

# Docker Commands and Code

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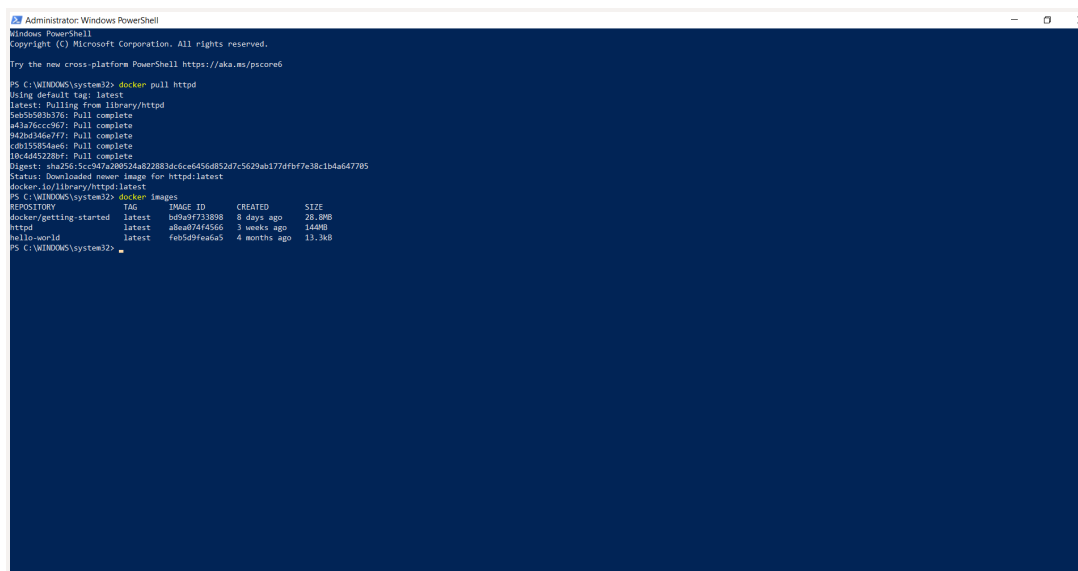
**Due Date:-20/02/2022**

**Reference link:- [Docker Commands](#)**

## Part-1

**1. To download the image and then listing out all the docker images on the system with image details**

```
>> docker pull httpd
```



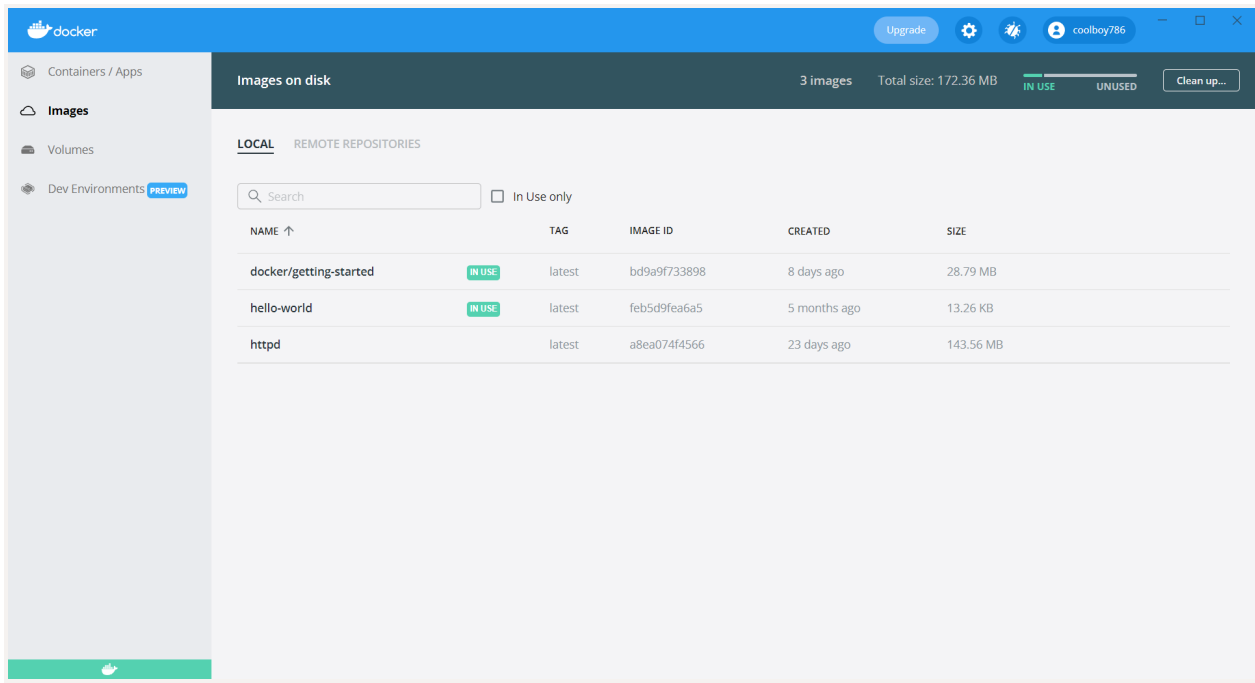
```
Administrator: Windows PowerShell
Windows PowerShell
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Try the new cross-platform PowerShell https://aka.ms/powershell

PS C:\WINDOWS\system32> docker pull httpd
Using default tag: latest
latest: Pulling from library/httpd
5e05283b376: Pull complete
a32a76cc967: Pull complete
942bd346e77: Pull complete
4d0355854ae: Pull complete
1d64452228f: Pull complete
Digest: sha256:5cc947a280524a2228b3dc6ce6456d852d7c5629ab177dfb7e38c1b4a647705
Status: Downloaded newer image for httpd:latest
docker.io/library/httpd:latest
PS C:\WINDOWS\system32> docker images
REPOSITORY          TAG             IMAGE ID        CREATED         SIZE
docker/getting-started latest          bd9a9f733898   8 days ago     28.8MB
httpd                latest         a8ea074f4566   3 weeks ago    140MB
hello-world         latest        fe05d9feaa45   4 months ago   13.3kB
PS C:\WINDOWS\system32>
```

