

## Devops lab program – 3

### Code a Dockerized Python Flask or Node.js Application

#### Project structure

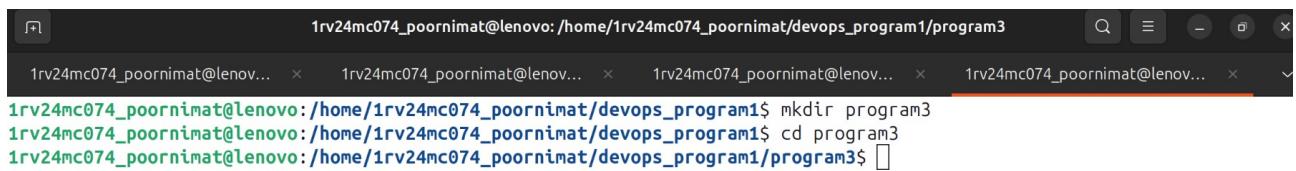
**devops\_program3**

|\_\_**Dockerfile**

|\_\_**app.py**

|\_\_**requirements.txt**

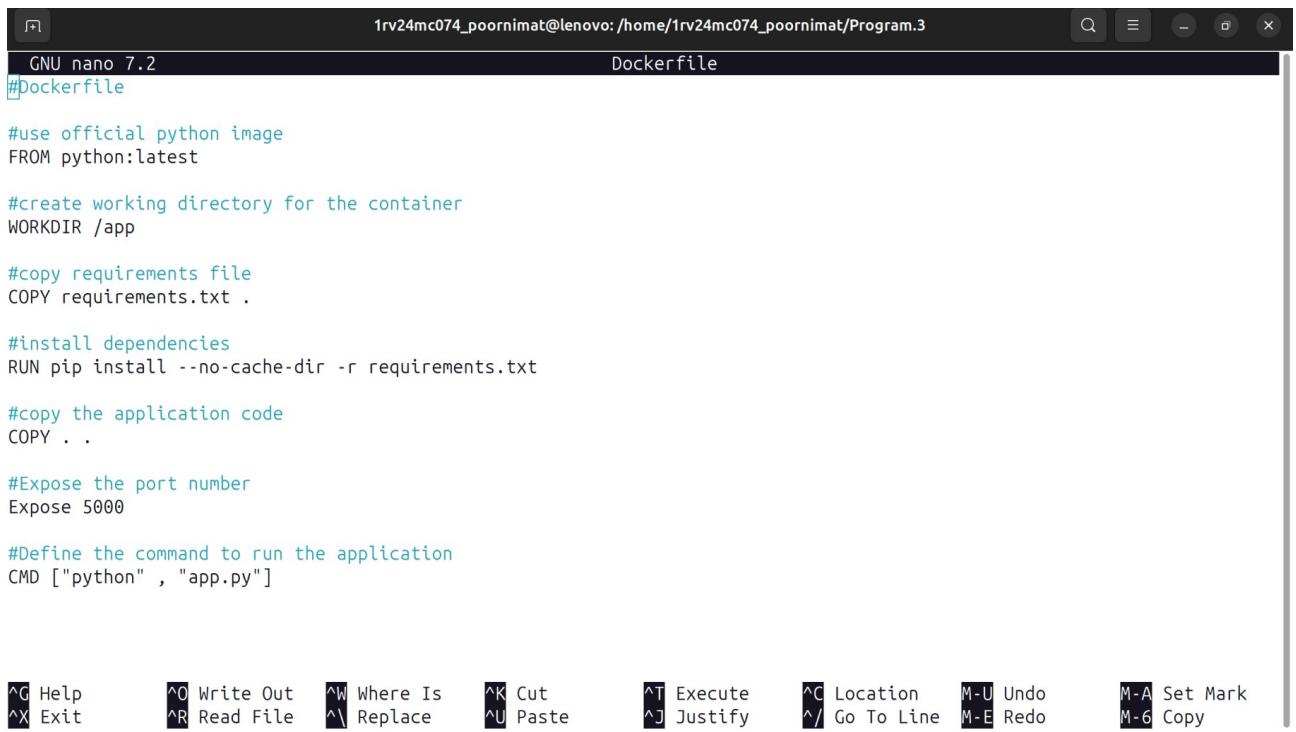
#### step1:create project folder



```
1rv24mc074_poornimat@lenovo: /home/1rv24mc074_poornimat/devops_program1/program3
1rv24mc074_poornimat@lenovo: /home/1rv24mc074_poornimat/devops_program1$ mkdir program3
1rv24mc074_poornimat@lenovo: /home/1rv24mc074_poornimat/devops_program1$ cd program3
1rv24mc074_poornimat@lenovo: /home/1rv24mc074_poornimat/devops_program1/program3$ 
```

#### step2: create docker file

#### nano Dockerfile



```
GNU nano 7.2
#Dockerfile

#use official python image
FROM python:latest

#create working directory for the container
WORKDIR /app

#copy requirements file
COPY requirements.txt .

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

#copy the application code
COPY .

#Expose the port number
Expose 5000

#Define the command to run the application
CMD ["python" , "app.py"]
```

^G Help ^O Write Out ^W Where Is ^K Cut ^T Execute ^C Location M-U Undo ^X Exit ^R Read File ^\ Replace ^U Paste ^J Justify ^/ Go To Line M-E Redo M-A Set Mark M-6 Copy

