CS456 - lab04:2 - Branden-Codd, 940428984

1. Containers

- No screenshots or observations

2. Version 1: Ubuntu

```
# Specify your e-mail address as the maintainer of the container image
MAINTAINER BRANDEN CODD "coddb@sou.edu"
```

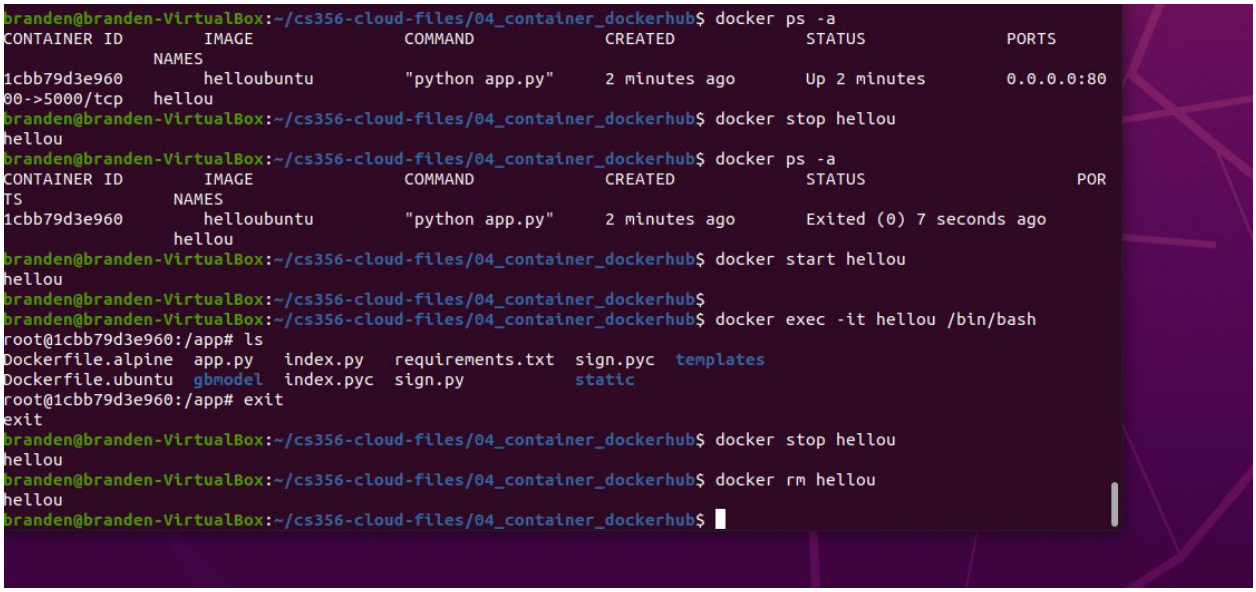
3. Build and run the Ubuntu-based container

- Show the image generated and its size in a screenshot for your lab notebook using the command:

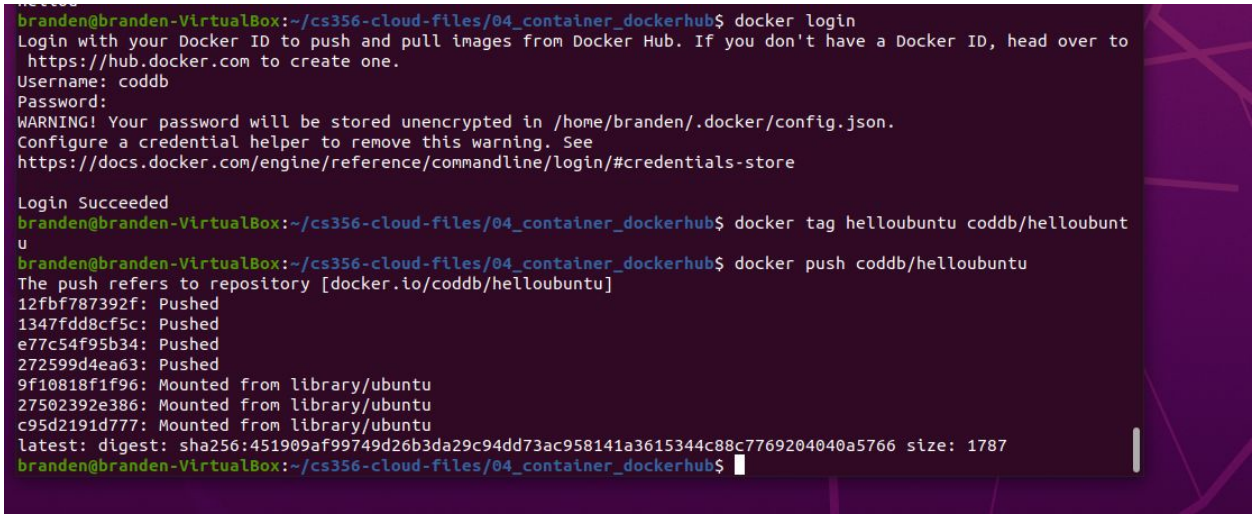
```
branden@branden-VirtualBox:~/cs356-cloud-files/04_container_dockerhub$ docker im
ages
REPOSITORY          TAG                 IMAGE ID            CREATED
SIZE
helloubuntu         latest              bf2d89a09cf6        3 minutes ago
447MB
ubuntu              18.04               c090eaba6b94        13 days ago
63.3MB
branden@branden-VirtualBox:~/cs356-cloud-files/04_container_dockerhub$
```