# Displaying images

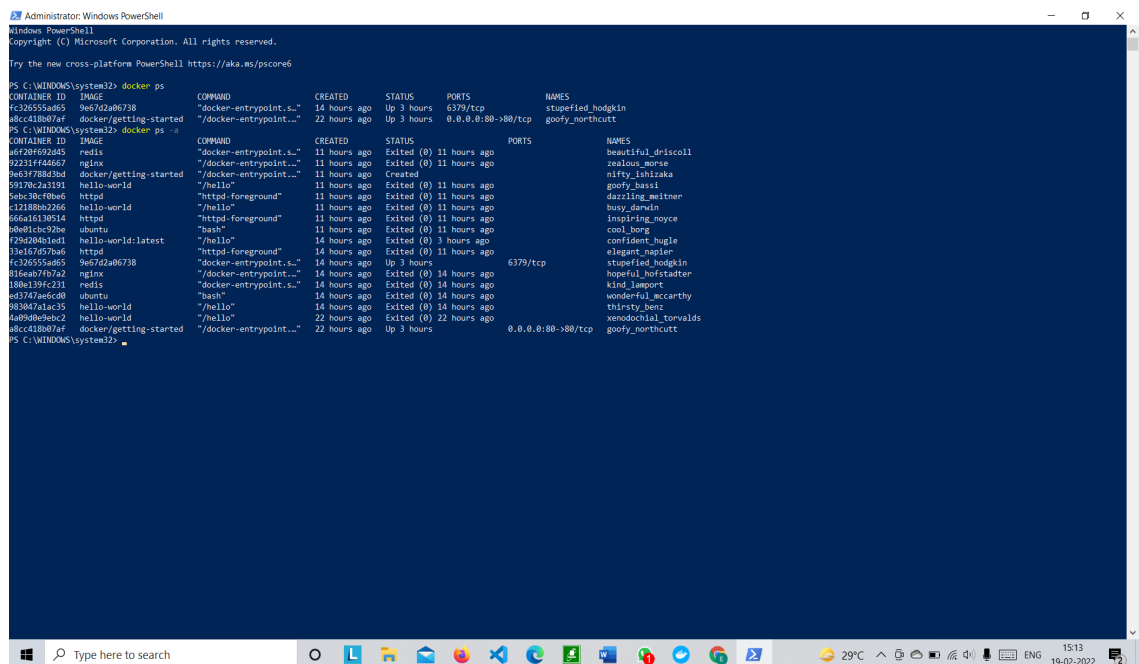
```
>> docker images
```



## 2.List all the docker containers running/exited/stopped with container details.

- lists all the docker containers are running with container details.

```
>> docker ps
```



```
Administrator: Windows PowerShell
Windows PowerShell
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Try the new cross-platform PowerShell https://aka.ms/powershell

PS C:\WINDOWS\system32> docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS                    NAMES
f323555ad65   9e67d2a06738   "/docker-entrypoint.s..." 14 hours ago   Up 3 hours   6379/tcp                 stupefied_hodgkin
a6cc41807af   docker/getting-started "/docker-entrypoint..." 22 hours ago   Up 3 hours   0.0.0.0:80->80/tcp       goofy_northcutt

PS C:\WINDOWS\system32> docker ps -a
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS                    NAMES
a6f20f692d45   redis         "/docker-entrypoint.s..." 11 hours ago   Exited (0)    11 hours ago            beautiful_driscoll
92231ff44667   nginx        "/docker-entrypoint..." 11 hours ago   Exited (0)    11 hours ago            zealous_morse
9e637f8842b4   docker/getting-started "/docker-entrypoint..." 11 hours ago   Created                                     nifty_linhaka
59736c2a3191   hello-world   "/hello"                 11 hours ago   Exited (0)    11 hours ago            goofy_bassi
9ebc38cf8be6   httpd        "/httpd-foreground"      11 hours ago   Exited (0)    11 hours ago            dazzling_meitner
c121880e2256   hello-world   "/hello"                 11 hours ago   Exited (0)    11 hours ago            busy_darwin
a6e616130514   httpd        "/httpd-foreground"      11 hours ago   Exited (0)    11 hours ago            inspiring_moyce
90e01c9c92be   ubuntu       "bash"                   11 hours ago   Exited (0)    11 hours ago            cool_borg
f79d20481ed1   hello-world:latest "/hello"                 14 hours ago   Exited (0)    3 hours ago             confident_hugle
13e167d270a6   httpd        "/httpd-foreground"      14 hours ago   Exited (0)    11 hours ago            elegant_haple
f323555ad65   9e67d2a06738   "/docker-entrypoint.s..." 14 hours ago   Up 3 hours   6379/tcp                 stupefied_hodgkin
816eab7b7a2   nginx        "/docker-entrypoint..." 14 hours ago   Exited (0)    14 hours ago            hopeful_hofstadter
180e1394c231   redis         "/docker-entrypoint.s..." 14 hours ago   Exited (0)    14 hours ago            kind_jamport
a63747a6c00   ubuntu       "bash"                   14 hours ago   Exited (0)    14 hours ago            wonderful_mccarthy
983807a1ac35   hello-world   "/hello"                 14 hours ago   Exited (0)    14 hours ago            thirsty_benz
a090b0e0ac2   hello-world   "/hello"                 22 hours ago   Exited (0)    22 hours ago            xenodochial_forvalds
a6cc41807af   docker/getting-started "/docker-entrypoint..." 22 hours ago   Up 3 hours   0.0.0.0:80->80/tcp       goofy_northcutt

PS C:\WINDOWS\system32>
```

- List all the docker containers running/exited/stopped with container details.

```
>> docker ps -a
```

```

Administrator: Windows PowerShell
PS C:\WINDOWS\system32> docker ps -a
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS        NAMES
9b6343d3b5a0   redis         "/docker-entrypoint.t..." 11 hours ago   Exited (0)    6379/tcp     beautiful_driscoll
9231f46567     nginx        "/docker-entrypoint.t..." 11 hours ago   Exited (0)    80/tcp       stasios_werns
9e63f788d3bd   docker/getting-started "/hello"             11 hours ago   Created                                nifty-ishizaka
9d179c2a3191   hello-world   "/hello"             11 hours ago   Exited (0)    80/tcp       dazzling_watner
9b6343d3b5a0   https        "httpd-foreground"    11 hours ago   Exited (0)    80/tcp       busy_darwin
c12188b2266    hello-world   "/hello"             11 hours ago   Exited (0)    80/tcp       cool_borg
96a515126154   httpd        "httpd-foreground"    11 hours ago   Exited (0)    80/tcp       confident_hugle
9b6343d3b5a0   ubuntu       "bash"               11 hours ago   Exited (0)    22/tcp      elegant_junier
92a28451ed1    hello-world:latest "/hello"             14 hours ago   Exited (0)    80/tcp      stupefied_hodgkin
9b6343d3b5a0   https        "httpd-foreground"    14 hours ago   Exited (0)    80/tcp      hopeful_hofstadter
9c32655ad65    9e672ad06738 "/docker-entrypoint.t..." 14 hours ago   Up 3 hours    6379/tcp     kind_lampoers
914eeab7872a   nginx        "/docker-entrypoint.t..." 14 hours ago   Exited (0)    80/tcp       wonderful_accarthy
9b6343d3b5a0   redis        "/docker-entrypoint.t..." 14 hours ago   Exited (0)    6379/tcp     thirsty_benz
9d179c2a3191   hello-world   "/hello"             14 hours ago   Exited (0)    80/tcp       xenodochial_torvalds
9e6343d3b5a0   hello-world   "/hello"             22 hours ago   Exited (0)    80/tcp
9b6343d3b5a0   docker/getting-started "/docker-entrypoint.t..." 22 hours ago   Up 3 hours    80/tcp       goorfy_northcutt
PS C:\WINDOWS\system32>

```

### 3. Removing the docker image and docker container and then checking for the same

- Removing container

```
>> docker rm 9b6343d3b5a0 [Container-ID]
```

- Displaying whether container is removed

```
>> docker ps -a
```

```
Administrator: Windows PowerShell
PS C:\WINDOWS\system32> docker ps -a
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS          NAMES
4a09d0e9ebc2   hello-world    "/hello"                7 hours ago   Exited (0)   7 hours ago   xenodochial_torvalds
35ec3e5709c2   hello-world    "/hello"                7 hours ago   Exited (0)   7 hours ago   laughing_volhard
a8cc418b07af   docker/getting-started "/docker-entrypoint..." 7 hours ago   Up 6 hours   0.0.0.0:80->80/tcp   goofy_northcutt

PS C:\WINDOWS\system32> docker images
REPOSITORY    TAG       IMAGE ID       CREATED        SIZE
docker/getting-started latest    bd9a9f733898   8 days ago     28.8MB
httpd          latest    a8ea074f4566   3 weeks ago    14MB
hello-world    latest    fcb2d9f8ead5   4 months ago   13.3kB

PS C:\WINDOWS\system32> docker rm a8ea074f4566
Error: No such container: a8ea074f4566

PS C:\WINDOWS\system32> docker rmi a8ea074f4566
Untagged: httpd:latest
Deleted: sha256:a8ea074f4566addc01f9745397f32be471df4a4abf200f0f10c885ed14b1d28
Deleted: sha256:55e1f4abf0f0827145caf5fb16e60e1ec3b360e3410b0656de6ebcc39d91
Deleted: sha256:d1f0cf8af2d639e40b12062d59751fcccfa1ec5b282c9c172aa9bdc7328d883
Deleted: sha256:d5ac666540a1d69e7043e3e08cd72b44efc14cad27e7e9540bf08b6c0a3a405b
Deleted: sha256:d7e95bedc12ed466c75d26c1f478b2d13e014eb47af49b5e53fd3d47c08e75fd
Deleted: sha256:7080ebc3f5d26c15sec4d5dbb6fe3205d7061f9735080e0162d550530328abd6

PS C:\WINDOWS\system32> docker ps -a
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS          NAMES
4a09d0e9ebc2   hello-world    "/hello"                7 hours ago   Exited (0)   7 hours ago   xenodochial_torvalds
35ec3e5709c2   hello-world    "/hello"                7 hours ago   Exited (0)   7 hours ago   laughing_volhard
a8cc418b07af   docker/getting-started "/docker-entrypoint..." 7 hours ago   Up 6 hours   0.0.0.0:80->80/tcp   goofy_northcutt

PS C:\WINDOWS\system32> docker rm 35ec3e5709c2
35ec3e5709c2

PS C:\WINDOWS\system32> docker ps -a
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS          NAMES
4a09d0e9ebc2   hello-world    "/hello"                7 hours ago   Exited (0)   7 hours ago   xenodochial_torvalds
a8cc418b07af   docker/getting-started "/docker-entrypoint..." 7 hours ago   Up 6 hours   0.0.0.0:80->80/tcp   goofy_northcutt

PS C:\WINDOWS\system32>
```

