

Program3

Code a Dockerized python Flask or [Node.js](#) application

Step 1 - Create the following file structure

```
prgm3
|----- Dockerfile
|----- app.py
|----- requirements.txt
```

Step 4 - Write the Dockerfile, requirements.txt and [app.py](#)

```
1rv24mc082_rajatraj@rajatraj-Vostro-5581:~$ cd devops/labprogram/prgm3/
1rv24mc082_rajatraj@rajatraj-Vostro-5581:~/devops/labprogram/prgm3$ cat Dockerfile
FROM python:latest

WORKDIR /app

COPY requirements.txt .

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

COPY . .

EXPOSE 5000

CMD ["python","app.py"]
1rv24mc082_rajatraj@rajatraj-Vostro-5581:~/devops/labprogram/prgm3$ cat app.py
from flask import Flask

app = Flask(__name__)

@app.route("/")
def home():
    return "Hello from simple Flask Docker!"

if __name__ == "__main__":
    app.run(host="0.0.0.0", port=5000)
1rv24mc082_rajatraj@rajatraj-Vostro-5581:~/devops/labprogram/prgm3$ cat requirements.txt
Flask==2.3.3
1rv24mc082_rajatraj@rajatraj-Vostro-5581:~/devops/labprogram/prgm3$ █
```

Step 5 - Build the Docker image

```
docker build -t prgm3
```

Step 6 - Build and Run the container

```
docker run -p 5000:5000 prgm3
```

```
1rv24mc082_rajatraj@rajatraj-Vostro-5581:~/devops/Labprogram/prgn3$ docker build -t prgn3 .
[*] Building 5.3s (10/10) FINISHED
=> [internal] load build definition from Dockerfile
=> => transferring dockerfile: 197B
=> [internal] load metadata for docker.io/library/python:latest
=> [internal] load .dockerignore
=> => transferring context: 2B
=> [1/5] FROM docker.io/library/python:latest@sha256:1ad1a43b5e2478e62056bbc28028afd858185d73bf4d6a439cbb058b6800a96d
=> => resolve docker.io/library/python:latest@sha256:1ad1a43b5e2478e62056bbc28028afd858185d73bf4d6a439cbb058b6800a96d
=> [internal] load build context
=> => transferring context: 93B
=> CACHED [2/5] WORKDIR /app
=> CACHED [3/5] COPY requirements.txt .
=> CACHED [4/5] RUN pip install --no-cache-dir -r requirements.txt
=> CACHED [5/5] COPY . .
=> exporting to image
=> => exporting layers
=> => writing image sha256:0e0cf62f1059aa3daaaf3af15bf69659b9b217747357cfa7b9310999e2dadf69
=> => naming to docker.io/library/prgn3
1rv24mc082_rajatraj@rajatraj-Vostro-5581:~/devops/Labprogram/prgn3$ docker run -p 5000:5000 prgn3
* 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
172.18.0.1 - - [05/Nov/2025 15:46:02] "GET / HTTP/1.1" 200 -
172.18.0.1 - - [05/Nov/2025 15:46:02] "GET /favicon.ico HTTP/1.1" 404 -
█
```

docker:default
0.2s
0.0s
2.1s
0.1s
0.0s
0.5s
0.5s
0.3s
0.0s
0.0s
0.0s
0.0s
0.2s
0.0s
0.1s
0.1s

Step 7 - Verify the output

<https://localhost:5000>

```
1rv24mc082_rajatraj@rajatraj-Vostro-5581:~/devops/Labprogram/prgn3$ docker build -t prgn3 .
[*] Building 5.3s (10/10) FINISHED
=> [internal] load build definition from Dockerfile
=> => transferring dockerfile: 197B
=> [internal] load metadata for docker.io/library/python:latest
=> [internal] load .dockerignore
=> => transferring context: 2B
=> [1/5] FROM docker.io/library/python:latest@sha256:1ad1a43b5e2478e62056bbc28028afd858185d73bf4d6a439cbb058b6800a96d
=> => resolve docker.io/library/python:latest@sha256:1ad1a43b5e2478e62056bbc28028afd858185d73bf4d6a439cbb058b6800a96d
=> [internal] load build context
=> => transferring context: 93B
=> CACHED [2/5] WORKDIR /app
=> CACHED [3/5] COPY requirements.txt .
=> CACHED [4/5] RUN pip install --no-cache-dir -r requirements.txt
=> CACHED [5/5] COPY . .
=> exporting to image
=> => exporting layers
=> => writing image sha256:0e0cf62f1059aa3daaaf3af15bf69659b9b217747357cfa7b9310999e2dadf69
=> => naming to docker.io/library/prgn3
1rv24mc082_rajatraj@rajatraj-Vostro-5581:~/devops/Labprogram/prgn3$ docker run -p 5000:5000 prgn3
* 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
172.18.0.1 - - [05/Nov/2025 15:46:02] "GET / HTTP/1.1" 200 -
172.18.0.1 - - [05/Nov/2025 15:46:02] "GET /favicon.ico HTTP/1.1" 404 -
█
```

