

## PROGRAM 1

Build a Docker Container from a Custom Dockerfile

Project Structure:

```
program1/
|
└── Dockerfile
    └── app.py
    └── requirements.txt
```

Steps:

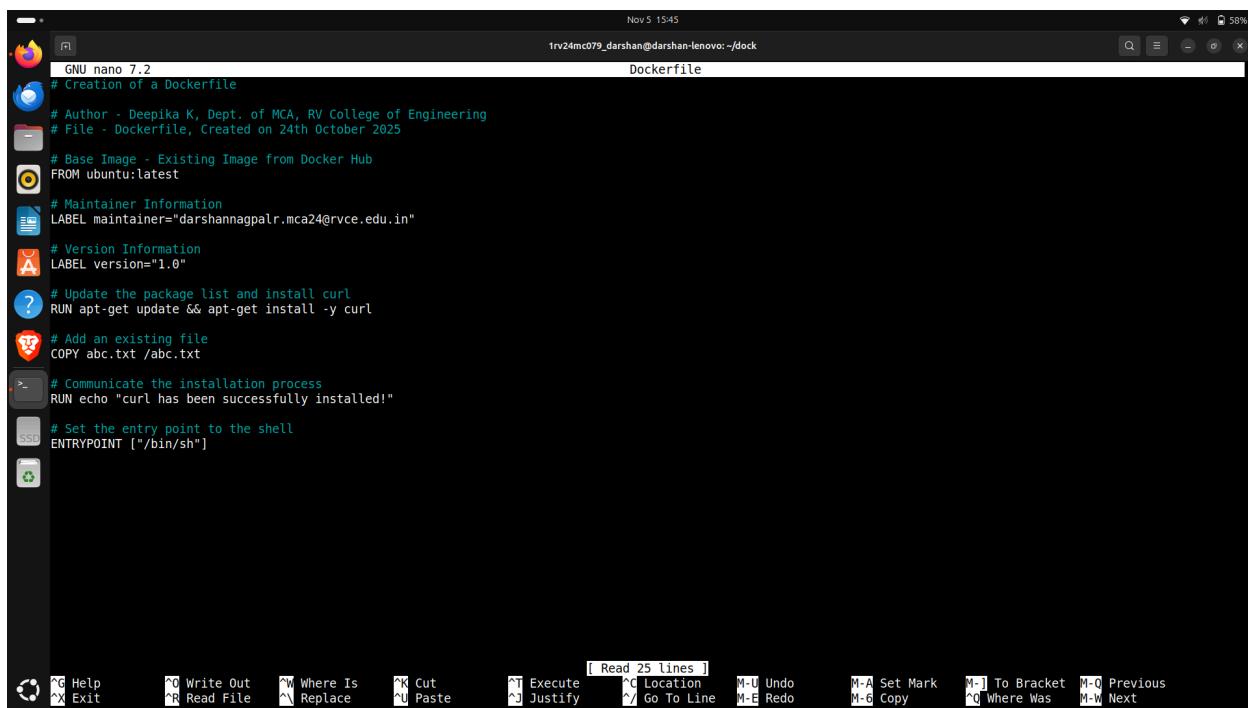
S1: Create Project Folder

```
mkdir program1
```

```
cd program1
```