- Remove the docker image with the docker image id mentioned in the command

```
>> docker rmi fce289e99eb9 [Image-ID]
```

```
Administrator: Windows PowerShell
PS C:\WINDOWS\system32> docker ps -a
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS          NAMES
4a99a0e9ebc2   hello-world    "/hello"                 7 hours ago   Exited (0) 7 hours ago           xenodochial_torvalds
55ac3e5709c2   hello-world    "/hello"                 7 hours ago   Exited (0) 7 hours ago           laughing_vollhard
a8cc418b07af   docker/getting-started   "/docker-entrypoint..." 7 hours ago   Up 6 hours   0.0.0.0:80->80/tcp   goofy_northcutt

PS C:\WINDOWS\system32> docker images
REPOSITORY    TAG       IMAGE ID       CREATED        SIZE
docker/getting-started   latest    bd9a9f733898   8 days ago    28.9MB
httpd           latest    a8ea074f4566   3 weeks ago   14MB
hello-world     latest    fe65d0fe6a5    4 months ago  13.3kB

PS C:\WINDOWS\system32> docker rm a8ea074f4566
Error: No such container: a8ea074f4566
PS C:\WINDOWS\system32> docker rmi a8ea074f4566
Untagged: httpd:latest
Deleted: sha256:5cc947a200524a822883dc6e6456d85247c5629ab177dfbf7e38c1ba647705
Deleted: sha256:a8ea074f4566addcd01f9745397f32be471df4a4abf200f0f10c885ed14b1028
Deleted: sha256:55a1f1a0b4f082725c6a5f01e0f06e1c5b30b653a10b6656a0bccc39491
Deleted: sha256:41f06f8d72d6395e00e12062d59751cccfaalec5b282c9c172aa9b4c7328d83
Deleted: sha256:d5ac6665d0a1d69e7033e3e08cd72b44efc14cad27e7a954b0f08b6c0a34d05b
Deleted: sha256:d7a999ede12e046e79d20c1f478b2d13e114eb47af69e551f33447c0b075fd
Deleted: sha256:7d0bbbe3f5d261b5ec4d5dbb6fe3205d7061f9735080a0162d550530328abd6
PS C:\WINDOWS\system32>
```

## 4. Know the difference between kill and stop docker and use both commands

The **docker stop** and **docker kill** commands have the following differences:

1. **docker stop** attempts to gracefully shutdown container(s) while **docker kill** (by default) immediately stops/terminates them;
2. **docker stop** issues a **SIGTERM** signal to the main process inside the container, while **docker kill** (by default) issues a **SIGKILL** signal;
3. With **docker kill**, you may specify to send a different signal (to the main process inside the container) than the default **SIGKILL** signal, using the **--signal** flag. Same thing is not possible with the **docker stop** command;
4. With **docker stop**, the container(s) must comply to the shutdown request within a (configurable) grace period (which

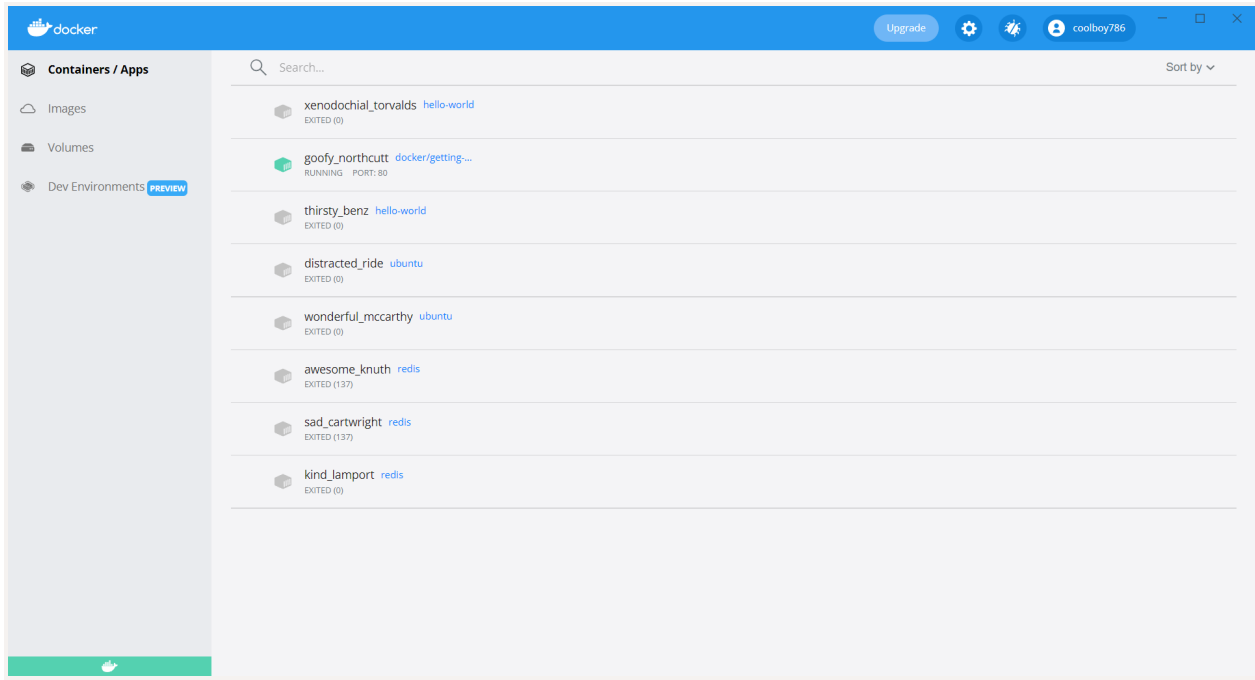
defaults to **10** seconds), after which it forcibly tries to kill the container. **docker kill** does not have any such timeout period.

