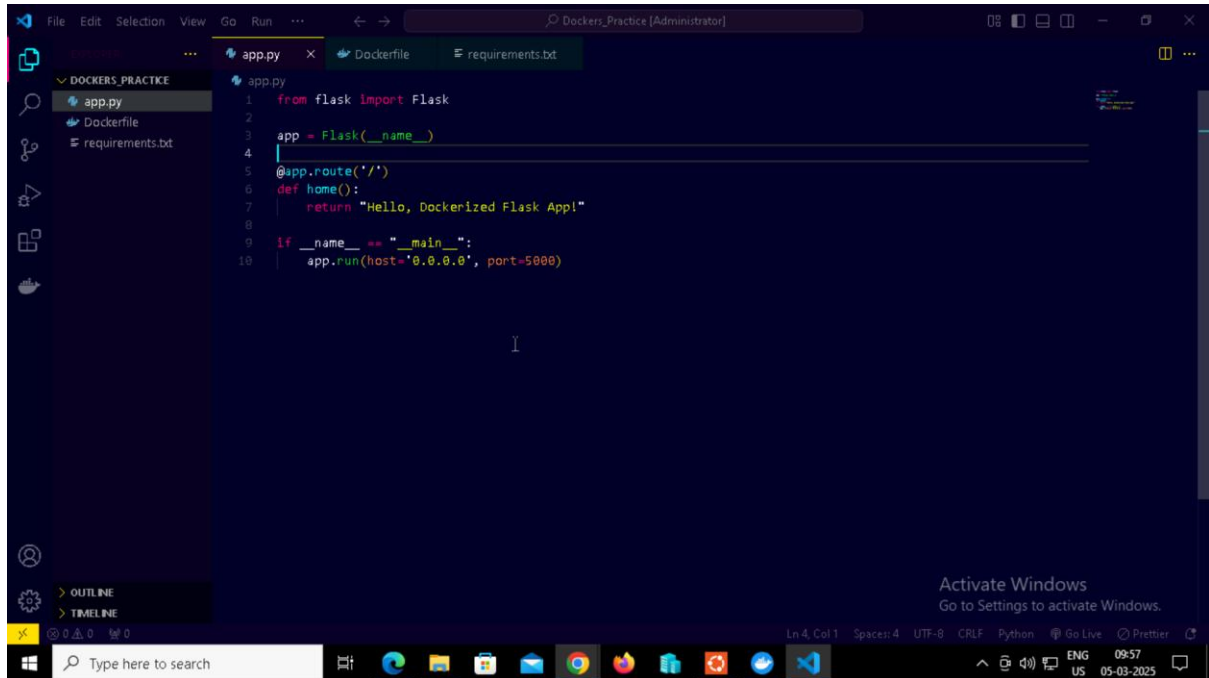


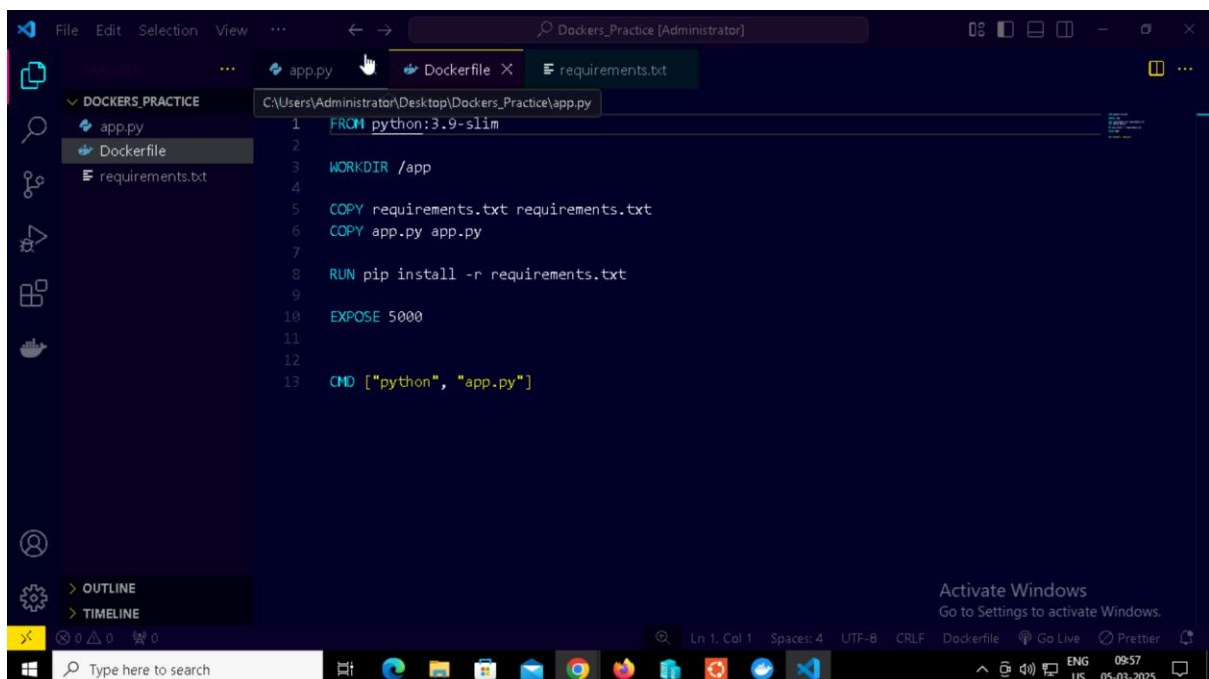
ASSIGNMENT 1

Deploy a Python Flask App using Docker



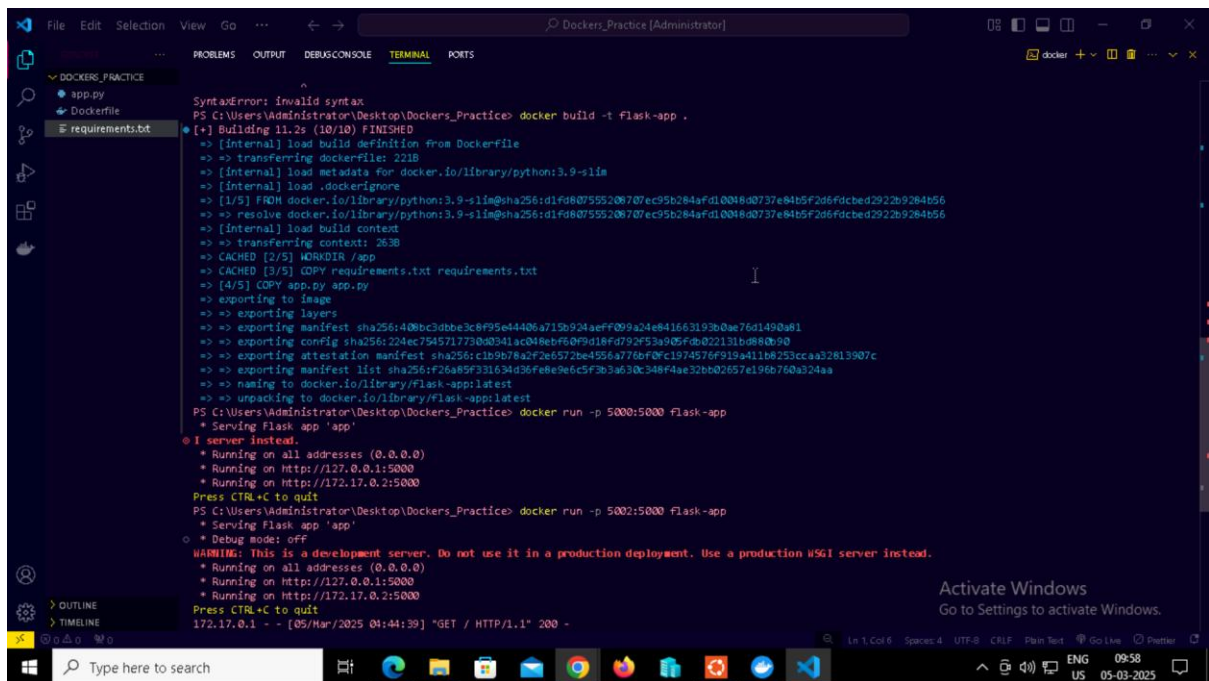
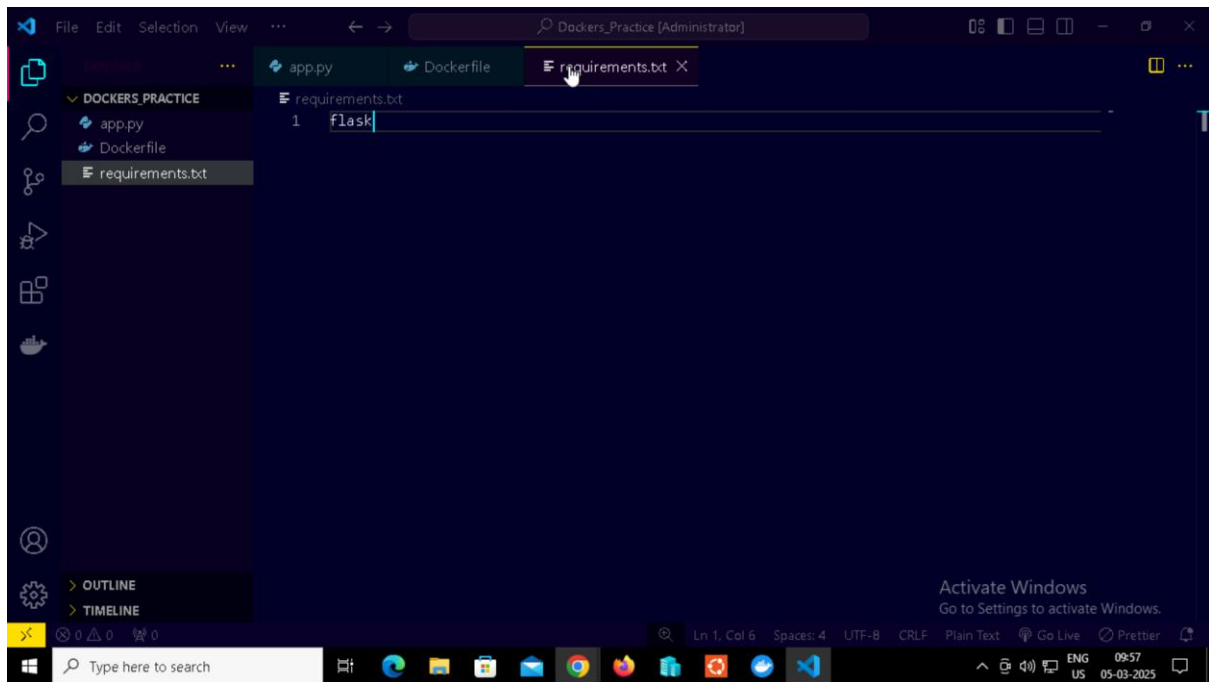
This screenshot shows the Visual Studio