DOCKER ASSIGNMENT SUBMISSION

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Assignment: Docker – Pull Ubuntu Image, Install Apache, Access Web Page

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Problem Statement

Set up a Docker environment on an Ubuntu EC2 instance and perform the following:

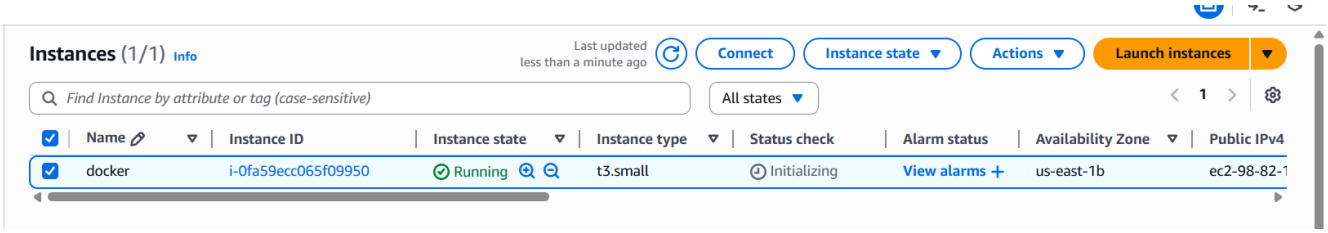
1. Launch an Ubuntu EC2 instance
2. Pull and run an Ubuntu Docker container mapped to port 80
3. Install Apache2 inside the container
4. Verify Apache webpage in a browser

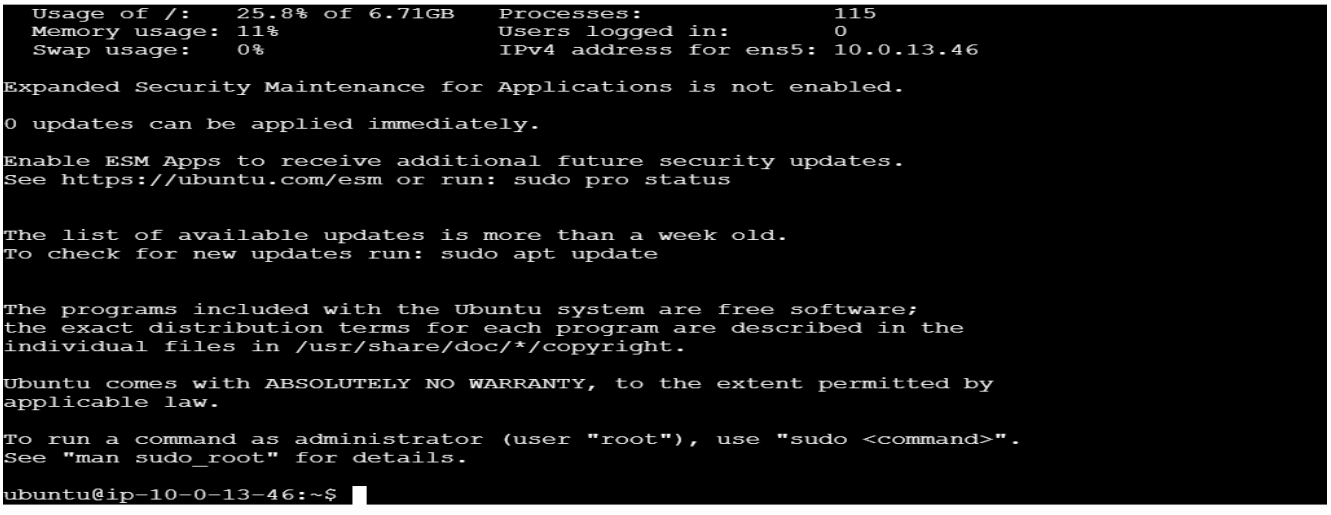
Environment Used

- Ubuntu EC2 instance
- Docker installed on the EC2 instance
- Ubuntu Docker container with Apache2

□ Task 1: Launch Ubuntu EC2 Instance & Connect

- Launched an Ubuntu EC2 instance
- Connected to the instance using EC2 Instance Connect





□ Task 2: Install Docker on the EC2 Instance

sudo apt update -y

sudo apt install docker.io -y

sudo systemctl start docker

sudo systemctl enable docker

Verify Docker:

docker –version

```
ubuntu@ip-10-0-13-46:~$ sudo apt update -y
sudo apt install docker.io -y
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble InRelease
Get:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
Get:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble-backports InRelease [126 kB]
Get:4 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 Packages [15.0 MB]
Get:5 http://security.ubuntu.com/ubuntu noble-security InRelease [126 kB]
Get:6 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe Translation-en [5982 kB]
Get:7 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 Components [3871 kB]
Get:8 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/universe amd64 c-n-f Metadata [301 kB]
Get:9 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/multiverse amd64 Packages [269 kB]
Get:10 http://us-east-1.ec2.archive.ubuntu.com/ubuntu noble/multiverse Translation-en [118 kB]
```

```
ubuntu@ip-10-0-13-46:~$ sudo systemctl start docker
sudo systemctl enable docker
ubuntu@ip-10-0-13-46:~$ docker --version
Docker version 28.2.2, build 28.2.2-0ubuntu1~24.04.1
ubuntu@ip-10-0-13-46:~$
```

□ Task 3: Pull Ubuntu Docker Image

sudo docker pull ubuntu

```
ubuntu@ip-10-0-13-46:~$ sudo docker pull ubuntu
Using default tag: latest
latest: Pulling from library/ubuntu
20043066d3d5: Pull complete
Digest: sha256:c35e29c9450151419d9448b0fd75374fec4fff364a27f176fb458d472dfc9e54
Status: Downloaded newer image for ubuntu:latest
docker.io/library/ubuntu:latest
ubuntu@ip-10-0-13-46:~$
```

□ Task 4: Run Ubuntu Container With Port 80 Mapped

sudo docker run -it -p 80:80 --name ub-server ubuntu

This opens a shell inside the container.

```
ubuntu@ip-10-0-13-46:~$ sudo docker run -it -p 80:80 --name ub-server ubuntu
root@d01e3b67e259:/#
```

□ Task 5: Install Apache2 Inside the Container

Inside the container:

apt update -y

apt install apache2 -y

apachectl start

Apache web server is now running inside the container.

```
ubuntu@ip-10-0-13-46:~$ sudo docker run -it -p 80:80 --name ub-server ubuntu
root@d01e3b67e259:/# apt update -y
apt install apache2 -y
apachectl start
Get:1 http://security.ubuntu.com/ubuntu noble-security InRelease [126 kB]
Get:2 http://archive.ubuntu.com/ubuntu noble InRelease [256 kB]
Get:3 http://security.ubuntu.com/ubuntu noble-security/restricted amd64 Packages [2834 kB]
Get:4 http://archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
Get:5 http://security.ubuntu.com/ubuntu noble-security/multiverse amd64 Packages [33.1 kB]
Get:6 http://security.ubuntu.com/ubuntu noble-security/main amd64 Packages [1715 kB]
```

□ Task 6: Access Apache Default Webpage

Open your browser and enter:

http://<EC2-PUBLIC-IP>

The Apache2 Ubuntu Default Page was displayed successfully, confirming that:

- Container is running
- Port mapping works
- Apache is accessible externally

Conclusion

Successfully launched an Ubuntu EC2 instance, installed Docker, pulled an Ubuntu container, installed Apache inside the container, and accessed Apache's default webpage through a browser. This demonstrates proper use of Docker images, containers, port mapping, and running web services within Docker.