- Stop a container with the container id mentioned in the command.

```
>> docker stop 09ca6feb6efc[Container-ID]
```

```
Administrator: Windows PowerShell
j844a65ca64: Pull complete
Digest: sha256:0d93aedd1eb385336dd0bc9b976b6649774ee3d2b9c2788a0d0f9e239986cb3
Status: Downloaded newer image for redis:latest
a7e3e81b08ba4260ba0197c5412a6e1731e2591c11874d7561f6fd15bde08
PS C:\WINDOWS\system32> docker ps -a
CONTAINER ID        IMAGE               COMMAND             CREATED             STATUS              PORTS              NAMES
a7e3e81b08ba        redis              "docker-entrypt...  34 seconds ago     Up 22 seconds      6379/tcp           awesome_knuth
ed3747ae6cd0        ubuntu            "bash"             2 minutes ago      Exited (0) 2 minutes ago                  wonderful_accarthy
3506cf1a95ec        ubuntu            "bash"             11 minutes ago     Exited (0) 2 minutes ago                  distracted_ride
9810471a1c35        hello-world       "/hello"           12 minutes ago     Exited (0) 12 minutes ago                  thirsty_benz
4a09db9ebc2        hello-world       "/hello"           8 hours ago        Exited (0) 8 hours ago                  xenodochial_torvalds
a0cc418b07af        docker/getting-started "docker-entrypt...  8 hours ago        Up 7 hours          0.0.0.0:80->80/tcp  goofy_northcutt
PS C:\WINDOWS\system32> docker kill a7e3e81b08ba
a7e3e81b08ba
PS C:\WINDOWS\system32> docker run -d --restart unless-stopped redis
710ec2ad6e2e08d83ef21156f04ba957736d09b3b57057c403f2f084b7d3d3
PS C:\WINDOWS\system32> docker ps -a
CONTAINER ID        IMAGE               COMMAND             CREATED             STATUS              PORTS              NAMES
710ec2ad6e2e        redis              "docker-entrypt...  22 seconds ago     Up 49 seconds      6379/tcp           sad_cartwright
a7e3e81b08ba        redis              "docker-entrypt...  2 minutes ago      Exited (137) 2 minutes ago                  awesome_knuth
ed3747ae6cd0        ubuntu            "bash"             5 minutes ago      Exited (0) 5 minutes ago                  wonderful_accarthy
3506cf1a95ec        ubuntu            "bash"             13 minutes ago     Exited (0) 5 minutes ago                  distracted_ride
9810471a1c35        hello-world       "/hello"           14 minutes ago     Exited (0) 14 minutes ago                  thirsty_benz
4a09db9ebc2        hello-world       "/hello"           8 hours ago        Exited (0) 8 hours ago                  xenodochial_torvalds
a0cc418b07af        docker/getting-started "docker-entrypt...  8 hours ago        Up 7 hours          0.0.0.0:80->80/tcp  goofy_northcutt
710ec2ad6e2e
PS C:\WINDOWS\system32> docker run -d --restart unless-stopped redis
180e19fc23177475dcfe99186fa86d198c49cc3b1c39b1772336e593675f43
PS C:\WINDOWS\system32> docker ps -a
CONTAINER ID        IMAGE               COMMAND             CREATED             STATUS              PORTS              NAMES
180e19fc231        redis              "docker-entrypt...  9 seconds ago      Up 7 seconds       6379/tcp           kind_lampont
710ec2ad6e2e        redis              "docker-entrypt...  2 minutes ago      Exited (137) About a minute ago                  sad_cartwright
a7e3e81b08ba        redis              "docker-entrypt...  4 minutes ago      Exited (137) 3 minutes ago                  awesome_knuth
ed3747ae6cd0        ubuntu            "bash"             6 minutes ago      Exited (0) 6 minutes ago                  wonderful_accarthy
3506cf1a95ec        ubuntu            "bash"             15 minutes ago     Exited (0) 6 minutes ago                  distracted_ride
9810471a1c35        hello-world       "/hello"           16 minutes ago     Exited (0) 16 minutes ago                  thirsty_benz
4a09db9ebc2        hello-world       "/hello"           8 hours ago        Exited (0) 8 hours ago                  xenodochial_torvalds
a0cc418b07af        docker/getting-started "docker-entrypt...  8 hours ago        Up 7 hours          0.0.0.0:80->80/tcp  goofy_northcutt
PS C:\WINDOWS\system32> docker stop 180e19fc231
180e19fc231
PS C:\WINDOWS\system32>
```

- Container list after stopping



- **Stop the docker container immediately. Docker stop command stops the container gracefully, that's the difference between a kill and stop commands.**

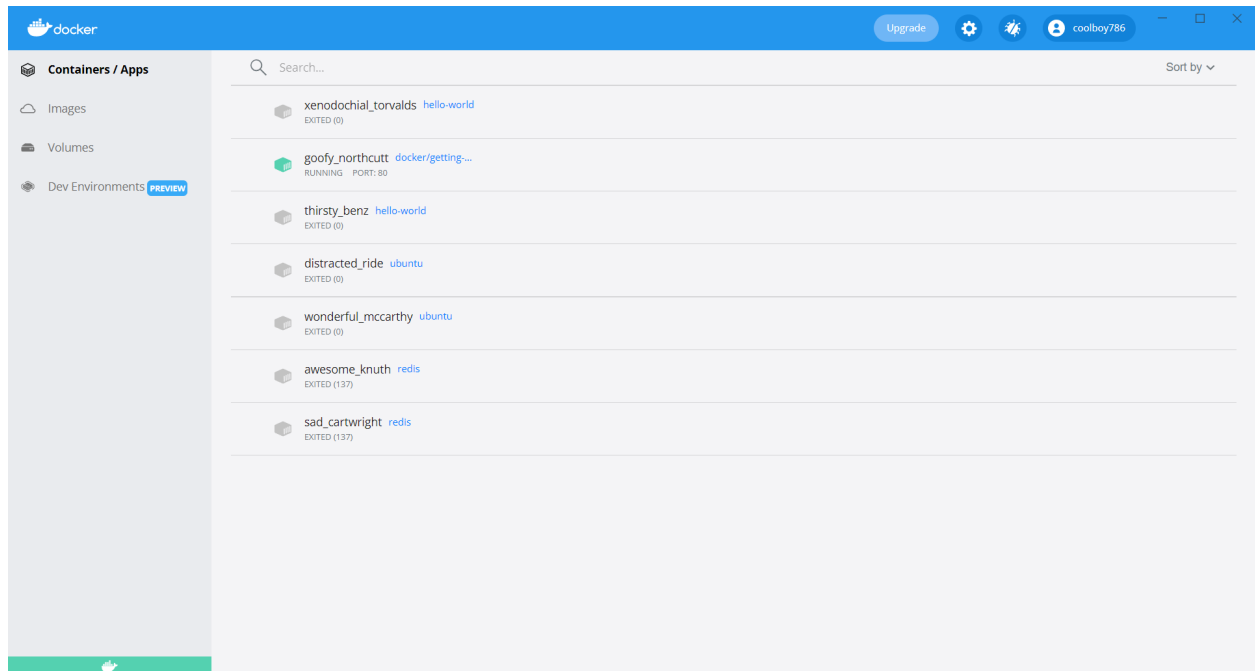
```
>> docker kill 09ca6feb6efc[Container-ID]
```



```
Administrator: Windows PowerShell

PS C:\WINDOWS\system32> docker kill 35b6cf1a95ec
Error response from daemon: Cannot kill container: 35b6cf1a95ec: Container 35b6cf1a95ec30c58e9048faa22510bbc955282bde962ea8c6bfd036da0d874f is not running
PS C:\WINDOWS\system32> docker run ubuntu
PS C:\WINDOWS\system32> docker kill 35b6cf1a95ec
Error response from daemon: Cannot kill container: 35b6cf1a95ec: Container 35b6cf1a95ec30c58e9048faa22510bbc955282bde962ea8c6bfd036da0d874f is not running
PS C:\WINDOWS\system32> docker run -d --restart unless-stopped redis
Unable to find image 'redis:latest' locally
latest: Pulling from library/redis
deb5b983b376: Already exists
6530a7a247d: Pull complete
91f5202c6d9b: Pull complete
9f1ac212a389: Pull complete
82c311187b72: Pull complete
4a04aa65ce64: Pull complete
Digest: sha256:0d9c9aed1eb385336db0bc9b976b6a9774aee3d2b9c2788a0d0d9e239986cb3
Status: Downloaded newer image for redis:latest
a7e3e01b00ba4280b0d197c5412efe173f1e2591c11874d7561f6fd16dbbe08
PS C:\WINDOWS\system32> docker ps -a
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS          NAMES
a7e3e01b00ba   redis         "docker-entrypoint.s..." 24 seconds ago Up 22 seconds 6379/tcp       awesome_knuth
ed3747aefc00   ubuntu       "bash"                   2 minutes ago   Exited (0) 2 minutes ago                wonderful_mccarthy
35b6cf1a95ec   ubuntu       "bash"                   11 minutes ago   Exited (0) 2 minutes ago                distracted_ride
983047a1ac35   hello-world   "/hello"                 12 minutes ago   Exited (0) 12 minutes ago                thirty_benz
4a09d0e9ebc2   hello-world   "/hello"                 8 hours ago     Exited (0) 8 hours ago                xenodochial_torvalds
82c311187b72   docker/getting-started "/docker-entrypoint..." 8 hours ago     Up 7 hours     0.0.0.0:80->80/tcp goofy_northcutt
a7e3e01b00ba
PS C:\WINDOWS\system32>
```

