

# Docker - Working with Containers

## docker top

With this command, you can see the top processes within a container.

### Syntax

`docker top ContainerID`

### Options

- **ContainerID** – This is the Container ID for which you want to see the top processes.

### Return Value

The output will show the top-level processes within a container.

### Example

```
sudo docker top 9f215ed0b0d3
```

The above command will show the top-level processes within a container.

### Output

When we run the above command, it will produce the following result –



```
demo@ubuntu:~$ sudo docker ps
CONTAINER ID   IMAGE      COMMAND                  CREATED
STATUS        PORTS     NAMES
9f215ed0b0d3   centos:latest  "/bin/bash"             12 minutes ago
Up 12 minutes  cocky_colden

demo@ubuntu:~$ sudo docker top 9f215ed0b0d3
PID            PPID           C
TIME           TTY            CMD
root           678            0
18:13          pts/0          00:00:00 /bin/bash
```

## docker stop

This command is used to stop a running container.

### Syntax

`docker stop ContainerID`

### Options

- **ContainerID** – This is the Container ID which needs to be stopped.

### Return Value

The output will give the ID of the stopped container.

### Example

```
sudo docker stop 9f215ed0b0d3
```

The above command will stop the Docker container **9f215ed0b0d3**.

### Output

When we run the above command, it will produce the following result –

```
demo@ubuntuserver:~$ sudo docker ps
CONTAINER ID      IMAGE      COMMAND      CREATED
STATUS           PORTS      NAMES
9f215ed0b0d3      centos:latest  "/bin/bash"  22 minutes ago
Up 22 minutes
demo@ubuntuserver:~$ sudo docker stop 9f215ed0b0d3
9f215ed0b0d3
demo@ubuntuserver:~$ sudo docker rm 9f215ed0b0d3
9f215ed0b0d3
demo@ubuntuserver:~$ _
```

### docker rm

This command is used to delete a container.

#### Syntax

docker rm ContainerID

#### Options

- **ContainerID** – This is the Container ID which needs to be removed.

#### Return Value

The output will give the ID of the removed container.

#### Example

```
sudo docker rm 9f215ed0b0d3
```

The above command will remove the Docker container **9f215ed0b0d3**.

### Output

When we run the above command, it will produce the following result –

```
demo@ubuntuserver:~$ sudo docker ps
CONTAINER ID      IMAGE      COMMAND      CREATED
STATUS           PORTS      NAMES
9f215ed0b0d3      centos:latest  "/bin/bash"  22 minutes ago
Up 22 minutes
demo@ubuntuserver:~$ sudo docker stop 9f215ed0b0d3
9f215ed0b0d3
demo@ubuntuserver:~$ sudo docker rm 9f215ed0b0d3
9f215ed0b0d3
demo@ubuntuserver:~$ _
```

### docker stats

This command is used to provide the statistics of a running container.

#### Syntax

docker stats ContainerID

## Options

- **ContainerID** – This is the Container ID for which the stats need to be provided.

## Return Value

The output will show the CPU and Memory utilization of the Container.

## Example

```
sudo docker stats 9f215ed0b0d3
```

The above command will provide CPU and memory utilization of the Container **9f215ed0b0d3**.

## Output

When we run the above command, it will produce the following result –

CONTAINER	CPU %	MEM USAGE/LIMIT	MEM %
NET I/O			
07b0b6f434fe	0.00%	416 KiB/1.416 GiB	0.03%
648 B/648 B			

## docker attach

This command is used to attach to a running container.

## Syntax

```
docker attach ContainerID
```

## Options

- **ContainerID** – This is the Container ID to which you need to attach.

## Return Value

None

## Example

```
sudo docker attach 07b0b6f434fe
```

The above command will attach to the Docker container **07b0b6f434fe**.

## Output

When we run the above command, it will produce the following result –

```
demo@ubuntuserver:~$ sudo docker ps
```

CONTAINER ID	IMAGE	COMMAND	CREATED
STATUS	PORTS	NAMES	
07b0b6f434fe	centos:latest	"/bin/bash"	3 minutes ago
Up 3 minutes		cocky_pare	

```
demo@ubuntuserver:~$ sudo docker attach 07b0b6f434fe
```

```
[root@07b0b6f434fe /]# _
```

Once you have attached to the Docker container, you can run the above command to see the process utilization in that Docker container.

```
top - 15:24:06 up 2:06, 0 users, load average: 0.00, 0.01, 0.02
Tasks: 2 total, 1 running, 1 sleeping, 0 stopped, 0 zombie
%Cpu(s): 0.0 us, 0.3 sy, 0.0 ni, 99.7 id, 0.0 wa, 0.0 hi, 0.0 si, 0.0 st
KiB Mem : 1484856 total, 1057152 free, 52368 used, 375336 buff/cache
KiB Swap: 1519612 total, 1519612 free, 0 used. 1403868 avail Mem

  PID USER      PR  NI   VIRT   RES   SHR  S  %CPU  %MEM     TIME+ COMMAND
    1 root        20   0   11784   2992   2644 S   0.0   0.2   0:00.01 bash
   15 root        20   0   51864   3772   3272 R   0.0   0.3   0:00.00 top
```

docker pause

This command is used to pause the processes in a running container.

Syntax

docker pause ContainerID

Options

- **ContainerID** – This is the Container ID to which you need to pause the processes in the container.

