Task: 5 – Deploying Dockerized Web Application on AWS EC2

1. Objective:-

- The objective of this internship task was to demonstrate hands-on experience with Docker containerization and deployment of a Flask-based web application on an AWS EC2 instance.
- This project involved installing Docker, pulling a pre-built image from Docker Hub, running it on EC2, and accessing the live app through a public IP address.

2. Tools and Technologies Used:-

- AWS EC2 – Cloud computing service used for hosting the application.
- Docker – Platform for containerizing and running the app.
- Flask – Python web framework for the User Registration application.
- Docker Hub – Repository for hosting and pulling Docker images.
- Ubuntu 22.04 LTS – Operating system used on the EC2 instance.

3. Steps Performed:-

Step 1*:* AWS EC2 Instance Setup

Launched an Ubuntu 22.04 LTS EC2 instance on AWS.

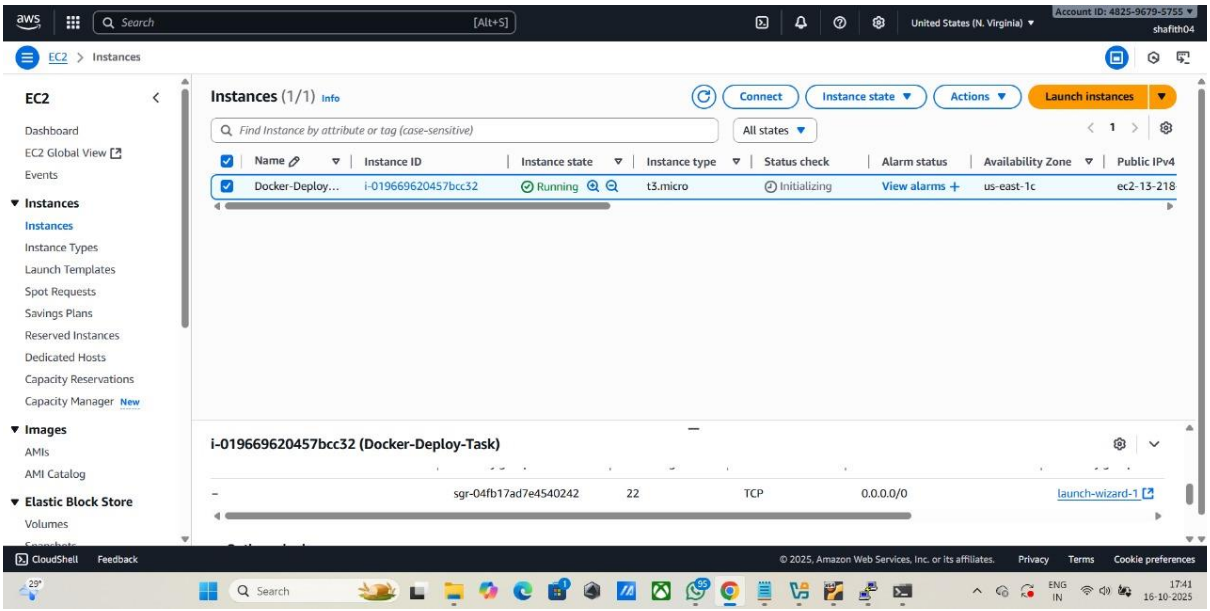
Configured the Security Group to allow:

Port 22 (SSH) – Remote server access.

Port 5000 (Custom TCP) – Application access.

Verified instance was in the running state.

📷 **Screenshot 1**: AWS EC2 Dashboard showing the instance details (Running state and public IP).



