

Program1

Build a Docker Container from a custom Dockerfile

Step 1 - Create the following directory structure

```
1rv24mc082_rajatraj@rajatraj-Vostro-5581:~$ cd devops/labprogram/prgm1/  
1rv24mc082_rajatraj@rajatraj-Vostro-5581:~/devops/labprogram/prgm1$ ls  
Dockerfile requirement.txt sample.txt  
1rv24mc082_rajatraj@rajatraj-Vostro-5581:~/devops/labprogram/prgm1$ █
```

Step 2 - Write the following commands in Dockerfile

```
FROM python:3.10-slim  
  
LABEL maintainer="xyz@example.com"  
LABEL version="1.0"  
LABEL description="Sample Docker Commands"  
  
ENV APP_HOME=/prgm1  
WORKDIR $APP_HOME  
  
COPY requirement.txt .  
COPY . .  
  
RUN apt-get update && apt-get install -y curl  
  
COPY sample.txt $APP_HOME/sample.txt  
  
RUN echo "curl has been successfully installed!"  
  
EXPOSE 8080  
  
RUN useradd -m myuser  
USER myuser  
  
CMD ["python3", "-m", "http.server", "8080"]
```

Step 3 - Build the image by running

```
docker build -t program1 .
```

Step 4 - Create and run a new container of the image by the following command

```
docker run -p 8080:8080 prgm1
```

Step 5 - verify the output

Open browser <https://localhost:8080>

```

1rv24nc082_rajatraj@rajatraj-Vostro-5581:~/devops/labprogram/prgm1$ nano Dockerfile
1rv24nc082_rajatraj@rajatraj-Vostro-5581:~/devops/labprogram/prgm1$ nano requirement.txt
1rv24nc082_rajatraj@rajatraj-Vostro-5581:~/devops/labprogram/prgm1$ nano sample.txt
1rv24nc082_rajatraj@rajatraj-Vostro-5581:~/devops/labprogram/prgm1$ docker build -t prgm1 .
[*] Building 7.2s (13/13) FINISHED
=> [internal] load build definition from Dockerfile
=> => transferring dockerfile: 499B
=> [internal] load metadata for docker.io/library/python:3.10-slim
=> [internal] load .dockerignore
=> => transferring context: 2B
=> [1/8] FROM docker.io/library/python:3.10-slim@sha256:2a8c7d9efdae9b636de80a187a4ce31374ffb3883a7be06232d25a96e0538bf4
=> => resolve docker.io/library/python:3.10-slim@sha256:2a8c7d9efdae9b636de80a187a4ce31374ffb3883a7be06232d25a96e0538bf4
=> [internal] load build context
=> => transferring context: 95B
=> CACHED [2/8] WORKDIR /prgm1
=> CACHED [3/8] COPY requirement.txt .
=> CACHED [4/8] COPY . .
=> CACHED [5/8] RUN apt-get update && apt-get install -y curl
=> CACHED [6/8] COPY sample.txt /prgm1/sample.txt
=> CACHED [7/8] RUN echo "curl has been successfully installed!"
=> CACHED [8/8] RUN useradd -m myuser
=> exporting to image
=> => exporting layers
=> => writing image sha256:f3253c316cc8616f652ebb249de687ec2f50f8134c5c842b66960c590d4fecc1
=> => naming to docker.io/library/prgm1
1rv24nc082_rajatraj@rajatraj-Vostro-5581:~/devops/labprogram/prgm1$ docker run -p 8080:8080 prgm1
172.18.0.1 - - [05/Nov/2025 15:41:00] "GET /sample.txt HTTP/1.1" 304 -
172.18.0.1 - - [05/Nov/2025 15:41:00] code 404, message File not found
172.18.0.1 - - [05/Nov/2025 15:41:00] "GET /favicon.ico HTTP/1.1" 404 -

```

