

1. check the docker version installed

```
heba@heba-HP-ProBook-450-G4:~$ docker version
Client: Docker Engine - Community
Version:           24.0.0
API version:       1.43
Go version:        go1.20.4
Git commit:        98fdcd7
Built:             Mon May 15 18:48:35 2023
OS/Arch:           linux/amd64
Context:           default
```

2- run docker container for hello-world

```
heba@heba-HP-ProBook-450-G4:~$ sudo docker run hello-world

Hello from Docker!
This message shows that your installation appears to be working correctly.

To generate this message, Docker took the following steps:
1. The Docker client contacted the Docker daemon.
2. The Docker daemon pulled the "hello-world" image from the Docker Hub.
   (amd64)
3. The Docker daemon created a new container from that image which runs the
   executable that produces the output you are currently reading.
4. The Docker daemon streamed that output to the Docker client, which sent it
   to your terminal.

To try something more ambitious, you can run an Ubuntu container with:
$ docker run -it ubuntu bash

Share images, automate workflows, and more with a free Docker ID:
https://hub.docker.com/

For more examples and ideas, visit:
https://docs.docker.com/get-started/
```

3- run docker container redis in detached mode

```
heba@heba-HP-ProBook-450-G4:~$ docker run -d --name my-redis-container redis
Unable to find image 'redis:latest' locally
latest: Pulling from library/redis
f03b40093957: Pull complete
8db26c5e8435: Pull complete
37e84c7a626f: Pull complete
806c192e0375: Pull complete
08769906aa59: Pull complete
635073d8ccd5: Pull complete
Digest: sha256:f9724694a0b97288d2255ff2b69642dfba7f34c8e41aaf0a59d33d10d8a42687
Status: Downloaded newer image for redis:latest
7d9bac1870aa3b4c9aa6fba044ffa59e0c832dafd533465ae5279bb04ca4306e
```

4- try to stop the running redis container

```
heba@heba-HP-ProBook-450-G4:~$ docker stop my-redis-container
my-redis-container
heba@heba-HP-ProBook-450-G4:~$ docker ps -a
```

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS	NAMES
7d9bac1870aa	redis	"docker-entrypoint.s..."	3 minutes ago	Exited (0) About a minute ago		my-redis-container

4- check the present container o the host

```
heba@heba-HP-ProBook-450-G4:~$ docker ps -a
```

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS	NAMES
7d9bac1870aa	redis	"docker-entrypoint.s..."	3 minutes ago	Exited (0) About a minute ago		my-redis-container
376df0ca12f3	hello-world	"/hello"	13 minutes ago	Exited (0) 13 minutes ago		busy_faraday
ae491a2d25d9	hello-world	"/hello"	22 minutes ago	Exited (0) 21 minutes ago		trusting_ritchie
c3a8ee11be48	mynginx:v1	"/docker-entrypoint..."	5 days ago	Exited (0) 47 hours ago	0.0.0.0:80->80/tcp, :::80->80/tcp	elastic_dijkstra
dfaca71354ce	mynginx:v1	"/docker-entrypoint..."	5 days ago	Created		suspicious_bassi
b2fae0306818	b89224de1d24	"/docker-entrypoint..."	5 days ago	Exited (0) 5 days ago		cool_cartwright
e7afd564f986	hello-world	"/hello"	5 days ago	Exited (0) 5 days ago		youthful_wilson

5- check the ID of the redis container

```
heba@heba-HP-ProBook-450-G4:~$ docker ps -a --filter "name=my-redis-container" --format "{{.ID}}"
7d9bac1870aa
```

6- try to run a container from nginx:alpine and delete image

```
heba@heba-HP-ProBook-450-G4:~$ docker run -d --name my-nginx-container nginx:alpine
Unable to find image 'nginx:alpine' locally
alpine: Pulling from library/nginx
f56be85fc22e: Pull complete
2ce963c369bc: Pull complete
59b9d2200e63: Pull complete
3e1e579c95fe: Pull complete
547a97583f72: Pull complete
1f21f983520d: Pull complete
c23b4f8cf279: Pull complete
Digest: sha256:02fffd439b71d9ea9408e449b568f65c0bbb94bebd8750f1d80231ab6496008e
Status: Downloaded newer image for nginx:alpine
249619f78591fc60676b445b807353f19a9db2b940c3b259fee7f18c34193285
heba@heba-HP-ProBook-450-G4:~$ docker image rm nginx:alpine
Error response from daemon: conflict: unable to remove repository reference "nginx:alpine" (must force) - container 249619f78591 is using its referenced image 8e75cbc5b25c
heba@heba-HP-ProBook-450-G4:~$ docker rm -f my-nginx-container
my-nginx-container
heba@heba-HP-ProBook-450-G4:~$ docker image rm nginx:alpine
Untagged: nginx:alpine
Untagged: nginx@sha256:02fffd439b71d9ea9408e449b568f65c0bbb94bebd8750f1d80231ab6496008e
Deleted: sha256:8e75cbc5b25c8438fcfe2e7c12c98409d5f161cbb668d6c444e02796691ada70
Deleted: sha256:f301a4112756ab559d9c78e8ed3625dab81f91803dfeabbc4f9184c878b1f3b1
Deleted: sha256:d794631f2dea08ec92bc28f93ac8c1079c505aef791e86cc2bd5566904d2d581
Deleted: sha256:0d2f2fd89d17527e0808abf8debc4d22c1b3670894eeb12ecce580fe05719dec
Deleted: sha256:13ec71ce1944eb1de9f7fe3bbe31e4355476075b70f8b395a68d90ca849f111
Deleted: sha256:8997729a28eb948a9a00aa56b19143cfff03a0ced25280473fff15c461860dfa7
Deleted: sha256:193b9708a46833cbb4791d3d58bf0d5428c37fc8f8d0c951d3ca15cca5091c6
Deleted: sha256:f1417f83b319fbdad6dd9cd6d8c9c88002dcd75ecf6ec201c8c6894681cf2b5
```

