#### Task5.1P

#### **Overview**

This task involves building a simple calculator with a front-end using the React framework and a back-end using Node.js, both containerized with Docker and orchestrated using Docker Compose. Subsequently, the front-end and back-end images are to be published to DockerHub.

#### **GitHub Link**

userstarwind/sit323-737-2024-t1-prac5p (github.com)

#### **Step1: Write Dockerfile**

front end

```
FROM node:alpine as build

WORKDIR /app/frontend

COPY package*.json ./

RUN npm install

COPY . .

RUN npm run build

FROM nginx:alpine

COPY --from=build /app/frontend/build /usr/share/nginx/html

EXPOSE 80

CMD ["nginx", "-g", "daemon off;"]
```

back end

```
FROM node:alpine

WORKDIR /app/backend

COPY package*.json ./

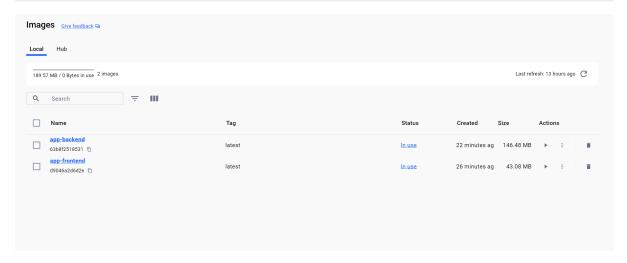
RUN npm install

COPY . .

EXPOSE 8080

CMD ["node", "server.js"]
```

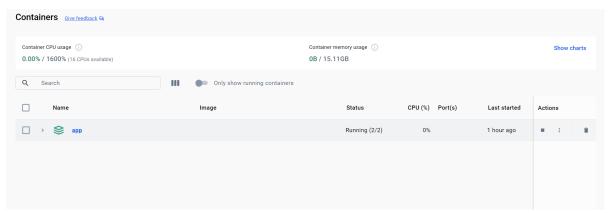
## Step2: Build the Docker image

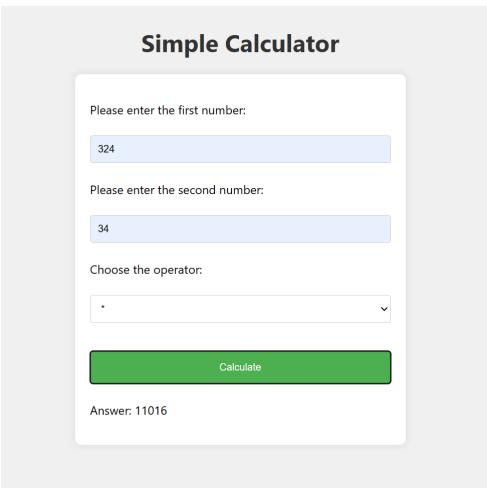


## Step3: Create a Docker Compose file

```
version: '3.8'
services:
 backend:
   build:
     context: ./backend
     dockerfile: Dockerfile
      - "8080:8080"
    networks:
      - app-network
  frontend:
   build:
      context: ./frontend
      dockerfile: Dockerfile
   ports:
      - "80:80"
    environment:
      - REACT_APP_API_URL=http://backend:8080
    depends_on:
      - backend
    networks:
      - app-network
networks:
 app-network:
   driver: bridge
```

# Step4: Test the application





## Step5: Push the Docker image to the DockerHub

