National Textile University

Department of Computer Science

Subject:

Operating Systems

Submitted To:

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Submitted By:
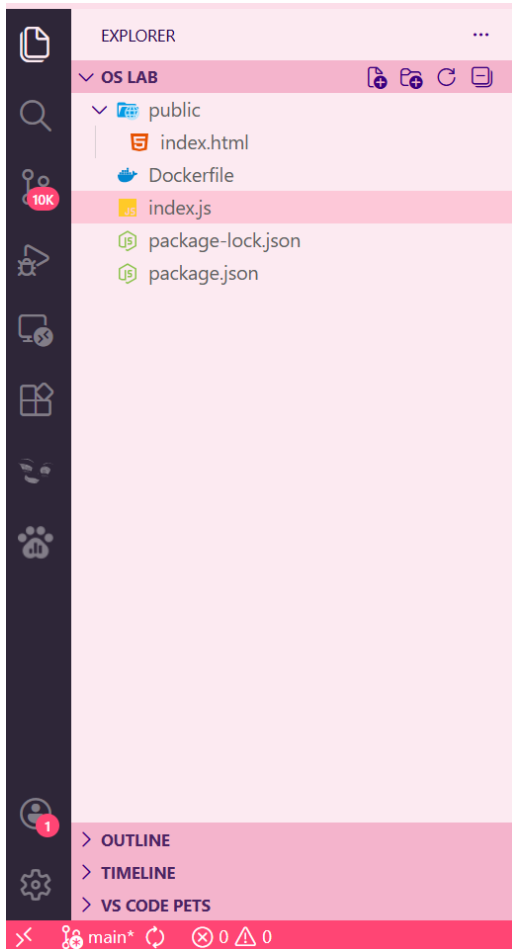
Alishba Riasat