Instances (1/1) Info

☑	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4
☑	Docker-Deploy...	i-019669620457bcc32	✓ Running	t3.micro	Initializing	View alarms +	us-east-1c	ec2-13-218

i-019669620457bcc32 (Docker-Deploy-Task)

–	sgr-04fb17ad7e4540242	22	TCP	0.0.0.0/0	launch-wizard-1

Step 2: Docker Installation and Setup

Installed and enabled Docker on EC2 using the following commands:

- sudo apt update
- sudo apt install docker.io -y
- sudo systemctl enable --now docker
- docker --version

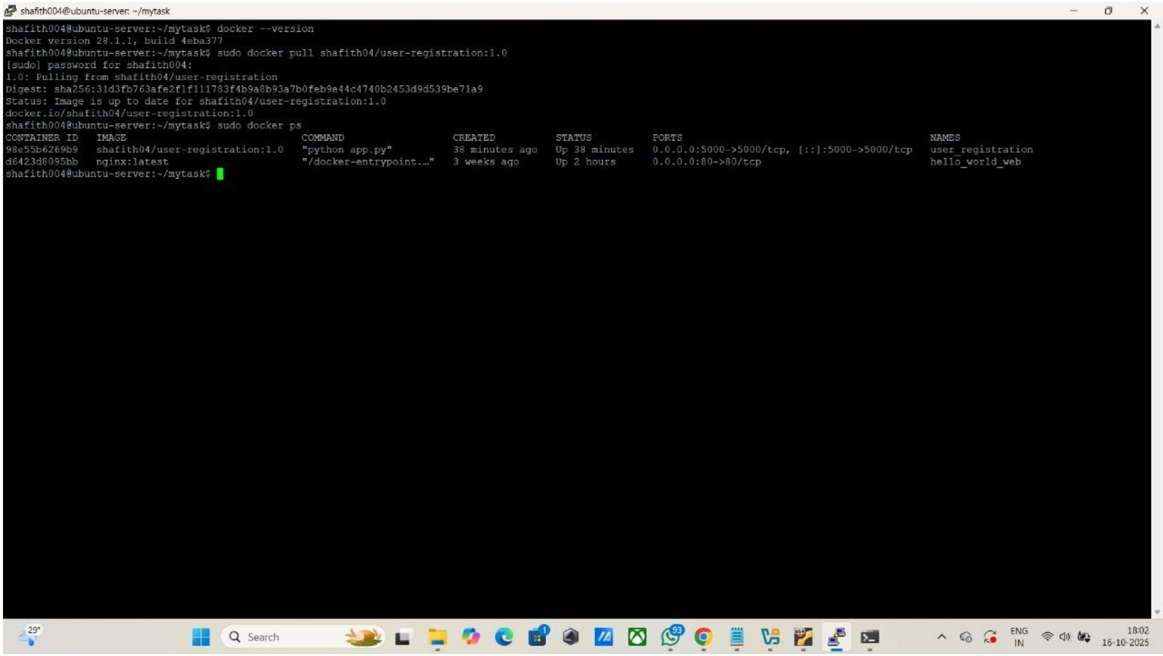
Verified Docker installation and status.

Step 3: Pulling Docker Image and Running Container

- Pulled the Docker image from Docker Hub:
- sudo docker pull shafith04/user-registration:1.0
- Ran the container and exposed port 5000:
- sudo docker run -d -p 5000:5000 shafith04/user-registration:1.0
- sudo docker ps

Verified the container was running successfully.

📷 **Screenshot 2:** Terminal showing Docker image pulled and container running***.***



```
shafith004@ubuntu-server:~/mytask$ docker --version
Docker version 28.1.1, build 4eba377
shafith004@ubuntu-server:~/mytask$ sudo docker pull shafith04/user-registration:1.0
[sudo] password for shafith004:
1.0: Pulling from shafith04/user-registration
Digest: sha256:31d3fb763afe2f1f111783f4b9a8b93a7b0feb9e44c4740b2453d9d539be71a9
Status: Image is up to date for shafith04/user-registration:1.0
docker.io/shafith04/user-registration:1.0
shafith004@ubuntu-server:~/mytask$ sudo docker ps
CONTAINER ID   IMAGE                             COMMAND                  CREATED          STATUS          PORTS                                         NAMES
98e55b6269b9   shafith04/user-registration:1.0   "python app.py"          38 minutes ago   Up 38 minutes   0.0.0.0:5000->5000/tcp, [::]:5000->5000/tcp   user_registration
d6423d8095bb   nginx:latest                      "/docker-entrypoint.…"   3 weeks ago      Up 2 hours      0.0.0.0:80->80/tcp                            hello_world_web
shafith004@ubuntu-server:~/mytask$ 
```

