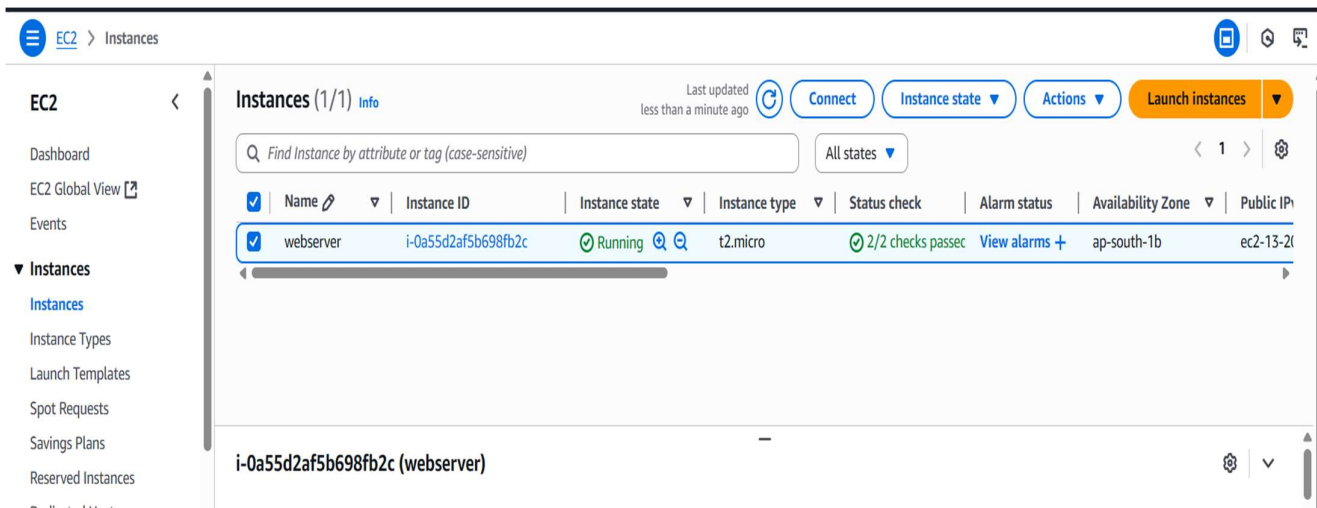


Deploy a Sample Python Application Using Flask Module

1. Creating webserver to host the application.



2. Updating patches and install docker.

```
root@ip-172-31-3-121: ~  
root@ip-172-31-3-121:~# docker --version  
Docker version 26.1.3, build 26.1.3-0ubuntu1~24.04.1  
root@ip-172-31-3-121:~# systemctl status docker.service  
● docker.service - Docker Application Container Engine  
   Loaded: loaded (/usr/lib/systemd/system/docker.service; enabled; vendor preset: enabled)  
   Active: active (running) since wed 2025-05-28 05:54:57 UTC; 1min 28s ago  
     TriggeredBy: ● docker.socket  
       Docs: https://docs.docker.com  
    Main PID: 2031 (dockerd)  
      Tasks: 9  
     Memory: 37.3M (peak: 37.5M)  
        CPU: 238ms  
    CGroup: /system.slice/docker.service  
            └─2031 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock
```

3. Creating a directory and writing necessary file and application code.

Created Demo directory

```
root@ip-172-31-3-121: ~  
root@ip-172-31-3-121:~# ls  
demo snap  
root@ip-172-31-3-121:~#
```

Written necessary fine and application code.

```
root@ip-172-31-3-121:~# cd demo/
root@ip-172-31-3-121:~/demo# ls
Dockerfile  app.py  requirements.txt
root@ip-172-31-3-121:~/demo# cat app.py
from flask import Flask
app = Flask(__name__)

@app.route('/')
def hello():
    return "Hello from Dockerized Flask App!"

if __name__ == '__main__':
    app.run(host='0.0.0.0', port=5000)

root@ip-172-31-3-121:~/demo# cat requirements.txt
flask==2.3.2

root@ip-172-31-3-121:~/demo# cat Dockerfile
FROM python:3.9-slim

WORKDIR /app

COPY requirements.txt .

RUN pip install --no-cache-dir -r requirements.txt

COPY app.py .

EXPOSE 5000

CMD ["python", "app.py"]
```

4. Build and running the container.

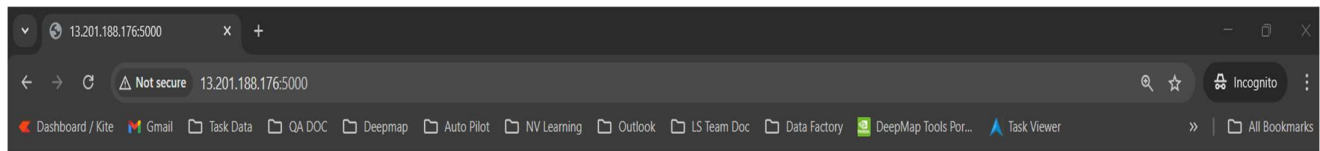
Build a Docker image.

```
root@ip-172-31-3-121: ~/demo
root@ip-172-31-3-121:~/demo# docker images
REPOSITORY          TAG          IMAGE ID          CREATED          SIZE
flask-sample-app    latest       67150328856e     18 seconds ago  136M
python              3.9-slim    1be4b628ef55     6 weeks ago     126M
root@ip-172-31-3-121:~/demo#
```

Running the Container.

```
root@ip-172-31-3-121: ~/demo
root@ip-172-31-3-121:~/demo# docker run -d -p 5000:5000 flask-sample-app
47469b91f7d1b1a34f145a7c71d543d8d406247140141972c7e1490cb7f912ad
root@ip-172-31-3-121:~/demo# docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED          NAMES
47469b91f7d1   flask-sample-app "python app.py"         8 seconds ago   upbea
t_snyder
Up 7 seconds   0.0.0.0:5000->5000/tcp, :::5000->5000/tcp
root@ip-172-31-3-121:~/demo#
```

5. Output using server public IP.



Hello from Dockerized Flask App!