

Lab1

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Basic Commands:

```
PS C:\Users\Mahammad Anis> docker run hello-world
Unable to find image 'hello-world:latest' locally
latest: Pulling from library/hello-world
c1ec31eb5944: Pull complete
Digest: sha256:4bd78111b6914a99dbc560e6a20eab57ff6655aea4a80c50b0c5491968cbc2e6
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/>

```
PS C:\Users\Mahammad Anis> |
```

```
PS C:\Users\Mahammad Anis> docker pull alpine
Using default tag: latest
latest: Pulling from library/alpine
661ff4d9561e: Pull complete
Digest: sha256:51b67269f354137895d43f3b3d810bfacd3945438e94dc5ac55fdac340352f48
Status: Downloaded newer image for alpine:latest
docker.io/library/alpine:latest
```

What's Next?

View a summary of image vulnerabilities and recommendations → [docker scout quickview alpine](#)

```
PS C:\Users\Mahammad Anis> |
```

```
PS C:\Users\Mahammad Anis> docker images
REPOSITORY          TAG             IMAGE ID         CREATED          SIZE
alpine               latest          f8c20f8bbcb6    5 weeks ago     7.38MB
hello-world          latest          d2c94e258dcb    8 months ago    13.3kB
PS C:\Users\Mahammad Anis> |
```

```
PS C:\Users\Mahammad Anis> docker run alpine ls -l
total 56
drwxr-xr-x    2 root    root          4096 Dec  7 09:43 bin
drwxr-xr-x    5 root    root           340 Jan 14 11:17 dev
drwxr-xr-x    1 root    root          4096 Jan 14 11:17 etc
drwxr-xr-x    2 root    root          4096 Dec  7 09:43 home
drwxr-xr-x    7 root    root          4096 Dec  7 09:43 lib
drwxr-xr-x    5 root    root          4096 Dec  7 09:43 media
drwxr-xr-x    2 root    root          4096 Dec  7 09:43 mnt
drwxr-xr-x    2 root    root          4096 Dec  7 09:43 opt
dr-xr-xr-x  244 root    root           0 Jan 14 11:17 proc
drwx-----   2 root    root          4096 Dec  7 09:43 root
drwxr-xr-x    2 root    root          4096 Dec  7 09:43 run
drwxr-xr-x    2 root    root          4096 Dec  7 09:43 sbin
drwxr-xr-x    2 root    root          4096 Dec  7 09:43 srv
dr-xr-xr-x   11 root    root           0 Jan 14 11:17 sys
drwxrwxrwt    2 root    root          4096 Dec  7 09:43 tmp
drwxr-xr-x    7 root    root          4096 Dec  7 09:43 usr
drwxr-xr-x   12 root    root          4096 Dec  7 09:43 var
PS C:\Users\Mahammad Anis> |
```

```
PS C:\Users\Mahammad Anis> docker run alpine echo "hello from alpine"
hello from alpine
PS C:\Users\Mahammad Anis> |
```

```
PS C:\Users\Mahammad Anis> docker ps
CONTAINER ID   IMAGE     COMMAND   CREATED   STATUS    PORTS   NAMES
PS C:\Users\Mahammad Anis> |
```

```
PS C:\Users\Mahammad Anis> docker run -it alpine /bin/sh
/ # ls
bin    etc    lib    mnt    proc   run    srv    tmp    var
dev    home   media  opt    root   sbin   sys    usr
/ # uname -a
Linux bf3d7fb4d297 5.15.133.1-microsoft-standard-WSL2 #1 SMP Thu Oct 5 21:02:42 UTC 2023 x86_64 Linux
/ # exit
PS C:\Users\Mahammad Anis> |
```

