

P1:

- Run the container hello-world

```
ahmed@ahmed-HP-EliteBook-840-G5: ~/Desktop$ sudo docker run hello-world
Unable to find image 'hello-world:latest' locally
latest: Pulling from library/hello-world
c1ec31eb5944: Pull complete
Digest: sha256:53cc4d415d839c98be39331c948609b659ed725170ad2ca8eb36951288f81b75
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/
```

- Check the container status

```
Activities  Terminal  15:17 سبت 3
ahmed@ahmed-HP-EliteBook-840-G5: ~/Desktop
docker.sock/v1.47/containers/json?all=1": dial unix /var/run/docker.sock: connect: permission denied
ahmed@ahmed-HP-EliteBook-840-G5: ~/Desktop$ sudo docker ps -a
CONTAINER ID   IMAGE          COMMAND         CREATED        STATUS        PORTS          NAMES
da85297eb9f5   hello-world    "/hello"        About a minute ago    Exited (0)    About a minute ago    keen_margulis
2a78725a77fd   hello-world    "/hello"        7 minutes ago       Exited (0)    7 minutes ago         pensive_wiles
ahmed@ahmed-HP-EliteBook-840-G5: ~/Desktop$ docker stats da85297eb9f5
permission denied while trying to connect to the Docker daemon socket at unix:///var/run/docker.sock: Get "http://%2Fvar%2Frun%2Fdocker.sock/v1.47/containers/da85297eb9f5/stats?stream=1": dial unix /var/run/docker.sock: connect: permission denied
ahmed@ahmed-HP-EliteBook-840-G5: ~/Desktop$ sudo docker stats da85297eb9f5

CONTAINER ID   NAME          CPU %       MEM USAGE / LIMIT   MEM %       NET I/O     BLOCK I/O    PIDS
da85297eb9f5   keen_margulis 0.00%       0B / 0B              0.00%       0B / 0B     0B / 0B      0
```

- Start the stopped container

```
ahmed@ahmed-HP-EliteBook-840-G5: ~/Desktop$ sudo docker start da85297eb9f5
da85297eb9f5
ahmed@ahmed-HP-EliteBook-840-G5: ~/Desktop$
```

- Remove the container

```
ahmed@ahmed-HP-EliteBook-840-G5:~/Desktop$ sudo docker rm -f da85297eb9f5
da85297eb9f5
ahmed@ahmed-HP-EliteBook-840-G5:~/Desktop$ sudo docker ps -a
CONTAINER ID   IMAGE          COMMAND         CREATED        STATUS        PORTS          NAMES
2a78725a77fd   hello-world    "/hello"        10 minutes ago Exited (0) 10 minutes ago           pensive_wiles
ahmed@ahmed-HP-EliteBook-840-G5:~/Desktop$
```

- Remove the image

```
ahmed@ahmed-HP-EliteBook-840-G5:~/Desktop$ sudo docker rmi -f hello-world
Untagged: hello-world:latest
Untagged: hello-world@sha256:53cc4d415d839c98be39331c948609b659ed725170ad2ca8eb36951288f81b75
Deleted: sha256:d2c94e258dcb3c5ac2798d32e1249e42ef01cba4841c2234249495f87264ac5a
ahmed@ahmed-HP-EliteBook-840-G5:~/Desktop$ sudo docker images
REPOSITORY    TAG        IMAGE ID        CREATED        SIZE
ahmed@ahmed-HP-EliteBook-840-G5:~/Desktop$
```

