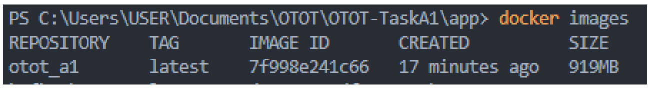
Goh Ee Liang, A0202170B

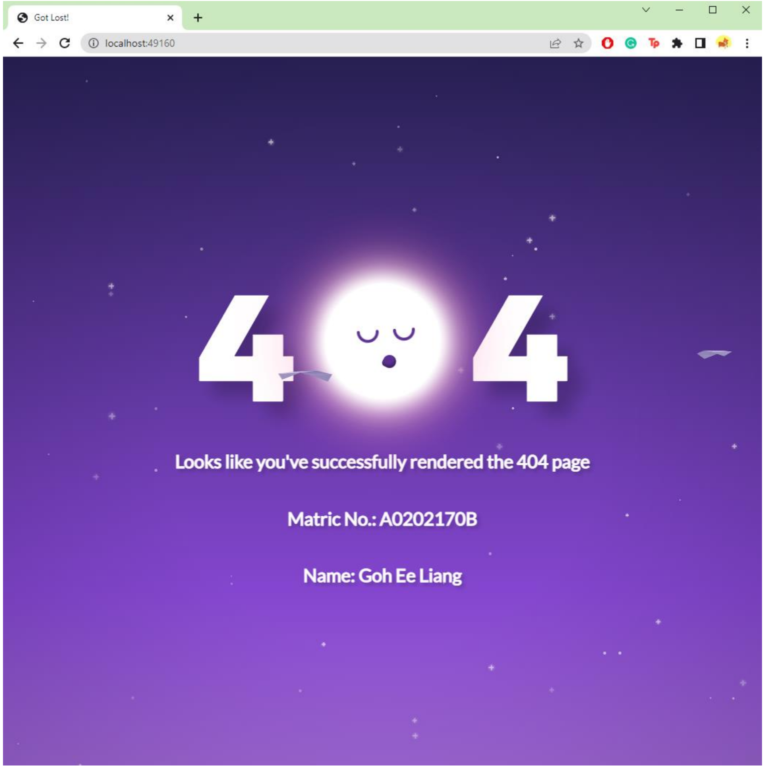
Github repo: https://github.com/Elgoh/OTOT-A1

Instructions on how to run the docker container:

1. Clone repo into local
2. Ensure docker has been installed

a) Task A1.1
   a. Open a new terminal under the app directory
   b. Run `docker build . -t otot-a1`
   c. Run `docker images` to view the built image
      i. 

```
PS C:\Users\USER\Documents\OTOT\OTOT-TaskA1\app> docker images
REPOSITORY    TAG       IMAGE ID       CREATED          SIZE
otot_a1       latest    7f998e241c66   17 minutes ago   919MB
```

   d. Run `docker run -p 49160:8080 -d otot_a1` to start the container with image 'otot_a1'
   e. View localhost: 49160 to verify that container is indeed running.
      i. 

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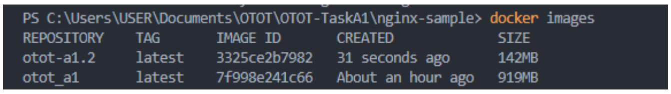
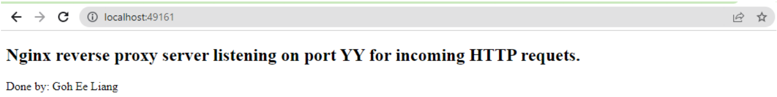
b) Task A1.2
   a. Open a new terminal under the nginx-sample directory
   b. Run `docker build . -t otot_a1.2`
   c. Run `docker images` to view the built image
      i. 

```
PS C:\Users\USER\Documents\OTOT\OTOT-TaskA1\nginx-sample> docker images
REPOSITORY    TAG       IMAGE ID       CREATED              SIZE
otot-a1.2     latest    3325ce2b7982   31 seconds ago       142MB
otot_a1       latest    7f998e241c66   About an hour ago    919MB
```

   d. Run `docker run -p 49161:80 -d otot_a1.2to start the container with image 'otot_a1.2'. Port 80 is Nginx's default port
   e. View localhost: 49161 to verify that container is indeed running.



