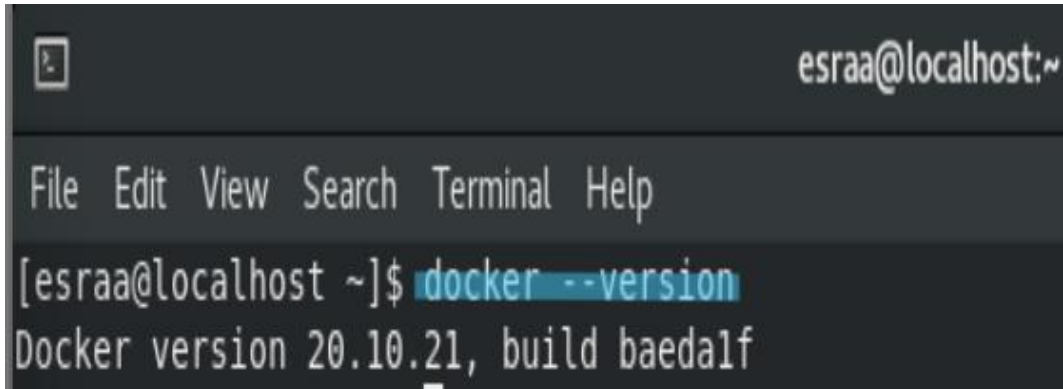


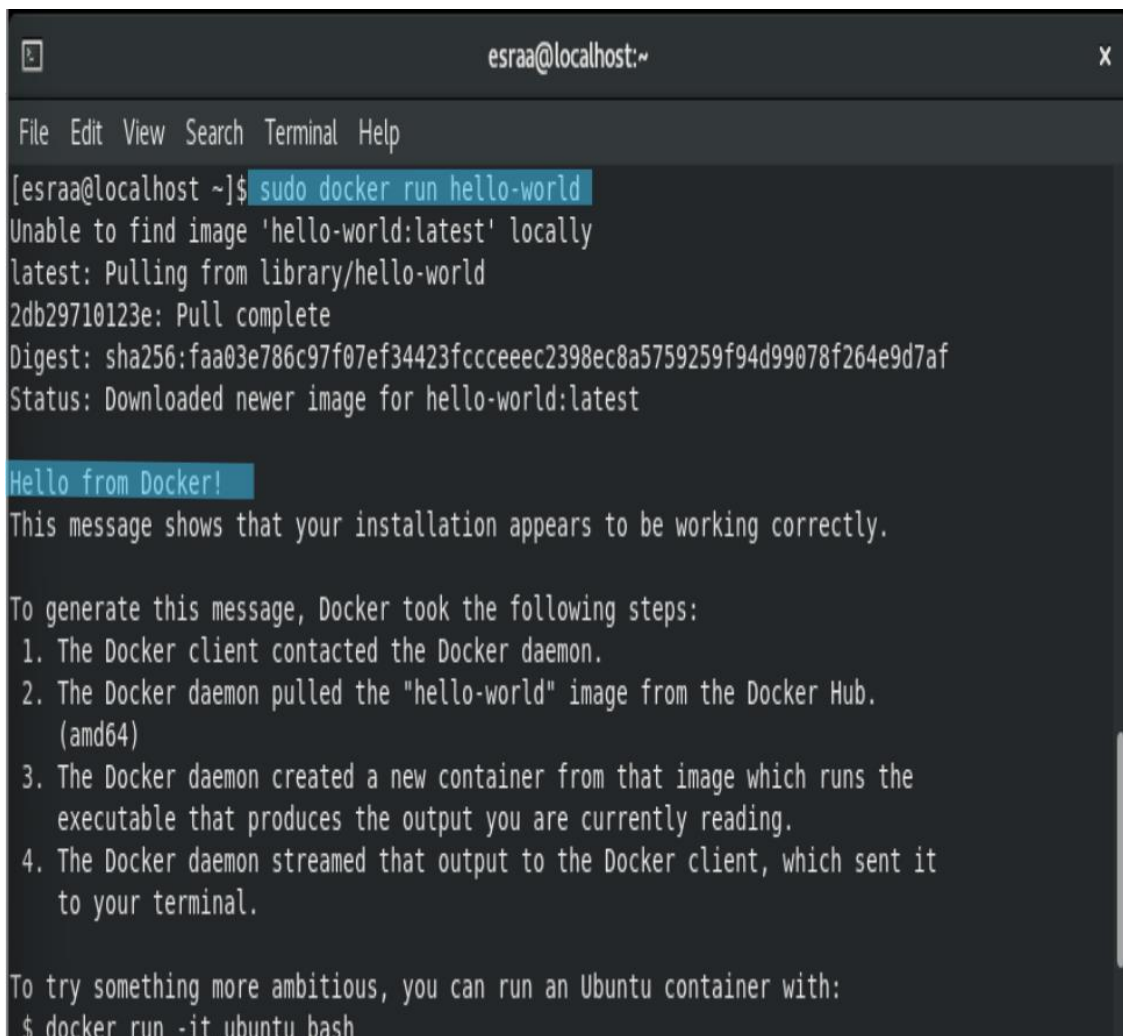
# Lab 1

- 1- check the docker version installed

A terminal window titled 'esraa@localhost:~' with a menu bar (File, Edit, View, Search, Terminal, Help). The command 'docker --version' is entered and highlighted in blue. The output is 'Docker version 20.10.21, build baeda1f'.

```
esraa@localhost:~  
File Edit View Search Terminal Help  
[esraa@localhost ~]$ docker --version  
Docker version 20.10.21, build baeda1f
```

- 2- run docker container for hello-world

A terminal window titled 'esraa@localhost:~' with a menu bar (File, Edit, View, Search, Terminal, Help). The command 'sudo docker run hello-world' is entered and highlighted in blue. The output shows the process of pulling the 'hello-world:latest' image from Docker Hub and running it, resulting in 'Hello from Docker!'. It also includes a detailed explanation of the steps Docker took to generate this message.

```
esraa@localhost:~  
File Edit View Search Terminal Help  
[esraa@localhost ~]$ sudo docker run hello-world  
Unable to find image 'hello-world:latest' locally  
latest: Pulling from library/hello-world  
2db29710123e: Pull complete  
Digest: sha256:faa03e786c97f07ef34423fccceec2398ec8a5759259f94d99078f264e9d7af  
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
```

### 3- run docker container redis in detached mode

```
esraa@localhost:~  
File Edit View Search Terminal Help  
[esraa@localhost ~]$ sudo docker run -d redis  
Unable to find image 'redis:latest' locally  
latest: Pulling from library/redis  
025c56f98b67: Pull complete  
  
060e65aed679: Pull complete  
  