Registration No:
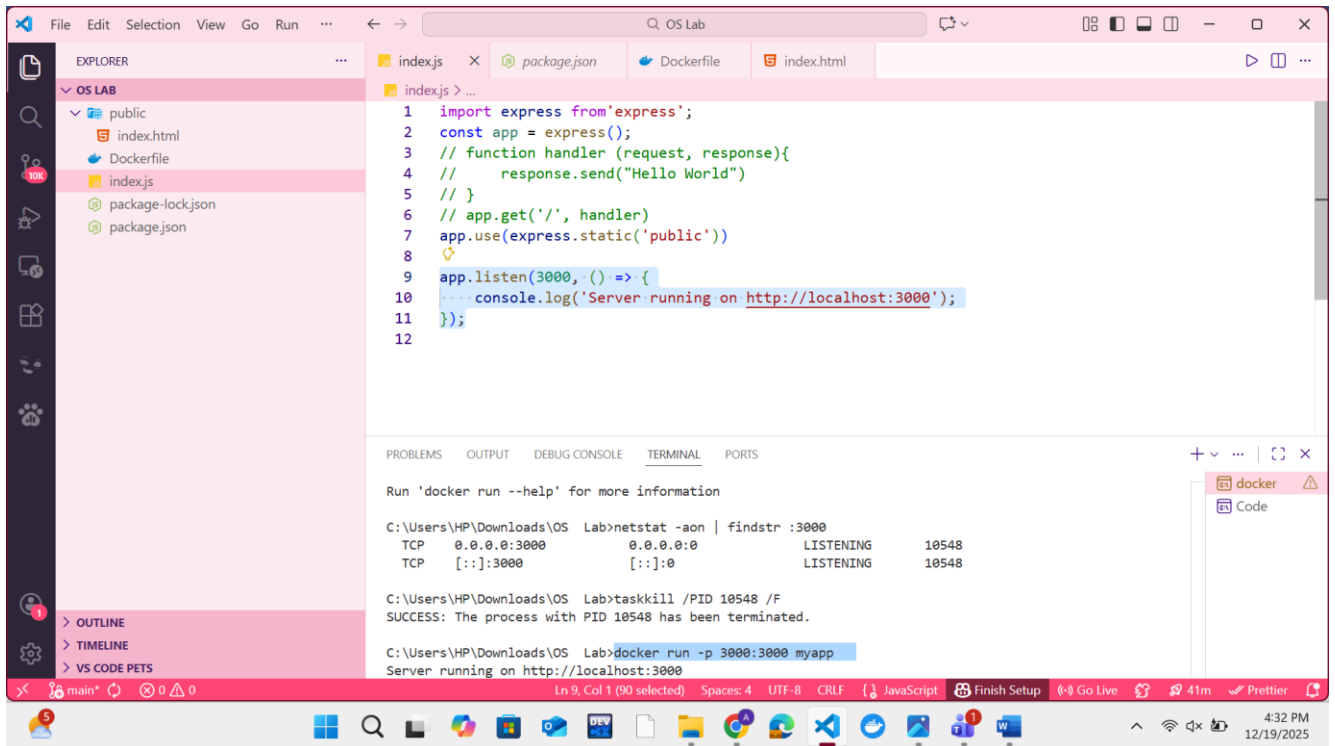
23-NTU-CS-1135

Lab No:

13

Semester:

5th

Practice Exercise: Build Your Own Image
Screenshots of Tasks:

- **Directory:**

- **Index.js file**


```javascript
import express from 'express';
const app = express();
// function handler (request, response){
//     response.send("Hello World")
// }
// app.get('/', handler)
app.use(express.static('public'))

app.listen(3000, () => {
    console.log('Server running on http://localhost:3000');
});
```

- **Dockerfile**


```dockerfile
# Base image
FROM node:lts-alpine3.23

# Set working directory
WORKDIR /app

#Copy files
COPY index.js .
COPY package.json .
# copy the public folder with index.html
COPY public ./public

# install packages
RUN npm i
CMD ["node","index.js"]
```

