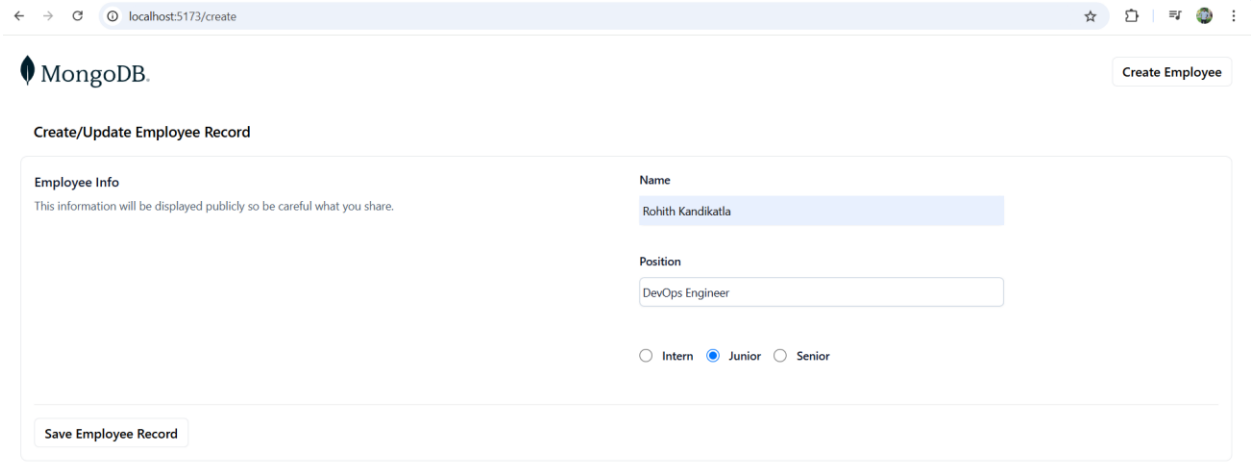
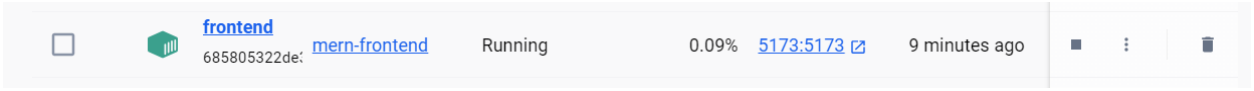
Containerizing MERN stack application using docker compose

1.Frontend application is built

But u can't create and upload any data as there is no backend and database connection.

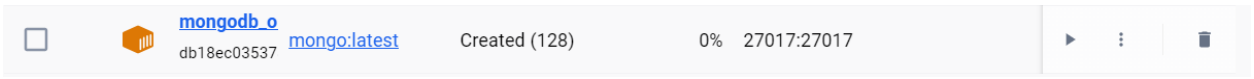


Containerized in Docker Desktop



2. Database containerized and deployed and check connection

```
Rohith Kandikatla@DESKTOP-KJOVULU MINGW64 ~/desktop/devops/projects/mernstackcompose/mern-docker-compose/mern/frontend (main)
$ docker run --network=demo --name mongodb -d -p 27017:27017 -v ~/opt/data:/data/db mongo:latest
a2da7c75844b36f5a9f8480ae0106620480b90e032b8a75a359fa07615c2ab32
```



3. Backend is built

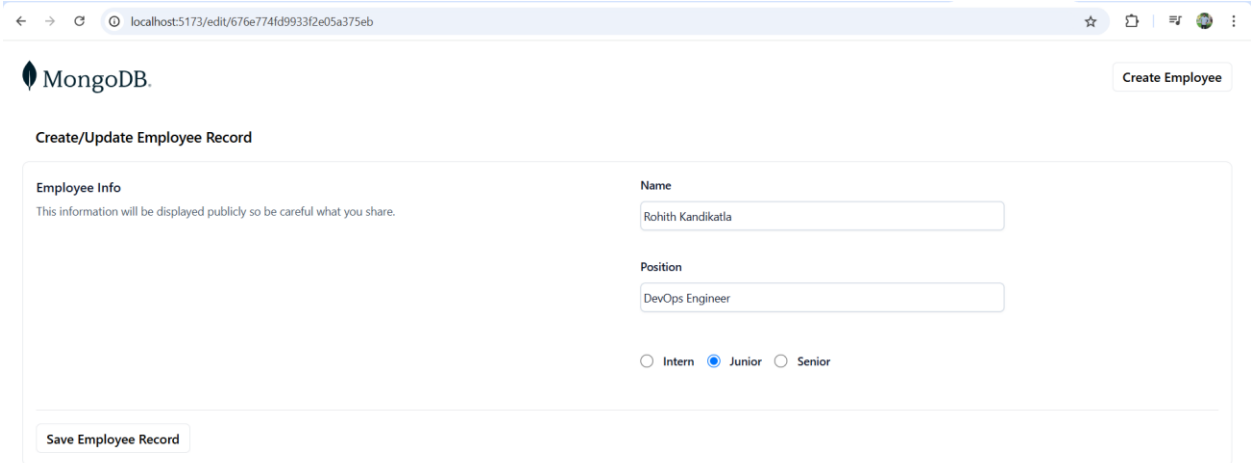
```
Rohith Kandikatla@DESKTOP-KJOVULU MINGW64 ~/desktop/devops/projects/mernstackcompose/mern-docker-compose/mern/backend (main)
$
docker build -t mern-backend .
[+] Building 16.9s (10/10) FINISHED                                                
```