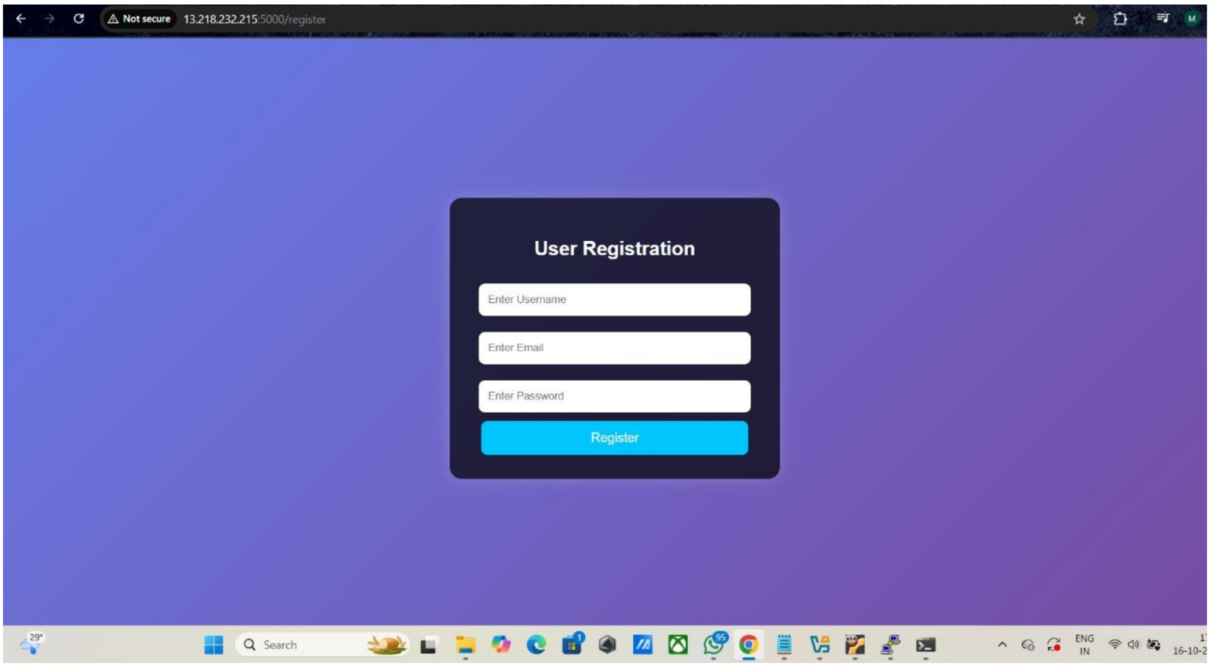
Step 4: Application Access

Accessed the web application using the EC2 public IP:

- http://<EC2-PUBLIC-IP>:5000/

The User Registration page loaded successfully, confirming the deployment worked as expected.

