

Step 1: List the running containers

```
docker ps
```

```
[root@ip-172-31-1-76 ~]# docker images
REPOSITORY    TAG       IMAGE ID       CREATED        SIZE
ubuntu        latest    7698f282e524   3 weeks ago   69.9MB
[root@ip-172-31-1-76 ~]# docker run -itd ubuntu
b6e96635bb7cea54b2b728af32b4a63b643a4bd8f201a679297c8a957ef00b78
[root@ip-172-31-1-76 ~]# docker ps
CONTAINER ID   IMAGE     COMMAND                  CREATED        STATUS        PORTS
b6e96635bb7c   ubuntu    "/bin/bash"             2 seconds ago Up 2 seconds
[root@ip-172-31-1-76 ~]# docker stop b6e96635bb7c
b6e96635bb7c
[root@ip-172-31-1-76 ~]# docker ps
CONTAINER ID   IMAGE     COMMAND                  CREATED        STATUS        PORTS
[root@ip-172-31-1-76 ~]# docker start b6e96635bb7c
b6e96635bb7c
[root@ip-172-31-1-76 ~]# docker ps
CONTAINER ID   IMAGE     COMMAND                  CREATED        STATUS        PORTS
b6e96635bb7c   ubuntu    "/bin/bash"             19 seconds ago Up 3 seconds
[root@ip-172-31-1-76 ~]#
```

Step 2: Look at the CPU ,Memory and storage, network performance of container

```
docker stats b6e96635bb7c
```

CONTAINER	CPU %	MEM USAGE / LIMIT	MEM %	NET I/O
b6e96635bb7c	0.00%	404KiB / 990.1MiB	0.04%	648B / 0B

Step 4: Restarting the container

```
docker restart b6e96635bb7c
```

```
[root@ip-172-31-1-76 ~]# docker ps
CONTAINER ID        IMAGE               COMMAND             CREATED             STATUS
b6e96635bb7c       ubuntu             "/bin/bash"        4 minutes ago      Up 4 minutes
[root@ip-172-31-1-76 ~]# docker restart b6e96635bb7c
b6e96635bb7c
[root@ip-172-31-1-76 ~]# docker ps
CONTAINER ID        IMAGE               COMMAND             CREATED             STATUS
b6e96635bb7c       ubuntu             "/bin/bash"        4 minutes ago      Up 2 seconds
[root@ip-172-31-1-76 ~]#
```

Step 5 : Pause the container

```
docker pause b6e96635bb7c
```

```
[root@ip-172-31-1-76 ~]# docker ps
CONTAINER ID        IMAGE               COMMAND             CREATED             STATUS             PORTS
b6e96635bb7c       ubuntu             "/bin/bash"        7 minutes ago      Up 3 minutes
[root@ip-172-31-1-76 ~]# docker pause b6e96635bb7c
b6e96635bb7c
[root@ip-172-31-1-76 ~]# docker ps
CONTAINER ID        IMAGE               COMMAND             CREATED             STATUS             PORTS
b6e96635bb7c       ubuntu             "/bin/bash"        8 minutes ago      Up 3 minutes (Paused)
[root@ip-172-31-1-76 ~]# docker unpause b6e96635bb7c
b6e96635bb7c
[root@ip-172-31-1-76 ~]# docker ps
CONTAINER ID        IMAGE               COMMAND             CREATED             STATUS             PORTS
b6e96635bb7c       ubuntu             "/bin/bash"        8 minutes ago      Up 3 minutes
[root@ip-172-31-1-76 ~]#
```

Step 6: unpause the container

```
docker unpause b6e96635bb7c
```

Step 7: Rename your container Name

```
docker rename b6e96635bb7c DevOps_G
```

```
[root@ip-172-31-1-76 ~]# docker ps
CONTAINER ID        IMAGE               COMMAND             CREATED             STATUS             PORTS             NAMES
b6e96635bb7c       ubuntu             "/bin/bash"        8 minutes ago      Up 3 minutes
[root@ip-172-31-1-76 ~]# docker rename b6e96635bb7c DevOps_G
[root@ip-172-31-1-76 ~]# docker ps
CONTAINER ID        IMAGE               COMMAND             CREATED             STATUS             PORTS             NAMES
b6e96635bb7c       ubuntu             "/bin/bash"        11 minutes ago     Up 6 minutes
[root@ip-172-31-1-76 ~]#
```

Syntax: `docker rename <containerid> <desired name>`

Step 8: Stop your container

```
docker stop b6e96635bb7c
```

```
[root@ip-172-31-1-76 ~]# docker ps
CONTAINER ID        IMAGE               COMMAND             CREATED             STATUS
b6e96635bb7c       ubuntu             "/bin/bash"        15 minutes ago     Up 10 minutes
[root@ip-172-31-1-76 ~]# docker stop b6e96635bb7c
b6e96635bb7c
[root@ip-172-31-1-76 ~]# docker ps
CONTAINER ID        IMAGE               COMMAND             CREATED             STATUS
[root@ip-172-31-1-76 ~]#
```