b95291e865b7: Pull complete  
  
7b879d654837: Pull complete  
  
4538783c407f: Pull complete  
  
ec5078f7c4e4: Pull complete  
  
Digest: sha256:dfeb5451fce377ab47c5bb6b6826592eea534279354bbfc3890c0b5e9b57c763  
Status: Downloaded newer image for redis:latest  
db7759de663bcd002c188e7300d7d8a7227536c98be2b55d28b154ccee507914  
[esraa@localhost ~]$
```

### 4- try to stop the running redis container

### 4- check the present container o the host

```
esraa@localhost:~  
File Edit View Search Terminal Help  
[esraa@localhost ~]$  
[esraa@localhost ~]$ sudo docker ps  
CONTAINER ID   IMAGE     COMMAND                  CREATED        STATUS        PORTS        NAMES  
db7759de663b   redis     "docker-entrypoint.s..." About a minute ago Up About a minute 6379/tcp     suspicious_hermann  
[esraa@localhost ~]$ sudo docker stop db7759de663b  
db7759de663b  
[esraa@localhost ~]$ sudo docker ps  
CONTAINER ID   IMAGE     COMMAND                  CREATED        STATUS        PORTS        NAMES  
[esraa@localhost ~]$
```

5- check the ID of the redis container

```
esraa@localhost:~  
File Edit View Search Terminal Help  
[esraa@localhost ~]$ sudo docker ps -a  
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS  
PORTS          NAMES  
db7759de663b   redis         "docker-entrypoint.s..." 6 minutes ago  Exited (0) 4 minutes ago  
667c8839fd75   hello-world   "/hello"                 10 minutes ago Exited (0) 10 minutes ago  
jolly_dubinsky  
[esraa@localhost ~]$ sudo docker ps -aqf "name=^C  
[esraa@localhost ~]$ sudo docker ps -aqf "name=suspicious_hermann"  
db7759de663b  
[esraa@localhost ~]$
```

