



## **NATIONAL TEXTILE**

## **UNIVERSITY**

### **DEPARTMENT OF COMPUTER SCIENCE**

#### **Subject**

Operating System

#### **SUBMITTED BY:**

Fatima Waseem: 23-NTU-CS1155

SECTION SE: 5th (A)

#### **SUBMITTED TO:**

Sir Nasir

# Lab 12

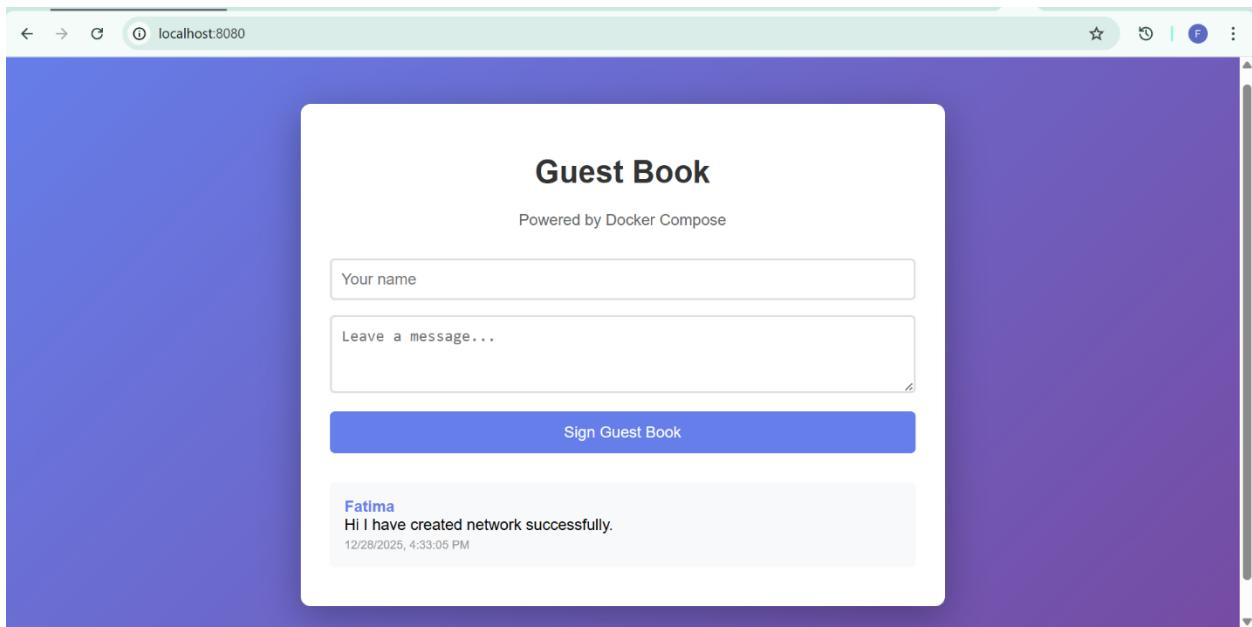
## 1. Screenshot of Whole Project:

```
fatima@DESKTOP-3BA3T21:~/Lab12/guest-book$ docker-compose up
"initandlisten", "msg": "Updated wire specification", "attr": {"oldSpec": {"incomingExternalClient": {"minWireVersion": 0, "maxWireVersion": 21}, "incomingInternalClient": {"minWireVersion": 21, "maxWireVersion": 21}, "outgoing": {"minWireVersion": 21, "maxWireVersion": 21}, "isInternalClient": true}, "newSpec": {"incomingExternalClient": {"minWireVersion": 0, "maxWireVersion": 21}, "incomingInternalClient": {"minWireVersion": 21, "maxWireVersion": 21}, "outgoing": {"minWireVersion": 21, "maxWireVersion": 21}, "isInternalClient": true}}}
guestbook-db | {"t": {"$date": "2025-12-28T11:31:02.303+00:00"}, "s": "I", "c": "REPL", "id": 5853300, "ctx": "initandlisten", "msg": "current featureCompatibilityVersion value", "attr": {"featureCompatibilityVersion": "7.0", "context": "startup"}}
guestbook-db | {"t": {"$date": "2025-12-28T11:31:02.303+00:00"}, "s": "I", "c": "STORAGE", "id": 5071100, "ctx": "initandlisten", "msg": "Clearing temp directory"}
```

## 2. Output of Both images:

```
=> [2/5] WORKDIR /app 0.0s
=> [3/5] COPY package*.json ./ 0.1s
=> [4/5] RUN npm install 9.4s
=> [5/5] COPY server.js . 0.1s
=> exporting to image 2.6s
=> => exporting layers 1.1s
=> => exporting manifest sha256:01715cbcca 0.0s
=> => exporting config sha256:3be676cce63c 0.0s
=> => exporting attestation manifest sha25 0.0s
=> => exporting manifest list sha256:d9964 0.0s
=> => naming to docker.io/library/backend: 0.0s
=> => unpacking to docker.io/library/backe 1.3s
fatima@DESKTOP-3BA3T21:~/Lab12/guest-book/backend$ cd .
fatima@DESKTOP-3BA3T21:~/Lab12/guest-book/backend$ cd ..
➊ fatima@DESKTOP-3BA3T21:~/Lab12/guest-book$ cd frontend
bash: cd: frontend: No such file or directory
➋ fatima@DESKTOP-3BA3T21:~/Lab12/guest-book$ cd ./frontend/
fatima@DESKTOP-3BA3T21:~/Lab12/guest-book/frontend$ docker build -t frontend .
[+] Building 1.2s (7/7) FINISHED docker:default
=> [internal] load build definition from Dockerfile 0.0s
=> => transferring dockerfile: 103B 0.0s
=> [internal] load metadata for docker.io/ 0.2s
=> [internal] load .dockerignore 0.0s
=> => transferring context: 2B 0.0s
=> [internal] load build context 0.1s
=> => transferring context: 31B 0.0s
```

### 3. Webpage at localhost: 8080



### 4. Docker compose file:

```
1 services:
2   # MongoDB Database
3   mongodb:
4     image: mongo:7-jammy
5     container_name: guestbook-db
6     networks:
7       - guestbook-network
8     volumes:
9       - mongo_data:/data/db
10
11   # Backend API
12   api:
13     build: ./backend
14     # image: <image_name>
15     container_name: guestbook-api
16     environment:
17       - MONGO_URL=mongodb://mongodb:27017
18     ports:
19       - "3000:3000"
20     depends_on:
21       - mongodb
22     networks:
23       - guestbook-network
```

```
22 |     networks:
23 |     - guestbook-network
24 |   # Frontend
25 |   web:
26 |     build: ./frontend
27 |     # image: <image_name>
28 |     container_name: guestbook-web
29 |     ports:
30 |     - "8080:80"
31 |     depends_on:
32 |     - api
33 |     networks:
34 |     - guestbook-network
35 |   networks:
36 |   | guestbook-network:
37 |   | volumes:
38 |   | mongo_data:
39 |
```

#### Docker file backend:

```
1  FROM node:lts-alpine3.23
2  WORKDIR /app
3  COPY package*.json ./
4  RUN npm install
5  COPY server.js .
6  EXPOSE 3000
7  CMD ["npm", "start"]
```

#### Docker file frontend:

```
1  FROM nginx:trixie
2  COPY index.html /usr/share/nginx/html/
3  EXPOSE 80
```