**Nginx reverse proxy server listening on port YY for incoming HTTP requets.**

Done by: Goh Ee Liang

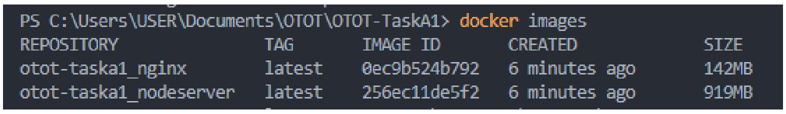
i.

c) Task A1.3

a. Open a new terminal under the root directory that contains /app, /nginx and /nginx-sample

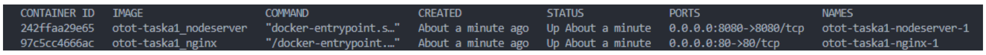
b. Run ` docker compose up –build`

i. To check if images are build successfully, open up another terminal and run `docker images`

ii. 

```
PS C:\Users\USER\Documents\OTOT\OTOT-TaskA1> docker images
REPOSITORY               TAG       IMAGE ID       CREATED         SIZE
otot-taska1_nginx        latest    0ec9b524b792   6 minutes ago   142MB
otot-taska1_nodeserver   latest    256ec11de5f2   6 minutes ago   919MB
```

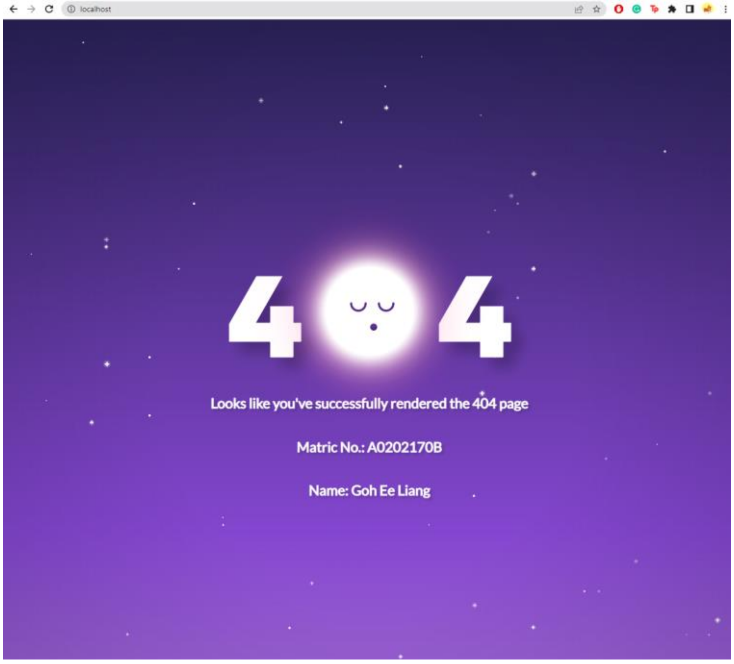
iii. To check if the containers are running, run `docker ps` in the same terminal

iv. 

```
CONTAINER ID   IMAGE                    COMMAND                  CREATED              STATUS              PORTS                    NAMES
242ffaa29e65   otot-taska1_nodeserver   "docker-entrypoint.s…"   About a minute ago   Up About a minute   0.0.0.0:8080->8080/tcp   otot-taska1-nodeserver-1
97c5cc4666ac   otot-taska1_nginx        "/docker-entrypoint.…"   About a minute ago   Up About a minute   0.0.0.0:80->80/tcp       otot-taska1-nginx-1
```

c. Now, both the app and nginx are avail on localhost:8080 and localhost:80 respectively.

i. As nginx acts as a reverse proxy with proxy pass in the config file, both localhost:8080 and localhost:80 should show the same page

ii. 

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iii. Above is the ss for ‘localhost:80’ it runs through the reverse proxy that routes to port 8080 in docker to obtain the page.