allowing you to interact with the container in real-time. This is particularly useful for debugging, testing, or running commands interactively within the container.

How to Run in Detached Mode:

To run a container in detached mode, use the -it flag or run normally using docker run:

When to Use Foreground Mode:
- **Debugging and Testing:** Foreground mode is perfect for troubleshooting. You can monitor what's happening inside the container, interact with it, and stop it easily when you're done.

- **Short-Lived Tasks:** For tasks that complete quickly, such as running scripts or building software, foreground mode lets you monitor the process directly.

Detached Mode:

In **Detached Mode**, the container runs in the background, freeing up your terminal for other…

How to Run in Detached Mode:

To run a container in detached mode, use the -dt flag:

Once the container starts, it runs in the background, and Docker returns the container ID. You can then manage the container using other Docker commands.
When to Use Detached Mode:

- **Background Services:** If you're running a web server, database, or any long-running application, detached mode ensures the container runs independently of your terminal session.
- **Multiple Containers:** Detached mode is useful when managing multiple containers at once, allowing you to start and run various services without cluttering your terminal.

Objective:

Create and start a container from a pulled image.

Commands:

Interactive Mode:

docker run -it <container-id>

- *(-i = interactive, -t = terminal)*
  Open a shell inside the container.

```
ubuntu@ip-172-31-27-146:~$ docker run -it eeb6ee3f44bd
[root@ee5fb671dda9 /]# ls
anaconda-post.log  bin  dev  etc  home  lib  lib64  media  mnt  opt  proc  root  run  sbin  srv  sys  tmp  usr  var
[root@ee5fb671dda9 /]# touch file.txt
[root@ee5fb671dda9 /]# ls
anaconda-post.log  dev  file.txt  lib     media  opt   root  sbin  sys  usr
bin                etc  home      lib64   mnt    proc  run   srv   tmp  var
[root@ee5fb671dda9 /]#
```

```
ubuntu@ip-172-31-27-146:~$ docker ps -a
CONTAINER ID   IMAGE         COMMAND        CREATED         STATUS                   PORTS     NAMES
ee5fb671dda9   eeb6ee3f44bd  "/bin/bash"    55 seconds ago  Exited (0) 7 seconds ago           jolly_jones
ubuntu@ip-172-31-27-146:~$
```

Detached Mode (background):

docker run -dt <container-id>

- *(-dt = detached mode)*
  Run the container in the background.

```
ubuntu@ip-172-31-27-146:~$ docker run -dt 5d0da3dc9764
3658f6a9fe724e66eb09f87186361603d1870e8d7057361b061ea934fb82cf4f
ubuntu@ip-172-31-27-146:~$
```

---

6. Container Management

Start, Stop, Kill Containers:

docker start <container_id or name>
docker stop <container_id or name>
docker kill <container_id or name>

Start: using container id

```
ubuntu@ip-172-31-27-146:~$ docker ps -a
CONTAINER ID   IMAGE        COMMAND       CREATED        STATUS                    PORTS     NAMES
3658f6a9fe72   5d0da3dc9764 "/bin/bash"   3 minutes ago  Up 3 minutes                        blissful_shockley
ee5fb671dda9   eeb6ee3f44bd "/bin/bash"   8 minutes ago  Exited (0) 7 minutes ago            jolly_jones
ubuntu@ip-172-31-27-146:~$ docker start ee5fb671dda9
ee5fb671dda9
ubuntu@ip-172-31-27-146:~$ docker ps -a
CONTAINER ID   IMAGE        COMMAND       CREATED        STATUS          PORTS     NAMES
3658f6a9fe72   5d0da3dc9764 "/bin/bash"   4 minutes ago  Up 4 minutes              blissful_shockley
ee5fb671dda9   eeb6ee3f44bd "/bin/bash"   9 minutes ago  Up 8 seconds              jolly_jones
ubuntu@ip-172-31-27-146:~$
```