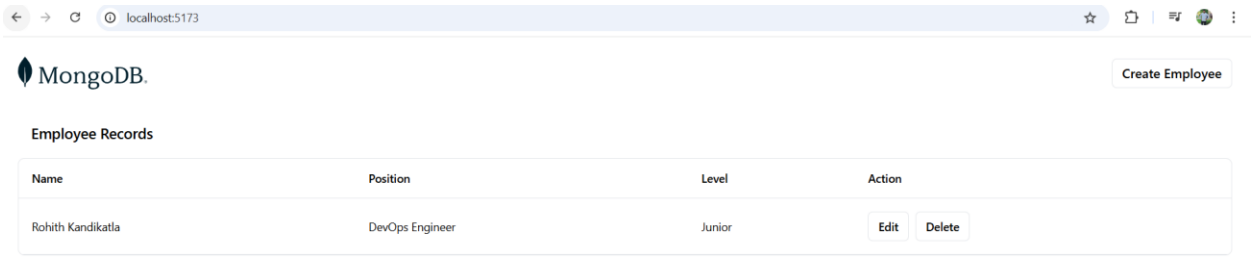
```
Rohith Kandikatla@DESKTOP-KJOVULU MINGW64 ~/desktop/devops/projects/mernstackcompose/mern-docker-compose/mern/backend (main)
$ docker ps
CONTAINER ID   IMAGE           COMMAND                  CREATED          STATUS          PORTS                      NAMES
20ece9b75a9e   mern-backend    "docker-entrypoint.s…"   7 minutes ago    Up 7 minutes    0.0.0.0:5050->5050/tcp     backend
3b7697cb8273   mongo:latest    "docker-entrypoint.s…"   8 minutes ago    Up 8 minutes    0.0.0.0:27017->27017/tcp   mongodb
685805322de3   mern-frontend   "docker-entrypoint.s…"   43 minutes ago   Up 43 minutes   0.0.0.0:5173->5173/tcp     frontend
```

```
Rohith Kandikatla@DESKTOP-KJOVULU MINGW64 ~/desktop/devops/projects/mernstackcompose/mern-docker-compose/mern/backend (main)
$ docker rm - f backend mongodb frontend
backend
mongodb
frontend
Error response from daemon: No such container: -
Error response from daemon: No such container: f
```

3. Now after removing all the above containers and executing docker compose

```
Rohith Kandikatla@DESKTOP-KJOVULU MINGW64 ~/desktop/devops/projects/mernstackcompose/mern-docker-compose/mern/backend (main)
$ docker compose up -d
2024/12/27 03:43:30 http2: server: error reading preface from client //./pipe/docker_engine: file has already been closed
[+] Building 1.1s (17/17) FINISHED                                                                                  docker:default
 => [backend internal] load build definition from Dockerfile                                                                 0.0s
 => => transferring dockerfile: 168B                                                                                         0.0s
 => [backend internal] load metadata for docker.io/library/node:18.9.1                                                       0.8s
 => [frontend internal] load build definition from Dockerfile                                                                0.0s
 => => transferring dockerfile: 687B                                                                                         0.0s
 => [frontend internal] load .dockerignore                                                                                   0.1s
 => => transferring context: 2B                                                                                              0.0s
 => [backend internal] load .dockerignore                                                                                    0.0s
 => => transferring context: 2B                                                                                              0.0s
 => [frontend 1/5] FROM docker.io/library/node:18.9.1@sha256:d6ed353d022f6313aa7c3f3df69f3a216f1c9f8c3374502eb5e6c45088ce68e8  0.0s
 => [backend internal] load build context                                                                                    0.0s
 => => transferring context: 251B                                                                                            0.0s
 => [frontend internal] load build context                                                                                   0.0s
 => => transferring context: 1.17kB                                                                                          0.0s
 => CACHED [frontend 2/5] WORKDIR /app                                                                                       0.0s
 => CACHED [backend 3/5] COPY package.json .                                                                                 0.0s
 => CACHED [backend 4/5] RUN npm install                                                                                     0.0s
 => CACHED [backend 5/5] COPY . .                                                                                            0.0s
 => [backend] exporting to image                                                                                             0.0s
 => => exporting layers                                                                                                      0.0s
 => => writing image sha256:38ad7b285dc9af5a62a0cefe220b82fe74403535c6a59bfb41ad434bca132a13                                 0.0s
 => => naming to docker.io/library/mern-docker-compose-backend                                                               0.0s
 => CACHED [frontend 3/5] COPY package.json .                                                                                0.0s
 => CACHED [frontend 4/5] RUN npm install                                                                                    0.0s
 => CACHED [frontend 5/5] COPY . .                                                                                           0.0s
 => [frontend] exporting to image                                                                                            0.0s
 => => exporting layers                                                                                                      0.0s
 => => writing image sha256:f447c19b08901ecfe1836b70b06b838f8973594820688e7a43fddcaf4f3041a6                                 0.0s
 => => naming to docker.io/library/mern-docker-compose-frontend                                                              0.0s
[+] Running 3/5
 - Network mern-docker-compose_mern_network  Created                                                                         2.9s
 - Volume "mern-docker-compose_mongo-data"   Created                                                                         2.8s
 ✔Container mern-docker-compose-frontend-1   Started                                                                         1.9s
 ✔Container mern-docker-compose-mongodb-1    Started                                                                         2.2s
 ✔Container mern-docker-compose-backend-1    Started                                                                         2.0s
```




localhost:5173
MongoDB.
Create Employee
Employee Records
Name
Position
Level
Action
Rohith Kandikatla
DevOps Engineer
Junior
Edit
Delete