

# SE489 DevOps Engineering

## Lab 6



## Lab 6: Docker

**Objectives:** After the successful completion of this lab, user will be able understand, install, and use Docker and port Docker images and containers.

Installation of Docker on Windows Machine (64 bit architecture)

### a. Installing and Running Docker

1. Search Google for docker installer for windows

Google search results for "docker download for windows".

Search query: docker download for windows

Results:

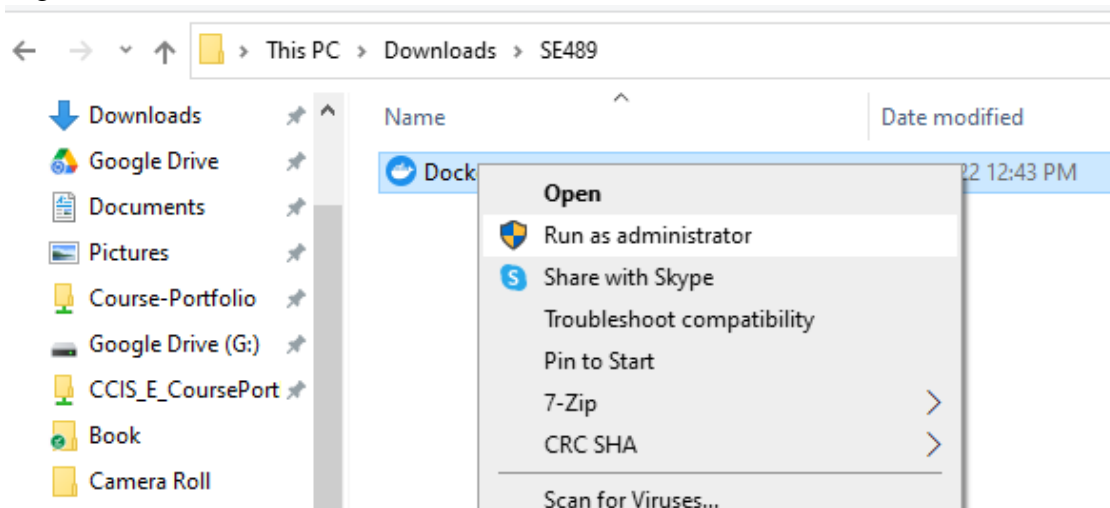
- [https://docs.docker.com › desktop › windows-install](https://docs.docker.com/desktop/windows-install)  
**Install Docker Desktop on Windows**  
This page contains information about **Docker** Desktop for **Windows** system requirements, **download** URL, instructions to install and update **Docker** Desktop for ...  
[Windows FAQs](#) · [Run Docker Desktop for...](#) · [Troubleshoot topics](#) · [Overview](#)
- [https://docs.docker.com › engine › install](https://docs.docker.com/engine/install)  
**Install Docker Engine**  
**Docker** Desktop for Linux. **Docker** Desktop helps you build, share, and run containers easily on Mac and **Windows** as you do on Linux.
- [https://docs.docker.com › get-docker](https://docs.docker.com/get-docker)  
**Get Docker - Docker Documentation**  
You can **download** and install **Docker** on multiple platforms. ... A native **Windows** application which delivers all **Docker** tools to your **Windows** computer.