## ● Container list after killing




## 5. Commit - Save a new docker image with container id mentioned in the command on the local system

Save a new docker image with container id mentioned in the command on the local system. In the example below, geekflare is the username, and httpd\_image is the image name.


```
>> docker commit 09ca6feb6efc[Container-id]  
image_name
```


```
Administrator: Windows PowerShell


710ec2a6e2e redis "docker-entrypoint.s..." 4 minutes ago Exited (137) 3 minutes ago sad_cartwright
a7e3e01b00ba redis "docker-entrypoint.s..." 6 minutes ago Exited (137) 5 minutes ago awesome_knuth
ed3747ae6cd0 ubuntu "bash" 8 minutes ago Exited (0) 8 minutes ago wonderful_mccarthy
13b6c71a99ec ubuntu "bash" 17 minutes ago Exited (0) 8 minutes ago distracted_ride
981047a1ac35 hello-world "hello" 16 minutes ago Exited (0) 18 minutes ago thirsty_benz
4a09d0e9ebc2 hello-world "hello" 8 hours ago Exited (0) 8 hours ago xenodochial_torvalds
a8cc418b07af docker/getting-started "docker-entrypoint.s..." 8 hours ago Up 7 hours 0.0.0.0:80->80/tcp goofy_northcutt
PS C:\WINDOWS\system32> docker ps -q
a8cc418b07af
PS C:\WINDOWS\system32> docker run -d --restart unless-stopped redis
6e2dab778b05feabbe64d7f153d5c8a944c2c88d1f7d319f4cc32da3897a7a9
PS C:\WINDOWS\system32> docker ps -a
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
6e2dab778b05 redis "docker-entrypoint.s..." 28 seconds ago Up 13 seconds 6379/tcp sweet_ardinghell1
180e139fc231 redis "docker-entrypoint.s..." 3 minutes ago Exited (0) 3 minutes ago kind_lamport
710ec2a6e2e redis "docker-entrypoint.s..." 5 minutes ago Exited (137) 4 minutes ago sad_cartwright
a7e3e01b00ba redis "docker-entrypoint.s..." 7 minutes ago Exited (137) 7 minutes ago awesome_knuth
ed3747ae6cd0 ubuntu "bash" 10 minutes ago Exited (0) 10 minutes ago wonderful_mccarthy
13b6c71a99ec ubuntu "bash" 16 minutes ago Exited (0) 10 minutes ago distracted_ride
981047a1ac35 hello-world "hello" 19 minutes ago Exited (0) 19 minutes ago thirsty_benz
4a09d0e9ebc2 hello-world "hello" 8 hours ago Exited (0) 8 hours ago xenodochial_torvalds
a8cc418b07af docker/getting-started "docker-entrypoint.s..." 8 hours ago Up 7 hours 0.0.0.0:80->80/tcp goofy_northcutt
PS C:\WINDOWS\system32> docker images
REPOSITORY TAG IMAGE ID CREATED SIZE
docker/getting-started latest bd9a9f733898 8 days ago 28.8MB
ubuntu latest 54c9d81cbbd4 2 weeks ago 72.8MB
redis latest f1b697356ae9 3 weeks ago 113MB
httpd latest a8ea074f4566 3 weeks ago 144MB
hello-world latest feb5d9fea6a5 4 months ago 13.3kB
PS C:\WINDOWS\system32> docker images
REPOSITORY TAG IMAGE ID CREATED SIZE
docker/getting-started latest bd9a9f733898 8 days ago 28.8MB
ubuntu latest 54c9d81cbbd4 2 weeks ago 72.8MB
redis latest f1b697356ae9 3 weeks ago 113MB
httpd latest a8ea074f4566 3 weeks ago 144MB
hello-world latest feb5d9fea6a5 4 months ago 13.3kB
PS C:\WINDOWS\system32> docker commit ed3747ae6cd0 redis
sha256:eeaa03653bd089f5c11fe61fde661f436daca7c3e5f2552271cae4027b55ef
PS C:\WINDOWS\system32> docker commit 710ec2a6e2e ubuntu
sha256:9e67a2a06738938330be6671e461378240f8ce51998ed122215ba7fee1b3dab
PS C:\WINDOWS\system32>
```


 docker

Upgrade





 coolboy786



Containers / Apps


Images

Volumes


Dev Environments PREVIEW

Volumes

NAME ↑	CREATED	SIZE
5efbd2cda9c9fc67f66886f0ca2a44c2ad8297675b833c8599ddec80273e878	about 14 hours ago	8 kB
77ccf8b7709c602a11161c5fb997b57ec16337d0f75622d4b440472390d16a93	about 14 hours ago	12 kB
8def846f67d824e1180e37a336fae8d23ed2451218c7e57f3bcd9c9fbabe9f2	about 11 hours ago	12 kB
9f4b17a8fe8bfc9caaf656e3d5ecdc57fc26a3316813be7d270a74831a40da68	about 14 hours ago	12 kB
de6bdb488002f2645322f5fdf6c7e6048cd0844a2a6f313e57e28fe8084559e2	about 14 hours ago	8 kB
ef15cdf05072101c11c78a3823023ed5a9ebf7b337dd739806b472b011b6d3cf	about 14 hours ago	12 kB



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19-02-2022

## 6. Access the docker container and run commands inside the container (We can access any server container)

Access the docker container and **run commands inside the container.**

```
>> docker exec -it 09ca6feb6efc[ID] bash
```

