

Docker Lab (1)

1- check the docker version installed

```
amr@ubuntu-SV:~$ docker --version
Docker version 24.0.1, build 6802122
amr@ubuntu-SV:~$
```

2- run docker container for hello-world

```
amr@ubuntu-SV:~$ docker run hello-world
Unable to find image 'hello-world:latest' locally
latest: Pulling from library/hello-world
719385e32844: Pull complete
Digest: sha256:fc6cf906cbfa013e80938cdf0bb199fbd86d6e3e013783e5a766f50f5dbce0
Status: Downloaded newer image for hello-world:latest

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/

amr@ubuntu-SV:~$ docker ps
CONTAINER ID   IMAGE     COMMAND   CREATED   STATUS    PORTS   NAMES
amr@ubuntu-SV:~$
```

3-run docker container redis in detached mode

```
amr@ubuntu-SV: ~  
amr@ubuntu-SV:~$ docker run -d 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  
3c135a9b9d35e44638e41305a6fc0a1ce8b40592fa90a333157637c4e9b6e2b7  
amr@ubuntu-SV:~$
```

4- try to stop the running redis container and check the present container o the host

```
amr@ubuntu-SV:~$ docker ps  
CONTAINER ID   IMAGE     COMMAND                  CREATED  
STATUS        PORTS    NAMES  
3c135a9b9d35   redis     "docker-entrypoint.s..." About a minute ago  
Up About a minute 6379/tcp  charming_payne  
amr@ubuntu-SV:~$ docker stop 3c1  
3c1  
amr@ubuntu-SV:~$ docker ps  
CONTAINER ID   IMAGE     COMMAND                  CREATED   STATUS    PORTS    NAMES  
amr@ubuntu-SV:~$
```

5- check the ID of the redis container

```
amr@ubuntu-SV:~$ docker ps  
CONTAINER ID   IMAGE     COMMAND                  CREATED  
STATUS        PORTS    NAMES  
3c135a9b9d35   redis     "docker-entrypoint.s..." About a minute ago  
Up About a minute 6379/tcp  charming_payne
```

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

```
amr@ubuntu-SV:~$ docker run -d nginx:alpine
Unable to find image 'nginx:alpine' locally
alpine: Pulling from library/nginx
f56be85fc22e: Pull complete
97c80f11709c: Pull complete
afb503c1f124: Pull complete
f8c948b732dd: Pull complete
d021bba29710: Pull complete
cadcca1af197: Pull complete
4aacde79cec4: Pull complete
Digest: sha256:2e776a66a3556f001aba13431b26e448fe8acba277bf93d2ab1a785571a46d90
Status: Downloaded newer image for nginx:alpine
5ccc2094f7807e583aec708171a605cd0f099c2152741cbc95c1a4b0907178d2
amr@ubuntu-SV:~$ docker images
REPOSITORY          TAG             IMAGE ID        CREATED         SIZE
nginx                alpine         fe7edaf8a8dc   16 hours ago   41.4MB
pern                 latest        b7947f004b24   21 hours ago   187MB
redis                latest        0ec8ab59a35f   2 days ago     117MB
<none>              <none>        a6444e120fb7   8 days ago     145MB
<none>              <none>        b3f1c14ca31a   8 days ago     145MB
<none>              <none>        f7c528dc262e   8 days ago     142MB
<none>              <none>        60dee4ac6715   8 days ago     142MB
hello-world         latest        9c7a54a9a43c   2 weeks ago    13.3kB
jenkins/jenkins     lts           976459dc87b0   3 weeks ago    472MB
amr@ubuntu-SV:~$ docker rmi nginx:alpine
Error response from daemon: conflict: unable to remove repository reference "nginx:alpine" (must force) - container 5ccc2094f780 is using it
s referenced image fe7edaf8a8dc
amr@ubuntu-SV:~$ docker rmi nginx:alpine -f
Untagged: nginx:alpine
Untagged: nginx@sha256:2e776a66a3556f001aba13431b26e448fe8acba277bf93d2ab1a785571a46d90
```