- ## Package.json


```json
{
  "name": "os-lab",
  "version": "1.0.0",
  "description": "",
  "main": "index.js",
  "keywords": [],
  "author": "",
  "license": "ISC",
  "type": "module",
  "dependencies": {
    "express": "^5.2.1"
  }
}
```
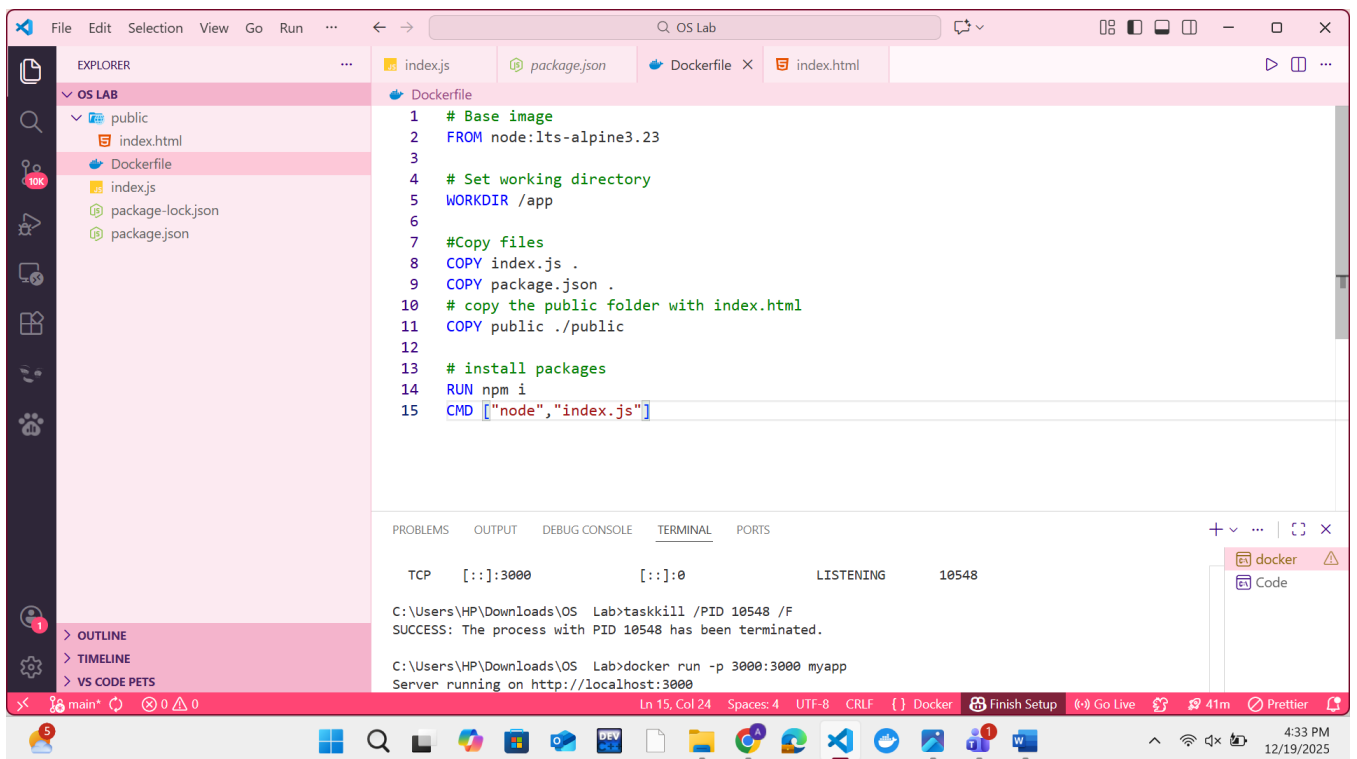
```
TCP          [::]:3000              [::]:0              LISTENING       10548

C:\Users\HP\Downloads\OS  Lab>taskkill /PID 10548 /F
SUCCESS: The process with PID 10548 has been terminated.

C:\Users\HP\Downloads\OS  Lab>docker run -p 3000:3000 myapp
Server running on http://localhost:3000
```
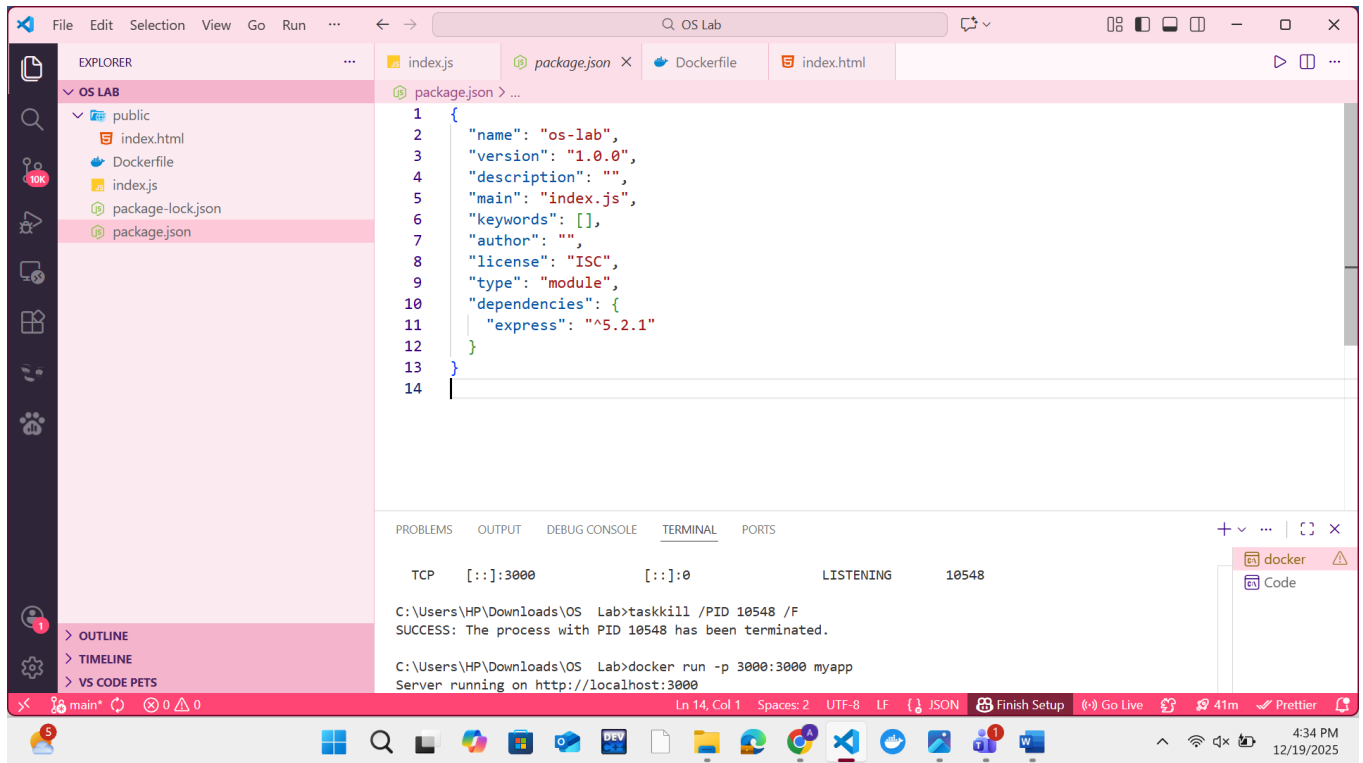
- ## Output Screenshot

