

# Program 1

## Project Structure:

```
lab1-devops/
|
├── app.py
├── requirements.txt
├── Dockerfile
└── flenv/      # Python virtual environment (local)
    └── README.md
```

## Dockerfile:

```
# lab 1 file
FROM python:3.9-slim

WORKDIR /app

COPY requirements.txt .
RUN pip install -r requirements.txt

LABEL maintainer="Kunal"

LABEL version="1.0"

COPY . .

ENV FLASK_APP=app.py
ENV FLASK_RUN_HOST=0.0.0.0
ENV FLASK_RUN_PORT=5000

EXPOSE 5000

CMD ["flask", "run"]
```

## app.py

```
from flask import Flask

app = Flask(__name__)

@app.route('/')
def hello():
    pass
```

```
    return "hello world from container"

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

Requirements.txt  
Flask

### Setup and Installation:

Make sure Python 3 is installed:  
python3 --version

If not installed, you can install it (on Ubuntu/Debian):  
sudo apt update  
sudo apt install python3 python3-venv python3-pip -y

In your project folder (e.g., [~/lab1-devops](#)):  
python3 -m venv flenv

Activate the environment:  
source flenv/bin/activate

```
(flenv)─(singh@singh)─[~/lab1-devops]
└─$ sudo docker build -t pythonapp:latest .

└─(flenv)─(singh@singh)─[~/lab1-devops]
└─$ sudo docker run -d -p 5000:5000 --name contain-myapplication pythonapp
```

**Open:**  
<http://localhost:5000>



hello world from container