P2:

```
ahmed@ahmed-HP-EliteBook-840-G5:~/Desktop$ sudo docker run -it ubuntu
Unable to find image 'ubuntu:latest' locally
latest: Pulling from library/ubuntu
31e907dcc94a: Pull complete
Digest: sha256:8a37d68f4f73ebf3d4efafbcf66379bf3728902a8038616808f04e34a9ab63ee
Status: Downloaded newer image for ubuntu:latest
root@6c69fc131cc9:/# echo docker
docker
root@6c69fc131cc9:/# touch hello-docker
root@6c69fc131cc9:/# ls
bin boot dev etc hello-docker home lib lib64 media mnt opt proc root run sbin srv sys tmp usr var
root@6c69fc131cc9:/#
exit
ahmed@ahmed-HP-EliteBook-840-G5:~/Desktop$ sudo docker ps -a
CONTAINER ID   IMAGE          COMMAND         CREATED        STATUS        PORTS          NAMES
6c69fc131cc9   ubuntu        "/bin/bash"     3 minutes ago  Exited (0) 17 seconds ago           exciting_jones
2a78725a77fd   d2c94e258dcb  "/hello"        17 minutes ago Exited (0) 17 minutes ago           pensive_wiles
ahmed@ahmed-HP-EliteBook-840-G5:~/Desktop$ sudo docker stop 6c69fc131cc9
6c69fc131cc9
ahmed@ahmed-HP-EliteBook-840-G5:~/Desktop$ sudo docker rm 6c69fc131cc9
6c69fc131cc9
ahmed@ahmed-HP-EliteBook-840-G5:~/Desktop$ sudo docker ps -a
CONTAINER ID   IMAGE          COMMAND         CREATED        STATUS        PORTS          NAMES
2a78725a77fd   d2c94e258dcb  "/hello"        18 minutes ago Exited (0) 18 minutes ago           pensive_wiles
ahmed@ahmed-HP-EliteBook-840-G5:~/Desktop$ sudo docker images
REPOSITORY    TAG        IMAGE ID        CREATED        SIZE
ubuntu        latest     edbfe74c41f8    4 weeks ago    78.1MB
ahmed@ahmed-HP-EliteBook-840-G5:~/Desktop$ sudo docker run -it ubuntu
root@ff106aa9efa3:/# ls
bin boot dev etc home lib lib64 media mnt opt proc root run sbin srv sys tmp usr var
root@ff106aa9efa3:/#
```

My file hello-docker is not existing because we did not make a commit to save changes.

```
ahmed@ahmed-HP-EliteBook-840-G5:~/Desktop$ sudo docker container prune
WARNING! This will remove all stopped containers.
Are you sure you want to continue? [y/N] y
Deleted Containers:
ff106aa9efa33de811ea2e7111de3f9760fd2b70c68f48a2f8f4f6e1b1a8e124
2a78725a77fd7eae1e772c82cd44accab019aeb60ca29f703f56c47b3b52225c

Total reclaimed space: 3B
ahmed@ahmed-HP-EliteBook-840-G5:~/Desktop$
```

P3:

```
ahmed@ahmed-HP-EliteBook-840-G5:~/Desktop$ sudo docker run --name app-database -e MYSQL_ROOT_PASSWORD=P4sSw0rd0! -d mysql:latest
Unable to find image 'mysql:latest' locally
latest: Pulling from library/mysql
6e839ac3722d: Pull complete
ad912193ad5f: Pull complete
25d13d87fd8d: Pull complete
004d383c75ef: Pull complete
6d9bbc82a0b8: Pull complete
81fec07ea550: Pull complete
83357cb2d3a5: Pull complete
8ffe968b82c1: Pull complete
30dfd9a7ed57: Pull complete
35844ae33cbe: Pull complete
Digest: sha256:86cdf832c81e39a89cfb63c3fde1683c41cc00ef91e67653c9c1df0ba80f454
Status: Downloaded newer image for mysql:latest
912a615230241dc043505d6daabb16b37c1ed6b7e82b308e00c3a33b9391cc04
ahmed@ahmed-HP-EliteBook-840-G5:~/Desktop$ docker ps
permission denied while trying to connect to the Docker daemon socket at unix:///var/run/docker.sock: Get "http://%2Fvar%2Frun%2Fdocker.sock/v1.47/containers/json": dial unix /var/run/docker.sock: connect: permission denied
ahmed@ahmed-HP-EliteBook-840-G5:~/Desktop$ sudo docker ps
```

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS	NAMES
912a61523024	mysql:latest	"docker-entrypoint.s..."	2 minutes ago	Up 2 minutes	3306/tcp, 33060/tcp	app-database

```
ahmed@ahmed-HP-EliteBook-840-G5:~/Desktop$
```

