

PROGRAM 2

Develop a Multistage Dockerfile for Container Orchestration

S1: Create a folder

mkdir Program2

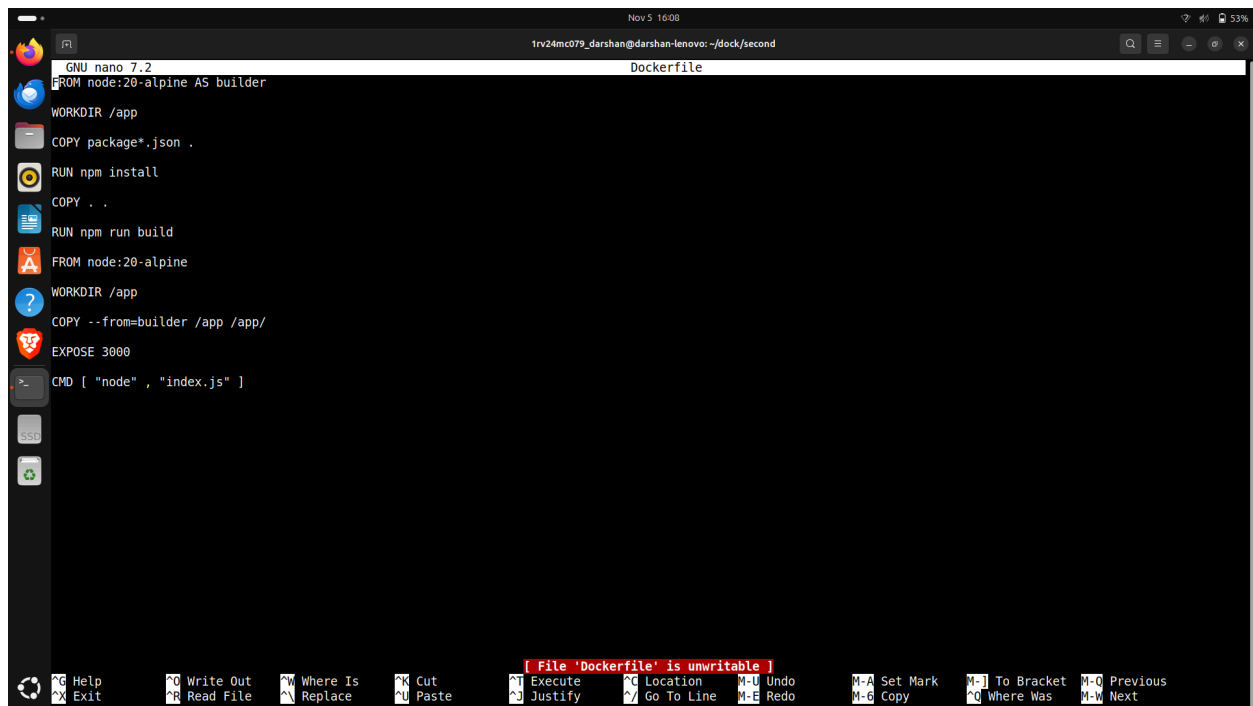
S2: Install npm packages and node modules

npm init -y

npm install express

S3: Create dist and src folder

S4: Create Dockerfile



```
GNU nano 7.2 Dockerfile
FROM node:20-alpine AS builder
WORKDIR /app
COPY package*.json .
RUN npm install
COPY . .
RUN npm run build
FROM node:20-alpine
WORKDIR /app
COPY --from=builder /app /app/
EXPOSE 3000
CMD [ "node", "index.js" ]
```

[File 'Dockerfile' is unwritable]

Help Exit Write Out Read File Where Is Replace Cut Paste Execute Justify Location Go To Line Undo Redo Set Mark Copy To Bracket Where Was Previous Next