Hello World from index.html!

Your Express server is running and serving this page.

- **Terminal Screenshot**

Building image:

PROBLEMS   OUTPUT   DEBUG CONSOLE   TERMINAL   PORTS   + ∨   ⋯   ⌄⌃   ✕

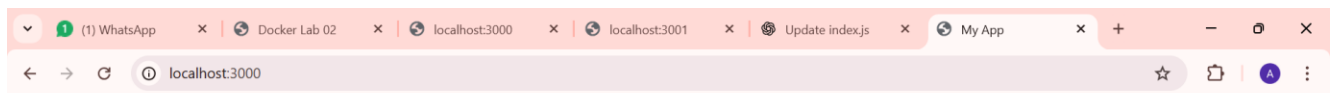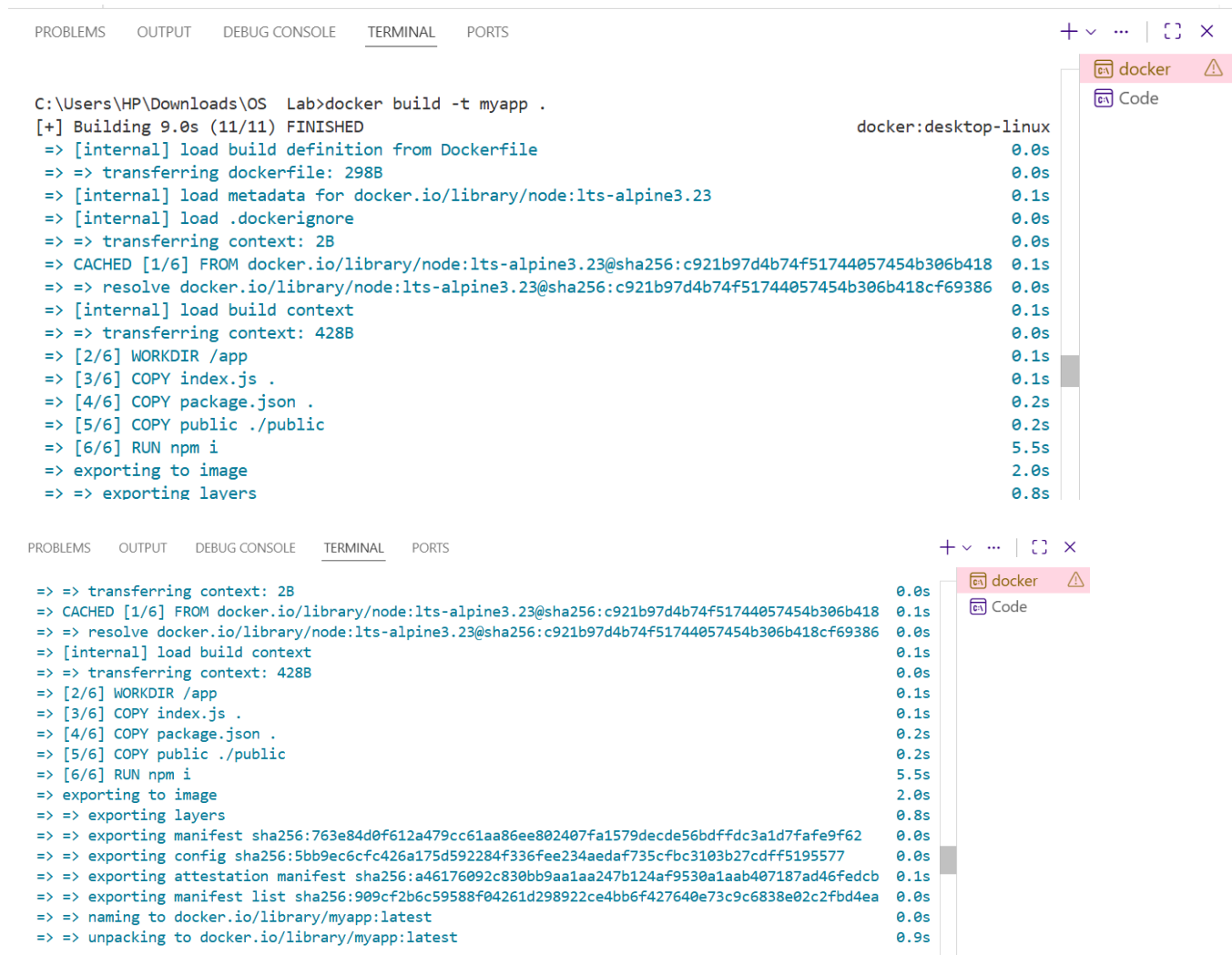   🔲 docker   ⚠
                                                                                                        🔲 Code