Code editor with the 'app.py' file open in the 'DOCKERS_PRACTICE' project. The file contains a simple Flask application. The Explorer sidebar on the left shows the project structure with 'app.py', 'Dockerfile', and 'requirements.txt'. The Output window at the bottom right displays the message: 'Activate Windows Go to Settings to activate Windows.'

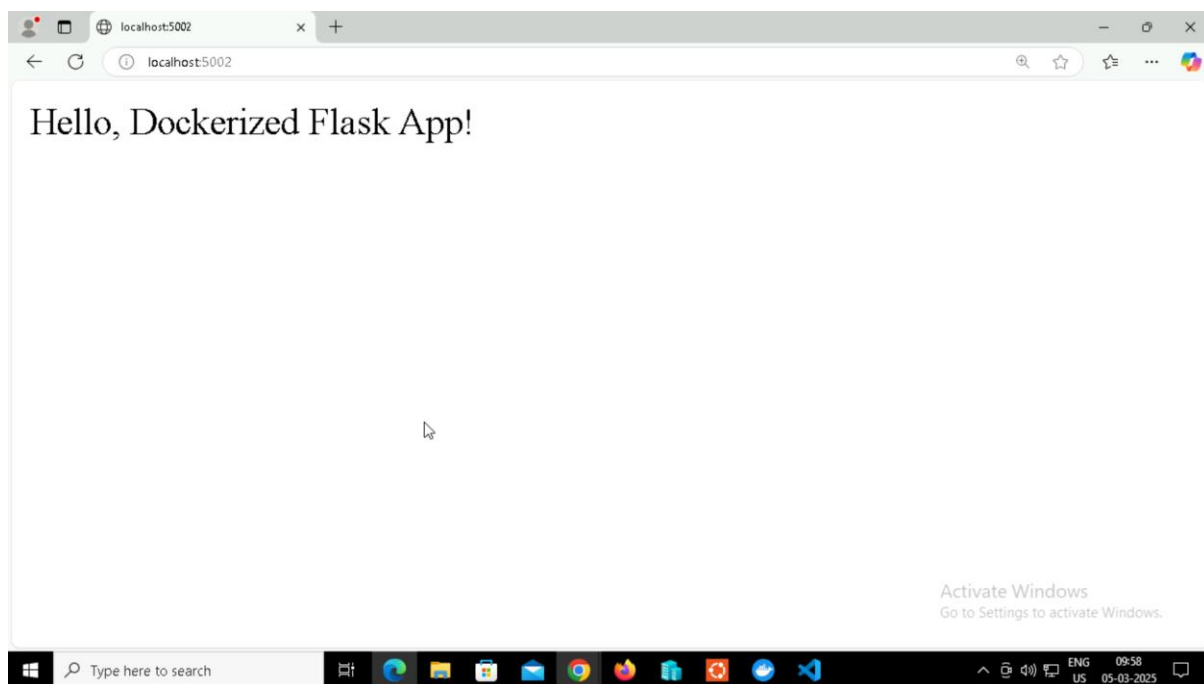
```
1 from flask import Flask
2
3 app = Flask(__name__)
4
5 @app.route('/')
6 def home():
7     return "Hello, Dockerized Flask App!"