7- delete the image redis

```
heba@heba-HP-ProBook-450-G4:~$ docker rm -f my-redis-container
my-redis-container
heba@heba-HP-ProBook-450-G4:~$ docker image rm redis
Untagged: redis:latest
Untagged: redis@sha256:f9724694a0b97288d2255ff2b69642dfba7f34c8e41aaf0a59d33d10d8a4
Deleted: sha256:0ec8ab59a35faa3aaee416630128e11949d44ac82d15d43053f8af5d61182a5d
Deleted: sha256:f89720eafb298773509177d4b8b76a32adda4da1015ca28f52daa03fc6090499
Deleted: sha256:c3b5385e13627e14d553f09a098275d1f1ada0b6228cc30c92e095d669df799c
Deleted: sha256:b830b2806be6a052c6d857f927f72ef18a2539e69fdb6d51cf95d76d7e06c8f1
Deleted: sha256:8de1c0863fac10debb4e19de0cc27639ae97c1111eca0920649b21d97bc8dded
Deleted: sha256:80940c1d5550f3f56f5ab008aa79e899e4d3c9b6b41b9f76077f31dcfb2c482c
Deleted: sha256:8cbe4b54fa88d8fc0198ea0cc3a5432aea41573e6a0ee26eca8c79f9fbfa40e3
```

8- pull image from nginx:1.14-alpine

```
heba@heba-HP-ProBook-450-G4:~$ docker pull nginx:1.14-alpine
1.14-alpine: Pulling from library/nginx
bdf0201b3a05: Pull complete
3d0a573c81ed: Pull complete
8129faeb2eb6: Pull complete
3dc99f571daf: Pull complete
Digest: sha256:485b610fefec7ff6c463ced9623314a04ed67e3945b9c08d7e53a47f6d108dc7
Status: Downloaded newer image for nginx:1.14-alpine
docker.io/library/nginx:1.14-alpine
heba@heba-HP-ProBook-450-G4:~$ docker images
```

REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
mynginx	v1	0833bcfd0ad4	5 days ago	142MB
<none>	<none>	b89224de1d24	5 days ago	142MB
hello-world	latest	9c7a54a9a43c	2 weeks ago	13.3kB
<none>	<none>	a00cfe786276	3 weeks ago	142MB
nginx	latest	448a08f1d2f9	3 weeks ago	142MB
nginx	1.14-alpine	8a2fb25a19f5	4 years ago	16MB

Run an instance of the ubuntu image to run the sleep 1000 command at startup.

```
heba@heba-HP-ProBook-450-G4:~$ docker run -d --name my-ubuntu-container ubuntu sleep 1000
Unable to find image 'ubuntu:latest' locally
latest: Pulling from library/ubuntu
dbf6a9befcde: Pull complete
Digest: sha256:dfd64a3b4296d8c9b62aa3309984f8620b98d87e47492599ee20739e8eb54fbf
Status: Downloaded newer image for ubuntu:latest
dbd5b865289fb127348c700b23b361d434935c7e93313387dfbd0658e408ea72
heba@heba-HP-ProBook-450-G4:~$ docker ps
```

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS	NAMES
dbd5b865289f	ubuntu	"sleep 1000"	33 seconds ago	Up 29 seconds		my-ubuntu-container

Exec into the container and touch a file called test-file.

```
heba@heba-HP-ProBook-450-G4:~$ docker exec my-ubuntu-container ls | grep test
test
```

9- Run a container with the nginx:alpine image and name it web

```
heba@heba-HP-ProBook-450-G4:~$ docker run -d --name web nginx:alpine
Unable to find image 'nginx:alpine' locally
alpine: Pulling from library/nginx
f56be85fc22e: Pull complete
2ce963c369bc: Pull complete
59b9d2200e63: Pull complete
3e1e579c95fe: Pull complete
547a97583f72: Pull complete
1f21f983520d: Pull complete
c23b4f8cf279: Pull complete
Digest: sha256:02ffd439b71d9ea9408e449b568f65c0bbbb94bebd8750f1d80231ab6496008e
Status: Downloaded newer image for nginx:alpine
012b33ead1c5fccc006c6c3af3c207664373fa262ddc69717c820c6342b25ed6
heba@heba-HP-ProBook-450-G4:~$ docker images
```

REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
nginx	alpine	8e75cbc5b25c	7 weeks ago	41MB

```
heba@heba-HP-ProBook-450-G4:~$ docker ps
```

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS	NAMES
012b33ead1c5	nginx:alpine	"/docker-entrypoint..."	4 minutes ago	Up 4 minutes	80/tcp	web

10- delete all the images from the host

```
heba@heba-HP-ProBook-450-G4:~$ docker image rm -f $(docker image ls -aq)
Untagged: mynginx:v1
Deleted: sha256:0833bcfd0ad49eb11b0c98c812ef07a082c28cabd2782c7d3848a731cd90c07a
Deleted: sha256:b89224de1d245998f9c372da83ac00aa863b33c2d655bd99588b5b016b7ded41
Untagged: hello-world:latest
Untagged: hello-world@sha256:fc6cf906cbfa013e80938cdf0bb199fbd8b86d6e3e013783e5a766f50f5dbce0
Deleted: sha256:9c7a54a9a43cca047013b82af109fe963fde787f63f9e016fdc3384500c2823d
Untagged: nginx:latest
Untagged: nginx@sha256:480868e8c8c797794257e2abd88d0f9a8809b2fe956cbfbc05dcc0bca1f7cd43
Deleted: sha256:448a08fd2f94e8dbdb9286fd77a3a4f3712786583720a12f1648abb8cace25
Deleted: sha256:a00cfe78627664ce18b575027294309580ec913d9d9abac6f3b159706a78529
Untagged: nginx:1.14-alpine
Untagged: nginx@sha256:485b610fefec7ff6c463ced9623314a04ed67e3945b9c08d7e53a47f6d108dc7
Deleted: sha256:8a2fb25a19f5dc1528b7a3fabe8b3145ff57fe10e4f1edac6c718a3cf4aa4b73
Deleted: sha256:f68a8bcb9dbd06e0d2750eabf63c45f51734a72831ed650d2349775865d5fc20
Deleted: sha256:cbf2c7789332fe231e8defa490527a7b2c3ae8589997ceee00895f3263f0a8cf
Deleted: sha256:894f3fad7e6ecd7f24e88340a44b7b73663a85c0eb7740e7ade169e9d8491a4c
Deleted: sha256:a464c54f93a9e88fc1d33df1e0e39cca427d60145a360962e8f19a1dbf900da9
Error response from daemon: conflict: unable to delete 3b418d7b466a (cannot be forced) - image is being used by running container dbd5b865289f
Error response from daemon: conflict: unable to delete 8e75cbc5b25c (cannot be forced) - image is being used by running container 4175bf8381b4
heba@heba-HP-ProBook-450-G4:~$ docker rm -f dbd5b865289f
dbd5b865289f
heba@heba-HP-ProBook-450-G4:~$ docker rm -f 4175bf8381b4
4175bf8381b4
```

```
heba@heba-HP-ProBook-450-G4:~$ docker rm -f dbd5b865289f
dbd5b865289f
heba@heba-HP-ProBook-450-G4:~$ docker rm -f 4175bf8381b4
4175bf8381b4
heba@heba-HP-ProBook-450-G4:~$ docker image rm -f $(docker image ls -aq)
Untagged: ubuntu:latest
Untagged: ubuntu@sha256:dfd64a3b4296d8c9b62aa3309984f8620b98d87e47492599ee20739e8eb54fbf
Deleted: sha256:3b418d7b466ac6275a6bfc0c86fbc4422ff6ea0af444a294f82d3bf5173ce74
Deleted: sha256:b8a36d10656ac19ddb96ef3107f76820663717708fc37ce929925c36d1b1d157
Untagged: nginx:alpine
Untagged: nginx@sha256:02ffd439b71d9ea9408e449b568f65c0bbbbb94bebd8750f1d80231ab6496008e
Deleted: sha256:8e75cbc5b25c8438fcfe2e7c12c98409d5f161cbb668d6c444e02796691ada70
Deleted: sha256:f301a4112756ab559d9c78e8ed3625dab81f91803dfeabbc4f9184c878b1f3b1
Deleted: sha256:d794631f2dea08ec92bc28f93ac8c1079c505aef791e86cc2bd5566904d2d581
Deleted: sha256:0d2f2fd89d17527e0808abf8debc4d22c1b3670894eeb12ecce580fe05719dec
Deleted: sha256:13ec71ce1944eb1de9f7fe3bbec31e4355476075b70f8b395a68d90ca849f111
Deleted: sha256:8997729a28eb948a9a00aa56b19143cff03e0ced25280473ffff15c461860dfa7
Deleted: sha256:193b9708a46833ccb84791d3d58bf0d5428c37fc8fd80c951d3ca15cca5091c6
Deleted: sha256:f1417ff83b319fbdae6dd9cd6d8c9c88002dcd75ecf6ec201c8c6894681cf2b5
heba@heba-HP-ProBook-450-G4:~$ docker images
REPOSITORY          TAG                 IMAGE ID            CREATED             SIZE
```