Project Details

Task: A1
Done by: Tan Wei Jie (A0202017B)
Repo Link: https://github.com/tanweijie123/CS3219_Sandbox/tree/main/Task_A/A1
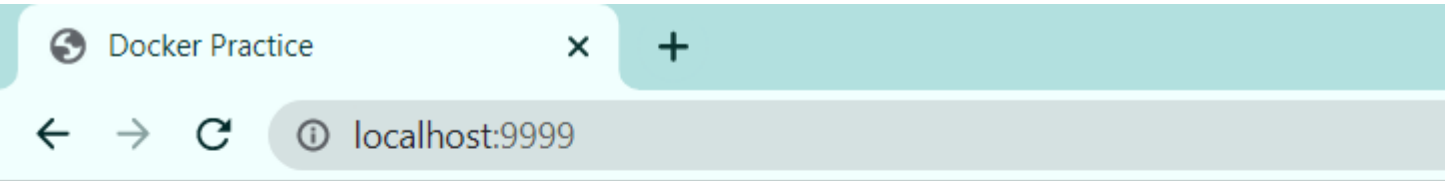
Instructions on how to run

Instructions on how to run the one static page webserver only

1. Change Directory to `A1/webserver/` . You should see a Dockerfile in this directory.
2. Run the dockerfile using `docker build -t my-static-web .` where `my-static-web` is the name given to the image.
3. To check if the build is successful, run `docker images` and ensure that `my-static-web` is there.
4. Run the command `docker run -d -p 9999:80 my-static-web` to run docker and use the port 9999 to access.
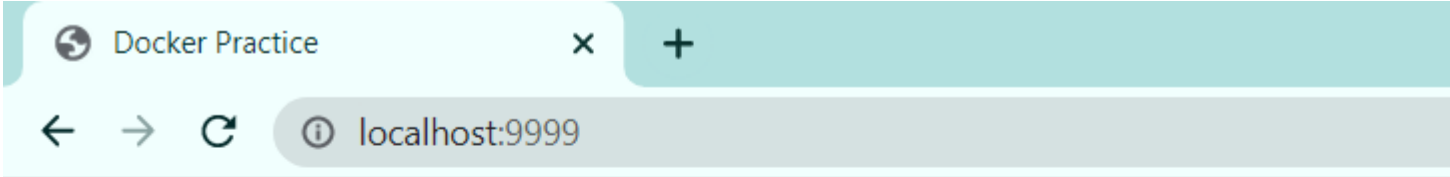5. Open the web browser and check that `http://localhost:9999/` is showing the `index.html` of this directory.

Instructions on how to set up reverse proxy

1. In this directory, run `docker-compose up -d` to allow docker to create a network between the 2 dockers (webserver and reverse_proxy).
   The command will:
   - Perform a docker build in `./webserver` and name this image `my-static-web`
   - Pull `nginx:alpine` from docker library and map the `nginx.conf` into the reverse proxy docker settings.

2. Check that to directly access `my-static-web`, you have to use port 9999. Using port 80 will not work.

Docker Practice

localhost:9999

Welcome to WeiJie's static page.

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404 Not Found

localhost

404 Not Found

nginx/1.21.3

3. Using the reverse proxy, we can access `my-static-web` via `http://localhost/web`. This will utilise the reverse proxy mapping and not directly access `my-static-web` using port 9999.

Docker Practice

localhost/web
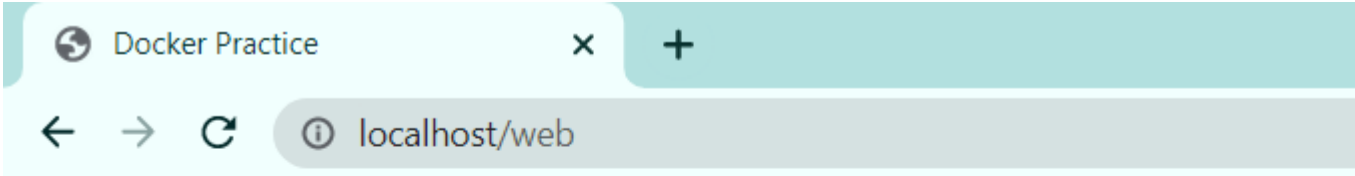
Welcome to WeiJie's static page.

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Learning Points

- Since the webserver is using an image which has a default web, this project utilise this and overwrite the default page, hence the Dockerfile do not have extra steps like `EXPOSE` or `npm install`.
- Need to add a `/` at the back of the reverse proxy link, otherwise, the `/web` will be forwarded to `my-static-web`, resulting in page not found.

Resources

Resources that are used and referred to during the creation of this project.

Desc	Link
Docker Tutorial	https://github.com/docker/labs/blob/master/beginner/chapters/setup.md
Docker and Nginx Reverse Proxy Video	https://youtu.be/hxngRDmHTM0