Stop: using container name

```
ubuntu@ip-172-31-27-146:~$ docker ps -a
CONTAINER ID   IMAGE        COMMAND       CREATED        STATUS          PORTS     NAMES
3658f6a9fe72   5d0da3dc9764 "/bin/bash"   4 minutes ago  Up 4 minutes              blissful_shockley
ee5fb671dda9   eeb6ee3f44bd "/bin/bash"   9 minutes ago  Up 8 seconds              jolly_jones
ubuntu@ip-172-31-27-146:~$ docker stop jolly_jones
jolly_jones
ubuntu@ip-172-31-27-146:~$ docker ps -a
CONTAINER ID   IMAGE        COMMAND       CREATED        STATUS                     PORTS     NAMES
3658f6a9fe72   5d0da3dc9764 "/bin/bash"   5 minutes ago  Up 5 minutes                         blissful_shockley
ee5fb671dda9   eeb6ee3f44bd "/bin/bash"   10 minutes ago Exited (137) 6 seconds ago           jolly_jones
ubuntu@ip-172-31-27-146:~$
```

Kill: using container name

```
ubuntu@ip-172-31-27-146:~$ docker ps -a
CONTAINER ID   IMAGE        COMMAND       CREATED        STATUS                     PORTS     NAMES
3658f6a9fe72   5d0da3dc9764 "/bin/bash"   5 minutes ago  Up 5 minutes                         blissful_shockley
ee5fb671dda9   eeb6ee3f44bd "/bin/bash"   10 minutes ago Exited (137) 6 seconds ago           jolly_jones
ubuntu@ip-172-31-27-146:~$ docker kill blissful_shockley
blissful_shockley
ubuntu@ip-172-31-27-146:~$ docker ps -a
CONTAINER ID   IMAGE        COMMAND       CREATED        STATUS                      PORTS     NAMES
3658f6a9fe72   5d0da3dc9764 "/bin/bash"   5 minutes ago  Exited (137) 4 seconds ago            blissful_shockley
ee5fb671dda9   eeb6ee3f44bd "/bin/bash"   10 minutes ago Exited (137) 59 seconds ago           jolly_jones
ubuntu@ip-172-31-27-146:~$
```

Remove Containers:

docker rm <container_id or name>
docker rm -f <container_id>   # Force remove

```
ubuntu@ip-172-31-27-146:~$ docker ps -a
CONTAINER ID   IMAGE         COMMAND       CREATED         STATUS                       PORTS       NAMES
3658f6a9fe72   5d0da3dc9764  "/bin/bash"   6 minutes ago   Exited (137) 42 seconds ago              blissful_shockley
ee5fb671dda9   eeb6ee3f44bd  "/bin/bash"   11 minutes ago  Exited (137) About a minute ago          jolly_jones
ubuntu@ip-172-31-27-146:~$ docker rm 3658f6a9fe72
3658f6a9fe72
ubuntu@ip-172-31-27-146:~$ docker ps -a
CONTAINER ID   IMAGE         COMMAND       CREATED         STATUS                       PORTS       NAMES
ee5fb671dda9   eeb6ee3f44bd  "/bin/bash"   12 minutes ago  Exited (137) 2 minutes ago               jolly_jones
ubuntu@ip-172-31-27-146:~$
```

```
ubuntu@ip-172-31-27-146:~$ docker rm ee5fb671dda9
Error response from daemon: cannot remove container "ee5fb671dda9": container is running: stop the container before removing or for
ce remove
ubuntu@ip-172-31-27-146:~$ docker ps -a
CONTAINER ID   IMAGE         COMMAND       CREATED         STATUS            PORTS       NAMES
ee5fb671dda9   eeb6ee3f44bd  "/bin/bash"   13 minutes ago  Up 48 seconds                 jolly_jones
ubuntu@ip-172-31-27-146:~$ docker rm -f ee5fb671dda9
ee5fb671dda9
ubuntu@ip-172-31-27-146:~$ docker ps -a
CONTAINER ID   IMAGE   COMMAND   CREATED   STATUS   PORTS   NAMES
ubuntu@ip-172-31-27-146:~$
```