Here id means the id of the image which is allocated to the image when the image is downloaded

```
Administrator: Windows PowerShell
Usage: docker image history [OPTIONS] IMAGE
Show the history of an image
PS C:\WINDOWS\system32> docker image history hello-world
IMAGE      CREATED          CREATED BY          SIZE      COMMENT
reb5d8f6a5 4 months ago    /bin/sh -c #(nop)  CMD ["/hello"]    0B
caissing    4 months ago    /bin/sh -c #(nop)  COPY file:50563a97010fd7ce... 13.3kB
PS C:\WINDOWS\system32> docker start 33e167d57ba6
33e167d57ba6
PS C:\WINDOWS\system32> docker exec -it 33e167d57ba6
"docker exec" requires at least 2 arguments.
See 'docker exec --help'.

Usage: docker exec [OPTIONS] CONTAINER COMMAND [ARG...]

Run a command in a running container
PS C:\WINDOWS\system32> docker exec -it 33e167d57ba6 bash
root@33e167d57ba6:/usr/local/apache2# ls
bin build cgi-bin conf error htdocs icons include logs modules
root@33e167d57ba6:/usr/local/apache2# service docker status
docker: unrecognized service
root@33e167d57ba6:/usr/local/apache2# docker images
bash: docker: command not found
root@33e167d57ba6:/usr/local/apache2# exit
exit
PS C:\WINDOWS\system32> docker exec -it 33e167d57ba6 /bin/bash
root@33e167d57ba6:/usr/local/apache2# ls
bin build cgi-bin conf error htdocs icons include logs modules
root@33e167d57ba6:/usr/local/apache2# php -v
bash: php: command not found
root@33e167d57ba6:/usr/local/apache2# history
1 ls
2 service docker status
3 docker images
4 exit
5 ls
6 php -v
7 history
root@33e167d57ba6:/usr/local/apache2# mkdir hello
root@33e167d57ba6:/usr/local/apache2# cd hello
root@33e167d57ba6:/usr/local/apache2/hello# cd ..
root@33e167d57ba6:/usr/local/apache2# touch hungary.txt
root@33e167d57ba6:/usr/local/apache2#
```

```
Administrator: Windows PowerShell
7a3e01b08ba f1b6973564e9 "docker-entrypoint.s..." 23 minutes ago Exited (137) 22 minutes ago awesome_knuth
ed3747a6cd0 54c9d81cbbd4 "bash" 25 minutes ago Exited (0) 25 minutes ago wonderful_mccarthy
35b6cf1a95ec 54c9d81cbbd4 "bash" 34 minutes ago Exited (0) 25 minutes ago distracted_ride
9b0b07a1ac35 hello-world "hello" 35 minutes ago Exited (0) 25 minutes ago thirsty_benz
4a9d9d9ebc2 hello-world "hello" 8 hours ago Exited (0) 8 hours ago xenodochial_torvalds
a8cc418b07af docker/getting-started "/docker-entrypoint..." 8 hours ago Up 7 hours 0.0.0.0:80->80/tcp goofy_northcutt

PS C:\WINDOWS\system32> docker image history
"docker image history" requires exactly 1 argument.
See 'docker image history --help'.

Usage: docker image history [OPTIONS] IMAGE

Show the history of an image
PS C:\WINDOWS\system32> docker image history hello-world
IMAGE      CREATED          CREATED BY          SIZE      COMMENT
fub5d9fea65 4 months ago    /bin/sh -c #(nop) CMD ["/hello"]    0B
<missing>    4 months ago    /bin/sh -c #(nop) COPY file:58563a97010fd7ce... 13.3kB
PS C:\WINDOWS\system32> docker start 33e167d57ba6
33e167d57ba6
PS C:\WINDOWS\system32> docker exec -it 33e167d57ba6
"docker exec" requires at least 2 arguments.
See 'docker exec --help'.

Usage: docker exec [OPTIONS] CONTAINER COMMAND [ARG...]

Run a command in a running container
PS C:\WINDOWS\system32> docker exec -it 33e167d57ba6 bash
root@33e167d57ba6:/usr/local/apache2# ls
bin build cgi-bin conf error htdocs icons include logs modules
root@33e167d57ba6:/usr/local/apache2#
```

## Part-2

After executing the above commands and knowing about a few other docker commands we need to run a webserver with docker using various docker commands accordingly.

- Get detailed information about docker installed on the system including the kernel version, number of containers and images, etc.

```
>> docker info
```

```
Administrator: Windows PowerShell

Run 'docker network COMMAND --help' for more information on a command.
PS C:\WINDOWS\system32> docker network ls
NETWORK ID          NAME                DRIVER              SCOPE
9b9cefc4ad12        bridge             bridge             local
bd035be29c89        host               host               local
41588b7c1b63        none               null               local
PS C:\WINDOWS\system32> docker info
Client:
Context:    default
Debug Mode: false
Plugins:
  buildx: Docker Buildx (Docker Inc., v0.7.1)
  compose: Docker Compose (Docker Inc., v2.2.3)
  scan: Docker Scan (Docker Inc., v0.17.0)
Server:
Containers: 9
  Running: 2
  Paused: 0
  Stopped: 7
Images: 8
Server Version: 20.10.12
Storage Driver: overlay2
  Backing Filesystem: extfs
  Supports d_type: true
  Native Overlay Diff: true
  userxattr: false
Logging Driver: json-file
Group Driver: cgroupfs
Cgroup Version: 1
Plugins:
  Volume: local
  Network: bridge host ipvlan macvlan null overlay
  Log: awslogs fluentd gcplogs gelf journald json-file local logentries splunk syslog
Swarm: inactive
Runtimes: io.containerd.runc.v2 io.containerd.runtime.v1.linux runc
Default Runtime: runc
Init Binary: docker-init
containerd version: 7b11cfaabd73bb80907dd23182b9347b4245e5d
runc version: v1.0.2-0-g52b36a2
init version: de40ad0
Security Options:
  seccomp
   Profile: default
Kernel Version: 5.10.16.3-microsoft-standard-WSL2
Operating System: Docker Desktop
OSType: linux
Architecture: x86_64
CPUs: 12
Total Memory: 6.13GiB
Name: docker-desktop
ID: CV5U:XSCM:KSC5:ARH1:KSSX:3NH1:H271:7Q77:754R:H6FT:V3XC:VQFF
Docker Root Dir: /var/lib/docker
```

- The following command in docker lists the details of all the networks in the cluster.

>> `docker network ls`

```
Administrator: Windows PowerShell

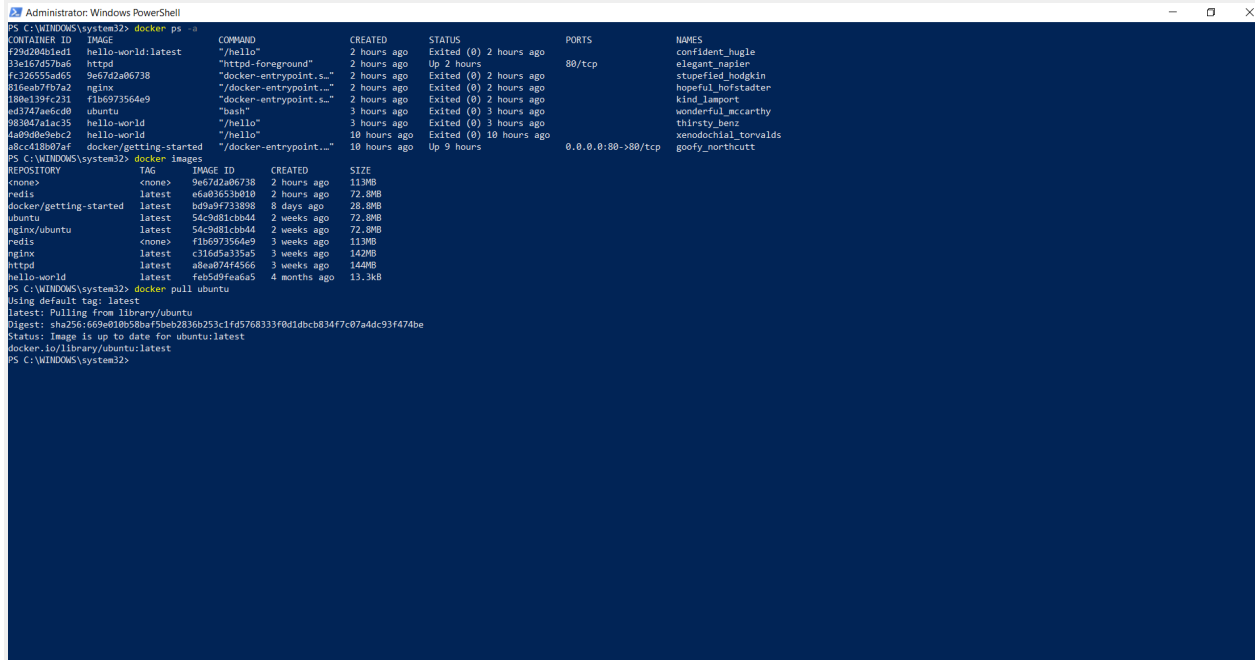
Windows PowerShell
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Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\WINDOWS\system32> docker network ls
NETWORK ID          NAME                DRIVER              SCOPE
918859a1e693        bridge             bridge             local
bd035be29c89        host               host               local
41588b7c1b63        none               null               local
PS C:\WINDOWS\system32>
```