7-delete the image redis

```
amr@ubuntu-SV:~$ docker rmi redis:latest -f
Untagged: redis:latest
Untagged: redis@sha256:f9724694a0b97288d2255ff2b69642dfba7f34c8e41aaf0a59d33d10d8a42687
Deleted: sha256:0ec8ab59a35faa3aaee416630128e11949d44ac82d15d43053f8af5d61182a5d
```

8- pull image from nginx:1.14-alpine

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

```
amr@ubuntu-SV:~$ 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
amr@ubuntu-SV:~$
amr@ubuntu-SV:~$ docker run 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
```

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

```
amr@ubuntu-SV: ~ x root@4e9b396d860d: / x v
amr@ubuntu-SV:~$ docker ps
CONTAINER ID   IMAGE      COMMAND                  CREATED
STATUS        PORTS      NAMES
4e9b396d860d   ubuntu    "sleep 1000"            7 minutes ago
Up 7 minutes   naughty_sutherland
5ccc2094f780   fe7edaf8a8dc  "/docker-entrypoint...." 22 minutes ago
Up 22 minutes  80/tcp      awesome_galileo
amr@ubuntu-SV:~$ docker exec -it 4e9 bash
root@4e9b396d860d:/# touch test-file
root@4e9b396d860d:/# ls
bin  dev  home  lib32  libx32  mnt  proc  run  srv  test-file  usr
boot  etc  lib  lib64  media  opt  root  sbin  sys  tmp      var
root@4e9b396d860d:/#
```

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

```
amr@ubuntu-SV: ~  
amr@ubuntu-SV:~$ docker run -d --name web nginx:alpine  
Unable to find image 'nginx:alpine' locally  
alpine: Pulling from library/nginx  
Digest: sha256:2e776a66a3556f001aba13431b26e448fe8acba277bf93d2ab1a785571a46d90  
Status: Downloaded newer image for nginx:alpine  
1cc66f6417ea1d73bb1fd63623f8e33e7e9e7e791f7da80d461dadccaa83e7e0  
amr@ubuntu-SV:~$
```

10- delete all the images from the host

```
amr@ubuntu-SV: ~  
amr@ubuntu-SV:~$ docker images  
REPOSITORY          TAG             IMAGE ID        CREATED         SIZE  
nginx                alpine         fe7edaf8a8dc   16 hours ago   41.4MB  
pern                 latest        b7947f004b24   21 hours ago   187MB  
<none>              <none>        a6444e120fb7   8 days ago     145MB  
<none>              <none>        b3f1c14ca31a   8 days ago     145MB  
<none>              <none>        f7c528dc262e   8 days ago     142MB  
<none>              <none>        60dee4ac6715   8 days ago     142MB  
hello-world         latest         9c7a54a9a43c   2 weeks ago    13.3kB  
jenkins/jenkins     lts           976459dc87b0   3 weeks ago    472MB  
ubuntu              latest        3b418d7b466a   4 weeks ago    77.8MB  
amr@ubuntu-SV:~$ docker rmi -f fe7e 3b41  
Untagged: nginx:alpine  
Untagged: nginx@sha256:2e776a66a3556f001aba13431b26e448fe8acba277bf93d2ab1a785571a46d90  
Deleted: sha256:fe7edaf8a8dcf9af72f49cf0a0219e3ace17667bafcf537f0d4a0ab1bd7f10467  
Untagged: ubuntu:latest  
Untagged: ubuntu@sha256:dfd64a3b4296d8c9b62aa3309984f8620b98d87e47492599ee20739e8eb54fbf  
Deleted: sha256:3b418d7b466ac6275a6bfc0c86f8be4422ff6ea0af444a294f82d3bf5173ce74  
amr@ubuntu-SV:~$
```