```
PS C:\Users\Mahammad Anis> docker run -d dockersamples/static-site
Unable to find image 'dockersamples/static-site:latest' locally
latest: Pulling from dockersamples/static-site
fdd5d7827f33: Pull complete
a3ed95caeb02: Pull complete
716f7a5f3082: Pull complete
7b10f03a0309: Pull complete
aff3ab7e9c39: Pull complete
Digest: sha256:daa686c61d7d239b7977e72157997489db49f316b9b9af3909d9f10fd28b2
dec
Status: Downloaded newer image for dockersamples/static-site:latest
cc709568a7a80dac05f8eb0d593bf0e03a2ec66c68d0d483d2bde02084f519f3
PS C:\Users\Mahammad Anis> |
```

```
PS C:\Users\Mahammad Anis> docker ps
```

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS	NAMES
cc709568a7a8	dockersamples/static-site	"/bin/sh -c 'cd /usr..."	33 seconds ago	Up 32 seconds	80/tcp, 443/tcp	sad_liskov

```
PS C:\Users\Mahammad Anis> |
```

```
PS C:\Users\Mahammad Anis> docker stop cc709568a7a8
cc709568a7a8
```

```
PS C:\Users\Mahammad Anis> docker rm cc709568a7a8
cc709568a7a8
PS C:\Users\Mahammad Anis>
```

```
PS C:\Users\Mahammad Anis> docker run --name static-site -e AUTHOR="Anis" -d -P dockersamples/static-site
89ab87d333739795cf654f58b3a301496bbcc74cdf055bf1f4975112e7aa8fec
PS C:\Users\Mahammad Anis> |
```

```
PS C:\Users\Mahammad Anis> docker port static-site
80/tcp -> 0.0.0.0:32769
443/tcp -> 0.0.0.0:32768
PS C:\Users\Mahammad Anis> |
```

Hello Anis!

[This is being served from a **docker** container running Nginx.]

```
PS C:\Users\Mahammad Anis> docker stop static-site
static-site
PS C:\Users\Mahammad Anis> docker rm static-site
static-site
PS C:\Users\Mahammad Anis> |
```

```
PS C:\Users\Mahammad Anis> docker ps
```

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS	NAMES
--------------	-------	---------	---------	--------	-------	-------

```
PS C:\Users\Mahammad Anis> S|
```

```
PS C:\Users\Mahammad Anis> docker images
REPOSITORY          TAG         IMAGE ID      CREATED        SIZE
alpine              latest      f8c20f8bbcb6  5 weeks ago   7.38MB
hello-world         latest      d2c94e258dcf  8 months ago  13.3kB
dockersamples/static-site latest      f589ccde7957  7 years ago   191MB
PS C:\Users\Mahammad Anis> |
```

```
PS C:\Users\Mahammad Anis> docker pull ubuntu:12.04
12.04: Pulling from library/ubuntu
d8868e50ac4c: Pull complete
83251ac64627: Pull complete
589bba2f1b36: Pull complete
d62ecaceda39: Pull complete
6d93b41cfc6b: Pull complete
Digest: sha256:18305429afa14ea462f810146ba44d4363ae76e4c8dfc38288cf73aa07485005
Status: Downloaded newer image for ubuntu:12.04
docker.io/library/ubuntu:12.04
```

What's Next?

View a summary of image vulnerabilities and recommendations → [docker scout quickview ubuntu:12.04](#)

```
PS C:\Users\Mahammad Anis> |
```

```
PS C:\Users\Mahammad Anis> docker pull ubuntu
Using default tag: latest
latest: Pulling from library/ubuntu
a48641193673: Pull complete
Digest: sha256:6042500cf4b44023ea1894efffe7890666b0c5c7871ed83a97c36c76ae560bb9b
Status: Downloaded newer image for ubuntu:latest
docker.io/library/ubuntu:latest
```

What's Next?

View a summary of image vulnerabilities and recommendations → [docker scout quickview ubuntu](#)