4. Docker commands

- We will now get practice running some of the docker commands



5. Docker Hub Ubuntu

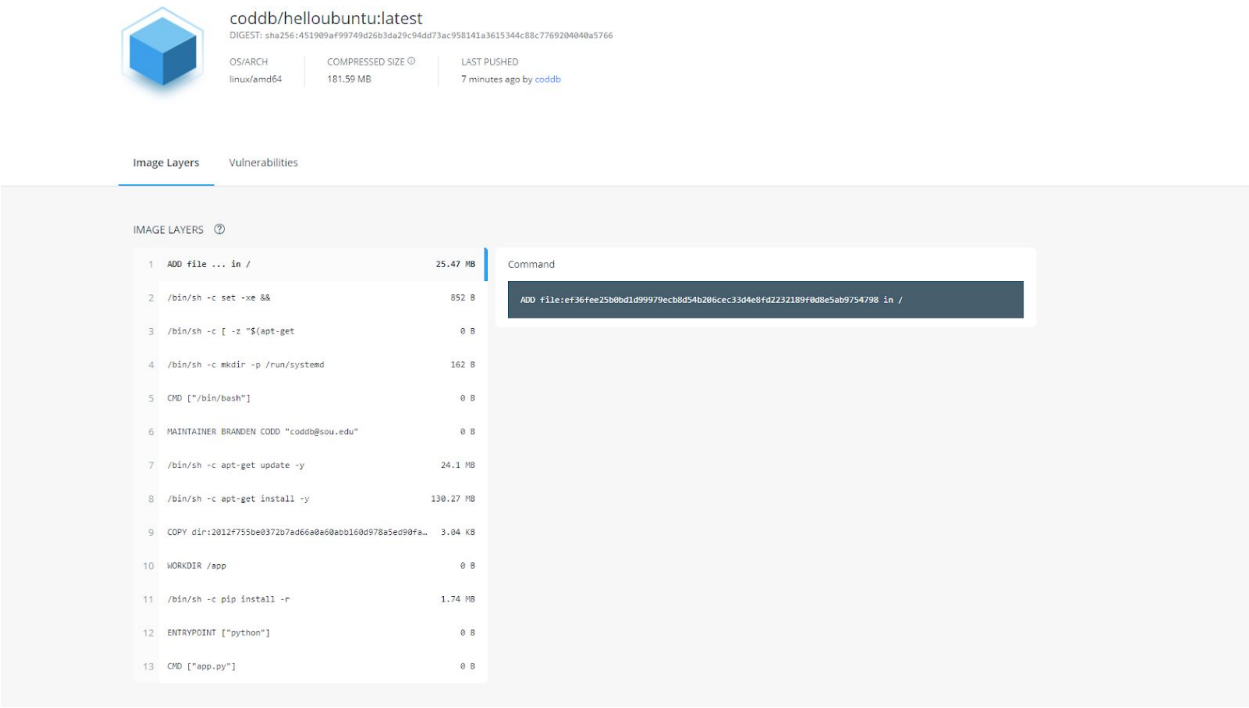


6. Running from Docker Hub

- Run the image directly from Docker Hub and show a screenshot of the output of the command in your lab notebook.

```
branden@branden-VirtualBox:~/cs356-cloud-files/04_container_dockerhub$ docker run -di -p 8000:5000 --name hell
ou coddb/helloubuntu
Unable to find image 'coddb/helloubuntu:latest' locally
latest: Pulling from coddb/helloubuntu
d519e2592276: Already exists
d22d2dfcfa9c: Already exists
b3afe92c540b: Already exists
9077c6b6edb4: Pull complete
7c9811e97fdd: Pull complete
