

# Assignment -1

## Basic Docker commands Demonstration:

### 1. docker --version

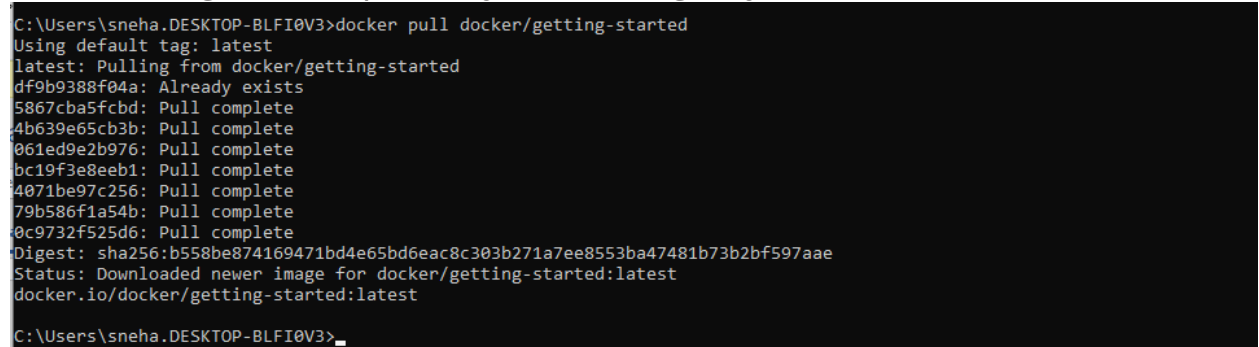
This command is used to get the current version of the docker.



```
Administrator: Command Prompt
C:\Users\sneha.DESKTOP-BLFI0V3>docker --version
Docker version 20.10.17, build 100c701
C:\Users\sneha.DESKTOP-BLFI0V3>
```

### 2. docker pull dockerimage

Pull an image or a repository from a registry.



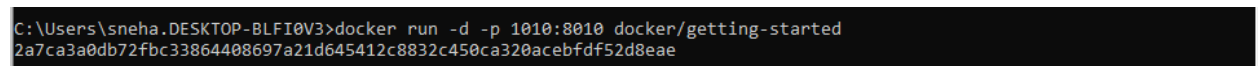
```
C:\Users\sneha.DESKTOP-BLFI0V3>docker pull docker/getting-started
Using default tag: latest
latest: Pulling from docker/getting-started
df9b9388f04a: Already exists
5867cba5fcbd: Pull complete
4b639e65cb3b: Pull complete
061ed9e2b976: Pull complete
bc19f3e8eeb1: Pull complete
4071be97c256: Pull complete
79b586f1a54b: Pull complete
0c9732f525d6: Pull complete
Digest: sha256:b558be874169471bd4e65bd6eac8c303b271a7ee8553ba47481b73b2bf597aae
Status: Downloaded newer image for docker/getting-started:latest
docker.io/docker/getting-started:latest
C:\Users\sneha.DESKTOP-BLFI0V3>
```

### 3. docker run

This command is used to create a container from an image.

-d : run in detach mode. i.e., run in the background and print the container id.

-p : Publish a container's port(s) to the host.



```
C:\Users\sneha.DESKTOP-BLFI0V3>docker run -d -p 1010:8010 docker/getting-started
2a7ca3a0db72fbc33864408697a21d645412c8832c450ca320acebfd52d8eae
```

### 4. docker ps

This command is used to list all the containers

```
C:\Users\sneha.DESKTOP-BLFI0V3>docker ps
```

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS
2a7ca3a0db72	docker/getting-started	"/docker-entrypoint..."	About a minute ago	Up 48 seconds	80/tcp, 0.0.0.0:1010->8010/tcp
	cranky_chaum				

## 5. Docker ps -a

The docker ps command only shows running containers by default. To see all containers, use the -a (or --all)

```
C:\Users\sneha.DESKTOP-BLFI0V3>docker ps -a
```

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS
5d38b849e34c	docker/getting-started	"/docker-entrypoint..."	26 minutes ago	Up 24 minutes	0.0.0.0:8010->8010/tcp
1ae17c5db603	hello-world	"/hello"	27 minutes ago	Exited (0) 27 minutes ago	
2a7ca3a0db72	docker/getting-started	"/docker-entrypoint..."	59 minutes ago	Exited (0) 33 minutes ago	
	cranky_chaum				

## 6. docker images

To manage images

```
C:\Users\sneha.DESKTOP-BLFI0V3>docker images
```

REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
docker/getting-started	latest	cb90f98fd791	6 months ago	28.8MB

## 7. docker rmi

To remove one or more images.

-f: force removal of the image

```
C:\Users\sneha.DESKTOP-BLFI0V3>docker rmi -f docker/getting-started
Untagged: docker/getting-started:latest
Untagged: docker/getting-started@sha256:b558be874169471bd4e65bd6eac8c303b271a7ee8553ba47481b73b2bf597aee
```

## 8. docker container ls

To list containers.

```
C:\Users\sneha.DESKTOP-BLFI0V3>docker container ls
```

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS
2a7ca3a0db72	cb90f98fd791	"/docker-entrypoint..."	9 minutes ago	Up 9 minutes	80/tcp, 0.0.0.0:1010->8010/tcp
cranky_chaum					

## 9. docker container ls -a

Show all containers (default shows just running)

```
C:\Users\sneha.DESKTOP-BLFI0V3>docker container ls -a
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS
cea583a62171   hello-world    "/hello"                 About a minute ago    Exited (0) 57 seconds ago
2a7ca3a0db72   cb90f98fd791  "/docker-entrypoint..." 12 minutes ago    Up 12 minutes    80/tcp, 0.0.0.0:1010->8010/tcp
1010->8010/tcp  cranky_chaum
```