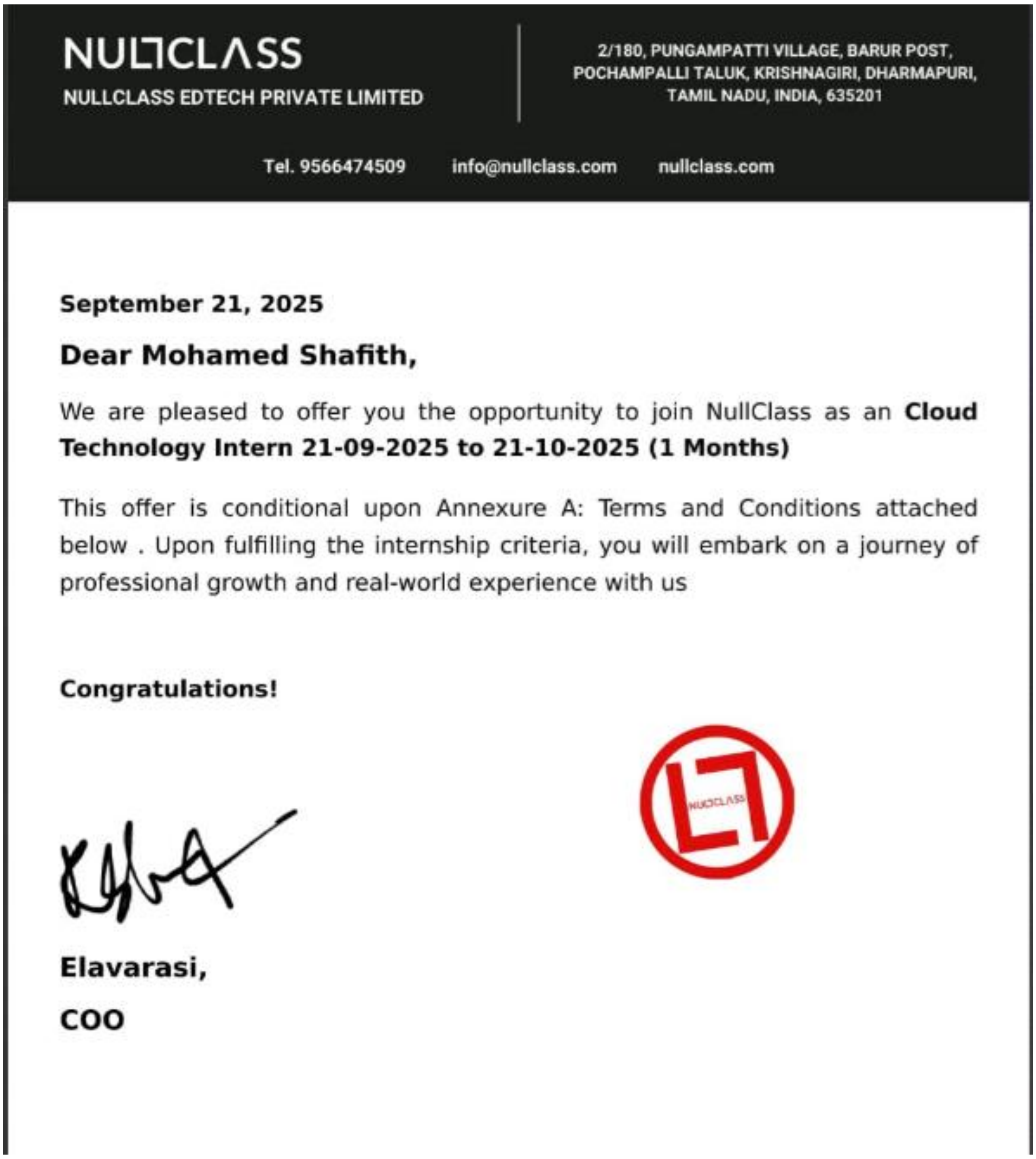
📸**Screenshot 3*:*** Browser showing the running Flask User Registration page.



4. Offer Letter:-

As part of the internship documentation, the offer letter confirming the internship position was included.

📸***Screenshot 3:*** Internship Offer Letter.



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September 21, 2025

Dear Mohamed Shafith,

We are pleased to offer you the opportunity to join NullClass as an **Cloud Technology Intern 21-09-2025 to 21-10-2025 (1 Months)**

This offer is conditional upon Annexure A: Terms and Conditions attached below . Upon fulfilling the internship criteria, you will embark on a journey of professional growth and real-world experience with us

Congratulations!

NULLCLASS

Elavarasi,

COO

5. Conclusion:-

This internship task successfully demonstrated:

✅ Deployment of a containerized web app on AWS EC2.

✅ Use of Docker for application packaging and deployment.

✅ Integration of cloud infrastructure for scalable web hosting.

✅ Verification of live application accessibility via public IP.