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## **PROGRAM -1**

**TITLE :Build a docker container from a custom Docker-file**

Structure of the Program:

Program -1:

Dockerfile

requirement.txt

[app.py](#)

Step-1 : Create a Dockerfile

```
###Dockerfile

#This the Docker file
#Dockerfile is the set of instruction that the docker
#uses to create the Docker image

#Uses the slim python base image
FROM python:3.9-slim

#Label for the metadata
LABEL maintainer="anusha@gmail.com"
LABEL version="1.0.0"

#Set the working directory
WORKDIR /app

#Copy the requirement.txt and install the dependencies
COPY requirement.txt .
RUN pip install --no-cache-dir -r requirement.txt

#Copy the application code
COPY . .
#Set the flask environment variables
ENV FLASK_APP=app.py
ENV FLASK_RUN_HOST=0.0.0.0
ENV FLASK_RUN_PORT=5000

#Expose the port on which the flask runs on
EXPOSE 5000

#Define the command for running the flask application
CMD ["flask","run"]
```

Step-2: Create a [app.py](#) file

```
from flask import Flask
app=Flask(__name__)

@app.route("/")
def hello():
    return "Hello ! From the docker"

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

Step-3: Create a requirement.txt file and include  
Flask

Step-4: Inside the terminal create Docker image  
sudo docker build -t program-1 .

Step-5: Inside the terminal run the container  
sudo docker run -d -p 5000:5000 --name first-container program-1

Step-6 : Check in your browser and go to <http://localhost:5000>



Step-7: Verify the containers in the terminal  
sudo docker container ls -a  
sudo docker container stop first-container

sudo docker container rm first -container

sudo docker image rm flask-image

```
_1RV24MC019_anusha_s@anu-Vivobook-Go-E1504FA-E1504FAB:~/Program-1$ sudo docker container ls -a
[sudo] password for _1RV24MC019_anusha_s:
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS              PORTS                               NAMES
26e892e5d9de   express-image   "docker-entrypoint.s..." 25 minutes ago Up 25 minutes      0.0.0.0:3000->3000/tcp, [::]:3000->3000/tcp second-container
9c63cbdebcbb   flask-image     "flask run"                44 minutes ago Exited (137) 42 minutes ago          first-container
_1RV24MC019_anusha_s@anu-Vivobook-Go-E1504FA-E1504FAB:~/Program-1$ sudo docker container stop first-container
first-container
_1RV24MC019_anusha_s@anu-Vivobook-Go-E1504FA-E1504FAB:~/Program-1$ sudo docker container rm first-container
first-container
_1RV24MC019_anusha_s@anu-Vivobook-Go-E1504FA-E1504FAB:~/Program-1$ sudo docker image rm flask-image
Untagged: flask-image:latest
Deleted: sha256:8b2fd6b9de0e970b7f8520895fad44fee4b5943c0e03d1ba5024de94262f4528
_1RV24MC019_anusha_s@anu-Vivobook-Go-E1504FA-E1504FAB:~/Program-1$
```