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

```
esraa@localhost:~  
File Edit View Search Terminal Help  
[esraa@localhost ~]$ sudo docker run nginx:alpine  
Unable to find image 'nginx:alpine' locally  
alpine: Pulling from library/nginx  
ca7dd9ec2225: Pull complete  
76a48b0f5898: Pull complete  
2f12a0e7c01d: Pull complete  
1a7b9b9bbef6: Pull complete  
b704883c57af: Pull complete  
4342b1ab302e: Pull complete  
Digest: sha256:455c39afebd4d98ef26dd70284aa86e6810b0485af5f4f222b19b89758cabf1e  
Status: Downloaded newer image for nginx:alpine  
/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-tune-worker-processes.sh
```

```
esraa@localhost:~  
File Edit View Search Terminal Help  
[esraa@localhost ~]$ sudo docker ps -a  
[sudo] password for esraa:  
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS  
PORTS          NAMES  
83b952db12a0   nginx:alpine   "/docker-entrypoint.s..." 5 minutes ago  Exited (0) 2 minutes ago  
exciting_swartz  
db7759de663b   redis         "docker-entrypoint.s..." 15 minutes ago Exited (0) 12 minutes ago  
suspicious_hermann  
667c8839fd75   hello-world   "/hello"                 19 minutes ago Exited (0) 19 minutes ago  
jolly_dubinsky  
[esraa@localhost ~]$ sudo docker rm 83b952db12a0  
83b952db12a0  
[esraa@localhost ~]$ docker images  
Got permission denied while trying to connect to the Docker daemon socket at unix:///var/run/docker.sock: Get "http://%2Fvar%2Frun%2Fdocker.sock/v1.24/images/json": dial unix /var/run/docker.sock: connect: permission denied  
[esraa@localhost ~]$ sudo docker images  
REPOSITORY    TAG       IMAGE ID       CREATED        SIZE  
redis         latest   3e12e2ceb68f   14 hours ago   117MB
```

```
esraa@localhost:~  
File Edit View Search Terminal Help  
redis      latest  3e12e2ceb68f  14 hours ago  117MB  
alpine     latest  49176f190c7e  13 days ago   7.05MB  
nginx      alpine  19dd4d73108a  3 weeks ago   23.5MB  
hello-world latest  feb5d9fea6a5  14 months ago 13.3kB  
[esraa@localhost ~]$ docker rmi 19dd4d73108a  
Got permission denied while trying to connect to the Docker daemon socket at unix:///var/run/  
/docker.sock: Delete "http://%2Fvar%2Frun%2Fdocker.sock/v1.24/images/19dd4d73108a": dial uni  
x /var/run/docker.sock: connect: permission denied  
[esraa@localhost ~]$ sudo docker rmi 19dd4d73108a  
Untagged: nginx:alpine  
Untagged: nginx@sha256:455c39afebd4d98ef26dd70284aa86e6810b0485af5f4f222b19b89758cabf1e  
Deleted: sha256:19dd4d73108a1feefc29d299f3727467ac02486c83474fc3979e4a7637291fe6  
Deleted: sha256:f4ce01b14251afcef8b6445b0c1c7cfa1ae95a5fa043e70afcdfb301f316b1a1  
Deleted: sha256:16ce77ead235d1d248180cfff6ed249f93ecabdc2412415b9b1e9d36efbf8e7  
Deleted: sha256:1c2a7b8fa3815d497784080cf5d92231a65c01ebdc4e347b7a66e8cc342885f7  
Deleted: sha256:38c72402708547d70a11471edb18fafef76c55c8bebb22dc5a8a3636828ddea3  
Deleted: sha256:6cd2aff1d9b800dfdf5b7cc4bd4f2f175e8e24c2a8e97eca5177601d40d34a57  
Deleted: sha256:e5e13b0c77cbb769548077189c3da2f0a764ceca06af49d8d558e759f5c232bd
```

## 7- delete the image redis

```
root@localhost:/home/esraa  
File Edit View Search Terminal Help  
[root@10 esraa]# docker ps -a  
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS  
PORTS          NAMES  
db7759de663b   redis         "docker-entrypoint.s..." 23 minutes ago Exited (0) 20 minutes  
ago           suspicious_hermann  
667c8839fd75   hello-world   "/hello"                 26 minutes ago Exited (0) 26 minutes  
ago           jolly_dubinsky  
[root@10 esraa]# docker rm db7759de663b  
db7759de663b  
[root@10 esraa]# docker images  
REPOSITORY    TAG       IMAGE ID       CREATED        SIZE  
redis         latest   3e12e2ceb68f   14 hours ago   117MB  
alpine        latest   49176f190c7e   13 days ago   7.05MB  
hello-world   latest   feb5d9fea6a5   14 months ago 13.3kB  
[root@10 esraa]# docker rmi 3e12e2ceb68f  
Untagged: redis:latest  
Untagged: redis@sha256:dfeb5451fce377ab47c5bb6b6826592eea534279354bbfc3890c0b5e9b57c763  
Deleted: sha256:3e12e2ceb68fcf0de4ebfe5678b2dcc34642c0f994b1f6d82154ca498aebc2e6  
Deleted: sha256:46d6a1cb3c4b483bfca86a3fb1f14de23ba34dbaa74cd029e43276615d285216  
Deleted: sha256:c5d0b1902e56065f0d800dad80c3ddb308a87a2af0089a84da80cd7ca8185eaa  
Deleted: sha256:1c255e5dbdd559687657a2dc242a733dce581435d3a22efa6a76a0db3d45f1de  
Deleted: sha256:b30f0c91f093b50c04c0460b7d4b7f3674c24f4426ff72abb7f8e320bb2ab04c
```