d375e4fa0d70: Pull complete
d365bcc1f46f: Pull complete
Digest: sha256:451909af99749d26b3da29c94dd73ac958141a3615344c88c7769204040a5766
Status: Downloaded newer image for coddb/helloubuntu:latest
038c5a1be8711a1f018b80ae01fec905cb622f4ed48d7dae239c29f10b429f95
branden@branden-VirtualBox:~/cs356-cloud-files/04_container_dockerhub$
```

- Then, log into Docker Hub with a web browser, navigate to the container image, and take a screenshot of the container image and its size.

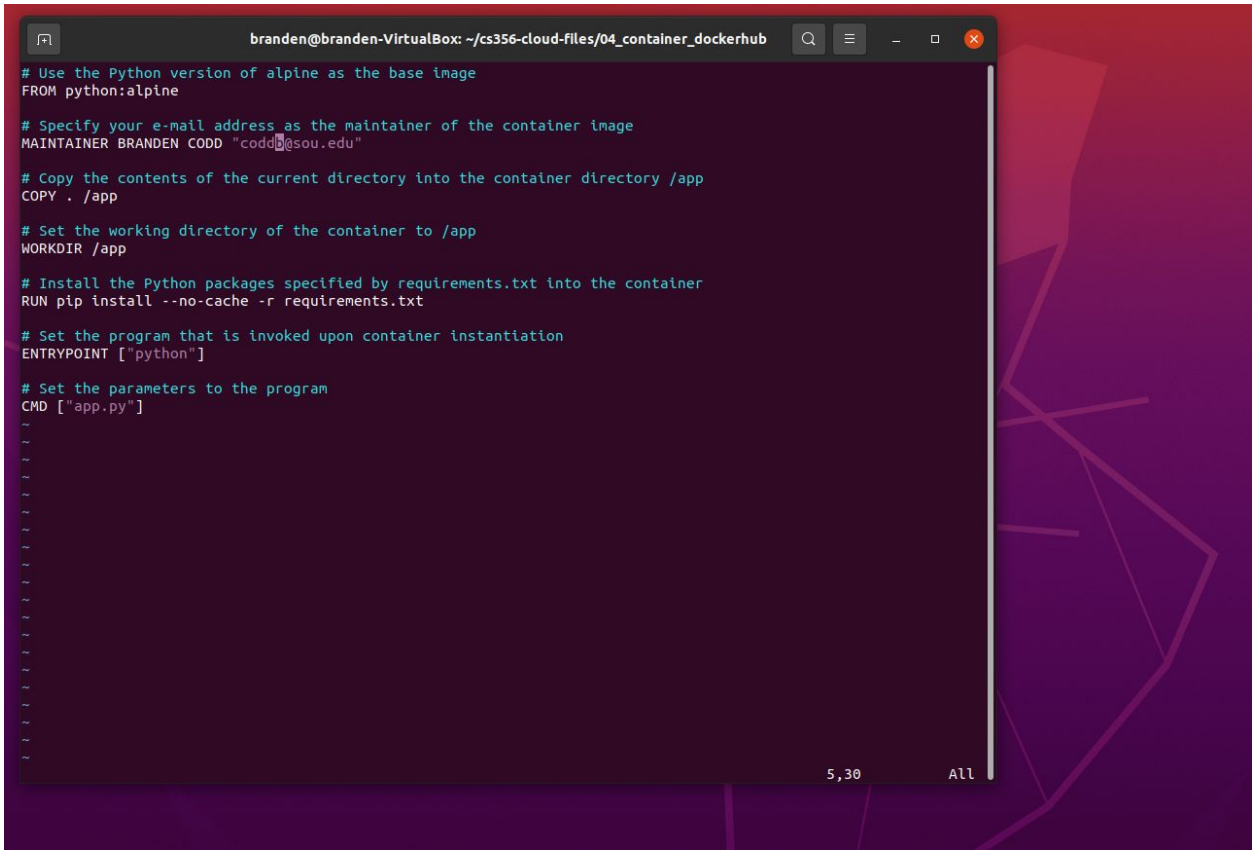


- Finally, visit https://microbadger.com/ and show the container image metadata using MicroBadger that describes the individual layers of the container.

