

Name: Marina Samir Atallah Abdelmalak

Track: full stack using php

Problem 1:

-Run the container hello-world

```
marina@marina-HP-Laptop-15-da1xxx: ~  
marina@marina-HP-Laptop-15-da1xxx: ~  
marina@marina-HP-Laptop-15-da1xxx:~$ docker run hello-world  
Unable to find image 'hello-world:latest' locally  
latest: Pulling from library/hello-world  
c1ec31eb5944: Pull complete  
Digest: sha256:1408fec50309afee38f3535383f5b09419e6dc0925bc69891e79d84cc4cdcec6  
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

```
marina@marina-HP-Laptop-15-da1xxx:~$ docker ps -a  
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS              PORTS          NAMES  
af5ee77ff762   hello-world    "/hello"                 17 seconds ago Exited (0) 14 seconds ago          boring_lovelace
```

-Start the stopped container

```
marina@marina-HP-Laptop-15-da1xxx:~$ docker start af5ee77ff762  
af5ee77ff762  
marina@marina-HP-Laptop-15-da1xxx:~$ docker stop af5ee77ff762  
af5ee77ff762
```

-Remove the container

```
marina@marina-HP-Laptop-15-da1xxx:~$ docker rm af5ee77ff762  
af5ee77ff762
```

-Remove the image

```
marina@marina-HP-Laptop-15-da1xxx:~$ docker rmi hello-world  
Untagged: hello-world:latest  
Untagged: hello-world@sha256:1408fec50309afee38f3535383f5b09419e6dc0925bc69891e79d84cc4cdcec6  
Deleted: sha256:d2c94e258dcb3c5ac2798d32e1249e42ef01cba4841c2234249495f87264ac5a  
Deleted: sha256:ac28800ec8bb38d5c35b49d45a6ac4777544941199075dff8c4eb63e093aa81e  
marina@marina-HP-Laptop-15-da1xxx:~$
```

Problem 2:

-Run container centos or ubuntu in an interactive mode

```
marina@marina-HP-Laptop-15-da1xxx:~$ docker run -it ubuntu
Unable to find image 'ubuntu:latest' locally
latest: Pulling from library/ubuntu
9c704ecd0c69: Pull complete
Digest: sha256:2e863c44b718727c860746568e1d54afd13b2fa71b160f5cd9058fc436217b30
Status: Downloaded newer image for ubuntu:latest
```

-Run the following command in the container “echo docker”

```
root@32abf6d9ed4e:/# echo docker
docker
```

-Open a bash shell in the container and touch a file named hello-docker

```
root@32abf6d9ed4e:/# touch hello-docker
root@32abf6d9ed4e:/# exit
exit
```

-Stop the container and remove it. Write your comment about the file hello-docker

```
root@32abf6d9ed4e:/# exit
exit
marina@marina-HP-Laptop-15-da1xxx:~$ docker ps -a
CONTAINER ID   IMAGE     COMMAND   CREATED   STATUS    PORTS   NAMES
32abf6d9ed4e   ubuntu   "/bin/bash"   55 seconds ago   Exited (0) 11 seconds ago   wonderful_buck
marina@marina-HP-Laptop-15-da1xxx:~$ docker rm 32abf6d9ed4e
32abf6d9ed4e
```

Comment: The file ‘hello-docker’ you created inside the container will not persist after the container is removed.

-Remove all stopped containers

```
marina@marina-HP-Laptop-15-da1xxx:~$ docker container prune
WARNING! This will remove all stopped containers.
Are you sure you want to continue? [y/N] y
Total reclaimed space: 0B
marina@marina-HP-Laptop-15-da1xxx:~$
```

Problem 3:

Deploy a MySQL database called app-database. Use the mysql latest image, and use the -e flag to set MYSQL_ROOT_PASSWORD to P4sSw0rd0!. The container should run in the background.