2. First link takes to home page for the Docker download

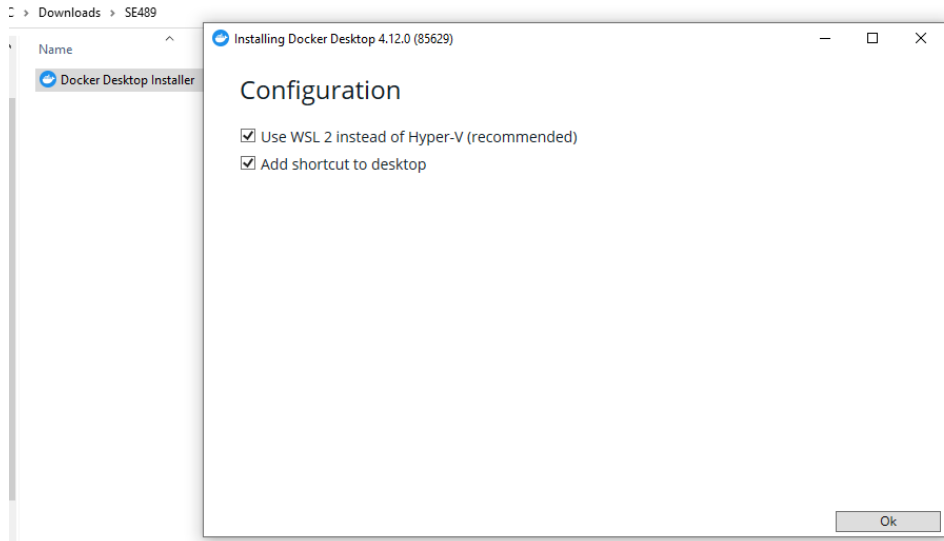


Click on *Docker Desktop for Windows*, automatic download will start.

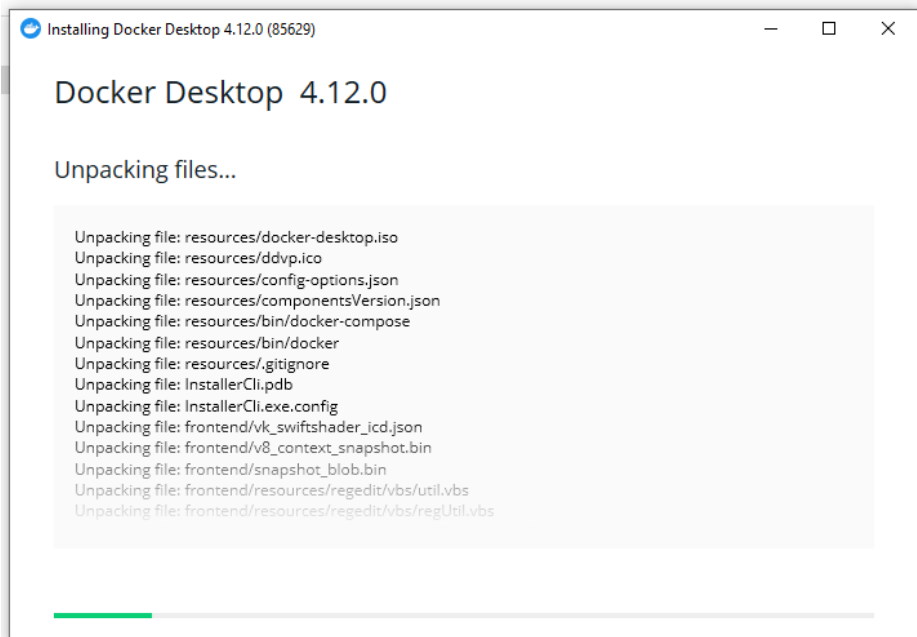
3. Right Click on the Docker Installer, and choose Run as administrator,