8
9 if __name__ == "__main__":
10    app.run(host='0.0.0.0', port=5000)
```



This screenshot shows the Visual Studio Code editor with the 'Dockerfile' file open in the 'DOCKERS_PRACTICE' project. The file contains the Docker configuration for the application. The Explorer sidebar on the left shows the project structure with 'app.py', 'Dockerfile', and 'requirements.txt'. The Output window at the bottom right displays the message: 'Activate Windows Go to Settings to activate Windows.'

```
1 FROM python:3.9-slim
2
3 WORKDIR /app
4
5 COPY requirements.txt requirements.txt
6 COPY app.py app.py
7
8 RUN pip install -r requirements.txt
9
10 EXPOSE 5000
11
12
13 CMD ["python", "app.py"]
```





Deploy an Nginx Web Server with Docker

```
igris@2b4579b9c7125f2: ~/nginx_project
igris@2b4579b9c7125f2:~$ docker pull nginx
Using default tag: latest
latest: Pulling from library/nginx
103f50cb3e9f: Download complete
513c3649bb14: Download complete
9dd21ad5a4a6: Download complete
d014f92d532d: Download complete
943ea0f0c2e4: Download complete
bf9acace214a: Download complete
Digest: sha256:9d6b58feebd2dbd3c56ab585333d627cc6e281011cfd6050fa4bcf2072c9496
Status: Downloaded newer image for nginx:latest
docker.io/library/nginx:latest
igris@2b4579b9c7125f2:~$ docker run -d -p 8080:80 --name my-nginx nginx
d17b7b6f7e6722898442c6b2b446fdf9a68510482cb57cddf5c3f54a90c52fd0
docker: Error response from daemon: Ports are not available: exposing port TCP 0.0.0.0:8080 -> 0.0.0.0:0: listen tcp 0.0.0.0:8080: bind: Only one usage of each socket address (protocol/network address/port) is normally permitted.
igris@2b4579b9c7125f2:~$ docker run -d -p 4000:80 --name my-nginx nginx
docker: Error response from daemon: Conflict. The container name "/my-nginx" is already in use by container "d17b7b6f7e6722898442c6b2b446fdf9a68510482cb57cddf5c3f54a90c52fd0". You have to remove (or rename) that container to be able to reuse that name.
See 'docker run --help'.
igris@2b4579b9c7125f2:~$ netstat -tuln
Command 'netstat' not found, but can be installed with:
sudo apt install net-tools
igris@2b4579b9c7125f2:~$ sudo lsof -i :8080
[sudo] password for igris:
igris@2b4579b9c7125f2:~$ sudo lsof -i :8080
igris@2b4579b9c7125f2:~$ docker run -d -p 8080:80 --name my-nginx nginx
docker: Error response from daemon: Conflict. The container name "/my-nginx" is already in use by container "d17b7b6f7e6722898442c6b2b446fdf9a68510482cb57cddf5c3f54a90c52fd0". You have to remove (or rename) that container to be able to reuse that name.
See 'docker run --help'.
igris@2b4579b9c7125f2:~$ ps -a
PID TTY          TIME CMD
Activate Windows
Go to Settings to activate Windows.
```

```

igris@2b4579b9c7125f2: ~/nginx_project
d17b7b6f7e6722898442c6b2b446fdf9a68510482cb57cddf5c3f54a90c52fd0
docker: Error response from daemon: Ports are not available: exposing port TCP 0.0.0.0:8080 -> 0.0.0.0:0: listen tcp 0.0.0.0:8080: bind: Only one usage of each socket address (protocol/network address/port) is normally permitted.
igris@2b4579b9c7125f2:~$ docker run -d -p 4000:80 --name my-nginx nginx
docker: Error response from daemon: Conflict. The container name "/my-nginx" is already in use by container "d17b7b6f7e6722898442c6b2b446fdf9a68510482cb57cddf5c3f54a90c52fd0". You have to remove (or rename) that container to be able to reuse that name.