S5:create index.js file in both the directory



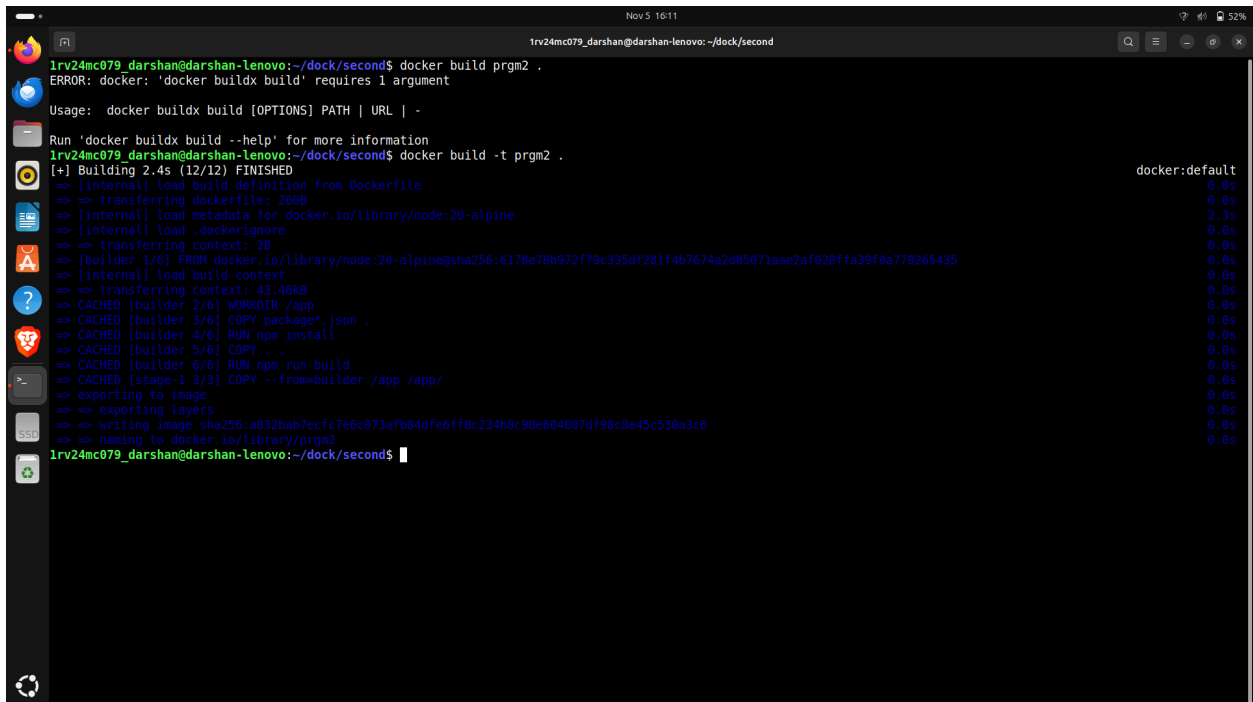
The screenshot shows a terminal window with the nano 7.2 text editor open. The file being edited is named 'index.js'. The code inside the file is as follows:

```
const express = require("express")
const app = express()
app.get("/", (req, res) => {
  res.send("Hello from dcoker ")
})

app.listen(3000, () => {
  console.log("Running on localhost:3000")
})
```

The terminal window title is '1rv24mc079_darshan@darshan-lenovo: ~/dock/second'. The bottom status bar of the nano editor shows 'Read 9 lines'.

S6: Build the image docker build -t program2



The screenshot shows a terminal window where the command 'docker build -t prgm2 .' has been executed. The output shows the build process for a Docker image named 'prgm2'.

```
1rv24mc079_darshan@darshan-lenovo:~/dock/second$ docker build prgm2 .
ERROR: docker: 'docker buildx build' requires 1 argument

Usage: docker buildx build [OPTIONS] PATH | URL | -

Run 'docker buildx build --help' for more information
1rv24mc079_darshan@darshan-lenovo:~/dock/second$ docker build -t prgm2 .
[+] Building 2.4s (12/12) FINISHED
=> [internal] load build definition from Dockerfile
=> transferring dockerfile: 260B
=> [internal] load metadata for docker.io/library/node:20-alpine
=> [internal] load .dockerignore
=> transferring context: 2B
=> [builder 1/6] FROM docker.io/library/node:20-alpine@sha256:6178e78b972f79c335df281f4b7674a2d85071aae2af020ffa39f0a770265435
=> [internal] load build context
=> transferring context: 43.46kB
=> CACHED [builder 2/6] WORKDIR /app
=> CACHED [builder 3/6] COPY package*.json .
=> CACHED [builder 4/6] RUN npm install
=> CACHED [builder 5/6] COPY . .
=> CACHED [builder 6/6] RUN npm run build
=> CACHED [stage-1 3/3] COPY --from=builder /app /app/
=> exporting to image
=> exporting layers
=> writing image sha256:a832bab7ecfc7e6c973afb84dfe6ff8c234b8c98e604087df98c8e45c530a3c6
=> naming to docker.io/library/prgm2
1rv24mc079_darshan@darshan-lenovo:~/dock/second$
```

The output also includes a progress bar on the right side of the terminal window, showing the progress of each step.

S7: Run the file

docker run -p 3000:3000 program2