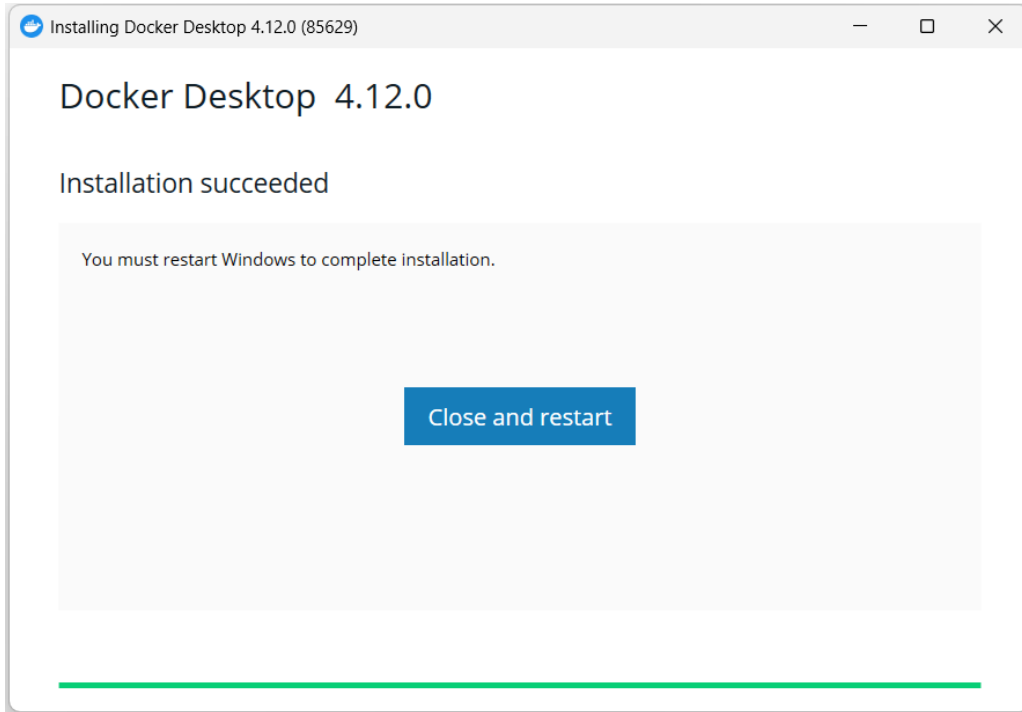
#### 4. Accept these recommendations



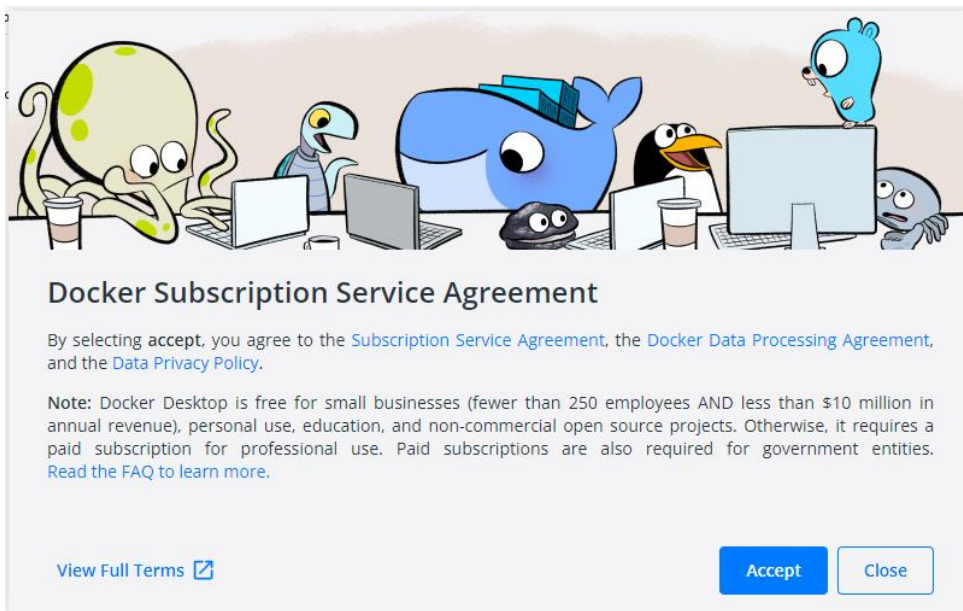
Docker installation begins with unpacking of various installation files



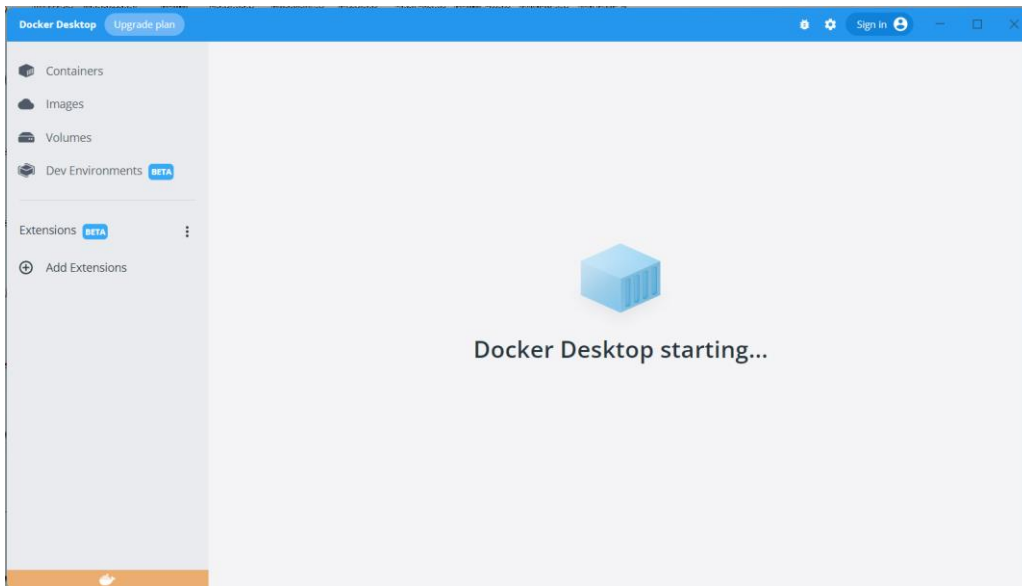
5. When prompted click on Close and restart