Step 9: Start your container

```
docker start b6e96635bb7c
```

```
[root@ip-172-31-1-76 ~]# docker ps
CONTAINER ID        IMAGE               COMMAND             CREATED             STATUS
[root@ip-172-31-1-76 ~]# docker start b6e96635bb7c
b6e96635bb7c
[root@ip-172-31-1-76 ~]# docker ps
CONTAINER ID        IMAGE               COMMAND             CREATED             STATUS
b6e96635bb7c       ubuntu             "/bin/bash"        16 minutes ago     Up 1 second
[root@ip-172-31-1-76 ~]#
```

Step 10: Delete the container

```
docker rm b6e96635bb7c
```

```
b6e96635bb7c
[root@ip-172-31-1-76 ~]# docker ps
CONTAINER ID        IMAGE               COMMAND             CREATED             STATUS
b6e96635bb7c       ubuntu             "/bin/bash"        16 minutes ago     Up 1 second
[root@ip-172-31-1-76 ~]# docker rm b6e96635bb7c
\Error response from daemon: You cannot remove a running container b6e96635bb7cea54b2b728af32b4a6
ner before attempting removal or force remove
[root@ip-172-31-1-76 ~]# # We can use force command to shutdown forcibly
[root@ip-172-31-1-76 ~]# #docker rm -f b6e96635bb7c
[root@ip-172-31-1-76 ~]# #but i am removing here after stopping the container
[root@ip-172-31-1-76 ~]# docker stop b6e96635bb7c
b6e96635bb7c
[root@ip-172-31-1-76 ~]# docker rm b6e96635bb7c
b6e96635bb7c
[root@ip-172-31-1-76 ~]# docker ps
CONTAINER ID        IMAGE               COMMAND             CREATED             STATUS
[root@ip-172-31-1-76 ~]#
```

Note: We can't delete a container which is in start state, so either 1st we need to stop the running container and then remove it or by using -f command we can remove the container forcefully.

```
docker stop b6e96635bb7c
```

Step 11: Delete the container

```
docker rm b6e96635bb7c
```

Step 12: Validate that the container is deleted successfully

```
docker ps -a
```

And also validate container doesn't exist in /var/lib/docker/containers

```
[root@ip-172-31-1-76 containers]# docker ps -a
CONTAINER ID        IMAGE               COMMAND             CREATED
[root@ip-172-31-1-76 containers]# cd /var/lib/docker/containers/
[root@ip-172-31-1-76 containers]# ls
[root@ip-172-31-1-76 containers]#
```

Force delete of a container when container is running

```
docker rm -f b6e96635bb7c
```

Step 13:- We can also delete multiple stopped container or running container in a while by using the command “docker rm -f \$(docker ps -a -q)”, the concept of this command is that “docker rm -f container_id” command we uses to delete the container forcefully and to get a list of container id we uses the command “docker ps -a -q”, so combining two we can remove all container in a while.


```
[root@ip-172-31-1-76 containers]# docker ps -a
CONTAINER ID        IMAGE               COMMAND             CREATED             STATUS              PORTS
0f753f170b3b       ubuntu             "/bin/bash"        45 minutes ago     Exited (127) 45 minutes ago
945f04908619       ubuntu             "/bin/bash"        About an hour ago   Exited (0) 34 minutes ago
[root@ip-172-31-1-76 containers]# docker rm -f $(docker ps -a -q)
0f753f170b3b
945f04908619
[root@ip-172-31-1-76 containers]# docker ps -a
CONTAINER ID        IMAGE               COMMAND             CREATED             STATUS              PORTS
[root@ip-172-31-1-76 containers]#
```

**** Image is immutable, we can't modify any images, but we can make changes in container and can save the container as new images.**

**** Whenever we run a container it must should have any process running it inside, if no process runs inside it then container will die.**

**** If we ever run any OS in only -d (detached mode) then immediately that container will die as no OS can run in background/detached mode as no process runs inside a OS container in detached mode, however we can run other container in detached mode who will have process inside**

`docker run -itd ubuntu`

Step 14: `docker run --rm -d -P tomcat`

this command will remove/delete the container immediately whenever the containers stops.

```
[root@ip-172-31-1-76 ~]# docker ps
CONTAINER ID        IMAGE               COMMAND             CREATED             STATUS              PORTS              NAMES
[root@ip-172-31-1-76 ~]# docker run --rm -d -P tomcat
8e4fe6f60f5dd52a5b9e2c0db3a78273f122c198f7d8db026ea6ceb8de59f414
[root@ip-172-31-1-76 ~]# docker ps
CONTAINER ID        IMAGE               COMMAND             CREATED             STATUS              PORTS              NAMES
8e4fe6f60f5d       tomcat             "catalina.sh run"   3 seconds ago      Up 3 seconds        0.0.0.0:32773->8080/tcp
[root@ip-172-31-1-76 ~]# docker stop 8e4fe6f60f5d
8e4fe6f60f5d
[root@ip-172-31-1-76 ~]# docker ps -a
CONTAINER ID        IMAGE               COMMAND             CREATED             STATUS              PORTS              NAMES
[root@ip-172-31-1-76 ~]#
```