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Assignment:	Lab 12
Course Name:	Operating Systems
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Docker Lab 02: Data Persistence, Custom Images, Networking & Docker Compose

Volume commands:

```
root@3ebbs59d8bba2: /home, X + v
Run 'docker --help' for more information
PS C:\WINDOWS\System32> docker volume ls
DRIVER      VOLUME NAME
local       myvolume
local       ollama_data
PS C:\WINDOWS\System32> docker run -it --name test-container ubuntu bash
root@6221a96af982:/# exit
exit
PS C:\WINDOWS\System32> docker rm test-container
test-container
PS C:\WINDOWS\System32> docker volume ls
DRIVER      VOLUME NAME
local       myvolume
local       ollama_data
PS C:\WINDOWS\System32> docker images
REPOSITORY   TAG               IMAGE ID       CREATED        SIZE
node         lts-alpine3.23   c921b97d4b74  33 hours ago  226MB
bash         latest           32ca1653c68d  33 hours ago  23.6MB
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           3d8a05e3432d  5 weeks ago   5.82GB
<none>       <none>           e8c3d1f6ad16  6 weeks ago   5.68GB
ubuntu       latest           c35e29c94501  2 months ago  117MB
PS C:\WINDOWS\System32> docker run -it --name test-container -v myvolume:/home/ubuntu/myvolume ubuntu bash
root@3ebbs59d8bba2:/# cd home/ubuntu/
root@3ebbs59d8bba2:/home/ubuntu# ls
myvolume
root@3ebbs59d8bba2:/home/ubuntu# cd myvolume/
root@3ebbs59d8bba2:/home/ubuntu/myvolume# echo "hello world" > File.txt
root@3ebbs59d8bba2:/home/ubuntu/myvolume# cat File
cat: File: No such file or directory
root@3ebbs59d8bba2:/home/ubuntu/myvolume# cat File.txt
hello world
root@3ebbs59d8bba2:/home/ubuntu/myvolume# |
```

74°F Partly sunny 3:01 PM 12/19/2025

```
Windows PowerShell
PS C:\WINDOWS\System32> ls /home/ubuntu/myvolume
ls : Cannot find path 'C:\home\ubuntu\myvolume' because it does not exist.
At line:1 char:1
+ ls /home/ubuntu/myvolume
+ ~~~~~
+ CategoryInfo          : ObjectNotFound: (C:\home\ubuntu\myvolume:String) [Get-ChildItem], ItemNotFoundException
+ FullyQualifiedErrorId : PathNotFound,Microsoft.PowerShell.Commands.GetChildItemCommand

PS C:\WINDOWS\System32> docker ls
docker: unknown command: docker ls

Run 'docker --help' for more information
PS C:\WINDOWS\System32> docker run -it --name test-container -v my-volume:/home/ubuntu/my-new-volume ubuntu:resolute-20251130 bash
docker: Error response from daemon: Conflict. The container name "/test-container" is already in use by container "3400bbc24c03ab56091705138e7f7f150dcf608cdf888a3419306efd9d4a55ea". You have to remove (or rename) that container to be able to reuse that name.

