1. DOCKER INSTALL

sudo apt install docker.io

sudo systemctl start docker

sudo systemctl enable docker

sudo systemctl status docker

2. INSTALL NPM

Node.js comes with `npm` (Node Package Manager) by default. Install it using the following command:

sudo apt install nodejs npm

Verify the installation:
Check the installed versions of Node.js and npm:

node -v
npm -v

3. CREATE MYSQL CONTAINER

Run mysql ooficial image from docker hub(this creates database)

docker run --name mysql-db -e MYSQL_ROOT_PASSWORD=password -e MYSQL_DATABASE=userdb -p 3306:3306 -d mysql:5.7

Login into database and create database

docker exec -it mysql-db mysql -u root -p

Create database

```
USE userdb;
CREATE TABLE users (
    id INT AUTO_INCREMENT PRIMARY KEY,
    name VARCHAR(100),
    email VARCHAR(100) UNIQUE,
    password VARCHAR(100)
);
```

4. Create server.js, index.html, Dockerfile

5. INSTALL DEPENDENCY

Initialize a Node.js project:
Run the following command to generate a `package.json` file:

npm init -y

This will create a `package.json` file with default values.

Install required dependencies:
Install the dependencies needed for your Node.js application:

npm install express mysql2 body-parser cors dotenv

This will:

- Install the packages.
- Generate a `package-lock.json(which locks the dependency versions).`

6. BUILD DOCKERFILE AND CREATE CONTAINER

Run the Application

1. Build the Node.js Docker image:

   ```
   docker build -t node-app .
   ```

2. Run the Node.js container and link it to the MySQL container:

   ```
   docker run --name node-app --link mysql-db:mysql -p 3000:3000 -d node-app
   ```

3. Access the application:
   - Open your browser and go to `http://your-ec2-public-ip:3000`.
   - Fill out the registration form and submit it.