

STEP 1:: ADD THE CORRECT PATH:

```
cd /mnt/f/Folder_Of_Semester/Semester\ 6/Scd\ lab/LAB\
EXAMMMMM/Lab\ 11\ part\ 1
```

STEP 2: CLONE AND OPEN THE PROJECT IN VS code

```
git clone https://github.com/atanu3000/MERN_Notes_App.git
cd MERN_Notes_App
code .
```

This opens the current directory (.) in Visual Studio Code.
code is a command-line shortcut for VS Code (after you've
installed and added it to your system PATH).
So essentially, this launches VS Code and opens your
MERN_Notes_App project for editing.

ABOVE THINGS IN WSL AND BELOW IN VS CODE:

Step:3: Create .env file in vs code (simple by making) and paste:

```
VITE_APP_API_URL=http://localhost:5000
```

STEP 4: Create .dockerignore file(simple by manually making)

- Paste:

```
node_modules
.env
```

STEP 5: Make frontend folder and make .dockerignore file in it and paste:

```
node_modules
dist
.vite
.env
```

STEP 6: MAKE SERVER FOLDER AND MAKE .dockerignore file in it and paste:

```
node_modules
.env
```

STEP 7: IN FRONTEND FOLDER MAKE DOCKERFILE:

Stage 1: Build

```
FROM node:18-alpine AS builder
```

```
WORKDIR /app
```

```
COPY . .
```

```
RUN npm install
```

```
ARG VITE_APP_API_URL
```

```
ENV VITE_APP_API_URL=$VITE_APP_API_URL
```

```
RUN npm run build
```

Stage 2: Serve with NGINX

```
FROM nginx:alpine
COPY --from=builder /app/dist /usr/share/nginx/html
COPY nginx.conf /etc/nginx/conf.d/default.conf
```

THEN IN FRONTEND MAKE nginx.conf

```
server {
    listen 80;
    server_name localhost;

    location / {
        root /usr/share/nginx/html;
        index index.html;
        try_files $uri $uri/ /index.html;
    }
}
```

Step:8 Create a Dockerfile in server folder and paste:

```
FROM node:18-alpine
WORKDIR /app
COPY . .
RUN npm install
EXPOSE 5000
CMD ["npm", "start"]
```

Step :9 Make a docker-compose.yml in root ;

version: "3.8"

services:

mongo:

image: mongo

container_name: mongo

ports:

- "27017:27017"

volumes:

- mongo-data:/data/db

server:

build:

context: ./server

container_name: backend

ports:

- "5000:5000"

environment:

- MONGO_URL=mongodb://mongo:27017/notesDB

depends_on:

- mongo

frontend:

build:

context: ./frontend

args:

VITE_APP_API_URL: http://localhost:5000

container_name: frontend

ports:

- "3000:80"

depends_on:
- server

volumes:
mongo-data:

STEP: 10: RUN IN WSL:

docker compose up --build -d

Visit <http://localhost:3000>

PARTTTT 2: (run these commands in wsl:)

step 1: Inspect Docker networks: After running Compose, use:

docker network ls
docker network inspect <network-name>

Step 2: Create Custom Networks

**docker network create --subnet=192.168.100.0/24
net1**
**docker network create --subnet=192.168.200.0/24
net2**

Step 3: Manually Connect Mongo Container to net1

```
docker network connect net1 mongo
```

STEP 4: Check OS

```
docker exec -it mongo cat /etc/os-release
```

- **If Alpine**

```
docker exec -it mongo sh  
apk update && apk add iputils
```

- **If Debian/Ubuntu**

```
docker exec -it mongo bash  
apt update && apt install iputils-ping -y
```

STEP 5: . Ping Containers

```
docker exec -it backend sh  
ping mongo
```

Step 6: Inspect Custom Network:

```
docker network inspect net1
```