

DevOps Lab-1

1. Takes a Node.js environment

The Dockerfile starts from an official Node image (`node:18-alpine`), which already has Node.js installed.

2. Creates a folder inside the container

It makes a new folder called `/app`.

This is where your project files will be stored inside the Docker container.

3. Copies `package.json` files first

This allows Docker to install dependencies (`npm install`) before copying actual code.

This speeds up builds because Docker can cache dependencies.

4. Installs project dependencies

Docker runs `npm install` and installs all required node modules.

5. Copies all remaining project files

This includes your `index.js` and other source code.

6. Exposes port 3001

This tells Docker that your app will run on port `3001`.

7. Runs the app using `npm start`

This is the final step — when the container starts, it automatically runs the app.

Docker Commands

1. Build the Docker image

```
sudo docker build -t third_lab .
```

This takes the Dockerfile and creates a Docker image named `third_lab`.

2. Run the container

```
sudo docker run -p 3001:3001 third_lab
```

This runs your app inside a container and maps:

- Container port **3001**
- To your computer's port **3001**

3. Open your browser and visit:

```
http://localhost:3001
```

You should now see your application running.

File Structure

```
lab-1/  
└── app.py  
└── Dockerfile
```

Terminal output :-

```
Running hooks in /etc/ca-certificates/update.d...
done.
--> Removed intermediate container de49372e33f9
--> 059cd82a99ed
Step 5/8 : COPY app.py /app/app.py
--> 97d0f121d636
Step 6/8 : WORKDIR /app
--> Running in 3fb84cd0b30b
--> Removed intermediate container 3fb84cd0b30b
--> 40aafab7a55c
Step 7/8 : RUN echo " Python installed"
--> Running in c7360264681d
Python installed
--> Removed intermediate container c7360264681d
--> 21defa9d6a94
Step 8/8 : CMD ["python3", "app.py"]
--> Running in c13849ea9ba9
--> Removed intermediate container c13849ea9ba9
--> 2b4516b3ec05
Successfully built 2b4516b3ec05
Successfully tagged first_lab:latest
_1rv24mc078_prateek_kumar@arch ~/d/lab-1> sudo docker run -it first_lab
[sudo] password for _1rv24mc078_prateek_kumar:
Hello from docker
_1rv24mc078_prateek_kumar@arch ~/d/lab-1> █
```