P4:

```
ahmed@ahmed-HP-EliteBook-840-G5:~/Desktop$ sudo docker run --name IMAGE_NAME -d nginx
Unable to find image 'nginx:latest' locally
latest: Pulling from library/nginx
e4fff0779e6d: Pull complete
2a0cb278fd9f: Pull complete
7045d6c32ae2: Pull complete
03de31afb035: Pull complete
0f17be8dcff2: Pull complete
14b7e5e8f394: Pull complete
23fa5a7b99a6: Pull complete
Digest: sha256:447a8665cc1dab95b1ca778e162215839ccbb9189104c79d7ec3a81e14577add
Status: Downloaded newer image for nginx:latest
e4a10f716b415f0640aecaa2d51282fad53d12e78dc960f3872baed5cf30d254
ahmed@ahmed-HP-EliteBook-840-G5:~/Desktop$ echo "hello world" >> index.html
ahmed@ahmed-HP-EliteBook-840-G5:~/Desktop$ ls
index.html
```

```
Activities Terminal 16:00 3 سبت
ahmed@ahmed-HP-EliteBook-840-G5: ~/Desktop
ahmed@ahmed-HP-EliteBook-840-G5:~/Desktop$ sudo docker cp index.html nginx:/usr/share/nginx/html
Successfully copied 2.05KB to nginx:/usr/share/nginx/html
Error response from daemon: No such container: nginx
ahmed@ahmed-HP-EliteBook-840-G5:~/Desktop$ sudo docker exec e4a10f716b41
"docker exec" requires at least 2 arguments.
See 'docker exec --help'.

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

Execute a command in a running container
ahmed@ahmed-HP-EliteBook-840-G5:~/Desktop$ sudo docker exec e4a10f716b41 bash
ahmed@ahmed-HP-EliteBook-840-G5:~/Desktop$ sudo docker exec -it e4a10f716b41 bash
root@e4a10f716b41:/# ls
bin dev docker-entrypoint.sh home lib64 mnt proc run srv tmp var
boot docker-entrypoint.d etc lib media opt root sbin sys usr
root@e4a10f716b41:/# ls usr/share/nginx/html/
50x.html index.html
root@e4a10f716b41:/#
exit
ahmed@ahmed-HP-EliteBook-840-G5:~/Desktop$ docker images
permission denied while trying to connect to the Docker daemon socket at unix:///var/run/docker.sock: Head "http://%2Fvar%2Frun%2Fdocker.sock/_ping": dial unix /var/run/docker.sock: connect: permission denied
ahmed@ahmed-HP-EliteBook-840-G5:~/Desktop$ sudo docker images
REPOSITORY TAG IMAGE ID CREATED SIZE
nginx latest 5ef79149e0ec 2 weeks ago 188MB
ubuntu latest edbfe74c41f8 4 weeks ago 78.1MB
ahmed@ahmed-HP-EliteBook-840-G5:~/Desktop$ docker ps
permission denied while trying to connect to the Docker daemon socket at unix:///var/run/docker.sock: Get "http://%2Fvar%2Frun%2Fdocker.sock/v1.47/containers/json": dial unix /var/run/docker.sock: connect: permission denied
ahmed@ahmed-HP-EliteBook-840-G5:~/Desktop$ sudo docker ps
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
e4a10f716b41 nginx "/docker-entrypoint..." 11 minutes ago Up 11 minutes 80/tcp IMAGE_NAME
ahmed@ahmed-HP-EliteBook-840-G5:~/Desktop$ docker commit e4a10f716b41 my-nginx
permission denied while trying to connect to the Docker daemon socket at unix:///var/run/docker.sock: Post "http://%2Fvar%2Frun%2Fdocker.sock/v1.47/commit?author=&comment=&container=e4a10f716b41&repo=my-nginx&tag=latest": dial unix /var/run/docker.sock: connection: permission denied
ahmed@ahmed-HP-EliteBook-840-G5:~/Desktop$ sudo docker commit e4a10f716b41 my-nginx
sha256:235a1257de52e5b2d48b2f0fe9ecdee3fcac752e1b2e93bf479c0bdac2e87508
ahmed@ahmed-HP-EliteBook-840-G5:~/Desktop$ sudo docker images
REPOSITORY TAG IMAGE ID CREATED SIZE
my-nginx latest 235a1257de52 15 seconds ago 188MB
nginx latest 5ef79149e0ec 2 weeks ago 188MB
ubuntu latest edbfe74c41f8 4 weeks ago 78.1MB
ahmed@ahmed-HP-EliteBook-840-G5:~/Desktop$
```

P5:

The screenshot shows a Visual Studio Code window titled "Dockerfile - Lab - Visual Studio Code". The interface includes a sidebar with "EXPLORER" showing files "app.py" and "Dockerfile", and a "TERMINAL" panel at the bottom.

