Assignment 2

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1. Create an Dockerfile for the reactapp

```
*** System restart required ***
Last login: Sat Mar 22 07:04:51 2025 from 172.20.65.140
abbas@devopsvm-07:~$ mkdir abbas-reactapp
abbas@devopsvm-07:~$ cd abbas-reactapp
abbas@devopsvm-07:~/abbas-reactapp$ git clone https://github.com/Khhafeez47/reactapp
Cloning into 'reactapp'...
remote: Enumerating objects: 29, done.
remote: Counting objects: 100% (29/29), done.
remote: Compressing objects: 100% (25/25), done.
remote: Total 29 (delta 1), reused 26 (delta 1), pack-reused 0 (from 0)
Receiving objects: 100% (29/29), 271.63 KiB | 265.00 KiB/s, done.
Resolving deltas: 100% (1/1), done.
abbas@devopsvm-07:~/abbas-reactapp$ cd reactapp
abbas@devopsvm-07:~/abbas-reactapp/reactapp$ sudo nano Dockerfiles
```

```
  GNU nano 7.2
# Dockerfile
FROM node:18

WORKDIR /app

COPY . .

RUN npm install
RUN npm run build

EXPOSE 3000

CMD ["npm", "start"]
```

2. Run the docker application from the created image

```
abbas@devopsvm-07:~/abbas-reactapp/reactapp$ ls
Dockerfiles  docker-react.png  package.json  package-lock.json  public  README.md  src
[+] Building 55.3s (10/10) FINISHED
 => [internal] load build definition from Dockerfile
 => => transferring dockerfile: 158B
 => [internal] load metadata for docker.io/library/node:18
 => [internal] load .dockerignore
 => => transferring context: 89B
 => [1/5] FROM docker.io/library/node:18@sha256:df9fa4e0e39c9b97e30240b5bb1d99bdb861573a82002b2c52ac7d0
 => [internal] load build context
 => => transferring context: 809.69kB
 => CACHED [2/5] WORKDIR /app
 => [3/5] COPY . .
 => [4/5] RUN npm install
 => [5/5] RUN npm run build
 => exporting to image
 => => exporting layers
 => => writing image sha256:2202841e31b6d973ea859f43af42f91e8e1669407310accb760ee5ad2b9046ce
 => => naming to docker.io/library/abbas-reactapp-image
```


3. Check the image size.

```
abbas@devopsvm-07:~/abbas-reactapp/reactapp$
abbas@devopsvm-07:~/abbas-reactapp/reactapp$ docker images | grep abbas-reactapp-image
pp-image abbas-reactapp-image        latest    2202841e31b6   9 minutes ago   1.43GB
abbas@devopsvm-07:~/abbas-reactapp/reactapp$ abbas -reactapp-image
```

4. Create Multi Stage Dockerfile for the same reactapp. (For Example yourname-reactapp-image-lw) lw = lightweight

```
GNU nano 7.2
# Dockerfile.multi
# Stage 1: Build
FROM node:18 as build

WORKDIR /app

COPY . .

RUN npm install
RUN npm run build

# Stage 2: Lightweight image using nginx
FROM nginx:alpine

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

EXPOSE 80

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