- Pulling an image from docker hub

```
>> docker pull image-name[ubuntu]
```



The screenshot shows a Windows PowerShell terminal window with the following content:

```
PS C:\WINDOWS\system32> docker ps -a
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS          NAMES
f29d204b1ed1   hello-world:latest   "/hello"                2 hours ago    Exited (0)    2 hours ago
33e167d57ba6   httpd          "httpd-foreground"      2 hours ago    Up 2 hours
f2d26555ad05   9e67d2a06738   "docker-entrypoint.s..." 2 hours ago    Exited (0)    2 hours ago
816eab7fb7a2   nginx         "docker-entrypoint.s..." 2 hours ago    Exited (0)    2 hours ago
188e139fc231   flb6973564e9   "docker-entrypoint.s..." 2 hours ago    Exited (0)    2 hours ago
ed3747ae6cd0   ubuntu        "bash"                  3 hours ago    Exited (0)    3 hours ago
9b3047a1ac35   hello-world    "/hello"                3 hours ago    Exited (0)    3 hours ago
4a09d0e9ebc2   hello-world    "/hello"                10 hours ago   Exited (0)    10 hours ago
a8cc418b07af   docker/getting-started "docker-entrypoint.s..." 10 hours ago   Up 9 hours    0.0.0.0:80->80/tcp
PS C:\WINDOWS\system32> docker images
REPOSITORY    TAG       IMAGE ID       CREATED        SIZE
<none>        <none>    9e67d2a06738   2 hours ago    113MB
redis         latest    e6a03653b010   2 hours ago    72.8MB
docker/getting-started latest    b09a9f733898   8 days ago     28.8MB
ubuntu        latest    54c9d81c0b44   2 weeks ago    72.8MB
nginx/ubuntu   latest    54c9d81c0b44   2 weeks ago    72.8MB
redis         <none>    flb6973564e9   3 weeks ago    113MB
nginx         latest    c316d5a335a5   3 weeks ago    142MB
httpd         latest    a8a0974f4266   3 weeks ago    144MB
hello-world   latest    feb5d9fea6a5   4 months ago   13.3kB
PS C:\WINDOWS\system32> docker pull ubuntu
Using default tag: latest
latest: Pulling from library/ubuntu
Digest: sha256:669e010b58ba5beb2836b2531fd576833f0d1dcb834f7c07a4dc93f474be
Status: Image is up to date for ubuntu:latest
docker.io/library/ubuntu:latest
PS C:\WINDOWS\system32>
```

- Run the docker image mentioned in the command.  
This command will create a docker container in which the Apache HTTP server will run

```
>> docker run -it -d ubuntu [imagename]
```