Dockerfile Content:

```
1 FROM ubuntu
2 RUN apt update && apt install python3 -y
3 COPY app.py .
4 ENTRYPOINT [ "python3", "app.py" ]
```

Terminal Output:

```
ahmed@ahmed-HP-EliteBook-840-G5:/media/ahmed/B626A91C26A8DE9D/ITI/iti-fullstack/Docker/Day-1/Lab$ sudo
docker build . -t v1
[+] Building 1.3s (8/8) FINISHED                                docker:default
=> [internal] load build definition from Dockerfile              0.0s
=> => transferring dockerfile: 186B                             0.0s
=> [internal] load metadata for docker.io/library/ubuntu:latest 1.1s
=> [internal] load .dockerignore                                0.0s
=> => transferring context: 2B                                    0.0s
=> [1/3] FROM docker.io/library/ubuntu:latest@sha256:8a37d68f4f73ebf3d4efafbcf66379bf3728902a8 0.0s
=> [internal] load build context                                0.0s
=> => transferring context: 75B                                    0.0s
=> CACHED [2/3] RUN apt update && apt install python3 -y         0.0s
=> CACHED [3/3] COPY app.py .                                    0.0s
=> exporting to image                                           0.0s
=> => exporting layers                                           0.0s
=> => writing image sha256:612beb6566ccb0415ad24b357784ec3d1b973552b84a3ccc4043478ea21ae54e 0.0s
=> => naming to docker.io/library/v1                             0.0s
ahmed@ahmed-HP-EliteBook-840-G5:/media/ahmed/B626A91C26A8DE9D/ITI/iti-fullstack/Docker/Day-1/Lab$ sudo
docker images
REPOSITORY TAG IMAGE ID CREATED SIZE
v1 latest 612beb6566cc 3 minutes ago 165MB
ahmed@ahmed-HP-EliteBook-840-G5:/media/ahmed/B626A91C26A8DE9D/ITI/iti-fullstack/Docker/Day-1/Lab$ sudo
docker run v1
hello world !
ahmed@ahmed-HP-EliteBook-840-G5:/media/ahmed/B626A91C26A8DE9D/ITI/iti-fullstack/Docker/Day-1/Lab$
ahmed@ahmed-HP-EliteBook-840-G5:/media/ahmed/B626A91C26A8DE9D/ITI/iti-fullstack/Docker/Day-1/Lab$ sudo
docker tag v1 ahmednabil14/lab-1:first
ahmed@ahmed-HP-EliteBook-840-G5:/media/ahmed/B626A91C26A8DE9D/ITI/iti-fullstack/Docker/Day-1/Lab$ sudo
docker images
REPOSITORY TAG IMAGE ID CREATED SIZE
v1 latest 612beb6566cc 11 minutes ago 165MB
ahmednabil14/lab-1 first 612beb6566cc 11 minutes ago 165MB
ahmed@ahmed-HP-EliteBook-840-G5:/media/ahmed/B626A91C26A8DE9D/ITI/iti-fullstack/Docker/Day-1/Lab$ sudo
docker login

USING WEB BASED LOGIN
To sign in with credentials on the command line, use 'docker login -u <username>'

Your one-time device confirmation code is: CXGW-QHFH
Press ENTER to open your browser or submit your device code here: https://login.docker.com/activate

Waiting for authentication in the browser...
WARNING! Your password will be stored unencrypted in /root/.docker/config.json.
Configure a credential helper to remove this warning. See
https://docs.docker.com/engine/reference/commandline/login/#credential-stores

Login Succeeded
ahmed@ahmed-HP-EliteBook-840-G5:/media/ahmed/B626A91C26A8DE9D/ITI/iti-fullstack/Docker/Day-1/Lab$ sudo
docker push ahmednabil14/lab-1:first
The push refers to repository [docker.io/ahmednabil14/lab-1]
80096ee450c3: Pushed
ac01274077bb: Pushed
f36fd4bb7334: Mounted from library/ubuntu
first: digest: sha256:dc37d8686f3ab0b23a176918b44b85d32640f6724825811993bc327d3163deac size: 948
ahmed@ahmed-HP-EliteBook-840-G5:/media/ahmed/B626A91C26A8DE9D/ITI/iti-fullstack/Docker/Day-1/Lab$
```

ahmednabil14/lab-1

Updated 1 minute ago

This repository does not have a description INCOMPLETE

This repository does not have a category INCOMPLETE

Docker commands

To push a new tag to this repository:

```
docker push ahmednabil14/lab-1:tagname
```

Public View

Tags

This repository contains 1 tag(s).

Tag	OS	Type	Pulled	Pushed
first		Image	a few seconds ago	a minute ago

[See all](#)

Automated Builds

Manually pushing images to Hub? Connect your account to GitHub or Bitbucket to automatically build and tag new images whenever your code is updated, so you can focus your time on creating.

Available with Pro, Team and Business subscriptions. [Read more about automated builds](#) ↗.

Upgrade