



Ain Shams University  
Faculty of Engineering  
**Agile Software Engineering [CSE233]**

## **Lab 12:**

### ***Introduction to Docker***

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## 1.Exercise 1: Verify Docker Installation:

```
● PS D:\Uni projects\senior 1\Agile\lab12> docker --version
Docker version 28.5.1, build e180ab8
❖ PS D:\Uni projects\senior 1\Agile\lab12> █
```

## 2.Exercise 2: Run Your First Container (Hello World):

```
PS D:\Uni projects\senior 1\Agile\lab12> docker run hello-world
● >>
Unable to find image 'hello-world:latest' locally
latest: Pulling from library/hello-world
17eec7bbc9d7: Pull complete
Digest: sha256:d4aaab6242e0cace87e2ec17a2ed3d779d18fbfd03042ea58f2995626396a274
Status: Downloaded newer image for hello-world:latest

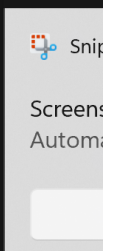
Hello from Docker!
This message shows that your installation appears to be working correctly.

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 D:\Uni projects\senior 1\Agile\lab12> █
```



### 3. Exercise 3: List Images and Containers:

```
https://docs.docker.com/get-started/

docker images

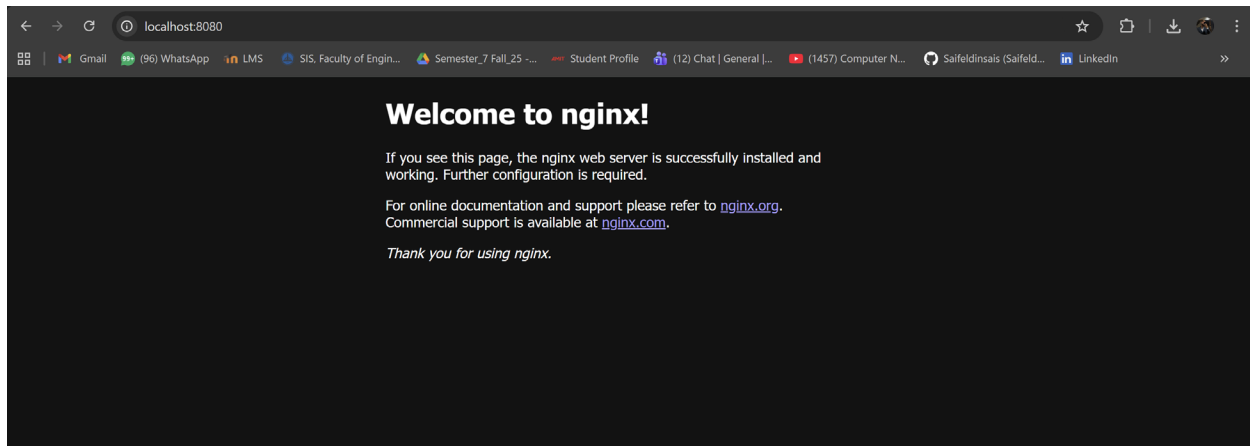
• >> D:\Uni projects\senior 1\Agile\lab12>
REPOSITORY      TAG         IMAGE ID      CREATED        SIZE
wreddit-client  latest     277debc10589  12 days ago   537MB
wreddit-server  latest     c5c384e40a49  12 days ago   315MB
mongo           latest     d0d76261e7a1  2 months ago  1.22GB
hello-world     latest     d4aaab6242e0  4 months ago  20.3kB
❖ PS D:\Uni projects\senior 1\Agile\lab12>
```

### 4. Exercise 4: Run an Interactive Linux Container:

```
PS D:\Uni projects\senior 1\Agile\lab12> docker run -it ubuntu
• >>
Unable to find image 'ubuntu:latest' locally
latest: Pulling from library/ubuntu
20043066d3d5: Pull complete
Digest: sha256:c35e29c9450151419d9448b0fd75374fec4fff364a27f176fb458d472dfc9e54
Status: Downloaded newer image for ubuntu:latest
root@8add03e7eca0:/# ls
bin  dev  home  lib64  mnt  proc  run  srv  tmp  var
boot  etc  lib   media  opt  root /sbin  sys  usr
root@8add03e7eca0:/# uname -a
Linux 8add03e7eca0 6.6.87.2-microsoft-standard-WSL2 #1 SMP PREEMPT_DYNAMIC Thu Jun  5 18:30:46 UTC
2025 x86_64 x86_64 x86_64 GNU/Linux
root@8add03e7eca0:/# exit
exit
❖ PS D:\Uni projects\senior 1\Agile\lab12>
```

## 5.Exercise 5: Run an NGINX Web Server:

```
PS D:\Uni projects\senior 1\Agile\lab12> docker run -d -p 8080:80 nginx
>>
Unable to find image 'nginx:latest' locally
latest: Pulling from library/nginx
5b5fa0b64d74: Pull complete
1733a4cd5954: Pull complete
9ee60c6c0558: Pull complete
ee3a09d2248a: Pull complete
5b219a92f92a: Pull complete
7382b41547b8: Pull complete
114e699da838: Pull complete
Digest: sha256:fb01117203ff38c2f9af91db1a7409459182a37c87cced5cb442d1d8fcc66d19
Status: Downloaded newer image for nginx:latest
faedb0bdc2bef4f3086168ee0f04fe4de9530bb30d73e91ac979ccfd0e29fddc
PS D:\Uni projects\senior 1\Agile\lab12> docker ps
>>
CONTAINER ID        IMAGE               COMMAND             CREATED             STATUS              PORTS
faedb0bdc2be       nginx              "/docker-entrypoint..." 3 minutes ago      Up 3 minutes       0.0.0.0:8080->80/
tcp, [::]:8080->80/tcp eager_black
PS D:\Uni projects\senior 1\Agile\lab12>
```



## 6. Exercise 6: Stop and Remove the NGINX Container:

```
PS D:\Uni projects\senior 1\Agile\lab12> docker ps
>>
CONTAINER ID   IMAGE     COMMAND                  CREATED        STATUS        PORTS
faedb0bdc2be   nginx    "/docker-entrypoint...." 6 minutes ago  Up 6 minutes  0.0.0.0:8080->80/
tcp, [::]:8080->80/tcp eager_black
PS D:\Uni projects\senior 1\Agile\lab12> docker stop faedb0bdc2be
faedb0bdc2be
PS D:\Uni projects\senior 1\Agile\lab12> docker rm faedb0bdc2be
faedb0bdc2be
PS D:\Uni projects\senior 1\Agile\lab12>
```