## 10. docker container ls -a -q

Only display container IDs

```
C:\Users\sneha.DESKTOP-BLFI0V3>docker container ls -a -q
cea583a62171
2a7ca3a0db72
```

## 11. docker container ls -a -s

Display total file sizes

```
C:\Users\sneha.DESKTOP-BLFI0V3>docker container ls -a -s
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS        SIZE
cea583a62171   hello-world    "/hello"                 4 minutes ago    Exited (0) 4 minutes ago
laughing_bell  0B (virtual 13.3kB)
2a7ca3a0db72   cb90f98fd791  "/docker-entrypoint..." 16 minutes ago    Up 15 minutes    80/tcp, 0.0.0.0:1010->8010/tcp 1.09kB (virtual 28.8MB)
>8010/tcp  cranky_chaum
```

## 12. docker stop

This command is used to stop one or more running containers. The main process inside the container will receive SIGTERM, and after a grace period, SIGKILL. The first signal can be changed with the STOPSIGNAL instruction in the container's Dockerfile, or the --stop-signal option to docker run

```
C:\Users\sneha.DESKTOP-BLFI0V3>docker container ls
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS
2a7ca3a0db72   cb90f98fd791  "/docker-entrypoint..." 25 minutes ago    Up 25 minutes    80/tcp, 0.0.0.0:1010->8010/tcp
cranky_chaum

C:\Users\sneha.DESKTOP-BLFI0V3>docker stop 2a7ca3a0db72
2a7ca3a0db72

C:\Users\sneha.DESKTOP-BLFI0V3>docker container ls
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS        NAMES
```

## 13. docker history -H hello-world

Show the history of an image. -H to Print sizes and dates in human readable format

```
C:\Users\sneha.DESKTOP-BLFI0V3>docker history -H hello-world
IMAGE          CREATED          CREATED BY          SIZE      COMMENT
feb5d9fea6a5   12 months ago   /bin/sh -c #(nop)  CMD ["/hello"]     0B
<missing>      12 months ago   /bin/sh -c #(nop)  COPY file:50563a97010fd7ce... 13.3kB
```

#### 14. docker restart <Container Id>

This command is used to restart one or more containers

```
C:\Users\sneha.DESKTOP-BLFI0V3>docker restart 5d38b849e34c
5d38b849e34c
```

#### 15. docker --help

```
C:\Users\sneha.DESKTOP-BLFI0V3>docker --help

Usage:  docker [OPTIONS] COMMAND

A self-sufficient runtime for containers

Options:
  --config string      Location of client config files (default
                        "C:\Users\sneha.DESKTOP-BLFI0V3\.docker")
  -c, --context string  Name of the context to use to connect to the
                        daemon (overrides DOCKER_HOST env var and
                        default context set with "docker context use")
  -D, --debug           Enable debug mode
  -H, --host list       Daemon socket(s) to connect to
  -l, --log-level string Set the logging level
                        ("debug"|"info"|"warn"|"error"|"fatal")
                        (default "info")
```

#### 16. docker logs container id

To fetch the logs of the container:

```
C:\Users\sneha.DESKTOP-BLFI0V3>docker logs 5d38b849e34c
/docker-entrypoint.sh: /docker-entrypoint.d/ is not empty, will attempt to perform configuration
/docker-entrypoint.sh: Looking for shell scripts in /docker-entrypoint.d/
/docker-entrypoint.sh: Launching /docker-entrypoint.d/10-listen-on-ipv6-by-default.sh
10-listen-on-ipv6-by-default.sh: info: Getting the checksum of /etc/nginx/conf.d/default.conf
10-listen-on-ipv6-by-default.sh: info: Enabled listen on IPv6 in /etc/nginx/conf.d/default.conf
/docker-entrypoint.sh: Launching /docker-entrypoint.d/20-envsubst-on-templates.sh
/docker-entrypoint.sh: Launching /docker-entrypoint.d/30-tune-worker-processes.sh
/docker-entrypoint.sh: Configuration complete; ready for start up
2022/10/08 16:35:24 [notice] 1#1: using the "epoll" event method
2022/10/08 16:35:24 [notice] 1#1: nginx/1.21.6
2022/10/08 16:35:24 [notice] 1#1: built by gcc 10.3.1 20211027 (Alpine 10.3.1_git20211027)
2022/10/08 16:35:24 [notice] 1#1: OS: Linux 5.10.16.3-microsoft-standard-WSL2
2022/10/08 16:35:24 [notice] 1#1: getrlimit(RLIMIT_NOFILE): 1048576:1048576
2022/10/08 16:35:24 [notice] 1#1: start worker processes
2022/10/08 16:35:24 [notice] 1#1: start worker process 32
2022/10/08 16:35:24 [notice] 1#1: start worker process 33
2022/10/08 16:35:24 [notice] 1#1: start worker process 34
```

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# Getting Started


## The command you just ran

Congratulations! You have started the container for this tutorial! Let's first explain the command that you just ran. In case you forgot, here's the command:

```
docker run -d -p 80:80 docker/getting-started
```

You'll notice a few flags being used. Here's some more info on them:

- `-d` - run the container in detached mode (in the background)
- `-p 80:80` - map port 80 of the host to port 80 in the container
- `docker/getting-started` - the image to use

 **Pro tip**

You can combine single character flags to shorten the full command. As an example, the command above could be written as:

```
docker run -dp 80:80 docker/getting-started
```

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