## step3:create python application file

**nano app.py**

```
1rv24mc074_poornimat@lenovo: /home/1rv24mc074_poornimat/Program.3
GNU nano 7.2                                         app.py
from flask import Flask
app = Flask(__name__)
@app.route('/')
def home():
    return "Hello from flask Docker !"
if __name__ == '__main__':
    app.run(host='0.0.0.0' , port=5000)

[ Read 10 lines ]
^G Help          ^O Write Out   ^W Where Is   ^K Cut           ^T Execute   ^C Location   M-U Undo   M-A Set Mark
^X Exit          ^R Read File  ^\ Replace    ^U Paste        ^J Justify   ^/ Go To Line M-E Redo   M-6 Copy
```

## step4:create requirements.txt file

**nano requirements.txt**

```
1rv24mc074_poornimat@lenovo: /home/1rv24mc074_poornimat/Program.3
GNU nano 7.2                                         requirements.txt
Flask==2.3.3
```

## step5:build docker image

**sudo docker build -t p1 .**

```
1rv24mc074_poornimat@lenovo:/home/1rv24mc074_poornimat/Program.3$ sudo docker build -t p3 .  
[+] Building 155.1s (10/10) FINISHED docker:default  
=> [internal] load build definition from Dockerfile 0.0s  
=> => transferring dockerfile: 423B 0.0s  
=> WARN: ConsistentInstructionCasing: Command 'Expose' should match the case of the command majority (uppercase) 0.0s  
=> [internal] load metadata for docker.io/library/python:latest 5.7s  
=> [internal] load .dockerignore 0.0s  
=> => transferring context: 2B 0.0s  
=> [internal] load build context 0.0s  
=> => transferring context: 93B 0.0s  
=> [1/5] FROM docker.io/library/python:latest@sha256:1ad1a43b5e2478e62056bbc28028af858185d73bf4d6a439ccb058b6 137.1s  
=> => resolve docker.io/library/python:latest@sha256:1ad1a43b5e2478e62056bbc28028af858185d73bf4d6a439ccb058b680 0.0s  
=> => sha256:1ad1a43b5e2478e62056bbc28028af858185d73bf4d6a439ccb058b6800a96d 10.95kB / 10.95kB 0.0s  
=> => sha256:0134b02fcae7fd813645ca13d87412024d3c4324460c0b55e84015951284ad58 6.48kB / 6.48kB 0.0s  
=> => sha256:13cc39f8244ac66bf1dd9149e1da421ab1bbc80d612dc14fe368753e7be17b33 49.29MB / 49.29MB 37.3s  
=> => sha256:c3143549f2b8b3ad8d79efdc47824641c6771796b3770f3c637a38aab2b3462 25.62MB / 25.62MB 27.4s  
=> => sha256:72e8e93b0d018b135d833207c6feaba205653ac52e0a80d214477ec0de239dee 67.78MB / 67.78MB 64.4s  
=> => sha256:c4a87c25190f591b29fb62b4ee424ea9907b4a1997357ed47e82d6db98c80b12 2.32kB / 2.32kB 0.0s  
=> => sha256:23d55a674b2e3641a37b7f2053f00af6fe4f2a89576ff917d4b7b4deaf24591 235.94MB / 235.94MB 127.4s  
=> => extracting sha256:13cc39f8244ac66bf1dd9149e1da421ab1bbc80d612dc14fe368753e7be17b33 1.8s  
=> => sha256:8f5fb10be9d4525dc6941af4e2a587d1d3edb7442cdad0eebb1a3806b183dd 6.09MB / 6.09MB 41.6s  
=> => extracting sha256:e3143549f2b8b3ad8d79efdc47824641c6771796b3770f3c637a38aab2b3462 0.8s  
=> => sha256:2fb0f02c04055ee28543076a502ce51fa41895e386e4462739fb1526dc371425e 29.23MB / 29.23MB 62.7s  
=> => sha256:149075fcccd1b52406789bff7063813f1c14baf10b165df0e1e00fc0ca415e5 248B / 248B 63.5s  
=> => extracting sha256:72e8e93b0d018b135d833207c6feaba205653ac52e0a80d214477ec0de239dee 2.6s  
=> => extracting sha256:23d55a674b2e3641a37b7f2053f00af6fe4f2a89576ff917d4b7b4deaf24591 8.0s  
=> => extracting sha256:8f5fb10be9d4525dc6941af4e2a587d1d3edb7442cdad0eebb1a3806b183dd 0.3s  
=> => extracting sha256:2fb0f02c04055ee28543076a502ce51fa41895e386e4462739fb1526dc371425e 1.0s  
=> => extracting sha256:149075fcccd1b52406789bff7063813f1c14baf10b165df0e1e00fc0ca415e5 0.0s
```

## step6: run the container

**sudo docker run -p 5000:5000 p1**

```
1rv24mc074_poornimat@lenovo:/home/1rv24mc074_poornimat/Program.3$ sudo docker run -p 5000:5000 p3  
* Serving Flask app 'app'  
* Debug mode: off  
WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.  
* Running on all addresses (0.0.0.0)  
* Running on http://127.0.0.1:5000  
* Running on http://172.18.0.2:5000  
Press CTRL+C to quit
```

## step7: verify the application

open your browser and go to <http://localhost:5000>