S2: Create Dockerfile

```
nano Dockerfile
```



The screenshot shows a terminal window titled "Dockerfile" with the command "GNU nano 7.2". The file content is as follows:

```
Nov 3 15:43
1rv24mc079_darshan@darshan-lenovo:~/dock
Dockerfile

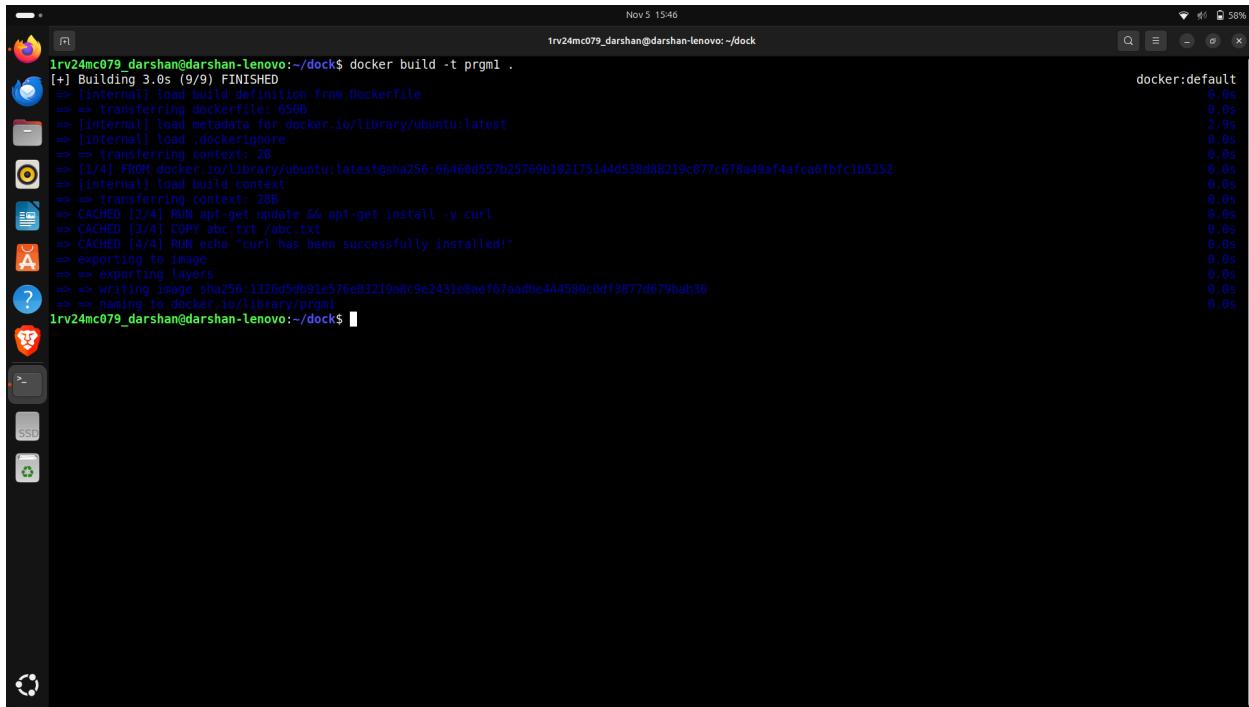
# Creation of a Dockerfile
# Author - Deepika K, Dept. of MCA, RV College of Engineering
# File - Dockerfile, Created on 24th October 2025
# Base Image - Existing Image from Docker Hub
FROM ubuntu:latest
# Maintainer Information
LABEL maintainer="darshannagpalr.mca24@rvce.edu.in"
# Version Information
LABEL version="1.0"
# Update the package list and install curl
RUN apt-get update && apt-get install -y curl
# Add an existing file
COPY abc.txt /abc.txt
# Communicate the installation process
RUN echo "curl has been successfully installed!"
# Set the entry point to the shell
ENTRYPOINT ["/bin/sh"]
```

The terminal window includes standard nano key bindings at the bottom:

```
[ Read 25 lines ]
G Help      F1 Exit      F2 Write Out      F3 Read File      F4 Where Is      F5 Replace      F6 Cut      F7 Paste      F8 Execute      F9 Justify      F10 C Location      F11 Go To Line      M-U Undo      M-E Redo      M-A Set Mark      M-J To Bracket      M-Q Previous      M-W Next
```