## 8- pull image from nginx:1.14-alpine

Run an instance of the ubuntu image to run the sleep 1000 command at startup. Exec into the container and touch a file called test-file.

```
root@localhost:/home/esraa
File Edit View Search Terminal Help
[root@10 esraa]# 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
[root@10 esraa]# docker run ubuntu sleep 1000
Unable to find image 'ubuntu:latest' locally
latest: Pulling from library/ubuntu
e96e057aae67: Pull complete
Digest: sha256:4b1d0c4a2d2aaf63b37111f34eb9fa89fa1bf53dd6e4ca954d47caebca4005c2
Status: Downloaded newer image for ubuntu:latest

root@localhost:/home/esraa
File Edit View Search Terminal Help
[root@10 esraa]# docker ps
CONTAINER ID   IMAGE     COMMAND                  CREATED        STATUS        PORTS   NAMES
61fc370e775b   ubuntu    "sleep 1000"            6 minutes ago Up 6 minutes             charming_br
attain
[root@10 esraa]# docker exec -it 61fc370e775b /bin/bash
root@61fc370e775b:/# touch FileTest
root@61fc370e775b:/# ls
FileTest boot etc lib lib64 media opt root sbin sys usr
bin      dev home lib32 libx32 mnt  proc run  srv  tmp  var
root@61fc370e775b:/# exit
exit
[root@10 esraa]#
```



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

```
root@localhost:/home/esraa

File Edit View Search Terminal Help

[root@10 esraa]# docker run --name web nginx:alpine
Unable to find image 'nginx:alpine' locally
alpine: Pulling from library/nginx
ca7dd9ec2225: Pull complete
76a48b0f5898: Pull complete
2f12a0e7c01d: Pull complete
1a7b9b9bbef6: Pull complete
b704883c57af: Pull complete
4342b1ab302e: Pull complete
Digest: sha256:455c39afebd4d98ef26dd70284aa86e6810b0485af5f4f222b19b89758cabf1e
Status: Downloaded newer image for nginx:alpine
/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-tune-worker-processes.sh
/docker-entrypoint.sh: Configuration complete; ready for start up

root@localhost:/home/esraa

File Edit View Search Terminal Help

[root@10 esraa]# docker ps -a
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS
PORTS         NAMES
16edb735fb7d   nginx:alpine   "/docker-entrypoint..." 2 minutes ago  Exited (0) 14 seconds ago
61fc370e775b   ubuntu        "sleep 1000"             13 minutes ago Up 13 minutes
667c8839fd75   hello-world    "/hello"                  46 minutes ago Exited (0) 46 minutes ago
es ago        jolly_dubinsky
```

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS
16edb735fb7d	nginx:alpine	"/docker-entrypoint..."	2 minutes ago	Exited (0) 14 seconds ago
61fc370e775b	ubuntu	"sleep 1000"	13 minutes ago	Up 13 minutes
667c8839fd75	hello-world	"/hello"	46 minutes ago	Exited (0) 46 minutes ago

```
[root@10 esraa]#
```