Inspect Container:

Displays full details (network, mounts, config, etc.)

docker inspect <container_id or name>

```
ubuntu@ip-172-31-27-146:~$ docker ps -a
CONTAINER ID   IMAGE   COMMAND   CREATED   STATUS   PORTS   NAMES
ubuntu@ip-172-31-27-146:~$ docker images
REPOSITORY   TAG       IMAGE ID      CREATED       SIZE
centos       centos7   eeb6ee3f44bd  4 years ago   204MB
centos       centos8   5d0da3dc9764  4 years ago   231MB
ubuntu@ip-172-31-27-146:~$ docker run eeb6ee3f44bd
ubuntu@ip-172-31-27-146:~$ docker ps -a
CONTAINER ID   IMAGE         COMMAND       CREATED        STATUS               PORTS       NAMES
d3b57cf053f8   eeb6ee3f44bd  "/bin/bash"   5 seconds ago  Exited (0) 4 seconds ago         kind_lichterman
ubuntu@ip-172-31-27-146:~$
```

```
ubuntu@ip-172-31-27-146:~$ docker ps -a
CONTAINER ID   IMAGE         COMMAND       CREATED        STATUS               PORTS       NAMES
d3b57cf053f8   eeb6ee3f44bd  "/bin/bash"   5 seconds ago  Exited (0) 4 seconds ago         kind_lichterman
ubuntu@ip-172-31-27-146:~$ docker inspect d3b57cf053f8
[
    {
        "Id": "d3b57cf053f885fe3aca08b1bac4b7ff71b52107bad16e3daf5d1472ece7fba0",
        "Created": "2025-11-11T10:48:46.758279721Z",
        "Path": "/bin/bash",
        "Args": [],
        "State": {
            "Status": "exited",
            "Running": false,
            "Paused": false,
            "Restarting": false,
            "OOMKilled": false,
            "Dead": false,
            "Pid": 0,
            "ExitCode": 0,
            "Error": "",
            "StartedAt": "2025-11-11T10:48:46.844496143Z",
            "FinishedAt": "2025-11-11T10:48:47.02237701Z"
        },
        "Image": "sha256:eeb6ee3f44bd0b5103bb561b4c16bcb82328cfe5809ab675bb17ab3a16c517c9",
        "ResolvConfPath": "/var/lib/docker/containers/d3b57cf053f885fe3aca08b1bac4b7ff71b52107bad16e3daf5d1472ece7fba0/resolv.conf"
,
        "HostnamePath": "/var/lib/docker/containers/d3b57cf053f885fe3aca08b1bac4b7ff71b52107bad16e3daf5d1472ece7fba0/hostname",
        "HostsPath": "/var/lib/docker/containers/d3b57cf053f885fe3aca08b1bac4b7ff71b52107bad16e3daf5d1472ece7fba0/hosts",
        "LogPath": "/var/lib/docker/containers/d3b57cf053f885fe3aca08b1bac4b7ff71b52107bad16e3daf5d1472ece7fba0/d3b57cf053f885fe3ac
a08b1bac4b7ff71b52107bad16e3daf5d1472ece7fba0-json.log"
```

Exec into Running Container:

Run commands inside a running container.

docker exec -it <container_id> /bin/bash

```
ubuntu@ip-172-31-27-146:~$ docker ps -a
CONTAINER ID   IMAGE         COMMAND       CREATED         STATUS                PORTS     NAMES
3658f6a9fe72   5d0da3dc9764  "/bin/bash"   2 minutes ago   Up 2 minutes                    blissful_shockley
ee5fb671dda9   eeb6ee3f44bd  "/bin/bash"   7 minutes ago   Exited (0) 6 minutes ago        jolly_jones
ubuntu@ip-172-31-27-146:~$ docker exec -it 3658f6a9fe72 /bin/bash
[root@3658f6a9fe72 /]# ls
bin  dev  etc  home  lib  lib64  lost+found  media  mnt  opt  proc  root  run  sbin  srv  sys  tmp  usr  var
[root@3658f6a9fe72 /]# cd home
[root@3658f6a9fe72 home]# ls
[root@3658f6a9fe72 home]#
```

---

7. Remove Image

Objective:

Delete unused or unwanted Docker images.