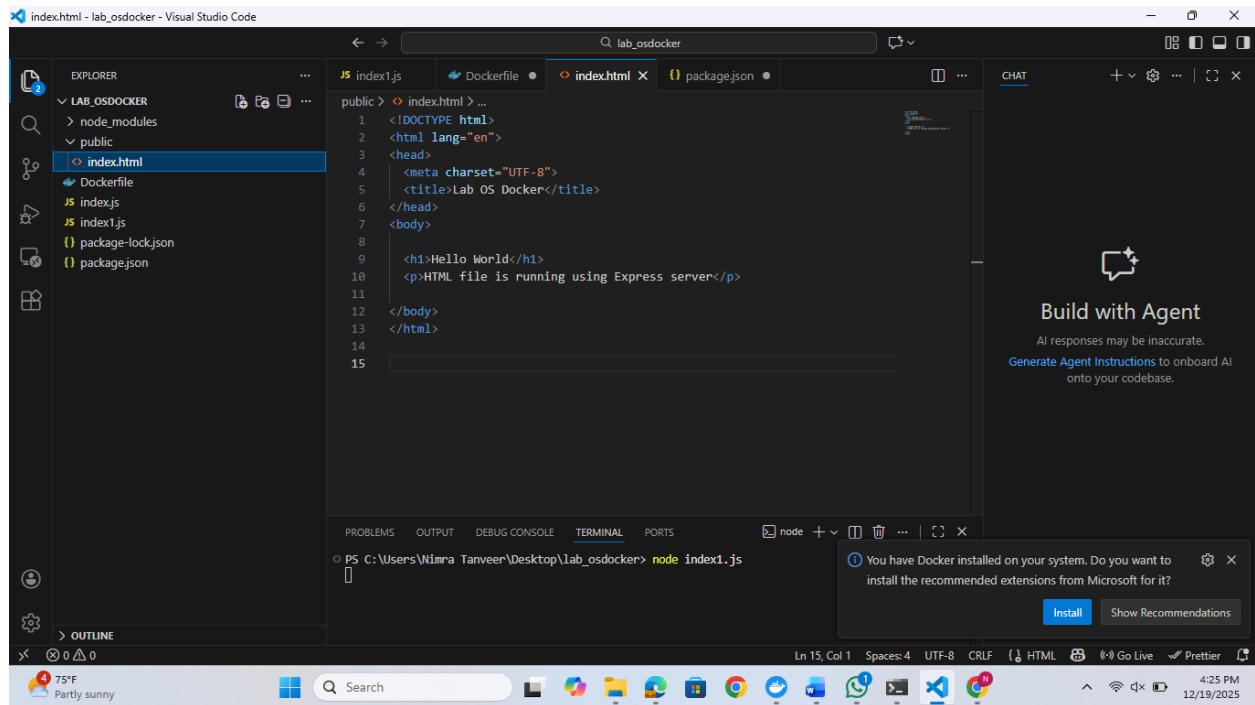
Run 'docker run --help' for more information
PS C:\WINDOWS\System32> docker run -it --name test-container -v C:\Users\Nimra Tanveer\Downloads\OS_dockerlab:/home/ ubuntu:resolute-20251130 bash
docker: invalid reference format

Run 'docker run --help' for more information
PS C:\WINDOWS\System32> docker run -it --name test-container -v C:\Users\Nimra Tanveer\Downloads\OS_dockerlab:/home/ubuntu:resolute-20251130 bash
docker: invalid reference format

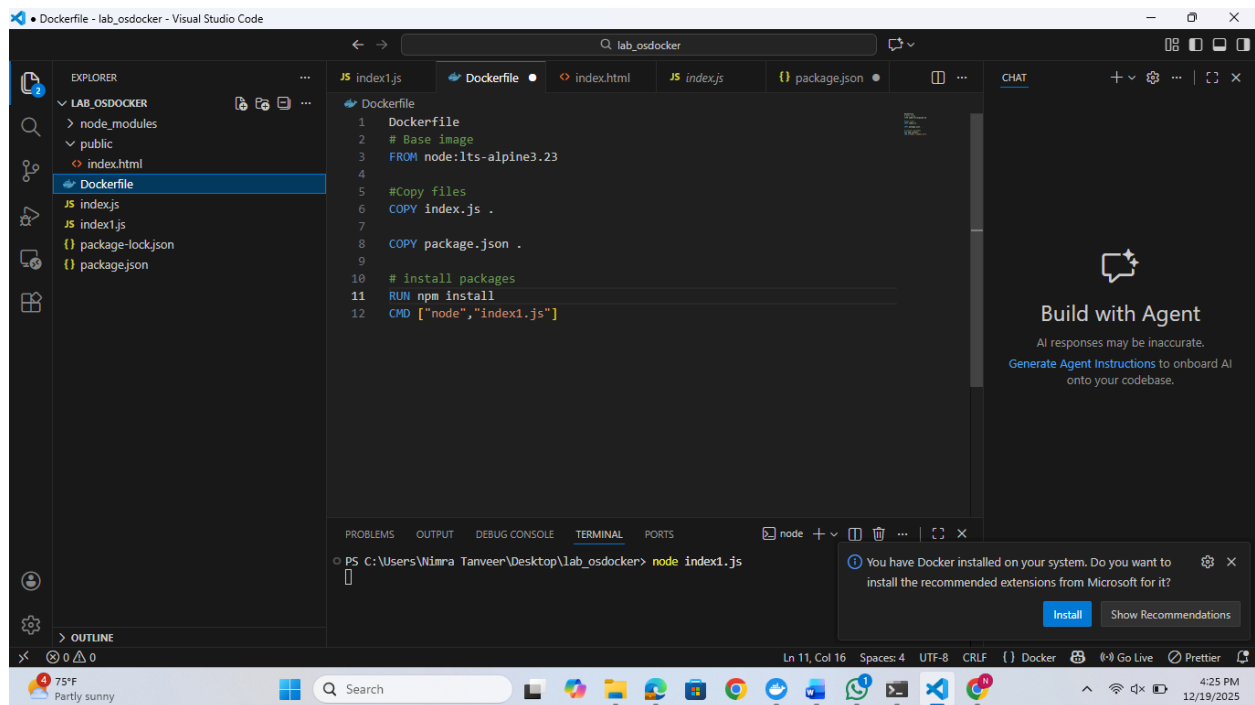
Run 'docker run --help' for more information
PS C:\WINDOWS\System32> docker run -it --name test-container -v D:\dockerlab:/home/ubuntu bash
docker: Error response from daemon: Conflict. The container name "/test-container" is already in use by container "3400bbc24c03ab56091705138e7f7f150dcf608cdf888a3419306efd9d4a55ea". You have to remove (or rename) that container to be able to reuse that name.

