



National Textile University

Department of Computer Science

Subject: Operating System

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Reg number:23-NTU-CS-1142

Lab : 12

Semester:5th

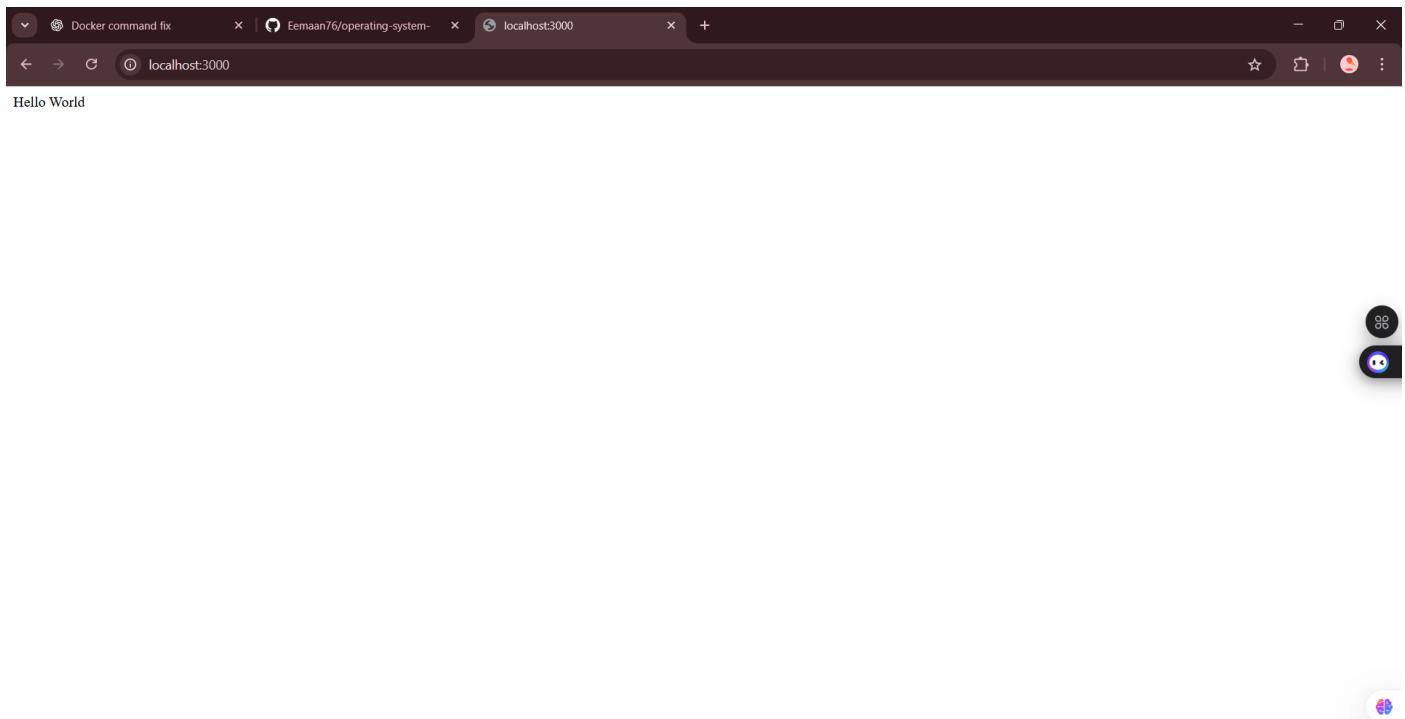
Lab manual 12

Task 1:

```
PS C:\WINDOWS\system32> docker run -it -v my_volume1:/home/ubuntu/my_volume1 --name test-container ubuntu:resolute-20251130 bash
root@7a9f31c994e2:/# cd home/ubuntu/ubuntu/
bash: cd: home/ubuntu/ubuntu/: No such file or directory
root@7a9f31c994e2:/# cd home/ubuntu/
root@7a9f31c994e2:/home/ubuntu# ls
my_volume1
root@7a9f31c994e2:/home/ubuntu# cd my_volume1/
root@7a9f31c994e2:/home/ubuntu/my_volume1# echo "hello world" >File.txt
root@7a9f31c994e2:/home/ubuntu/my_volume1# cat File.txt
hello world
root@7a9f31c994e2:/home/ubuntu/my_volume1#
```

```
PS C:\WINDOWS\system32> docker images
REPOSITORY      TAG          IMAGE ID      CREATED        SIZE
node            lts-alpine3.23    c921b97d4b74  33 hours ago   226MB
nginx           trixie        fb01117203ff  9 days ago    225MB
postgres         15.15-trixie   697ff7029514  10 days ago   627MB
ubuntu           resolute-20251130 901617b8bedb  2 weeks ago   133MB
ollama/ollama   latest        e8c3df6ad16  6 weeks ago   5.68GB