Or

```
>> docker run -p port:port[8080:8080] ubuntu [imagename]
```

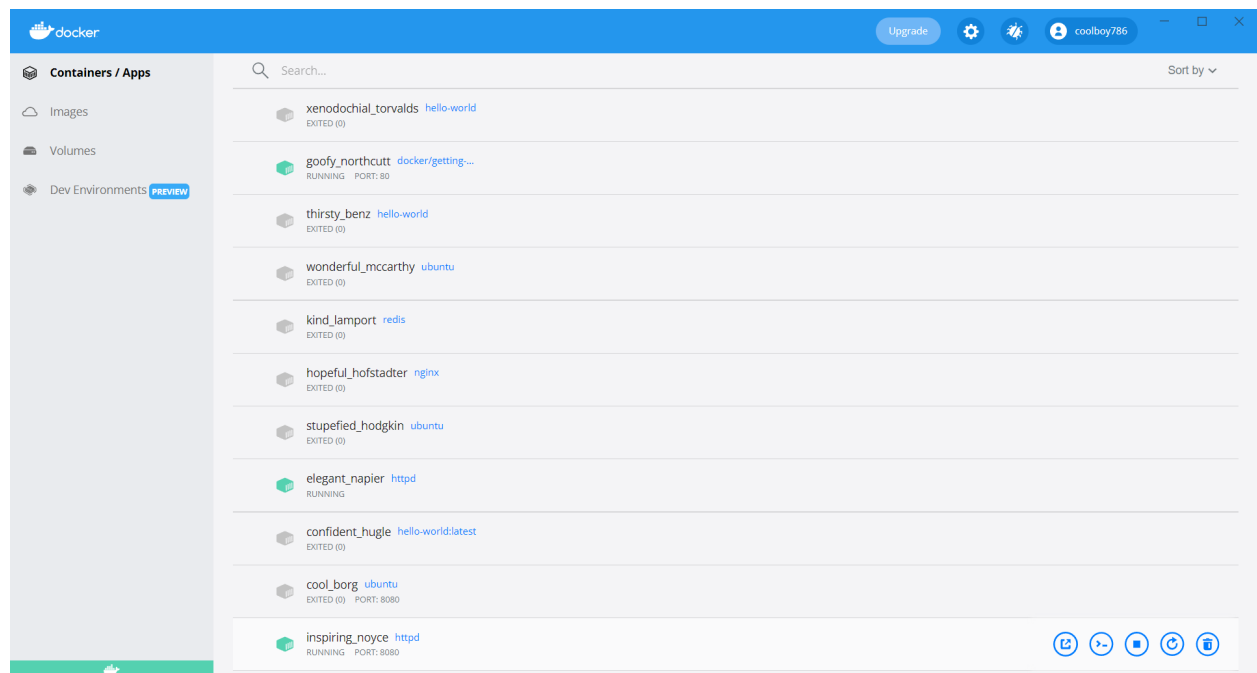
```
Administrator: Windows PowerShell

PS C:\WINDOWS\system32> docker run -dp 80:80 docker/getting-started
9e63f788d3bd2f6d360bfef901c41eb703ccd877457d733b898b37ddac020
docker: Error response from daemon: driver failed programming external connectivity on endpoint nifty_ishizaka (ef86ae1e3b645cd426eedad963e5597a2d61cdde4545429d63a2659bcd88b7e): Bind for 0.0.0.0:80 failed: port is already allocated.
PS C:\WINDOWS\system32> docker ps
CONTAINER ID   IMAGE      COMMAND                  CREATED        STATUS        PORTS                    NAMES
33e167d57ba6   httpd     "httpd-foreground"      2 hours ago   Up 2 hours   80/tcp                  elegant_napier
88cc418b07af   docker/getting-started "docker-entrypoint..." 11 hours ago   Up 9 hours   0.0.0.0:80->80/tcp      goofy_northcutt
PS C:\WINDOWS\system32> docker run -p nginx
'docker run' requires at least 1 argument.
See 'docker run --help'.

Usage: docker run [OPTIONS] IMAGE [COMMAND] [ARG...]

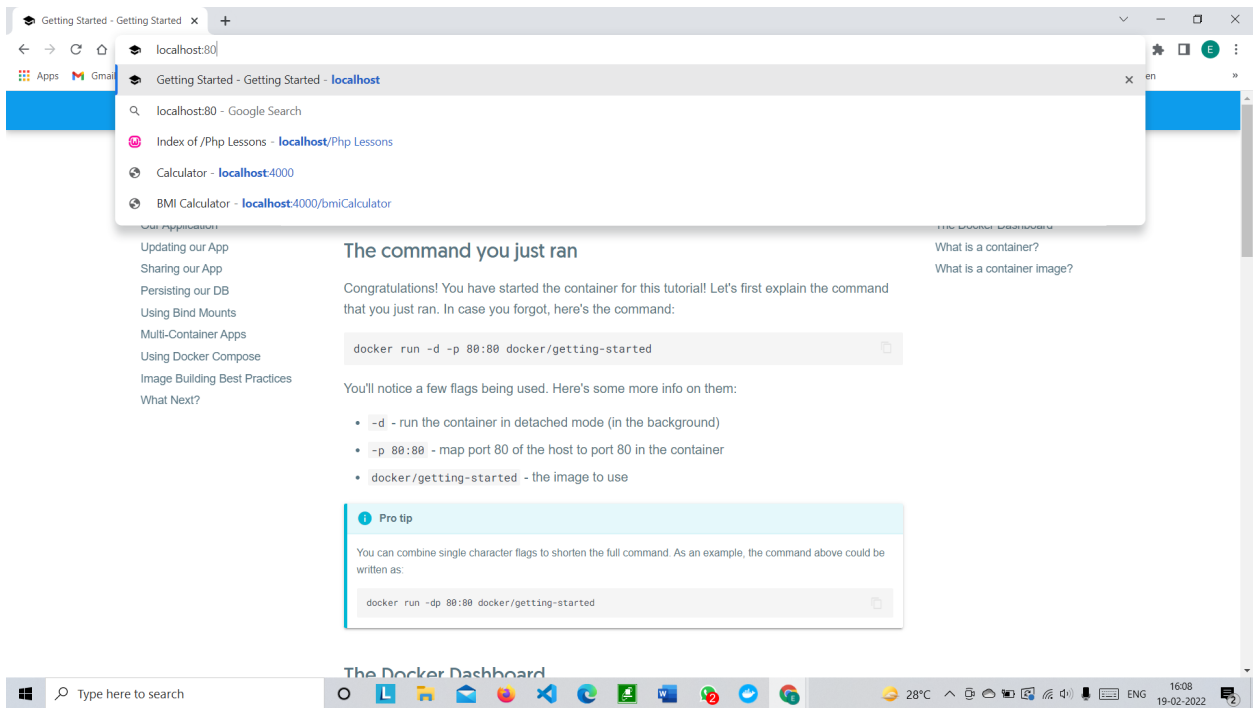
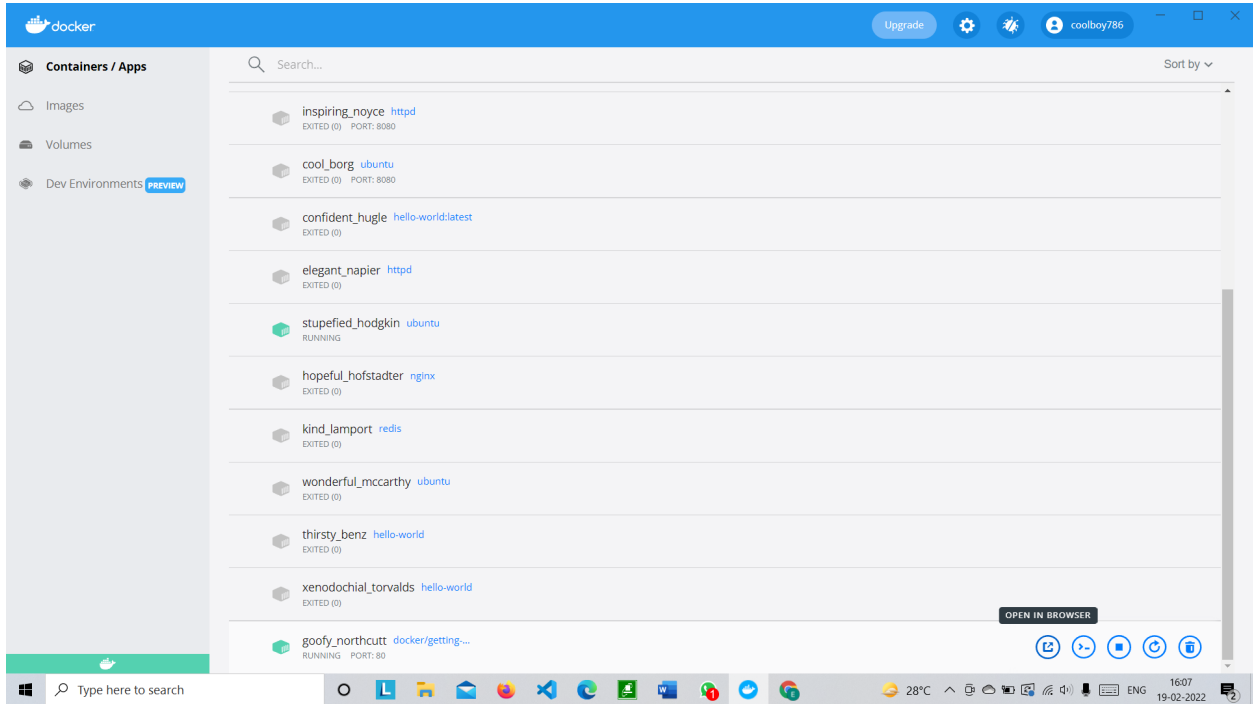
Run a command in a new container
PS C:\WINDOWS\system32> docker run -p 8080:8080 nginx
/docker-entrypoint.sh: /docker-entrypoint.d/ is not empty, will attempt to perform configuration
/docker-entrypoint.sh: Looking for shell scripts in /docker-entrypoint.d/
/docker-entrypoint.sh: Launching /docker-entrypoint.d/10-listen-on-ipv6-by-default.sh
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-time-worker-processes.sh
/docker-entrypoint.sh: Configuration complete; ready for start up
2022/02/18 22:26:48 [notice] 1#1: using the "epoll" event method
2022/02/18 22:26:48 [notice] 1#1: nginx/1.21.6
2022/02/18 22:26:48 [notice] 1#1: built by gcc 10.2.1 20210110 (Debian 10.2.1-6)
2022/02/18 22:26:48 [notice] 1#1: OS: Linux 5.10.16.3-microsoft-standard-WSL2
2022/02/18 22:26:48 [notice] 1#1: getrlimit(RLIMIT_NOFILE): 1048576:1048576
2022/02/18 22:26:48 [notice] 1#1: start worker processes
2022/02/18 22:26:48 [notice] 1#1: start worker process 31
2022/02/18 22:26:48 [notice] 1#1: start worker process 32
2022/02/18 22:26:48 [notice] 1#1: start worker process 33
2022/02/18 22:26:48 [notice] 1#1: start worker process 34
2022/02/18 22:26:48 [notice] 1#1: start worker process 35
2022/02/18 22:26:48 [notice] 1#1: start worker process 36
2022/02/18 22:26:48 [notice] 1#1: start worker process 37
2022/02/18 22:26:48 [notice] 1#1: start worker process 38
2022/02/18 22:26:48 [notice] 1#1: start worker process 39
2022/02/18 22:26:48 [notice] 1#1: start worker process 40
2022/02/18 22:26:48 [notice] 1#1: start worker process 41
2022/02/18 22:26:48 [notice] 1#1: start worker process 42
```

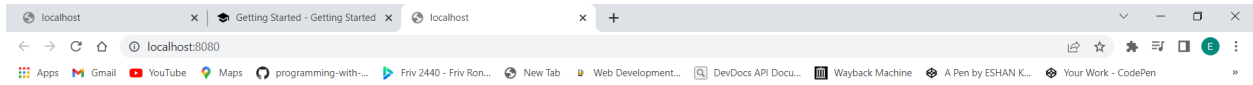
## ● Checking running container list





- Open localhost:8080[port-number] on web browser





- **stop the container and then at last delete the container.**

```
>> docker stop 4ddd883f248344[Container-ID]
```

```
>> docker rm 4ddd883f248344[Container-ID]
```

```
Administrator: Windows PowerShell
Windows PowerShell
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Try the new cross-platform PowerShell https://aka.ms/powershell

PS C:\WINDOWS\system32> docker run -it --name ubuntu
4dd883f248344be26a323bacf71a13a48b820390dc133ccaf6be949d1bd8115
PS C:\WINDOWS\system32> docker stop 4dd883f248344be26a323bacf71a13a48b820390dc133ccaf6be949d1bd8115
4dd883f248344be26a323bacf71a13a48b820390dc133ccaf6be949d1bd8115
PS C:\WINDOWS\system32> docker rm 4dd883f248344be26a323bacf71a13a48b820390dc133ccaf6be949d1bd8115
4dd883f248344be26a323bacf71a13a48b820390dc133ccaf6be949d1bd8115
PS C:\WINDOWS\system32>
```