ECE444-Lab-Week4&5: Docker Intro

Lab2 (Wed) Keerthi Nelaturu
Lab1 (Thur) Akshay Kawlay

Goal:

- Introduction of Docker images and containers.
- Be able to dockerize your Flask app

Due: Oct 16, 2020 (Friday) 11:59pm EST
Schedule:

- Week 4: TA will present the intro of Docker.
- Week 5: Q&A

Activities:

1) Skim the tutorial of Docker:
   - https://docs.docker.com/get-started/
   - Docker Image vs Container: Everything You Need to Know (link)

2) Deploy your HelloWorld project from Lab 3 activity 2 in one Docker containers.

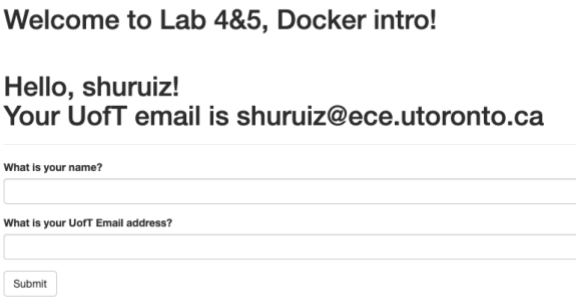
   Reference:
   https://codefresh.io/docker-tutorial/hello-whale-getting-started-docker-flask/

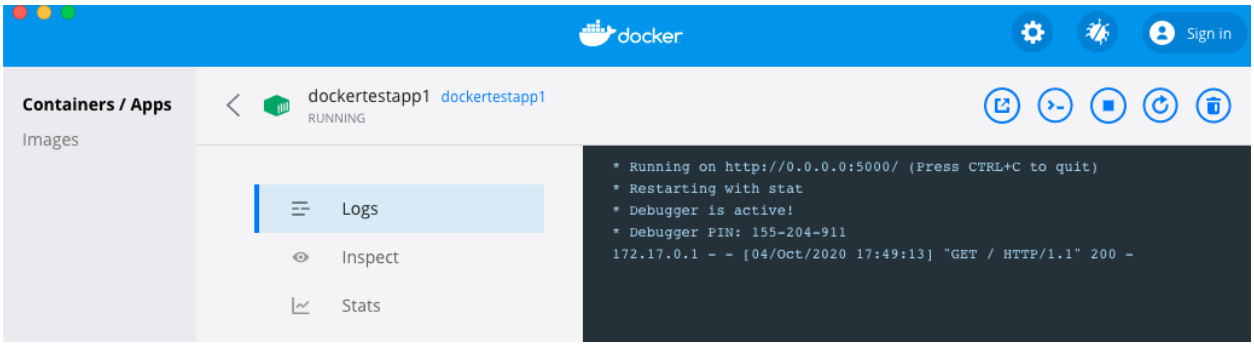
Deliverables: Submit your lab3 repo url again to the Lab4 assignment on Quercus.

1) (1pt) Perform all development in a branch "lab4_Microservice_Experiment" in your Lab3 task GitHub repository (you are experimenting after all).
2) (6pt) In addition to the code, this branch should contain a README.md file that describes how to build and start the system (including the location of the Docker files and a screenshot of your docker run command, Browser, and your docker image).
3) (3pt) Briefly summarize the differences between Docker and Virtual Machine.

Screenshots (no need to be exactly the same):

```
(venv) (base) shuruiz-mbp:flasky shurui$ docker run -it --name dockertestapp1 --rm -p 5000:5000 dockertestapp1
 * Running on http://0.0.0.0:5000/ (Press CTRL+C to quit)
 * Restarting with stat
 * Debugger is active!
 * Debugger PIN: 155-204-911
172.17.0.1 - - [04/Oct/2020 17:49:13] "GET / HTTP/1.1" 200 -
```





or

```
(venv) (base) shuruiz-mbp:flasky shurui$ docker image ls
REPOSITORY          TAG                 IMAGE ID            CREATED             SIZE
dockertestapp1      latest              bc5fa518af0b        33 seconds ago      980MB
```