```
PS C:\Users\Mahammad Anis> |
```

Flask-app Outputs:

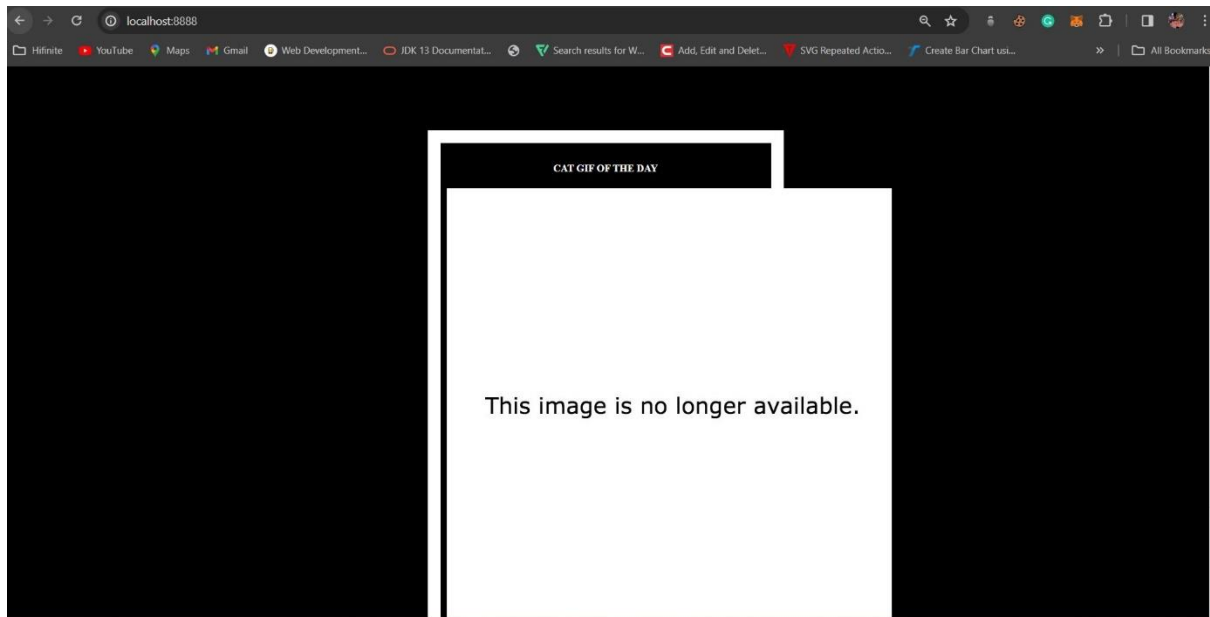
```
PS C:\Users\Mahammad Anis\Desktop\GBC Assignments\lab1\flask-app> docker build -t anisvahora64/myfirstapp .
[+] Building 2.0s (12/12) FINISHED
=> [internal] load build definition from Dockerfile
=> => transferring dockerfile: 538B
=> [internal] load .dockerignore
=> => transferring context: 28
=> [internal] load metadata for docker.io/library/alpine:3.5
=> [auth] library/alpine:pull token for registry-1.docker.io
=> [1/6] FROM docker.io/library/alpine:3.5@sha256:66952b313e51c3bd1987d7c4ddf5dba9bc0fb6e524eed2448fa660246b3e76ec
=> [internal] load build context
=> => transferring context: 915B
=> CACHED [2/6] RUN apk add --update py2-pip
=> CACHED [3/6] COPY requirements.txt /usr/src/app/
=> CACHED [4/6] RUN pip install --no-cache-dir -r /usr/src/app/requirements.txt
=> [5/6] COPY app.py /usr/src/app/
=> [6/6] COPY templates/index.html /usr/src/app/templates/
=> exporting to image
=> => exporting layers
=> => writing image sha256:9320e16207059a95426118e9a82dd10e2d4fb1363af519d97071f6a53ad55f7a
=> => naming to docker.io/anisvahora64/myfirstapp
View build details: docker-desktop://dashboard/build/default/default/cu6p3gz5e1523jvfbgksh0uz

What's Next?
View a summary of image vulnerabilities and recommendations → docker scout quickview
PS C:\Users\Mahammad Anis\Desktop\GBC Assignments\lab1\flask-app> |
```