```
abbas@devopsvm-07:~/abbas-reactapp/reactapp$ docker buildx build -f Dockerfile.multi -t abbas-reactapp-image-lw .
[+] Building 37.1s (13/13) FINISHED
 => [internal] load build definition from Dockerfile.multi
 => => transferring dockerfile: 321B
 => WARN: FromAsCasing: 'as' and 'FROM' keywords' casing do not match (line 3)
 => [internal] load metadata for docker.io/library/nginx:alpine
 => [internal] load metadata for docker.io/library/node:18
 => [internal] load .dockerignore
 => => transferring context: 89B
 => [build 1/5] FROM docker.io/library/node:18@sha256:df9fa4e0e39c9b97e30240b5bb1d99bdb861573a82002b2c52ac7d6b8d6d773e
 => [internal] load build context
 => => transferring context: 1.48kB
 => [stage-1 1/2] FROM docker.io/library/nginx:alpine@sha256:65645c7bb6a0661892a8b03b89d0743208a18dd2f3f17a54ef4b76fb8e2f2a10
 => => resolve docker.io/library/nginx:alpine@sha256:65645c7bb6a0661892a8b03b89d0743208a18dd2f3f17a54ef4b76fb8e2f2a10
 => => sha256:62223d644fa234c3a1cc785ee14242ec47a77364226f1c811d2f669f96dc2ac8 2.50kB / 2.50kB
 => => sha256:b464cfdf2a6319875aeb27359ec549790ce14d8214fcb16ef915e4530e5ed235 629B / 629B
 => => sha256:d7e5070240863957ebb0b5a44a5729963c3462666baa2947d00628cb5f2d5773 955B / 955B
 => => sha256:65645c7bb6a0661892a8b03b89d0743208a18dd2f3f17a54ef4b76fb8e2f2a10 10.33kB / 10.33kB
 => => sha256:6769dc3a703c719c1d2756bda113659be28ae16cf0da58dd5fd823d6b9a050ea 10.79kB / 10.79kB
 => => sha256:61ca4f733c802afd9e05a32f0de0361b6d713b8b53292dc15fb093229f648674 1.79MB / 1.79MB
 => => extracting sha256:61ca4f733c802afd9e05a32f0de0361b6d713b8b53292dc15fb093229f648674
 => => sha256:81bd8ed7ec6789b0cb7f1b47ee731c522f6dba83201ec73cd6bca1350f582948 402B / 402B
 => => sha256:197eb75867ef4fcecd4724f17b0972ab0489436860a594a9445f8eaff8155053 1.21kB / 1.21kB
 => => extracting sha256:b464cfdf2a6319875aeb27359ec549790ce14d8214fcb16ef915e4530e5ed235
 => => extracting sha256:d7e5070240863957ebb0b5a44a5729963c3462666baa2947d00628cb5f2d5773
 => => extracting sha256:81bd8ed7ec6789b0cb7f1b47ee731c522f6dba83201ec73cd6bca1350f582948
 => => extracting sha256:197eb75867ef4fcecd4724f17b0972ab0489436860a594a9445f8eaff8155053
 => => sha256:34a64644b756511a2e217f0508e11d1a572085d66cd6dc9a555a082ad49a3102 1.40kB / 1.40kB
 => => sha256:39c2ddfd6010082a4a646e7ca44e95aca9bf3eaebc00f17f7ccc2954004f2a7d 15.52MB / 15.52MB
 => => extracting sha256:34a64644b756511a2e217f0508e11d1a572085d66cd6dc9a555a082ad49a3102
 => => extracting sha256:39c2ddfd6010082a4a646e7ca44e95aca9bf3eaebc00f17f7ccc2954004f2a7d
 => CACHED [build 2/5] WORKDIR /app
 => [build 3/5] COPY . .
 => [build 4/5] RUN npm install
 => [build 5/5] RUN npm run build
 => [stage-1 2/2] COPY --from=build /app/build /usr/share/nginx/html
 => exporting to image
 => => exporting layers
 => => writing image sha256:3f382a4fdabf072e7e2ffa1672334f8a46278382023b88c146aecf862a996813
 => => naming to docker.io/library/abbas-reactapp-image-lw

 1 warning found (use docker --debug to expand):
```

6. Run the docker application from the smaller created image. (For Example yourname-reactapp-lw)

```
abbas@devopsvm-07:~/abbas-reactapp/reactapp$ docker run -d -p 8082:80 --name abbas-reactapp-lw abbas-reactapp-image-lw
fb50073f1dd2ec8f52ff52aa1c05bc2844d9aa24fc0461099c4ef6f04c88a293
```

7. Reactapp from both Dockerfiles needs to be running in parallel.

Edit src/App.js and save to reload.

Learn React

Edit src/App.js and save to reload.

Learn React