- Currently letting it run in background but could not view the meta data

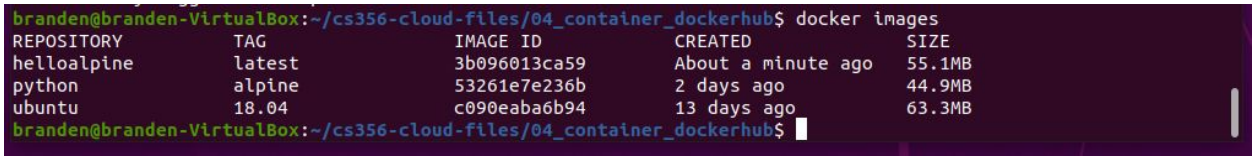
7. Version 2: Alpine

- As before, make a single edit to this file before using it. In the `MAINTAINER` line, specify your name and SOU e-mail address for the container image that will be built.



8. Build and run the Alpine-based container

- Show the image generated and its size in a screenshot for your lab notebook. How much smaller is the image?

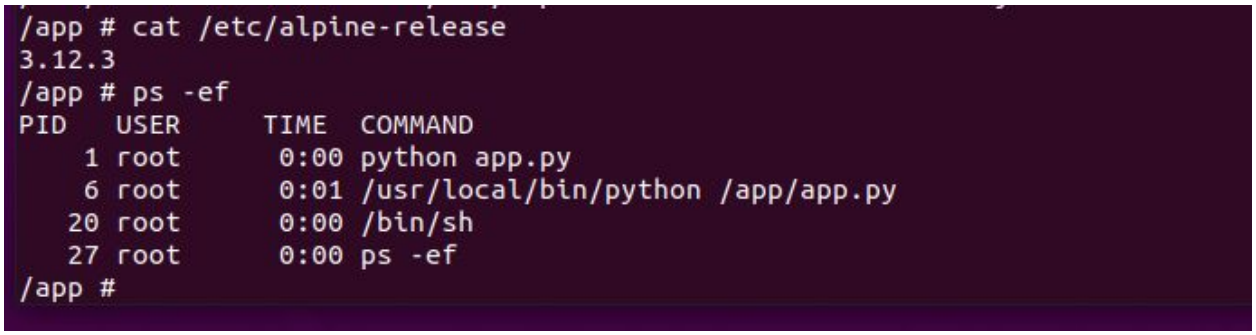


  - The alpine based container is about 12 MB smaller

- Show the output of this command in a screenshot for your lab notebook. What might have happened?