Run 'docker run --help' for more information
PS C:\WINDOWS\System32> docker run -it --name test-container -v D:\dockerlab:/home/ubuntu bash
bash-5.3#
```

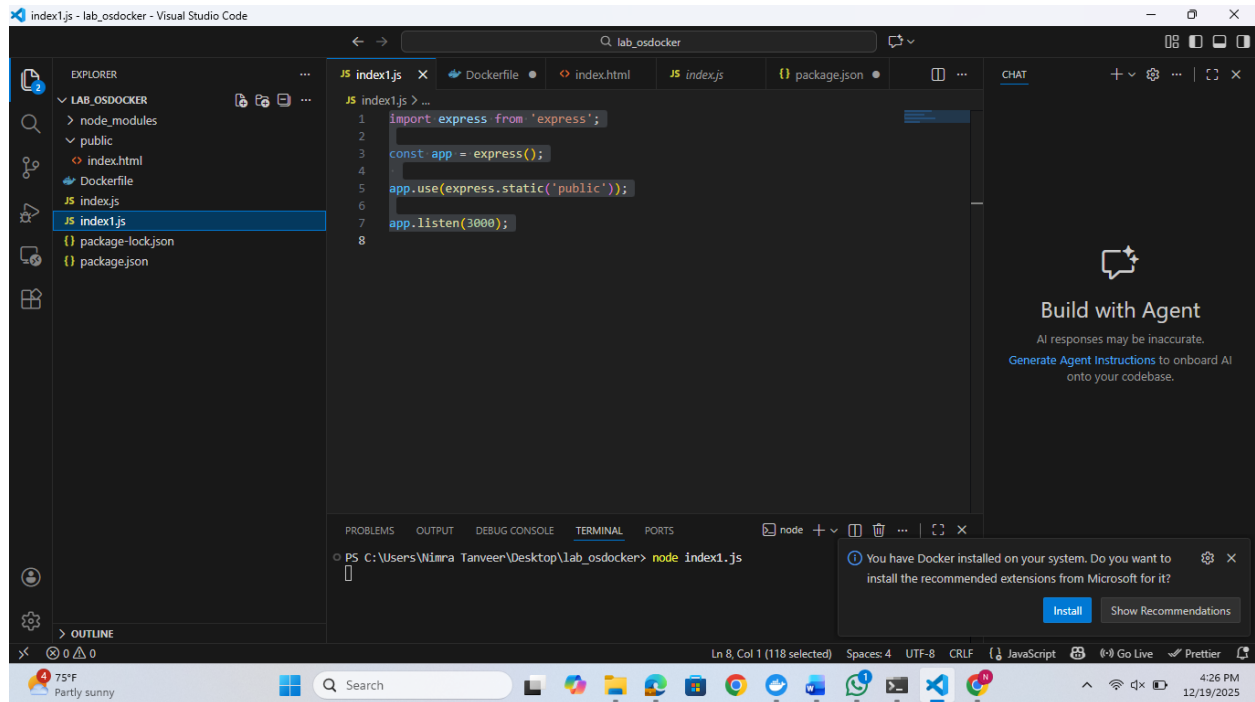
HTML INDEX



Docker file



Index1.js

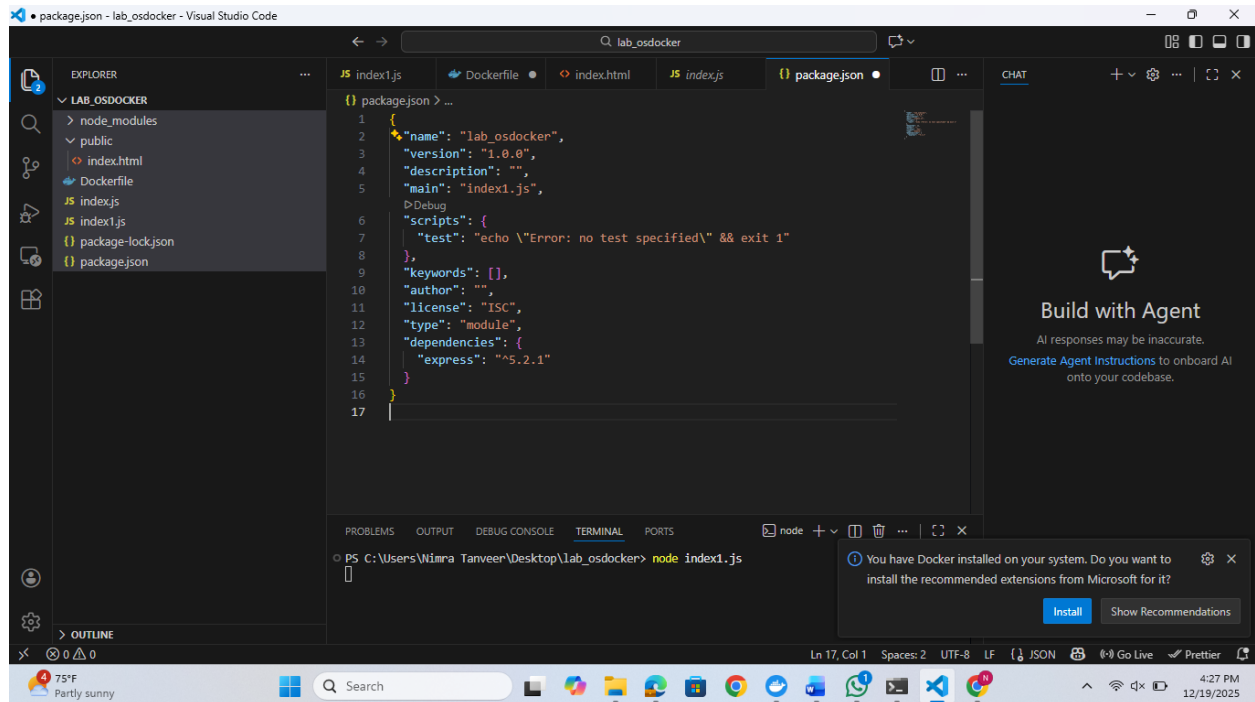


The screenshot shows the Visual Studio Code interface with the 'index1.js' file open. The Explorer sidebar on the left shows the project structure: 'LAB_OSDOCKER' containing 'node_modules', 'public', 'index.html', 'Dockerfile', 'index.js', 'package-lock.json', and 'package.json'. The 'index1.js' file is selected. The main editor displays the following JavaScript code:

```
1 import express from 'express';
2
3 const app = express();
4
5 app.use(express.static('public'));
6
7 app.listen(3000);
8
```

The bottom status bar indicates 'Ln 8, Col 1 (118 selected)'. A notification at the bottom right asks: 'You have Docker installed on your system. Do you want to install the recommended extensions from Microsoft for it?' with 'Install' and 'Show Recommendations' buttons. The system tray at the bottom shows the date and time as 4:26 PM on 12/19/2025.

Package.js



The screenshot shows the Visual Studio Code interface with the 'package.json' file open. The Explorer sidebar on the left shows the project structure: 'LAB_OSDOCKER' containing 'node_modules', 'public', 'index.html', 'Dockerfile', 'index.js', 'package-lock.json', and 'package.json'. The 'package.json' file is selected. The main editor displays the following JSON code:

```
1 {} package.json > ...
2 {
3   "name": "lab_osdocker",
4   "version": "1.0.0",
5   "description": "",
6   "main": "index1.js",
7   "scripts": {
8     "test": "echo \\\"Error: no test specified\\\" && exit 1"
9   },
10  "keywords": [],
11  "author": "",
12  "license": "ISC",
13  "type": "module",
14  "dependencies": {
15    "express": "^5.2.1"
16  }
17 }
```

The bottom status bar indicates 'Ln 17, Col 1'. A notification at the bottom right asks: 'You have Docker installed on your system. Do you want to install the recommended extensions from Microsoft for it?' with 'Install' and 'Show Recommendations' buttons. The system tray at the bottom shows the date and time as 4:27 PM on 12/19/2025.

Output: localhost:3000