Command:

docker rmi <image_name or id>

```
ubuntu@ip-172-31-27-146:~$ docker images
REPOSITORY   TAG       IMAGE ID       CREATED       SIZE
centos       centos7   eeb6ee3f44bd   4 years ago   204MB
centos       centos8   5d0da3dc9764   4 years ago   231MB
ubuntu@ip-172-31-27-146:~$ docker ps -a
CONTAINER ID   IMAGE         COMMAND       CREATED         STATUS                   PORTS     NAMES
d3b57cf053f8   eeb6ee3f44bd  "/bin/bash"   2 minutes ago   Exited (0) 2 minutes ago           kind_lichterman
ubuntu@ip-172-31-27-146:~$ docker rmi eeb6ee3f44bd
Error response from daemon: conflict: unable to delete eeb6ee3f44bd (must be forced) - image is being used by stopped container d3b
57cf053f8
```

Force Remove (if image is used by a stopped container):

docker rmi -f <image_id>

```
ubuntu@ip-172-31-27-146:~$ docker images
REPOSITORY   TAG       IMAGE ID       CREATED       SIZE
centos       centos7   eeb6ee3f44bd   4 years ago   204MB
centos       centos8   5d0da3dc9764   4 years ago   231MB
ubuntu@ip-172-31-27-146:~$ docker ps -a
CONTAINER ID   IMAGE         COMMAND       CREATED         STATUS                   PORTS     NAMES
d3b57cf053f8   eeb6ee3f44bd  "/bin/bash"   2 minutes ago   Exited (0) 2 minutes ago           kind_lichterman
ubuntu@ip-172-31-27-146:~$ docker rmi eeb6ee3f44bd
Error response from daemon: conflict: unable to delete eeb6ee3f44bd (must be forced) - image is being used by stopped container d3
57cf053f8
ubuntu@ip-172-31-27-146:~$ docker rmi -f eeb6ee3f44bd
Untagged: centos:centos7
Untagged: centos@sha256:be65f488b7764ad3638f236b7b515b3678369a5124c47b8d32916d6487418ea4
Deleted: sha256:eeb6ee3f44bd0b5103bb561b4c16bcb82328cfe5809ab675bb17ab3a16c517c9
ubuntu@ip-172-31-27-146:~$ docker ps -a
CONTAINER ID   IMAGE         COMMAND       CREATED         STATUS                   PORTS     NAMES
d3b57cf053f8   eeb6ee3f44bd  "/bin/bash"   3 minutes ago   Exited (0) 3 minutes ago           kind_lichterman
ubuntu@ip-172-31-27-146:~$ docker images
REPOSITORY   TAG       IMAGE ID       CREATED       SIZE
centos       centos8   5d0da3dc9764   4 years ago   231MB
ubuntu@ip-172-31-27-146:~$
```

List All Images:

docker images

```
ubuntu@ip-172-31-27-146:~$ docker images
REPOSITORY    TAG        IMAGE ID    CREATED    SIZE
ubuntu@ip-172-31-27-146:~$
```

8. Prune Image

Objective:

Clean up unused Docker objects (images, containers, networks).