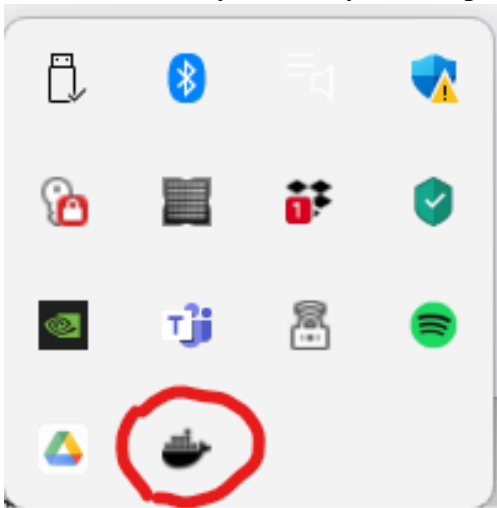
6. Upon restart, it will ask for accepting Docker Subscription Service Agreement, accept them



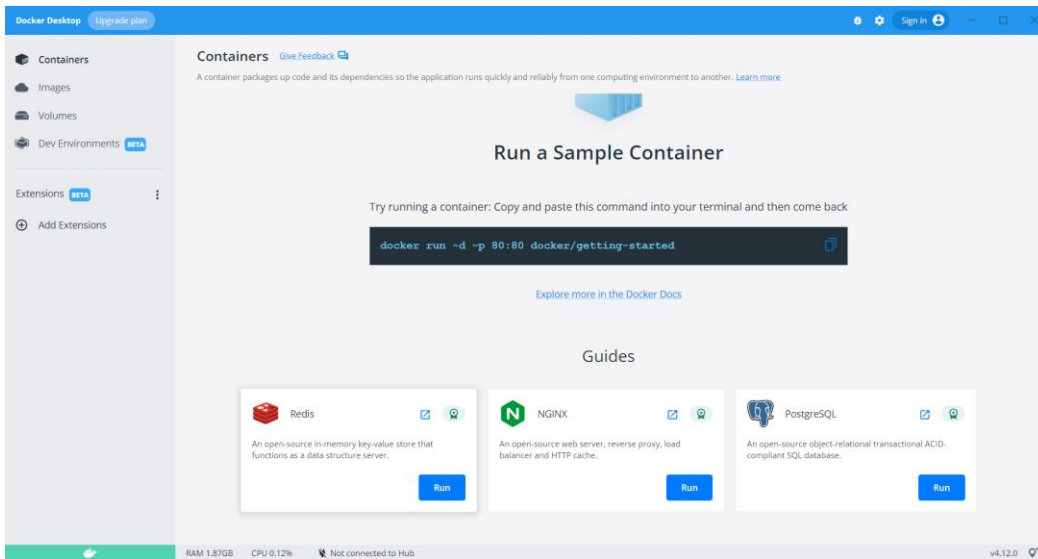
7. After this, following screen will appear



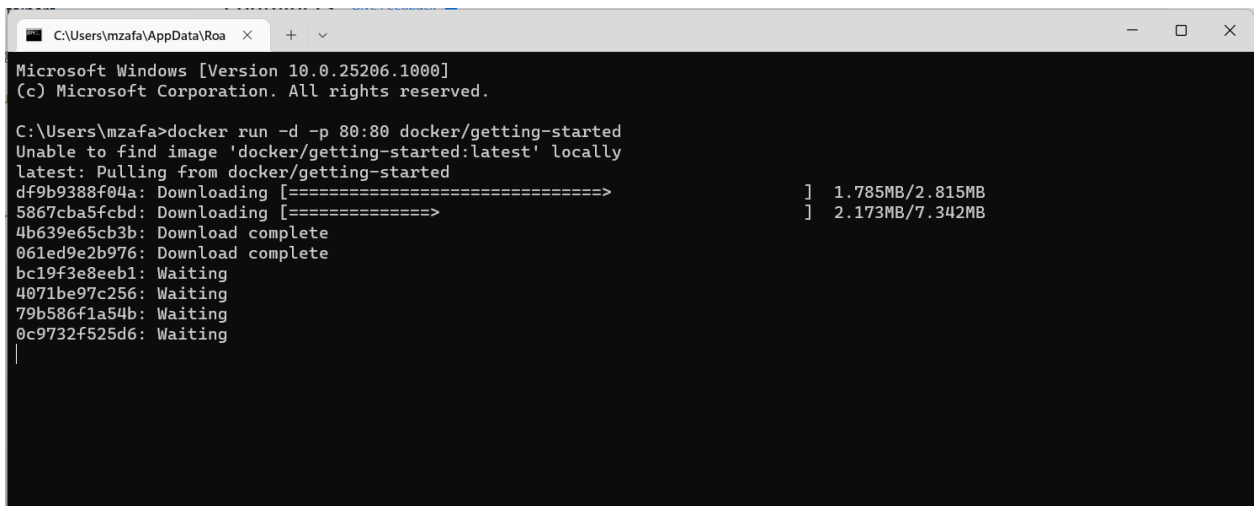
Once finished, System Tray will display whale icon of Docker