n8nio/n8n       latest        a17dbca282c9  6 weeks ago   1.63GB
ubuntu           latest        c35e29c94501  2 months ago  117MB
PS C:\WINDOWS\system32> docker run -it -v my_volume1:/home/ubuntu/my_volume1 --name test-container ubuntu:resolute-20251130 bash
root@7a9f31c994e2:/# cd home/ubuntu/ubuntu/
bash: cd: home/ubuntu/ubuntu/: No such file or directory
root@7a9f31c994e2:/# cd home/ubuntu/
root@7a9f31c994e2:/home/ubuntu# ls
my_volume1
root@7a9f31c994e2:/home/ubuntu# cd my_volume1/
root@7a9f31c994e2:/home/ubuntu/my_volume1# echo "hello world" >File.txt
root@7a9f31c994e2:/home/ubuntu/my_volume1# cat File.txt
hello world
root@7a9f31c994e2:/home/ubuntu/my_volume1#
PS C:\WINDOWS\system32> docker run -it -v my_volume1:/home/ubuntu/my_volume1 --name test-container ubuntu:resolute-20251
Unable to find image 'ubuntu:resolute-20251' locally
docker: Error response from daemon: failed to resolve reference "docker.io/library/ubuntu:resolute-20251": docker.io/library/ubuntu:resolute-20251: not found

Run 'docker run --help' for more information
PS C:\WINDOWS\system32> docker run -it -v my_volume1:/home/ubuntu/my_volume1 --name test-container ubuntu:resolute-20251130 bash
root@73c482f204a:/#
```

