

# Docker - Containers

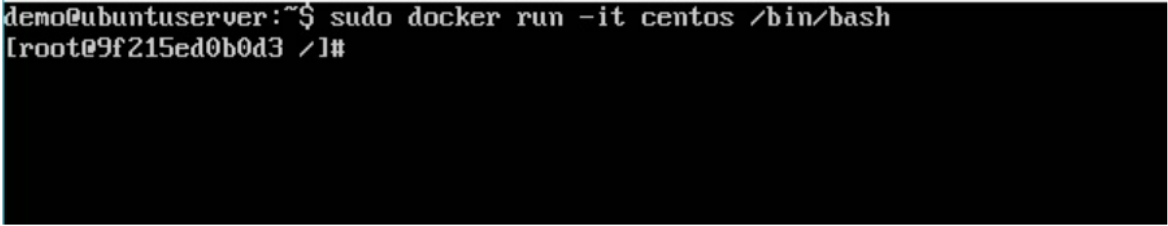
Containers are instances of Docker images that can be run using the Docker run command. The basic purpose of Docker is to run containers. Let's discuss how to work with containers.

## Running a Container

Running of containers is managed with the Docker **run** command. To run a container in an interactive mode, first launch the Docker container.

```
sudo docker run -it centos /bin/bash
```

Then hit Ctrl+p and you will return to your OS shell.



```
demo@ubuntuserver:~$ sudo docker run -it centos /bin/bash
[root@9f215ed0b0d3 /]#
```

You will then be running in the instance of the CentOS system on the Ubuntu server.

## Listing of Containers

One can list all of the containers on the machine via the **docker ps** command. This command is used to return the currently running containers.

---

```
docker ps
```

## Syntax

```
docker ps
```

## Options

None

## Return Value

The output will show the currently running containers.

## Example

```
sudo docker ps
```

## 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"            About a minute ago
Up About a minute
cocky_colden
```

Let's see some more variations of the **docker ps** command.

## docker ps -a

This command is used to list all of the containers on the system

### Syntax

```
docker ps -a
```

### Options

- **-a** – It tells the **docker ps** command to list all of the containers on the system.

## Return Value

The output will show all containers.

## Example

```
sudo docker ps -a
```

## Output

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

```
demo@ubuntu:~$ sudo docker ps -a
CONTAINER ID   IMAGE      COMMAND                  CREATED
STATUS        NAMES
9f215ed0b0d3   centos:latest   "/bin/bash"            4 minutes ago
Up 4 minutes
cocky_colden
e5a02936065a   centos:latest   "/bin/bash"            39 minutes ago
Exited (0) 39 minutes ago
ecstatic_hodgkin
9b286dd1f16a   jenkins:latest   "/bin/tini -- /usr/l    18 hours ago
Exited (0) About an hour ago  0.0.0.0:8080->8080/tcp, 0.0.0.0:50000->50000
cp_jolly_wright
3646aa260a2d   jenkins:latest   "/bin/tini -- /usr/l    9 days ago
Exited (0) 9 days ago        0.0.0.0:8080->8080/tcp, 0.0.0.0:50000->50000
cp_reverent_norse
demo@ubuntu:~$
```

## docker history

With this command, you can see all the commands that were run with an image via a container.

### Syntax

```
docker history ImageID
```

### Options

- **ImageID** – This is the Image ID for which you want to see all the commands that were run against it.

### Return Value

The output will show all the commands run against that image.

### Example

```
sudo docker history centos
```

The above command will show all the commands that were run against the **centos** image.

## Output

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

```
demo@ubuntuserver:~$ sudo docker images
REPOSITORY          TAG                 IMAGE ID            CREATED
VIRTUAL SIZE
jenkins              latest             998d1854867e       2 weeks ago
714.1 MB
centos               latest             97cad5e16cb6       4 weeks ago
196.5 MB
demo@ubuntuserver:~$ sudo docker history centos
IMAGE               SIZE                CREATED             CREATED BY
97cad5e16cb6        4 weeks ago         /bin/sh -c #(nop)  CMD ["/bin/bash"]
05fe84bf6d3f        4 weeks ago         /bin/sh -c #(nop)  LABEL name=CentOS B
e Ima 0 B
af0819ed1fac        4 weeks ago         /bin/sh -c #(nop)  ADD file:54df3580ac9
66389 196.5 MB
3690474eb5b4        3 months ago        /bin/sh -c #(nop)  MAINTAINER https://
thub. 0 B
demo@ubuntuserver:~$ _
```