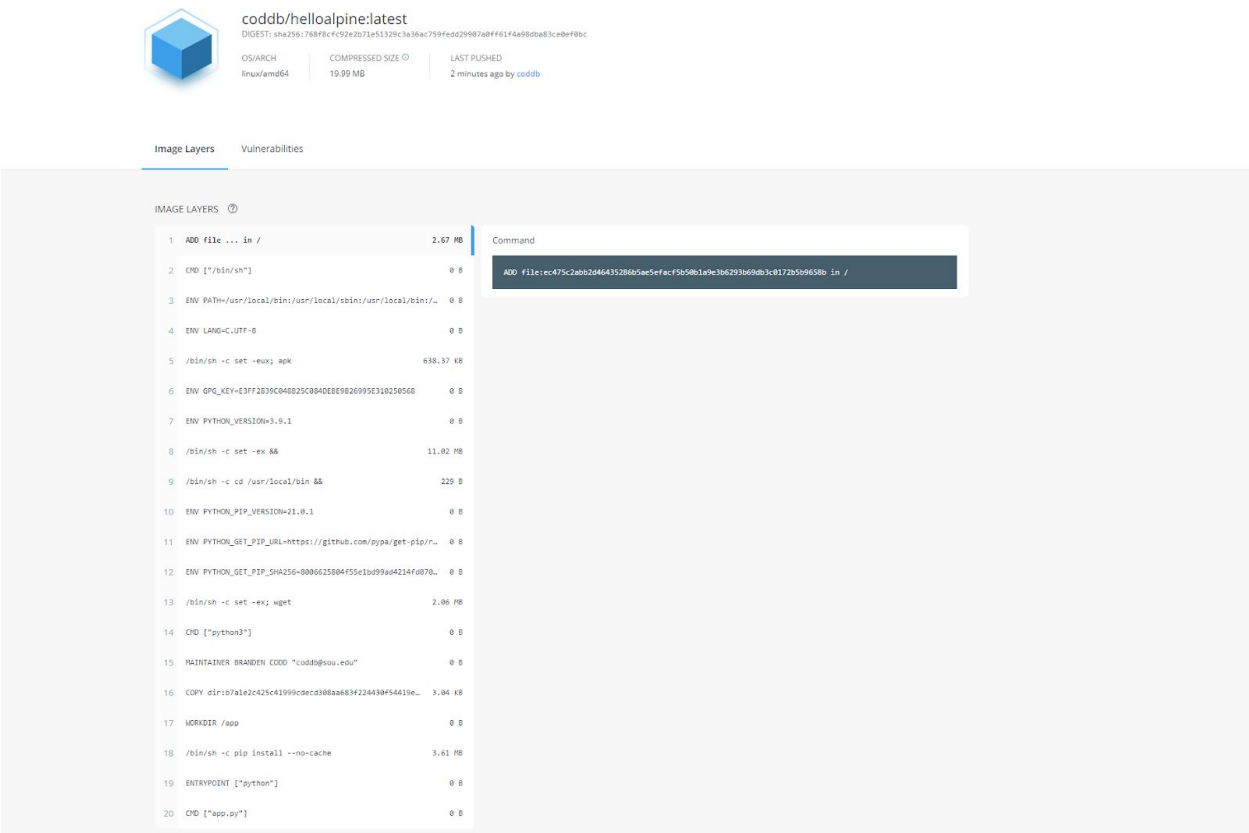
  - What might have happened here is that the image does not have the binary /bin/bash installed like our previous image did.

- Then, replace `/bin/bash` with `/bin/sh` and repeat the command. Within the container, show the contents of the file specifying the Alpine release being used (`/etc/alpine-release`) and the output of the process listing command (`ps -ef`). Exit out of the shell and container.

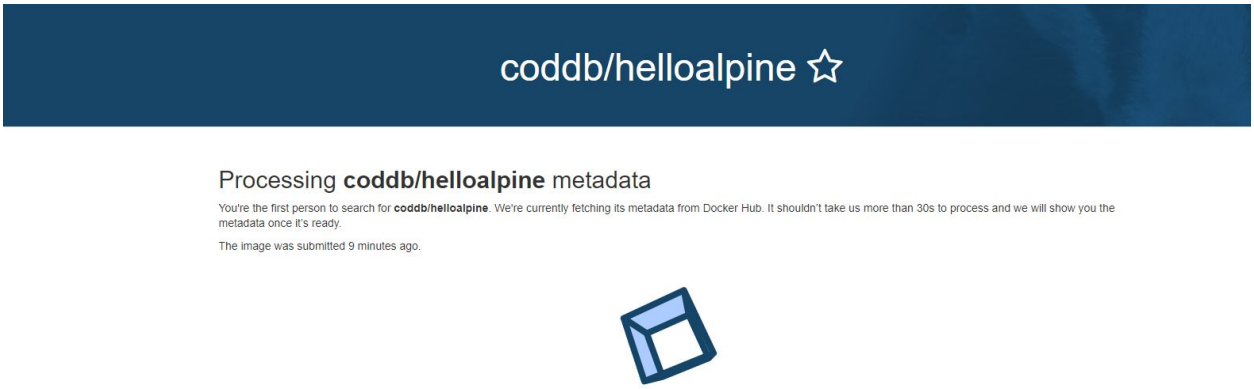


9. Docker Hub Alpine

- Then, log into Docker Hub with a web browser, navigate to the container image, and take a screenshot of the container image and its size.