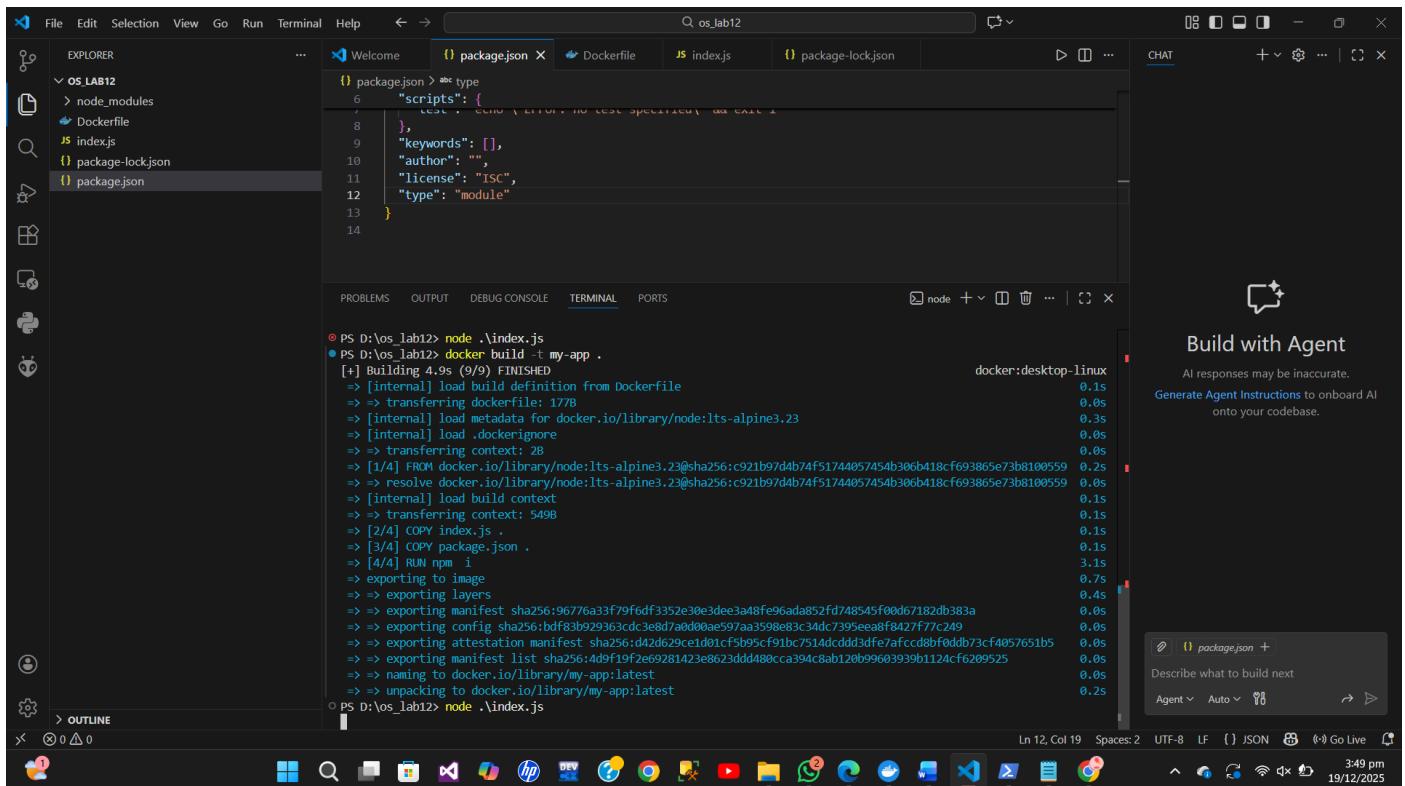


localhost:3000

Hello World



3:48 pm
19/12/2025



File Edit Selection View Go Run Terminal Help

package.json Dockerfile index.js package-lock.json

```
{} packagejson > abc type
  "scripts": {
    "test": "echo 'No test specified' & exit 0"
  },
  "keywords": [],
  "author": "",
  "license": "ISC",
  "type": "module"
}
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
PS D:\os_lab12> node .\index.js
● PS D:\os_lab12> docker build -t my-app .
[+] Building 4.9s (9/9) FINISHED
=> [internal] load build definition from Dockerfile
=> => transferring dockerfile: 17B
=> [internal] load metadata for docker.io/library/node:lts-alpine3.23
=> [internal] load .dockerignore
=> => transferring context: 2B
=> [1/4] FROM docker.io/library/node:lts-alpine3.23@sha256:c921b97d4b74f51744057454b306b418cf693865e73b8100559 0.2s
=> => resolve docker.io/library/node:lts-alpine3.23@sha256:c921b97d4b74f51744057454b306b418cf693865e73b8100559 0.0s
=> [internal] load build context
=> => transferring context: 5498 0.0s
=> [2/4] COPY index.js .
=> [3/4] COPY package.json .
=> [4/4] RUN npm i 3.1s
=> => exporting image 0.75s
=> => exporting layers 0.4s
=> => exporting manifest sha256:96776a33f79f0df3352e30e3dee3a48fe96ada852fd748545f00d67182db383a 0.0s
=> => exporting config sha256:bdff83b929363cd3e887a0d0ae597a3598e83c34dc7395ee8af842f77c249 0.0s
=> => exporting attestation manifest sha256:d42d629ce1d01cf5b95cf91bc7514dcddd3dfe7afcddbf0fdb73cf4057651b5 0.0s
=> => exporting manifest list sha256:ad9f19f2e69281423e8623dd480cca394c8ab120b99603939b1124cf6209525 0.0s
=> => naming to docker.io/library/my-app:latest 0.0s
=> => unpacking to docker.io/library/my-app:latest 0.0s
○ PS D:\os_lab12> node .\index.js
```

CHAT

Build with Agent

AI responses may be inaccurate.