C:\Users\HP\Downloads\OS Lab>docker build -t myapp .
[+] Building 9.0s (11/11) FINISHED   docker:desktop-linux
 => [internal] load build definition from Dockerfile   0.0s
 => => transferring dockerfile: 298B   0.0s
 => [internal] load metadata for docker.io/library/node:lts-alpine3.23   0.1s
 => [internal] load .dockerignore   0.0s
 => => transferring context: 2B   0.0s
 => CACHED [1/6] FROM docker.io/library/node:lts-alpine3.23@sha256:c921b97d4b74f51744057454b306b418 0.1s
 => => resolve docker.io/library/node:lts-alpine3.23@sha256:c921b97d4b74f51744057454b306b418cf69386 0.0s
 => [internal] load build context   0.1s
 => => transferring context: 428B   0.0s
 => [2/6] WORKDIR /app   0.1s
 => [3/6] COPY index.js .   0.1s
 => [4/6] COPY package.json .   0.2s
 => [5/6] COPY public ./public   0.2s
 => [6/6] RUN npm i   5.5s
 => exporting to image   2.0s
 => => exporting layers   0.8s

PROBLEMS   OUTPUT   DEBUG CONSOLE   TERMINAL   PORTS   + ∨   ⋯   ⌄⌃   ✕

                                                                                                        🔲 docker   ⚠
                                                                                                        🔲 Code

 => => transferring context: 2B   0.0s
 => CACHED [1/6] FROM docker.io/library/node:lts-alpine3.23@sha256:c921b97d4b74f51744057454b306b418 0.1s
 => => resolve docker.io/library/node:lts-alpine3.23@sha256:c921b97d4b74f51744057454b306b418cf69386 0.0s
 => [internal] load build context   0.1s
 => => transferring context: 428B   0.0s
 => [2/6] WORKDIR /app   0.1s
 => [3/6] COPY index.js .   0.1s
 => [4/6] COPY package.json .   0.2s
 => [5/6] COPY public ./public   0.2s
 => [6/6] RUN npm i   5.5s
 => exporting to image   2.0s
 => => exporting layers   0.8s
 => => exporting manifest sha256:763e84d0f612a479cc61aa86ee802407fa1579decde56bdffdc3a1d7fafe9f62 0.0s
 => => exporting config sha256:5bb9ec6cfc426a175d592284f336fee234aedaf735cfbc3103b27cdff5195577 0.0s
 => => exporting attestation manifest sha256:a46176092c830bb9aa1aa247b124af9530a1aab407187ad46fedcb 0.1s
 => => exporting manifest list sha256:909cf2b6c59588f04261d298922ce4bb6f427640e73c9c6838e02c2fbd4ea 0.0s
 => => naming to docker.io/library/myapp:latest   0.0s
 => => unpacking to docker.io/library/myapp:latest   0.9s

Running on the browser:

- **Index.html**