Commands:

Remove dangling (unused) images only:

docker image prune

```
ubuntu@Docker:~$ docker image prune
WARNING! This will remove all dangling images.
Are you sure you want to continue? [y/N] Y
Total reclaimed space: 0B
ubuntu@Docker:~$
```

Remove an image that is attached to Container that is running:

docker rmi <cont.id>

```
ubuntu@ip-172-31-27-146:~$ docker run -dt 5d0da3dc9764
bfd4db1b0a7acdbcdd419c187e9faede86b2e440962840fcc31b7bd56beb764c
ubuntu@ip-172-31-27-146:~$ docker ps -a
CONTAINER ID   IMAGE          COMMAND       CREATED         STATUS                   PORTS     NAMES
bfd4db1b0a7a   5d0da3dc9764   "/bin/bash"   10 seconds ago  Up 9 seconds                       youthful_leakey
350174507c67   5d0da3dc9764   "/bin/bash"   54 seconds ago  Exited (0) 53 seconds ago          modest_chatterjee
d3b57cf053f8   eeb6ee3f44bd   "/bin/bash"   5 minutes ago   Exited (0) 5 minutes ago           kind_lichterman
ubuntu@ip-172-31-27-146:~$ docker images
REPOSITORY    TAG      IMAGE ID      CREATED      SIZE
centos        centos8  5d0da3dc9764  4 years ago  231MB
ubuntu@ip-172-31-27-146:~$ docker rmi 5d0da3dc9764
Error response from daemon: conflict: unable to delete 5d0da3dc9764 (cannot be forced) - image is being used by running container b
fd4db1b0a7a
ubuntu@ip-172-31-27-146:~$
```

   Trying Force delete:
          docker rmi -f <cont.id>

```
ubuntu@ip-172-31-27-146:~$ docker rmi 5d0da3dc9764
Error response from daemon: conflict: unable to delete 5d0da3dc9764 (cannot be forced) - image is being used by running container b
fd4db1b0a7a
ubuntu@ip-172-31-27-146:~$ docker rmi -f 5d0da3dc9764
Error response from daemon: conflict: unable to delete 5d0da3dc9764 (cannot be forced) - image is being used by running container b
fd4db1b0a7a
ubuntu@ip-172-31-27-146:~$
```

Remove all unused images:

docker image prune -a

```
ubuntu@ip-172-31-27-146:~$ docker images
REPOSITORY   TAG      IMAGE ID      CREATED        SIZE
tomcat       latest   5212b7f54ba8  16 hours ago   412MB
httpd        latest   6a4fe18d08d2  7 days ago     117MB
nginx        latest   d261fd19cb63  7 days ago     152MB
centos       centos8  5d0da3dc9764  4 years ago    231MB
ubuntu@ip-172-31-27-146:~$ docker ps -a
CONTAINER ID   IMAGE         COMMAND       CREATED         STATUS        PORTS   NAMES
bfd4db1b0a7a   5d0da3dc9764  "/bin/bash"   4 minutes ago   Up 4 minutes          youthful_leakey
ubuntu@ip-172-31-27-146:~$ |
```

```
centos         centos8   5d0da3dc9764   4 years ago     231MB
ubuntu@ip-172-31-27-146:~$ docker ps -a
CONTAINER ID   IMAGE         COMMAND       CREATED         STATUS        PORTS   NAMES
bfd4db1b0a7a   5d0da3dc9764  "/bin/bash"   4 minutes ago   Up 4 minutes          youthful_leakey
ubuntu@ip-172-31-27-146:~$ docker image prune -a
WARNING! This will remove all images without at least one container associated to them.
Are you sure you want to continue? [y/N] Y
Deleted Images:
untagged: httpd:latest
untagged: httpd@sha256:ecfd5ca1bfe1fc5e44a5836c5188bde7f397b50c7a5bb603a017543e29948a01
deleted: sha256:6a4fe18d08d26a61b32d6aa5d17b2417c4f4de63e8460abf4cd824b911b9de88
deleted: sha256:c78f79d223643af30c382eefcd1efc285a994a2895a4fad225330a6c3e1d1797
deleted: sha256:655ea42223e5a87df151e8f2a0199419176fdf645c5d1504467f12df46f66a09
deleted: sha256:c9dccfd4d12e5bac98e0c53df0fb6964e2cc26020cbd4dcf57419961db1dcf6b
deleted: sha256:ed6e7e3a72de02ccd775dcd7b09dbc0b8dc41bc1e683027f3b7ab8764977be78
deleted: sha256:006a1ccbeba5f22631ee410cb46c1c5293e3804f2e352dd32b99c3df49a26aef
untagged: nginx:latest
untagged: nginx@sha256:1beed3ca46acebe9d3fb62e9067f03d05d5bfa97a00f30938a0a3580563272ad
deleted: sha256:d261fd19cb63238535ab80d4e1be1d9e7f6c8b5a28a820188968dd3e6f06072d
deleted: sha256:534fa102b912db29b236581b36d96b3961fab8a8e2f87170de3a97444075880e
deleted: sha256:f356d7e216ceca7046179c3ac20a975853d782fe5f914fd76275ba1949ae7e5b
deleted: sha256:f8d71bebdd1664ec5c412cc511bde3a5a93df38254ac3e59431da4e9830b3ffa
deleted: sha256:d65f0afc2c55c237e5a061e22de0cf6f8b24c171b89902f0e90675d50ecce0aa
deleted: sha256:8edab3f21d7cfc317f5e932991903851eddf379ab6c50cf806675a63cdd91d21
deleted: sha256:813c6b1f7312b3773f41f7bee85244570fed62c2aa5e7ba45d83d7fc16106e2c
deleted: sha256:36d06fe0cbc654e5f67d58c960ed33e53127e4a3288d8ce6f6a60a9c311794d4
untagged: tomcat:latest
untagged: tomcat@sha256:d420c3291b8e976721a9170600090538a22dbdacbafc4b51a70e44d920865373
deleted: sha256:5212b7f54ba83547eb31b2d32d4cede172eff3188ea004392877e1f1ab6ccc66
deleted: sha256:b401cc4fd3e7a2edf1364e3996956c962d1df2a5c8821755414dd4d2dac9c9a0
deleted: sha256:e43d60405845774a06e5ee92e132fc9ff96ea7b1af7c32e3939c7eae30bb72d2
deleted: sha256:2e095bb983f73ca9d813b8e5e51d4933bf183a758d509aa02e2a7ce38845e0cd
deleted: sha256:79d4a003a707522ee967fc5870a64f6f6605b742af44d8c8797fe6e2892dd9cc
deleted: sha256:31bd8e0750e9f9a3d55c71ac1e4771db413e4886e707aa4e4b094470deca5b99
deleted: sha256:984b3ebc72699fd7e60b3154200003ba08b30cfa817843f94ca14ca153084f66
deleted: sha256:1a21375eefdea048b2185aceaada4e4f991181078986bbc917e088fae409138c
deleted: sha256:70a9bc627e3f8e82af8d7944ac8c891bd5a0adf60d51e3068397e782432c63a7
deleted: sha256:073ec47a8c22dcaa4d6e5758799ccefe2f9bde943685830b1bf6fd2395f5eabc

Total reclaimed space: 601.9MB
ubuntu@ip-172-31-27-146:~$ |
```

⚠️ **Caution:**
These commands permanently delete unused resources — use carefully.

📘 Summary Table

Task	Command Example	Description
Create VM	`ssh ubuntu@IP`	Access your VM
Install Docker	`sudo apt install docker.io -y`	Install Docker
Change Permissions	`sudo chmod 666 /var/run/docker.sock`	Run Docker without sudo(temporary)
Pull Image	`docker pull nginx`	Download an image
Run Container	`docker run -dt <cont.id>` `Docker run -it <cont.id>`	Run container in backend Run container in frontend
Stop Container	`docker stop <cont.id>`	Stop running container (We can call it as Soft stop)
Remove Container	`docker rm <cont.id>`	Delete container
Remove Image	`docker rmi <cont.id>`	Delete image
Prune	`docker prune -a`	Remove all unused objects
Start Container	`docker start <cont.id>`	Start the container
Kill container	`docker kill <cont.id>`	Kill's running Container (We can call it as Hard stop)
Inspect container	`docker inspect <cont.id>`	Inspects the Container and gives all details about that.
Execute Container	`docker exec -it <cont.id> <shell>`	To talk with the container that is running in the bg.