Generate Agent Instructions to onboard AI onto your codebase.

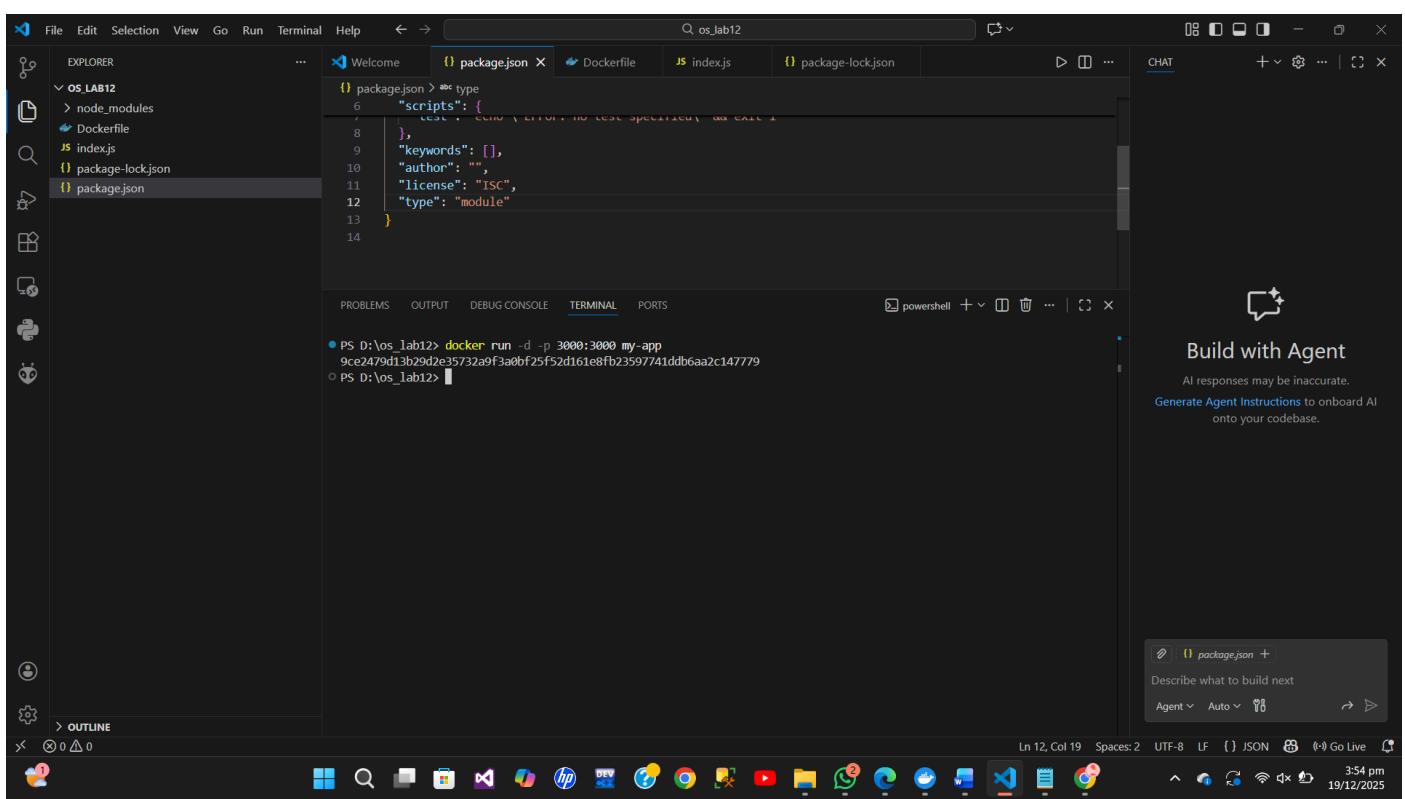
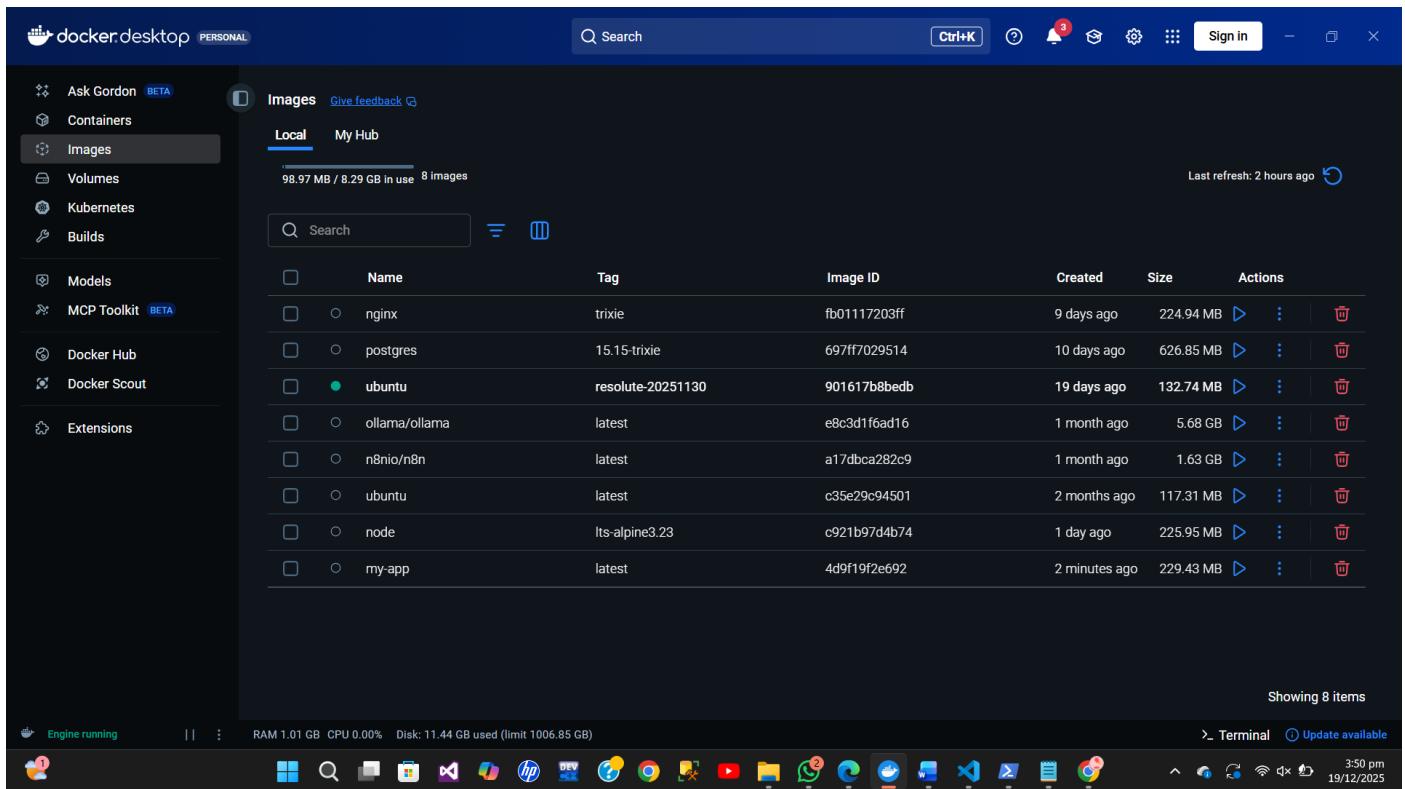
package.json +

