

Docker Basics: A Detailed Report.

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Introduction

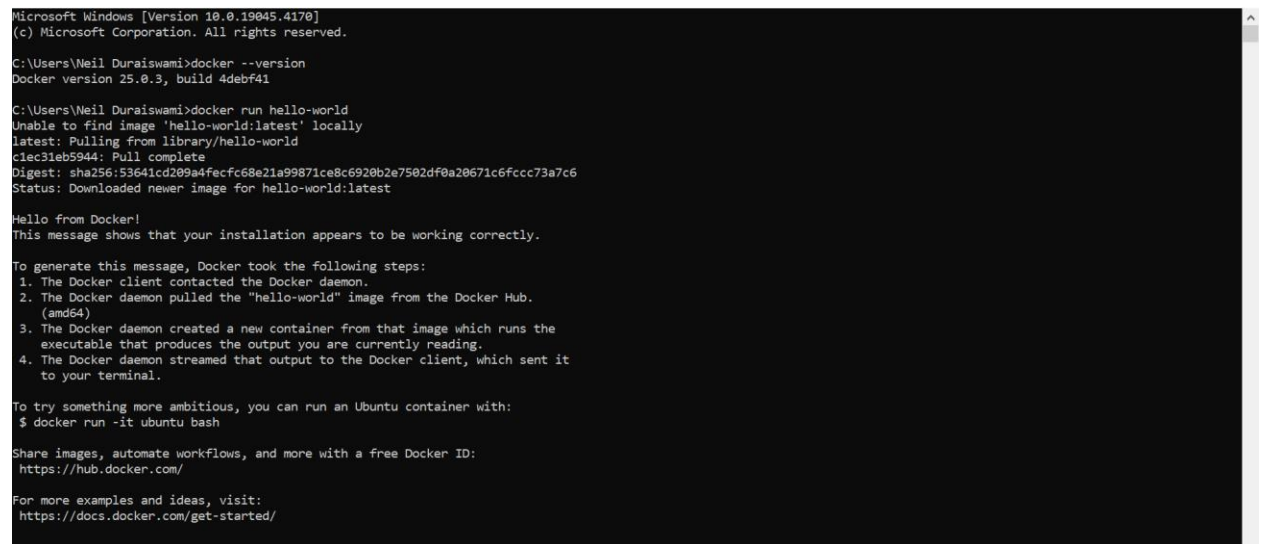
In this report, I will document the steps performed during the Docker assignment, which involved getting started with Docker, working with Docker images, running containers, and managing containers.

Task 1: Getting Started with Docker

1. Execution of 'hello-world' Docker Image

Ran the following command in the terminal:

docker run hello-world



```
Microsoft Windows [Version 10.0.19045.4170]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Neil Duraiswami>docker --version
Docker version 25.0.3, build 4deb41

C:\Users\Neil Duraiswami>docker run hello-world
Unable to find image 'hello-world:latest' locally
latest: Pulling from library/hello-world
c1ec31eb5944: Pull complete
Digest: sha256:53641cd209a4fecfc68e21a99871ce8c6920b2e7502df0a20671c6fccc73a7c6
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/
```

Provided a screenshot showing the successful execution of the 'hello-world' Docker container.

2. Checking Docker Version

Executed the command:

docker --version



```
C:\Users\Neil Duraiswami>docker --version
Docker version 25.0.3, build 4deb41
```

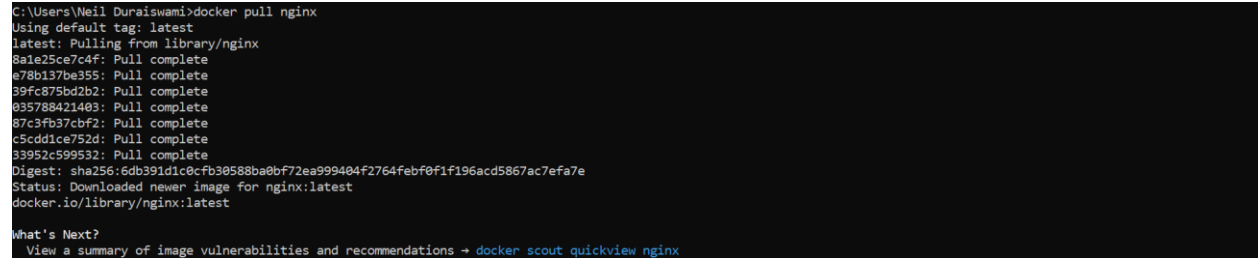
Provided a screenshot displaying the installed version of Docker.