8. This is home screen of the Docker



- Copy the presented command from the Docker interface and open Command Prompt on your window machine, paste the command and press Enter, since we don't have any docker image, this command first looks locally and prompts 'Unable to find image...' and then downloads it from docker repository



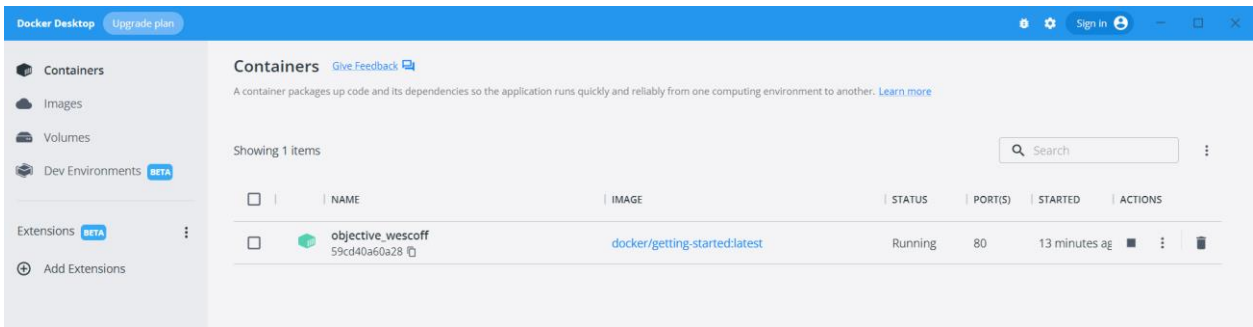
After downloading image, it's screen will look like this

```
C:\Users\mzafa\AppData\Roam... x + v
Microsoft Windows [Version 10.0.25206.1000]
(c) Microsoft Corporation. All rights reserved.

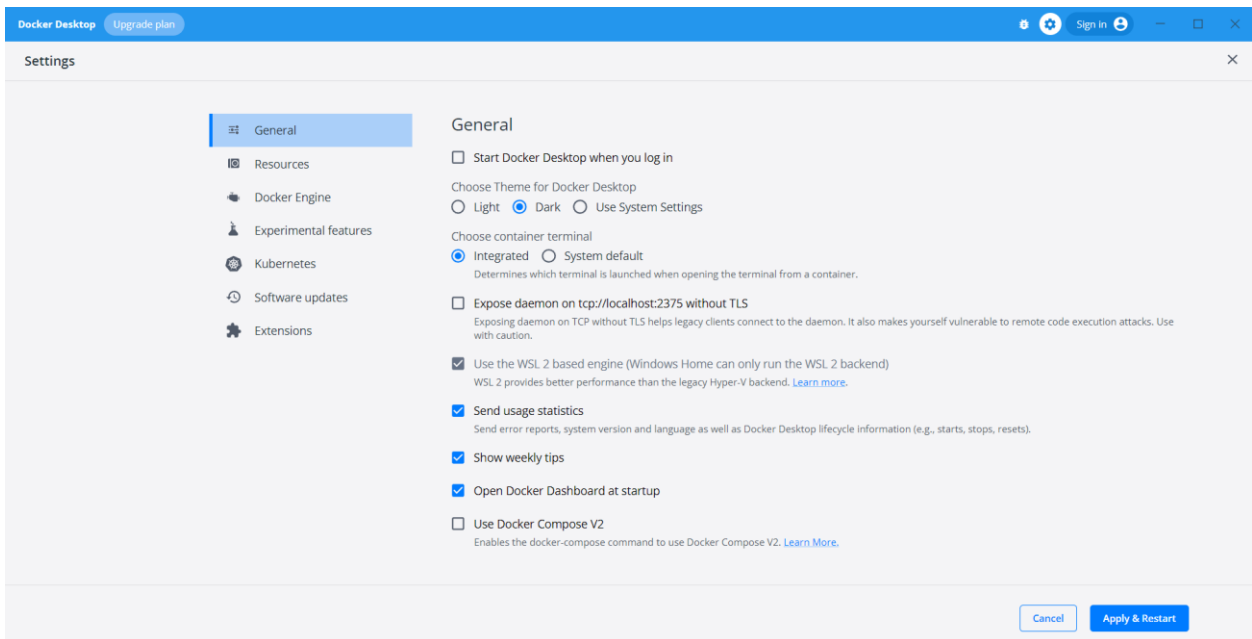
C:\Users\mzafa>docker run -d -p 80:80 docker/getting-started
Unable to find image 'docker/getting-started:latest' locally
latest: Pulling from docker/getting-started
df9b9388f04a: Pull complete
5867cba5fcbd: Pull complete
4b639e65cb3b: Pull complete
061ed9e2b976: Pull complete
bc19f3e8eeb1: Pull complete
4071be97c256: Pull complete
79b586f1a54b: Pull complete
0c9732f525d6: Pull complete
Digest: sha256:b558be874169471bd4e65bd6eac8c303b271a7ee8553ba47481b73b2bf597aae
Status: Downloaded newer image for docker/getting-started:latest
59cd40a60a28d2aca96de55b4cdaa082353288e87641ae1a4149a6ccc376aaa7

C:\Users\mzafa>
```