## 10- delete all the images from the host

```
root@localhost:/home/esraa
File Edit View Search Terminal Help
[root@10 esraa]# docker images
REPOSITORY    TAG       IMAGE ID       CREATED        SIZE
alpine        latest    49176f190c7e   2 weeks ago   7.05MB
nginx        alpine    19dd4d73108a   3 weeks ago   23.5MB
ubuntu        latest    a8780b506fa4   4 weeks ago   77.8MB
hello-world    latest    feb5d9fea6a5   14 months ago 13.3kB
nginx        1.14-alpine 8a2fb25a19f5   3 years ago   16MB
[root@10 esraa]# docker rm -f $(docker ps -a -q)
16edb735fb7d
61fc370e775b
667c8839fd75
[root@10 esraa]# docker system prune -a
WARNING! This will remove:
- all stopped containers
- all networks not used by at least one container
```

```
root@localhost:/home/esraa
File Edit View Search Terminal Help
[root@10 esraa]# docker system prune -a
WARNING! This will remove:
- all stopped containers
- all networks not used by at least one container
- all images without at least one container associated to them
- all build cache

Are you sure you want to continue? [y/N] y
Deleted Images:
untagged: hello-world:latest
untagged: hello-world@sha256:faa03e786c97f07ef34423fccceec2398ec8a5759259f94d99078f264e9d7af
deleted: sha256:feb5d9fea6a5e9606aa995e879d862b825965ba48de054caab5ef356dc6b3412
deleted: sha256:e07ee1baac5fae6a26f30cabfe54a36d3402f96afda318fe0a96cec4ca393359
untagged: nginx:1.14-alpine
```

```
root@localhost:/home/esraa
File Edit View Search Terminal Help
[root@10 esraa]# docker ps -a
CONTAINER ID   IMAGE     COMMAND   CREATED   STATUS    PORTS   NAMES
[root@10 esraa]# docker images
REPOSITORY    TAG       IMAGE ID       CREATED        SIZE
[root@10 esraa]#
```

11- Run an instance of nginx:alpine with a name nginx and map port 8080 on the container to 38282 on the host.

```
root@localhost:/home/esraa
File Edit View Search Terminal Help
[root@10 esraa]# docker run --name nginx -p 38282:8080 nginx:alpine
Unable to find image 'nginx:alpine' locally
alpine: Pulling from library/nginx
ca7dd9ec2225: Pull complete
76a48b0f5898: Pull complete
2f12a0e7c01d: Pull complete
1a7b9b9bbef6: Pull complete
b704883c57af: Pull complete
4342b1ab302e: Pull complete
Digest: sha256:455c39afebd4d98ef26dd70284aa86e6810b0485af5f4f222b19b89758cabf1e
Status: Downloaded newer image for nginx:alpine
/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-tune-worker-processes.sh
/docker-entrypoint.sh: Configuration complete; ready for start up
```

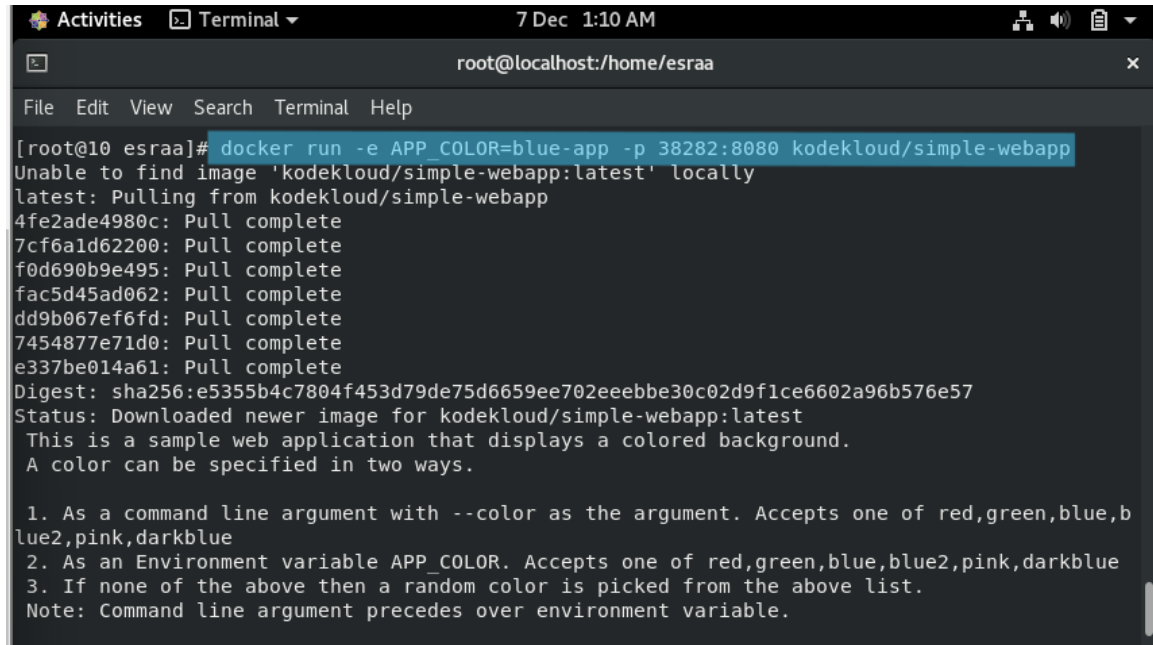
12- create ubuntu image and check the size of it

```
Activities Terminal 7 Dec 1:07 AM
root@localhost:/home/esraa
File Edit View Search Terminal Help
[root@10 esraa]# docker run ubuntu df -h
Unable to find image 'ubuntu:latest' locally
latest: Pulling from library/ubuntu
e96e057aae67: Pull complete
Digest: sha256:4b1d0c4a2d2aaf63b37111f34eb9fa89fa1bf53dd6e4ca954d47caebca4005c2
Status: Downloaded newer image for ubuntu:latest
Filesystem      Size  Used Avail Use% Mounted on
overlay          17G   5.7G   12G   34% /
tmpfs            64M    0    64M    0% /dev
tmpfs            3.6G    0   3.6G    0% /sys/fs/cgroup
shm              64M    0    64M    0% /dev/shm
/dev/mapper/cs-root 17G   5.7G   12G   34% /etc/hosts
tmpfs            3.6G    0   3.6G    0% /proc/asound
tmpfs            3.6G    0   3.6G    0% /proc/acpi
tmpfs            3.6G    0   3.6G    0% /proc/scsi
tmpfs            3.6G    0   3.6G    0% /sys/firmware
[root@10 esraa]#
```