## S5: Build the Docker Image

**docker build -t program1 .**

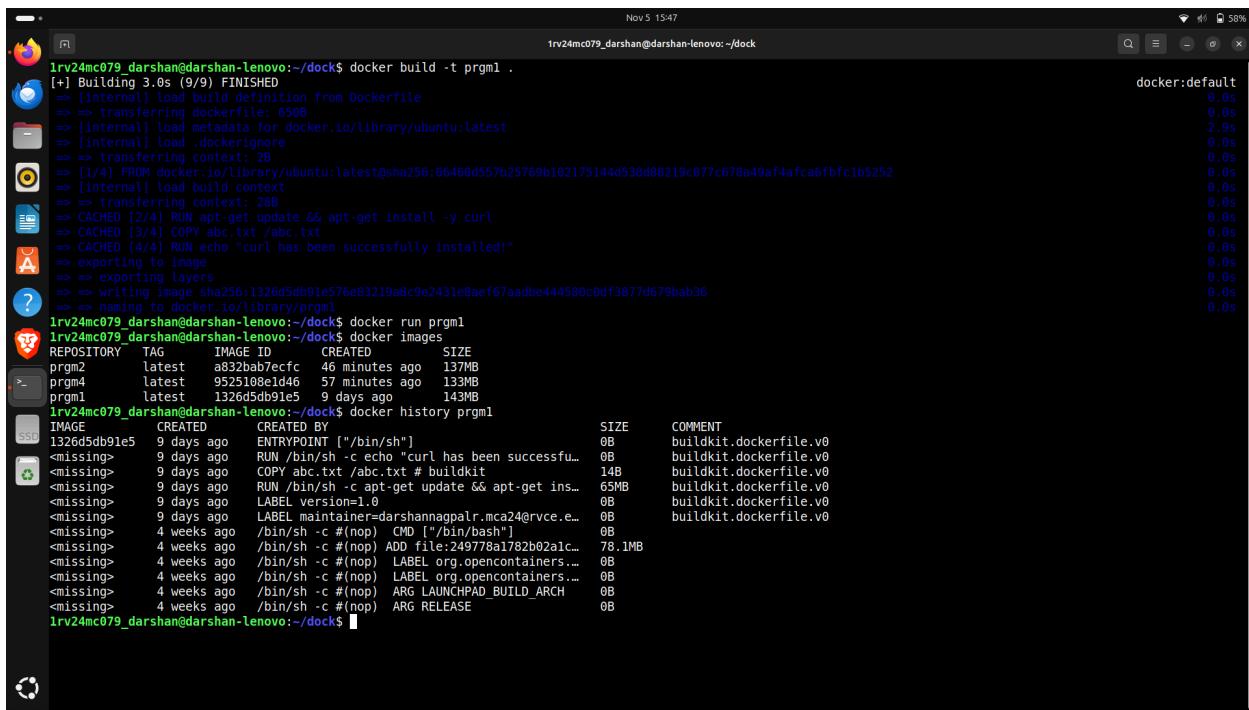


```
1rv24mc079_darshan@darshan-lenovo:~/dock$ docker build -t prgm1 .
[+] Building 3.0s (9/9) FINISHED
=> [internal] load build definition from Dockerfile
=> => transferring dockerfile: 650B
=> [internal] load metadata for docker.io/library/ubuntu:latest
=> [internal] load .dockerignore
=> => transferring context: 2B
=> [internal] load build context
=> => transferring context: 2B8
=> CACHED [2/4] RUN apt-get update && apt-get install -y curl
=> CACHED [3/4] COPY abc.txt /abc.txt
=> CACHED [4/4] RUN echo "curl has been successfully installed!"
=> exporting to image
=> => exporting layers
=> => writing image sha256:1326d5db91e576e83219a8c9e2431e8aef67aadbe444580c0df3877d679bab36
=> => naming to docker.io/library/prgm1
1rv24mc079_darshan@darshan-lenovo:~/dock$
```

## S6 : run the docker image

**docker run prgm1**

**docker history prgm1**



```
1rv24mc079_darshan@darshan-lenovo:~/dock$ docker build -t prgm1 .
[+] Building 3.0s (9/9) FINISHED
=> [internal] load build definition from Dockerfile
=> => transferring dockerfile: 650B
=> [internal] load metadata for docker.io/library/ubuntu:latest
=> [internal] load .dockerignore
=> => transferring context: 2B
=> [internal] load build context
=> => transferring context: 2B8
=> CACHED [2/4] RUN apt-get update && apt-get install -y curl
=> CACHED [3/4] COPY abc.txt /abc.txt
=> CACHED [4/4] RUN echo "curl has been successfully installed!"
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=> => exporting layers
=> => writing image sha256:1326d5db91e576e83219a8c9e2431e8aef67aadbe444580c0df3877d679bab36
=> => naming to docker.io/library/prgm1
1rv24mc079_darshan@darshan-lenovo:~/dock$ docker run prgm1
1rv24mc079_darshan@darshan-lenovo:~/dock$ docker images
REPOSITORY          TAG      IMAGE ID   CREATED             SIZE
prgm2              latest   a832bab7ecfc  46 minutes ago  137MB
prgm4              latest   9525108e1d46  57 minutes ago  133MB
prgm1              latest   1326d5db91e5  9 days ago    143MB
1rv24mc079_darshan@darshan-lenovo:~/dock$ docker history prgm1
IMAGE            CREATED           CREATED BY          SIZE    COMMENT
1326d5db91e5  9 days ago        ENTRYPOINT [""/bin/sh"]
<missing>       9 days ago        RUN /bin/sh -c echo "curl has been successfu...
<missing>       9 days ago        COPY abc.txt /abc.txt # buildkit
<missing>       9 days ago        RUN /bin/sh -c apt-get update && apt-get ins...
<missing>       9 days ago        LABEL maintainer=darshannagpalr.mca24@rvce.e...
<missing>       4 weeks ago       /bin/sh -c #(nop) CMD ["/bin/bash"]
<missing>       4 weeks ago       /bin/sh -c #(nop) ADD file:249778a1782b02a1c...
<missing>       4 weeks ago       /bin/sh -c #(nop) LABEL org.opencontainers...
<missing>       4 weeks ago       /bin/sh -c #(nop) LABEL org.opencontainers...
<missing>       4 weeks ago       /bin/sh -c #(nop) ARG LAUNCHPAD_BUILD_ARCH
<missing>       4 weeks ago       /bin/sh -c #(nop) ARG RELEASE
1rv24mc079_darshan@darshan-lenovo:~/dock$
```