Describe what to build next

Agent Auto JSON Go Live

Ln 12, Col 19 Spaces: 2 UTF-8 LF { JSON ↗

3:49 pm
19/12/2025



The screenshot shows the Visual Studio Code interface with a dark theme. The Explorer sidebar on the left lists files and folders: node_modules, public, Dockerfile, index.js, package-lock.json, and package.json. The package.json file is currently selected and open in the main editor area. The code in package.json is:

```
1  {  
2   "name": "os_lab12",  
3   "version": "1.0.0",  
4   "description": "",  
5   "main": "index.js",  
6   "scripts": {  
7     "test": "echo \\"$Error: no test specified\\" && exit 1"  
8   },  
9   "keywords": [],  
10  "author": "",  
11  "license": "ISC",  
12  "type": "module"  
13 }  
14
```

The status bar at the bottom indicates the file is in JSON format, with 14 lines, 1 character, and 2 spaces per line, and was last modified at 3:59 pm on 19/12/2025.

The screenshot shows the Visual Studio Code interface with a dark theme. The Explorer sidebar on the left lists files and folders: node_modules, public, Dockerfile, index.js, package-lock.json, and package.json. The index.js file is currently selected and open in the main editor area. The code in index.js is:

```
1 import express, { response } from 'express'  
2 import { request } from 'node:http'  
3 const app = express()  
4 function handler(request, response) [  
5   response.send('Hello World')  
6 ]  
7  
8 app.get('/',handler)  
9  
10 app.listen(3000)
```

The status bar at the bottom indicates the file is in JavaScript format, with 10 lines, 2 characters, and 4 spaces per line, and was last modified at 3:59 pm on 19/12/2025.

File Edit Selection View Go Run Terminal Help < > os_lab12

EXPLORER OS_LAB12 node_modules public Dockerfile index.js package-lock.json package.json

Dockerfile

```
1 FROM node:lts-alpine3.23
2 #copy the file
3 COPY index.js .
4 COPY package.json .
5 #install packages
6 RUN npm i
7 CMD ["node", "index.js"]
```

Build with Agent

AI responses may be inaccurate.

Generate Agent Instructions to onboard AI onto your codebase.

Snipping Tool

Screenshot copied to clipboard

Automatically saved to screenshots folder.

Mark-up and share

Ln 8, Col 1 Spaces: 4 UTF-8 CRLF Docker Go Live 400 pm 19/12/2025

Task 2:

File Edit Selection View Go Run Terminal Help < > os_lab12

EXPLORER OS_LAB12 node_modules Public Dockerfile index.js package-lock.json package.json

index.js

```
1 import express from 'express'
2
3 const app = express()
4
5 app.use(express.static('Public'))
6
7 app.listen(3000)
```

Build with Agent

AI responses may be inaccurate.

Generate Agent Instructions to onboard AI onto your codebase.

JS index.js +

Describe what to build

Ln 1, Col 15 Spaces: 4 UTF-8 CRLF JavaScript Docker Go Live 4:38 pm 19/12/2025

The screenshot shows the Visual Studio Code interface with a dark theme. The Explorer sidebar on the left lists files and folders under the project 'OS_LAB12'. The main editor area displays a Dockerfile with the following content:

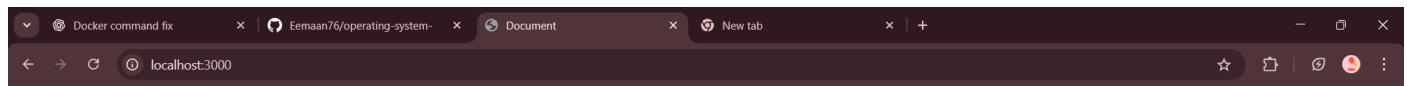
```
FROM node:lts-alpine3.23
COPY index.js .
COPY Public ./Public
COPY package.json .
RUN npm install
CMD ["node", "index.js"]
```

The status bar at the bottom indicates the file is saved ('Dockerfile'), has 11 lines and 0 columns, and was last modified at 4:37 pm on 19/12/2025.

The screenshot shows the Visual Studio Code interface with a dark theme. The Explorer sidebar on the left lists files and folders under the project 'OS_LAB12'. The main editor area displays an index.html file with the following content:

```
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<title>Document</title>
</head>
<body>
<h1>Hello World</h1>
<p>this is a sample HTML file.</p>
</body>
</html>
```

The status bar at the bottom indicates the file is saved ('index.html'), has 12 lines and 8 columns, and was last modified at 4:38 pm on 19/12/2025.



Hello World

This is a sample HTML file.