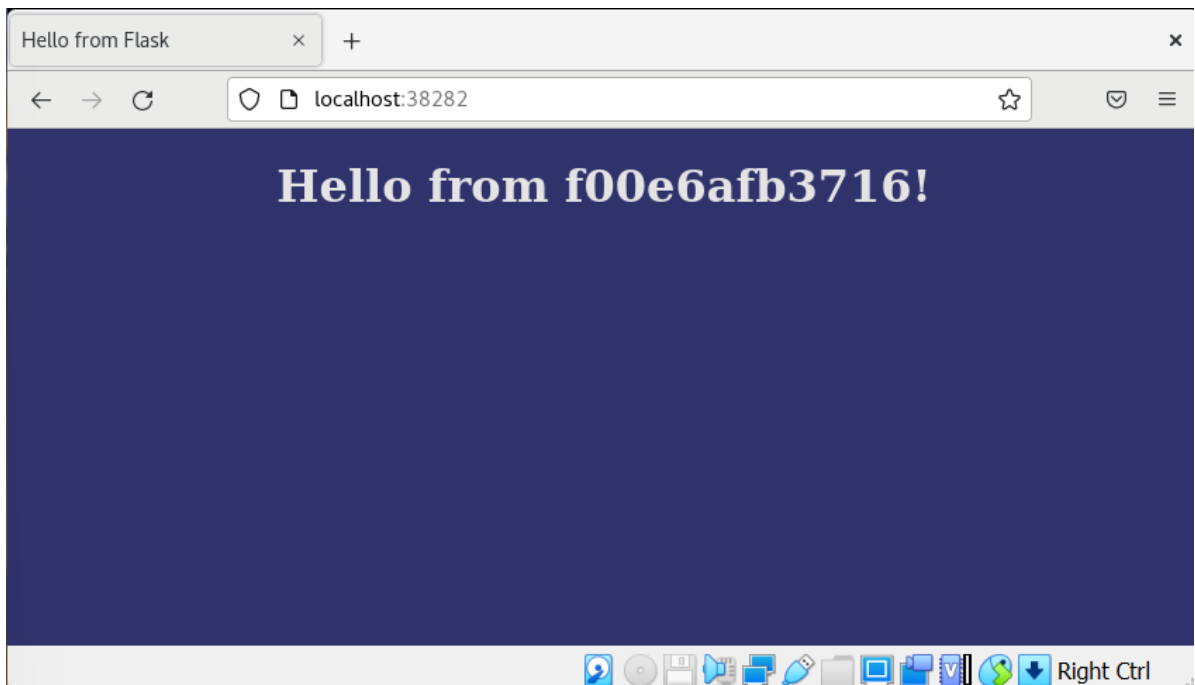
13- Run a container named blue-app using image kodekloud/simple webapp and set the environment variable APP\_COLOR to blue. Make the