Task 2: Working with Docker Images

1. Pulling the 'nginx' Image

Ran the command:

docker pull nginx



```
C:\Users\Neil Duraiswami>docker pull nginx
Using default tag: latest
latest: Pulling from library/nginx
8a1e25ce7c4f: Pull complete
e78b137be355: Pull complete
39fc875bd2b2: Pull complete
035788421403: Pull complete
87c3fb37cbf2: Pull complete
c5cdd1ce752d: Pull complete
33952c599532: Pull complete
Digest: sha256:6db391d1c0cfb30588ba0bf72ea999404f2764feb0f1f196acd5867ac7efa7e
Status: Downloaded newer image for nginx:latest
docker.io/library/nginx:latest


What's Next?
View a summary of image vulnerabilities and recommendations → docker scout quickview nginx
```

Provided a screenshot showing the successful pulling of the 'nginx' image from Docker Hub.

2. Listing Docker Images

Executed the command:

docker images



```
C:\Users\Neil Duraiswami>docker images
REPOSITORY          TAG         IMAGE ID      CREATED       SIZE
nginx                latest      92b11f67642b  5 weeks ago  187MB
docker/welcome-to-docker latest      c1f619b6477e  4 months ago  18.6MB
hello-world          latest      d2c94e258dcb  10 months ago 13.3kB
```


Provided a screenshot listing all Docker images currently available on the system.

Task 3: Running Containers

1. Running the 'nginx' Container

Ran the command:

docker run --name mynginx -d -p 8081:80 nginx



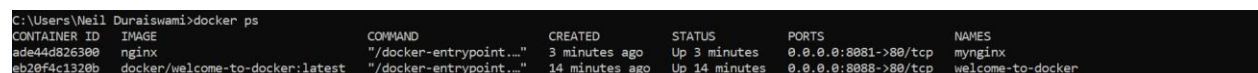
```
C:\Users\Neil Duraiswami>docker run --name mynginx -d -p 8081:80 nginx
ade44d82630018ea3a75d673b75b694929edf6c0a5f49229dd801b2709373a05
```

Provided a screenshot showing the successful execution of the 'nginx' container.

2. Listing Running Containers

Executed the command:

docker ps

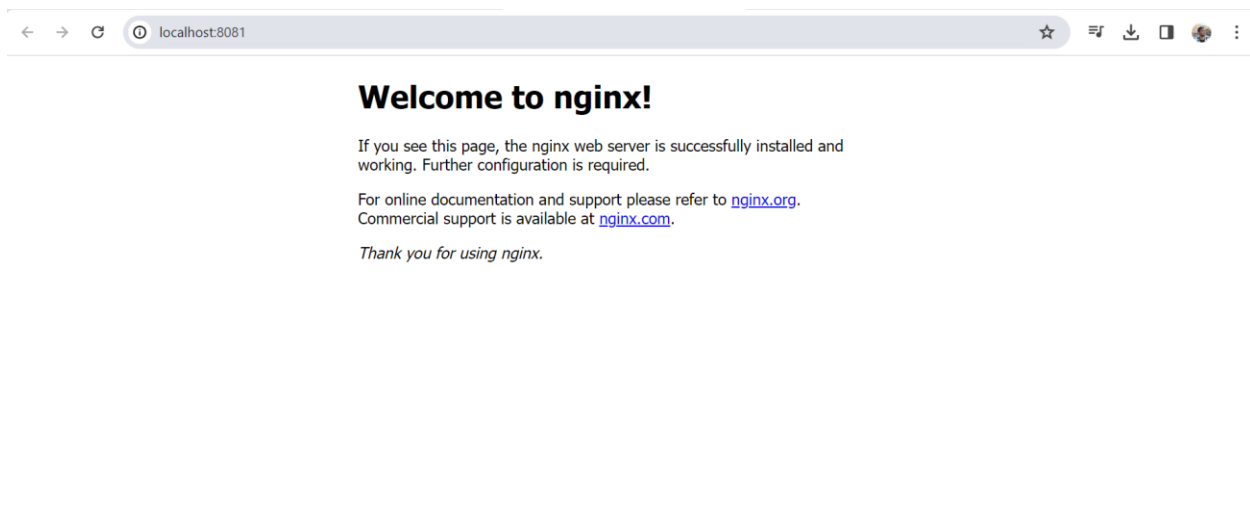


```
C:\Users\Neil Duraiswami>docker ps
CONTAINER ID   IMAGE      COMMAND                  CREATED    STATUS    PORTS                               NAMES
ade44d826300  nginx     "/docker-entrypoint..." 3 minutes ago  Up 3 minutes  0.0.0.0:8081->80/tcp  mynginx
eb20f4c1320b  docker/welcome-to-docker:latest "/docker-entrypoint..." 14 minutes ago  Up 14 minutes  0.0.0.0:8088->80/tcp  welcome-to-docker
```