```
marina@marina-HP-Laptop-15-da1xxx:~$ docker pull mysql:latest
latest: Pulling from library/mysql
d9a40b27c30f: Pull complete
fe4b01031aab: Pull complete
aa72c34c4347: Pull complete
473ade985fa2: Pull complete
cc168a9482de: Pull complete
3ca3786815dd: Pull complete
3e3fac98ea83: Pull complete
10e5505c3ae4: Pull complete
a79ade39aab9: Pull complete
ae34d51c6da2: Pull complete
Digest: sha256:d8df069848906979fd7511db00dc22efeb0a33a990d87c3c6d3fcdafd6fc6123
Status: Downloaded newer image for mysql:latest
docker.io/library/mysql:latest
marina@marina-HP-Laptop-15-da1xxx:~$ docker run -d \
> --name app-database \
> -e MYSQL_ROOT_PASSWORD=P4sSw0rd0! \
> mysql:latest
6b998d5f11af029d1379a56bb45c38f8c7a4447f96a7e5fbb879c5ace9a83e6e
marina@marina-HP-Laptop-15-da1xxx:~$ docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS                    NAMES
6b998d5f11af   mysql:latest   "docker-entrypoint.s..." 20 seconds ago Up 18 seconds 3306/tcp, 33060/tcp      app-database
marina@marina-HP-Laptop-15-da1xxx:~$
```

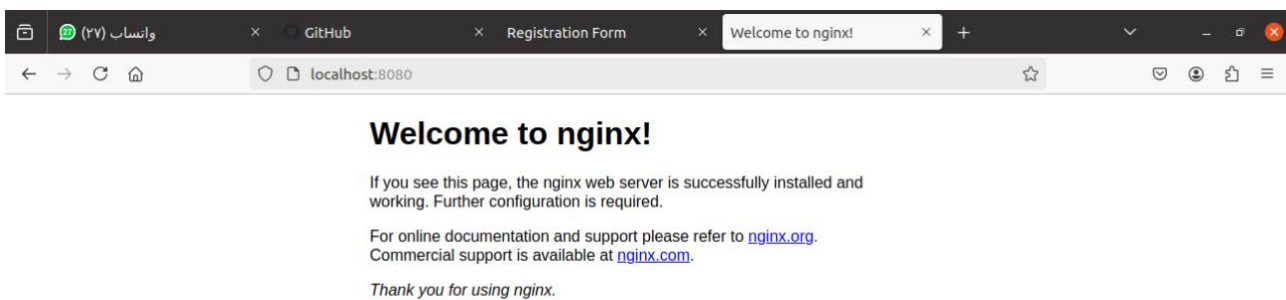
Problem 4:

Run the image Nginx

```
marina@marina-HP-Laptop-15-da1xxx:~$ docker run -d --name my-nginx -p 8080:80 nginx
Unable to find image 'nginx:latest' locally
latest: Pulling from library/nginx
efc2b5ad9eec: Pull complete
8fe9a55eb80f: Pull complete
045037a63be8: Pull complete
7111b42b4bfa: Pull complete
3dfc528a4df9: Pull complete
9e891cbb453b: Pull complete
0f11e17345c5: Pull complete
Digest: sha256:6af79ae5de407283dcea8b00d5c37ace95441fd58a8b1d2aa1ed93f5511bb18c
Status: Downloaded newer image for nginx:latest
dee88eb6a27c22f1e5bc8ced7560c4b474b790ed49c906a2b9d90385a53ce763
marina@marina-HP-Laptop-15-da1xxx:~$ docker ps --format '{{.Name}}\n{{.Image}}\n{{.Ports}}'
```

Add html static files to the container and make sure they are accessible

```
marina@marina-HP-Laptop-15-da1xxx:~$ docker cp /home/marina/html-files/. my-nginx:/usr/share/nginx/html/
Successfully copied 1.54kB to my-nginx:/usr/share/nginx/html/
marina@marina-HP-Laptop-15-da1xxx:~$ docker ps --format '{{.Name}}\n{{.Image}}\n{{.Ports}}'
```



Commit the container with image name IMAGE_NAME

```
marina@marina-HP-Laptop-15-da1xxx:~$ docker commit my-nginx IMAGE_NAME
invalid reference format: repository name (library/IMAGE_NAME) must be lowercase
marina@marina-HP-Laptop-15-da1xxx:~$ docker commit my-nginx my-custom-nginx
sha256:e5b8a8dc25db2aa0841ed12f06ed9997f719608eca304ce04424dcae6b11a1aa
marina@marina-HP-Laptop-15-da1xxx:~$ docker commit my-nginx image-name
sha256:1fe2fc3cd64836b168e652ec851e87231ca0334b00729cce9da67dfa6de3c55d
marina@marina-HP-Laptop-15-da1xxx:~$
```