See 'docker run --help'.
igris@2b4579b9c7125f2:~$ netstat -tuln
Command 'netstat' not found, but can be installed with:
sudo apt install net-tools
igris@2b4579b9c7125f2:~$ sudo lsof -i :8080
[sudo] password for igris:
igris@2b4579b9c7125f2:~$ sudo lsof -i :8080
igris@2b4579b9c7125f2:~$ docker run -d -p 8080:80 --name my-nginx nginx
docker: Error response from daemon: Conflict. The container name "/my-nginx" is already in use by container "d17b7b6f7e6722898442c6b2b446fdf9a68510482cb57cddf5c3f54a90c52fd0". You have to remove (or rename) that container to be able to reuse that name.
See 'docker run --help'.
igris@2b4579b9c7125f2:~$ ps -a
  PID TTY          TIME CMD
   481 pts/1    00:00:00 bash
  1480 pts/4    00:00:00 bash
  3297 pts/0    00:00:00 ps
igris@2b4579b9c7125f2:~$ docker ps
CONTAINER ID   IMAGE      COMMAND                  CREATED        STATUS        PORTS                               NAMES
a968589f35ee   flask-app  "python app.py"          15 minutes ago Up 15 minutes  0.0.0.0:5002->5000/tcp              sleepy_fermi
igris@2b4579b9c7125f2:~$ docker stop sleepy_fermi
sleepy_fermi
igris@2b4579b9c7125f2:~$ docker run -d -p 8080:80 --name my-nginx nginx
docker: Error response from daemon: Conflict. The container name "/my-nginx" is already in use by container "d17b7b6f7e6722898442c6b2b446fdf9a68510482cb57cddf5c3f54a90c52fd0". You have to remove (or rename) that container to be able to reuse that name.
See 'docker run --help'.
igris@2b4579b9c7125f2:~$ docker ps

```

```

igris@2b4579b9c7125f2: ~/nginx_project
-bash: /home/igris/nginx_project/index.html:/usr/share/nginx/html/index.html: No such file or directory
igris@2b4579b9c7125f2:~/nginx_project$ docker run -d -p 8081:80 --name custom-nginx -v
flag needs an argument: 'v' in -v
See 'docker run --help'.
igris@2b4579b9c7125f2:~/nginx_project$ docker run -d -p 8080:80 --name custom-nginx -v
.html:/usr/share/nginx/html/index.html nginxflag needs an argument: 'v' in -v
See 'docker run --help'.
igris@2b4579b9c7125f2:~/nginx_project$ docker run -d -p 8080:80 --name custom-nginx -v
.html:/usr/share/nginx/html/index.html nginxflag needs an argument: 'v' in -v
See 'docker run --help'.
igris@2b4579b9c7125f2:~/nginx_project$ ^Cpwd)/index.html:/usr/share/nginx/html/index.html nginx
igris@2b4579b9c7125f2:~/nginx_project$ docker run -d -p 8080:80 --name custom-nginx -v
)/index.html:/usr/share/nginx/html/index.html nginxflag needs an argument: 'v' in -v
See 'docker run --help'.
igris@2b4579b9c7125f2:~/nginx_project$ $(pwd)/index.html:/usr/share/nginx/html/index.html nginx^C
igris@2b4579b9c7125f2:~/nginx_project$ docker run -d -p 8081:80 --name custom-nginx -v $(pwd)/index.html:/usr/share/nginx/html/index.html ng
inx
faa2f29dba6d4560b66dc45d20dbbf66608551cd3facdad2528ee130255fedc
docker: Error response from daemon: driver failed programming external connectivity on endpoint custom-nginx (56bc698ad0f035cea8dfe9f152b937f36c9e8754559d2a3401d654c1d96f02c2): Bind for 0.0.0.0:8081 failed: port is already allocated.
igris@2b4579b9c7125f2:~/nginx_project$ docker run -d -p 8082:80 --name custom-nginx -v $(pwd)/index.html:/usr/share/nginx/html/index.html ng
inx
docker: Error response from daemon: Conflict. The container name "/custom-nginx" is already in use by container "faa2f29dba6d4560b66dc45d20dbbf66608551cd3facdad2528ee130255fedc". You have to remove (or rename) that container to be able to reuse that name.
See 'docker run --help'.
igris@2b4579b9c7125f2:~/nginx_project$ docker images
REPOSITORY    TAG       IMAGE ID       CREATED        SIZE
flask-app     latest   f26a85f33163   48 minutes ago 209MB
<none>        <none>   cb9e1b6e19f6   2 weeks ago    182MB
nginx         latest   9d6b58feebd2   3 weeks ago    279MB
pra1          latest   536770fe7eff   3 months ago   189MB
swarm         latest   2de883e2933    4 years ago    16.6MB

```