Return Value

The ContainerID of the paused container.

Example

```
sudo docker pause 07b0b6f434fe
```

The above command will pause the processes in a running container **07b0b6f434fe**.

Output

When we run the above command, it will produce the following result –

```
demo@ubuntuserver:~$ sudo docker ps
[sudo] password for demo:
CONTAINER ID        IMAGE               COMMAND             CREATED
STATUS            PORTS              NAMES
07b0b6f434fe       centos:latest      "/bin/bash"        18 minutes ago
Up 18 minutes      cocky_pare
demo@ubuntuserver:~$ sudo docker pause 07b0b6f434fe
07b0b6f434fe
demo@ubuntuserver:~$ sudo docker ps
CONTAINER ID        IMAGE               COMMAND             CREATED
STATUS            PORTS              NAMES
07b0b6f434fe       centos:latest      "/bin/bash"        19 minutes ago
Up 19 minutes (Paused)
cocky_pare
demo@ubuntuserver:~$ _
```

docker unpause

This command is used to **unpause** the processes in a running container.

Syntax

docker unpause ContainerID

Options

- **ContainerID** – This is the Container ID to which you need to unpause the processes in the container.

Return Value

The ContainerID of the running container.

### Example

```
sudo docker unpause 07b0b6f434fe
```

The above command will unpause the processes in a running container: 07b0b6f434fe

### Output

When we run the above command, it will produce the following result –

```
demo@ubuntu:~$ sudo docker unpause 07b0b6f434fe
07b0b6f434fe
demo@ubuntu:~$
```

## docker kill

This command is used to kill the processes in a running container.

### Syntax

```
docker kill ContainerID
```

### Options

- **ContainerID** – This is the Container ID to which you need to kill the processes in the container.

### Return Value

The ContainerID of the running container.

### Example

```
sudo docker kill 07b0b6f434fe
```

The above command will kill the processes in the running container **07b0b6f434fe**.

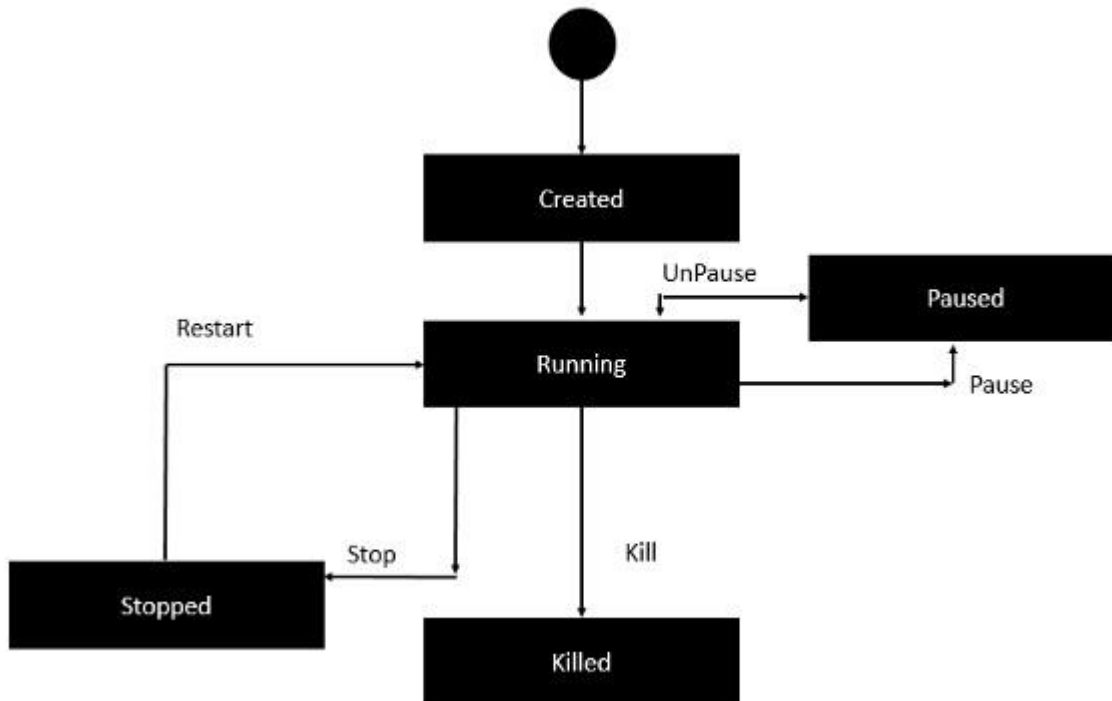
### Output

When we run the above command, it will produce the following result –

```
demo@ubuntu:~$ sudo docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED
STATUS        PORTS         NAMES
07b0b6f434fe   centos:latest  "/bin/bash"             23 minutes ago
Up 23 minutes  cocky_pare
demo@ubuntu:~$ sudo docker kill 07b0b6f434fe
07b0b6f434fe
demo@ubuntu:~$
```

## Docker – Container Lifecycle

The following illustration explains the entire lifecycle of a Docker container.



- Initially, the Docker container will be in the **created** state.
- Then the Docker container goes into the running state when the Docker **run** command is used.
- The Docker **kill** command is used to kill an existing Docker container.
- The Docker **pause** command is used to pause an existing Docker container.
- The Docker **stop** command is used to pause an existing Docker container.
- The Docker **run** command is used to put a container back from a **stopped** state to a **running** state.