application available on port 38282 on the host. The application listens on port 8080



```
Activities Terminal 7 Dec 1:10 AM
root@localhost:/home/esraa
File Edit View Search Terminal Help
[root@10 esraa]# docker run -e APP_COLOR=blue-app -p 38282:8080 kodekloud/simple-webapp
Unable to find image 'kodekloud/simple-webapp:latest' locally
latest: Pulling from kodekloud/simple-webapp
4fe2ade4980c: Pull complete
7cf6a1d62200: Pull complete
f0d690b9e495: Pull complete
fac5d45ad062: Pull complete
dd9b067ef6fd: Pull complete
7454877e71d0: Pull complete
e337be014a61: Pull complete
Digest: sha256:e5355b4c7804f453d79de75d6659ee702eeebbe30c02d9f1ce6602a96b576e57
Status: Downloaded newer image for kodekloud/simple-webapp:latest
This is a sample web application that displays a colored background.
A color can be specified in two ways.

1. As a command line argument with --color as the argument. Accepts one of red,green,blue,blue2,pink,darkblue
2. As an Environment variable APP_COLOR. Accepts one of red,green,blue,blue2,pink,darkblue
3. If none of the above then a random color is picked from the above list.
Note: Command line argument precedes over environment variable.
```



14- Deploy a mysql database using the mysql image and name it mysql\_db Set the database password to use db\_pass123 then inspect it to check the value

```
root@localhost:/home/esraa
File Edit View Search Terminal Help
[root@10 esraa]# docker run -d -e MYSQL_ROOT_PASSWORD=db_pass123 --name mysql-db mysql
Unable to find image 'mysql:latest' locally
latest: Pulling from library/mysql
996f1bba14d6: Pull complete
a4355e2c82df: Pull complete
a9d7aedb7ad7: Pull complete
24ee75d8667d: Pull complete
da8c1ec8ff26: Pull complete
ea8748759282: Pull complete
e0859d5816ee: Pull complete
26e144df551b: Pull complete
9878df6a0cc3: Pull complete
b43b187428e3: Pull complete
202e454031c6: Pull complete
Digest: sha256:66efaaa129f12b1c5871508bc8481a9b28c5b388d74ac5d2a6fc314359bbef91
Status: Downloaded newer image for mysql:latest
6467858b14464e0e695b0a8c4f54d67d59acd5663ba84266eb3699847404ffd0

root@localhost:/home/esraa
File Edit View Search Terminal Help
[root@10 esraa]# docker images
REPOSITORY          TAG             IMAGE ID        CREATED         SIZE
mysql                latest          a3a2968869cf   7 days ago     538MB
nginx                alpine          19dd4d73108a   3 weeks ago    23.5MB
ubuntu               latest          a8780b506fa4   4 weeks ago    77.8MB
kodekloud/simple-webapp latest          c6e3cd9aae36   4 years ago    84.8MB
[root@10 esraa]# docker ps -a
CONTAINER ID        IMAGE               COMMAND                  CREATED            STATUS              PORTS                               NAMES
6467858b1446        mysql              "docker-entrypoint.s..." 10 minutes ago    Up 10 minutes      3306/tcp, 33060/tcp              mysql-db
0053f9a31b52d      kodekloud/simple-webapp "python app.py"          16 minutes ago    Create             blue-app
ef70798bd0ccd      kodekloud/simple-webapp "python app.py"          25 minutes ago    Create             elastic_williams
f00e6afb3716       kodekloud/simple-webapp "python app.py"          27 minutes ago    Up 27 minutes      0.0.0.0:38282->8080/tcp, :::38282->8080/tcp wizardly_pasteur
13eaa8242943       kodekloud/simple-webapp "python app.py"          About an hour ago  Exited             eloquent_mahavira
(1) About an hour ago
8d7402ce57af       ubuntu             "df -h"                  About an hour ago  Exited             reverent_galileo
(0) About an hour ago
2f408f7bd4ee       nginx:alpine       "/docker-entrypoint..." About an hour ago  Exited
```

15- pull the code from [https://github.com/sabreensalama/simple flask-app/tree/main](https://github.com/sabreensalama/simple_flask-app/tree/main) and create a docker file for this flask app

```
root@localhost:/home/esraa/simple-flask-app x
File Edit View Search Terminal Help
[root@10 simple-flask-app]# vim Dockerfile
[root@10 simple-flask-app]# docker build -t simple-flask-app .
Sending build context to Docker daemon 50.69kB
Step 1/7 : FROM python:3-alpine
--> 22cacc07382
Step 2/7 : WORKDIR /app
--> Using cache
--> 164ad77fc49c
Step 3/7 : COPY . /app
--> 36fd0dc0f741
Step 4/7 : RUN pip install --upgrade pip && pip install -r requirements.txt
--> Running in 4bfb903f39f7
Requirement already satisfied: pip in /usr/local/lib/python3.11/site-packages (2.3)
Collecting pip
  Downloading pip-22.3.1-py3-none-any.whl (2.1 MB)
  2.1/2.1 MB 520.3 kB/s eta 0:00:00
Installing collected packages: pip
  Attempting uninstall: pip
    Found existing installation: pip 22.3
    Uninstalling pip-22.3:

```

```
root@localhost:/home/esraa/simple-flask-app x
File Edit View Search Terminal Help
[root@10 simple-flask-app]# docker run -it -p 5000:5000 -d simple-flask-app
ff5ad1eeef0bab23586d74aa8a75e7c418a2299bd1d3d9d2971b5faef95e4fe8
```

```

root@localhost:/home/esraa/simple-flask-app
File Edit View Search Terminal Help
FROM python:3-alpine

WORKDIR /app

COPY . /app

RUN pip install --upgrade pip && pip install -r requirements.txt

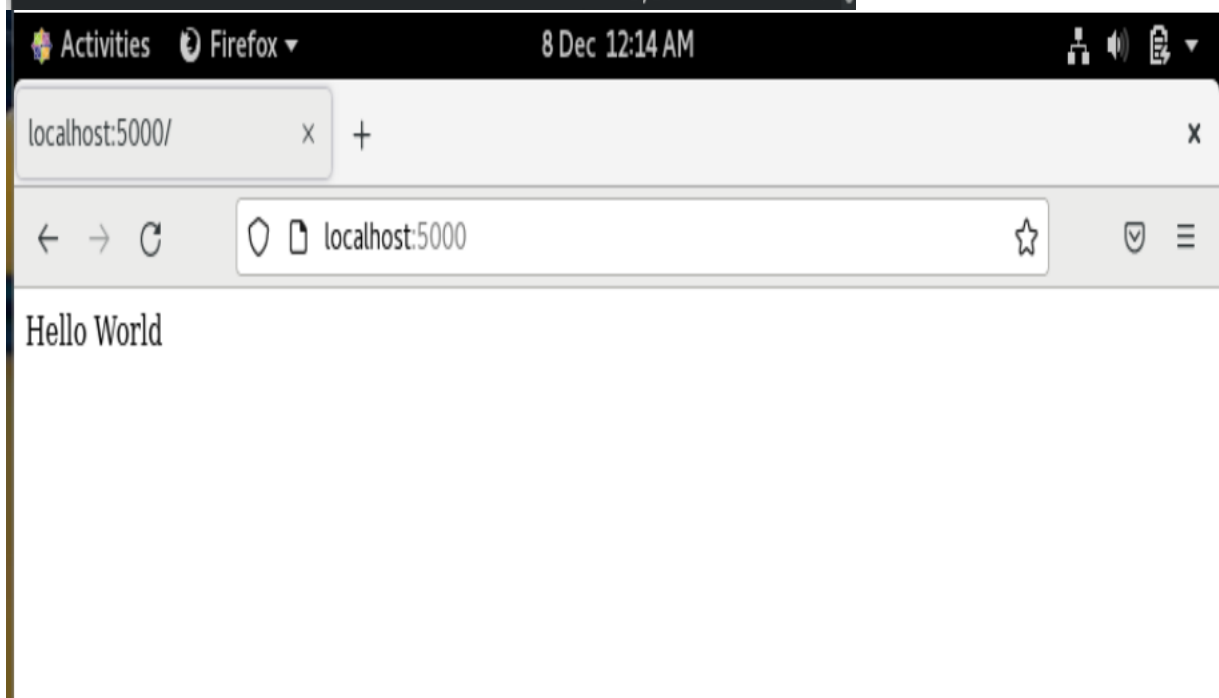
EXPOSE 5000

ENTRYPOINT [ "python3" ]

CMD [ "app.py" ]

~
~
~
~
~
~
~
~
~
~
1,20 All

```



16- Create a volume called mysql\_data, Run a mysql container again, but this time map a volume to the container so that the data stored by the container is stored at /opt/data on the host.

Use the same name : mysql-db and same password: db\_pass123 as before. Mysql stores data at /var/lib/mysql inside the container.

```
[root@10 esraa]# docker run -v/opt/data:/var/lib/mysql -d --name mysql-db -e MYSQL_ROOT_PASSWORD=db_pass123 mysql
a63bc84d0d6d2d84e6a2d4c08d9acd322eda2b7f65fbaa42eecef7227a175249
[root@10 esraa]#
```