```

Error response from daemon: no such container: static-site
PS C:\Users\Mahammad Anis\Desktop\GBC Assignments\lab1\flask-app> docker image ls
REPOSITORY                                TAG      IMAGE ID       CREATED        SIZE
anisvahora64/myfirstapp                    latest   9320e1620705   32 minutes ago 56.8MB
redis                                       <none>   20658529aaf6   5 days ago    46.1MB
ubuntu                                     latest   174c8c134b2a   4 weeks ago   77.9MB
alpine                                     latest   f8c20f8bbcb6   5 weeks ago   7.38MB
dockersamples/examplevotingapp_vote        <none>   a79da240427f   2 months ago  153MB
dockersamples/examplevotingapp_result      <none>   79a8264f906f   2 months ago  269MB
dockersamples/examplevotingapp_worker      <none>   b9ae9391d5db   2 months ago  194MB
hello-world                                latest   d2c94e258dcb   8 months ago  13.3kB
dockersamples/visualizer                   <none>   43ce62428b8c   2 years ago   185MB
postgres                                   9.4      ed5a45034282   3 years ago   251MB
ubuntu                                     12.04    5b117edd0b76   6 years ago   104MB
dockersamples/static-site                  latest   f589ccde7957   7 years ago   191MB

```



```

PS C:\Users\Mahammad Anis\Desktop\GBC Assignments\lab1\example-voting-app> docker stack services vote
ID            NAME                MODE         REPLICAS  IMAGE                                  PORTS
wfk28zw5bjwo  vote_db             replicated    0/1        postgres:9.4                          *:3000->6379/tcp
7iw5ahxalnda  vote_redis          replicated    2/2        redis:alpine                          *:5001->80/tcp
ajwptxwdf7qj  vote_result         replicated    2/2        dockersamples/examplevotingapp_result:after *:8080->8080/tcp
q6h730qjhco   vote_visualizer     replicated    1/1        dockersamples/visualizer:latest        *:5000->80/tcp
qg1xjfm16dqu  vote_vote           replicated    2/2        dockersamples/examplevotingapp_vote:after
mb0m7mzhq9zv  vote_worker         replicated    1/1        dockersamples/examplevotingapp_worker:latest
PS C:\Users\Mahammad Anis\Desktop\GBC Assignments\lab1\example-voting-app>

```

```

What's next:
View a summary of image vulnerabilities and recommendations → docker scout quickview
PS C:\Users\Mahammad Anis\Desktop\GBC Assignments\ScalableBlockchainApps\flask-app> docker run -p 8888:5000 --name myfirstapp anisvahora64/myfirstapp
* Running on http://0.0.0.0:5000/ (Press CTRL+C to quit)
172.17.0.1 - - [14/Jan/2024 13:12:05] "GET / HTTP/1.1" 200 -
172.17.0.1 - - [14/Jan/2024 13:12:05] "GET / HTTP/1.1" 200 -
172.17.0.1 - - [14/Jan/2024 13:12:06] "GET /favicon.ico HTTP/1.1" 404 -
172.17.0.1 - - [14/Jan/2024 13:12:36] "GET / HTTP/1.1" 200 -
172.17.0.1 - - [14/Jan/2024 13:12:39] "GET / HTTP/1.1" 200 -

```

Deploying app to swarm outputs:

```

PS C:\Users\Mahammad Anis\Desktop\GBC Assignments\lab1\example-voting-app> docker stack deploy --compose-file docker-stack.yml vote
Updating service vote_visualizer (id: q6h730qjhcoq2crk4u2bmm01)
Updating service vote_redis (id: 7iw5ahxalndaf1m3uiqy5wocv1)
Updating service vote_db (id: wfk28zw5bjwomzvfzc3nhvwrx)
Updating service vote_vote (id: qg1xjfm16dquf4ie4em7t9)
Updating service vote_result (id: ajwptxwdf7qj8ddciy0ygmjdc)
Updating service vote_worker (id: mb0m7mzhq9zvo8skk3x35dj6x)
PS C:\Users\Mahammad Anis\Desktop\GBC Assignments\lab1\example-voting-app>

```