10. Since we copied and executed getting-started image from Docker's repository, it is now visible at home screen of Docker.



- There are some Docker customization options also available, click on the setting option available on the top right side of the Docker interface, make required changes and click on *Apply & Restart*



## b. More Docker Commands

- Open command prompt and run command, **→docker ps**

```
C:\Users\mzafa\AppData\Roam > docker ps
CONTAINER ID   IMAGE                COMMAND                  CREATED        STATUS        PORTS                    NAMES
59cd40a60a28  docker/getting-started "/docker-entrypoint..." 23 minutes ago Up 23 minutes 0.0.0.0:80->80/tcp      objective_wescoff
```

it lists all the running images available in the system

- Now lets, pull some other images from the Docker repository, run command, **→ docker pull hello-world**

```
C:\Users\mzafa>docker pull hello-world
Using default tag: latest
latest: Pulling from library/hello-world
2db29710123e: Pull complete
Digest: sha256:62af9efd515a25f84961b70f973a798d2eca956b1b2b026d0a4a63a3b0b6a3f2
Status: Downloaded newer image for hello-world:latest
docker.io/library/hello-world:latest

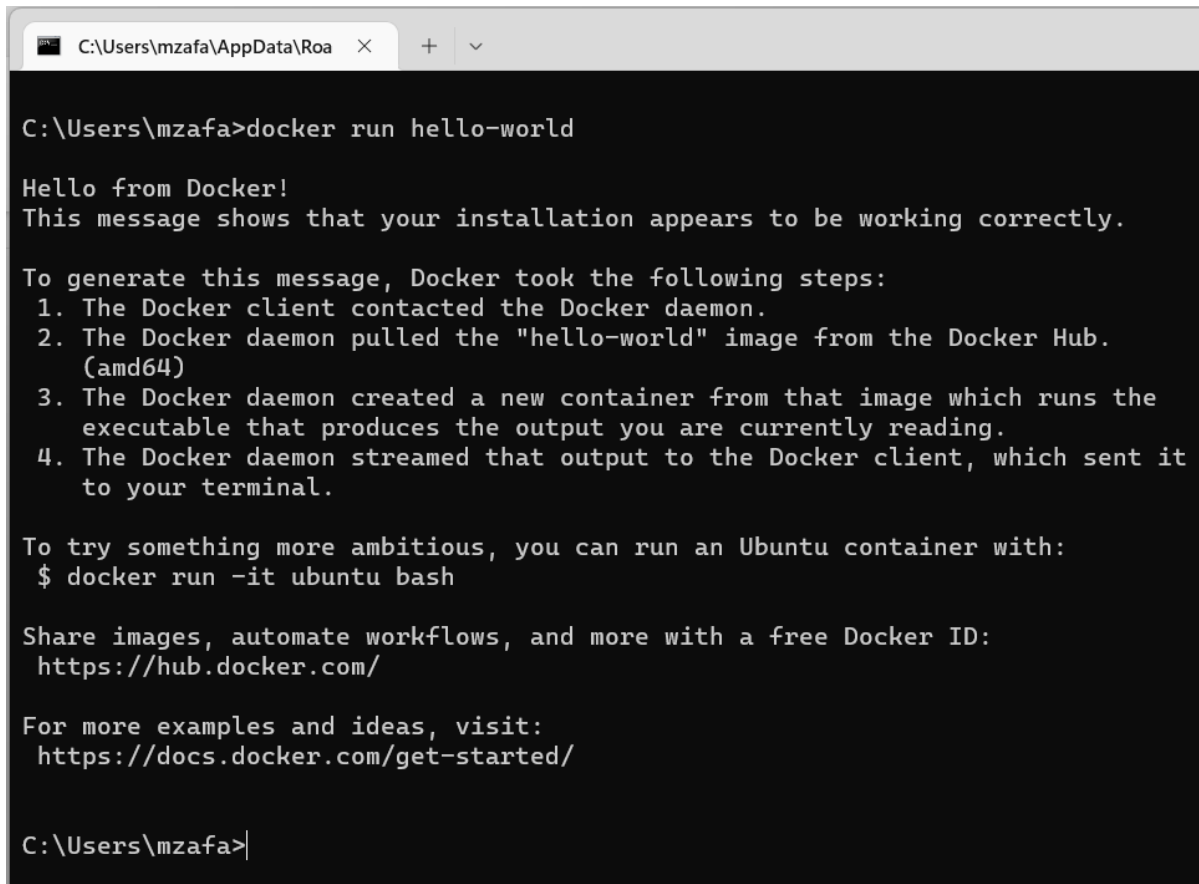
C:\Users\mzafa>
```



Docker pull command, downloads hello-world image from Docker repository (also known as Docker hub) into local machine.

3. Run the newly pulled image with this command,

→ **docker run hello-world**



```
C:\Users\mzafa>docker run hello-world

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

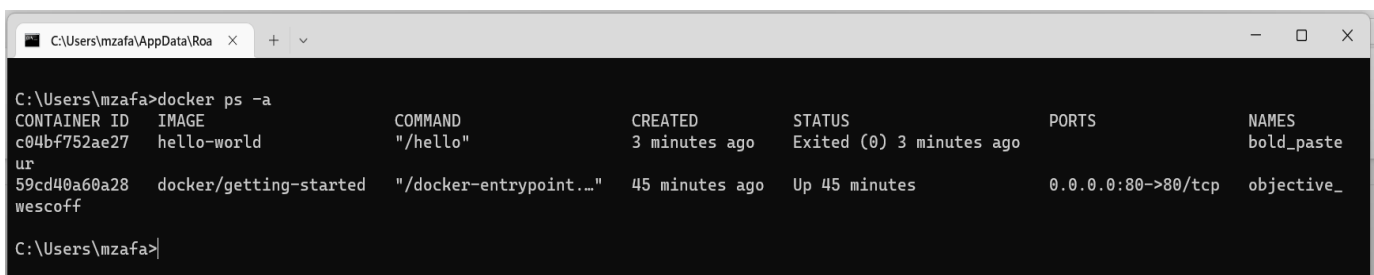
Share images, automate workflows, and more with a free Docker ID:
https://hub.docker.com/

For more examples and ideas, visit:
https://docs.docker.com/get-started/

C:\Users\mzafa>
```

Message, appeared shows, we have successfully downloaded an image from the Docker Hub and ran it's container.

4. Let's check number of containers through **docker ps -a** command



```
C:\Users\mzafa>docker ps -a
```

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS	NAMES
c04bf752ae27	hello-world	"/hello"	3 minutes ago	Exited (0) 3 minutes ago		bold_paste
ur59cd40a60a28	docker/getting-started	"/docker-entrypoint..."	45 minutes ago	Up 45 minutes	0.0.0.0:80->80/tcp	objective_
wescoff						

```
C:\Users\mzafa>
```