Provided a screenshot listing all currently running Docker containers.

3. Accessing the Web Server

Accessed the nginx welcome page in the web browser at <http://localhost:8080>.



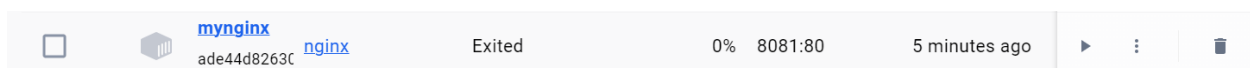
Provided a screenshot of the nginx welcome page.

Task 4: Container Management

1. Stopping the 'mynginx' Container

Executed the command:

```
docker stop mynginx
```

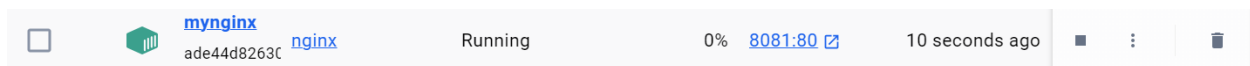


Provided a screenshot showing the successful stopping of the container.

2. Starting the 'mynginx' Container Again

Executed the command:

```
docker start mynginx
```












Provided a screenshot showing the successful starting of the container.

3. Removing the 'mynginx' Container

Executed the command:

```
docker rm mynginx
```

<input type="checkbox"/>	Name	Image	Status	CPU (%)	Port(s)	Last started	Actions
<input type="checkbox"/>	 welcome-to eb20f4c1320f	docker/welcome-to	Running	0%	8088:80 	19 minutes ago	  
<input type="checkbox"/>	 optimistic-y dbfcb5f255e5	hello-world	Exited	0%		10 minutes ago	  

Provided a screenshot showing the successful removal of the container.

4. Removing the 'nginx' Image

Executed the command:

docker rmi nginx

```
C:\Users\Neil Duraiswami>docker rmi nginx
Untagged: nginx:latest
Deleted: sha256:92b11f67642b62bbb98e7e49169c346b30e20cd3c1c034d31087e46924b9312e
Deleted: sha256:d9e826dbb4b3c5770fe92638baa8c6614f210d782a5d021a123fe9fa1f92c23d
Deleted: sha256:2a75285e888884bed4d630896c85ecd71739c6e82669e21ad7a050f33c9ac48d
Deleted: sha256:32bfe3f040358ab8f9872a63d4ddefdc68f35d991ca10a812cbac5912ae9f97b
Deleted: sha256:1330486eb62ea7e96f384961b77b0fc85f5d4422e761114ef3a72e7cb89751a4
Deleted: sha256:a375372209a0f2b2c697a52cce46bc41b495bf86184ae83dd5146e20c22078eb
Deleted: sha256:450787ca55caa59d0288de9cf36fc6b77d1b208a77eb837ec3d25b385f99cafb
Deleted: sha256:a483da8ab3e941547542718cad3258c6c705a63e94183c837c9bc44eb608999
```

Provided a screenshot showing the successful removal of the 'nginx' image from the system.

Conclusion

In conclusion, this report documents the successful completion of all tasks in the Docker assignment. The tasks involved various operations such as running containers, managing Docker images, and accessing Docker containers via web browsers.