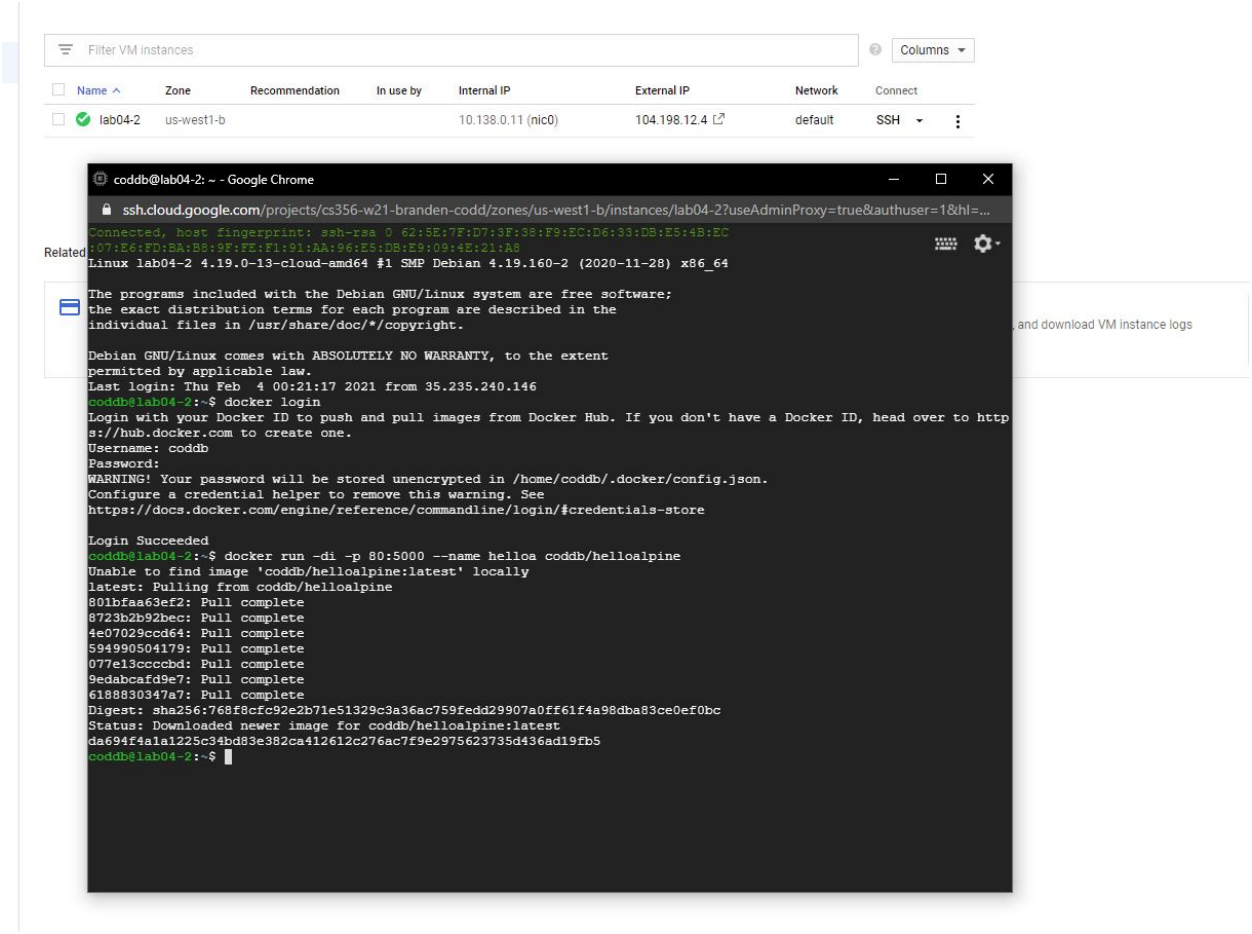


- Finally, visit https://microbadger.com/ and show the container image metadata using MicroBadger that describes the individual layers of the container.

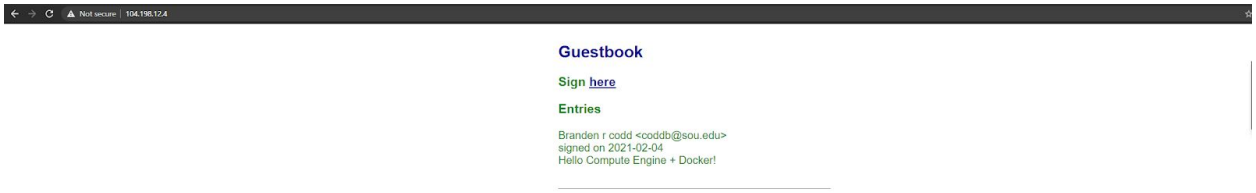


- As with the previous container i could not view the metadata using microbadger

10. Compute Engine Ubuntu VM deployment



- Show in a screenshot that the site is running via the VM's external IP address with a guestbook entry with the message "Hello Compute Engine + Docker!"

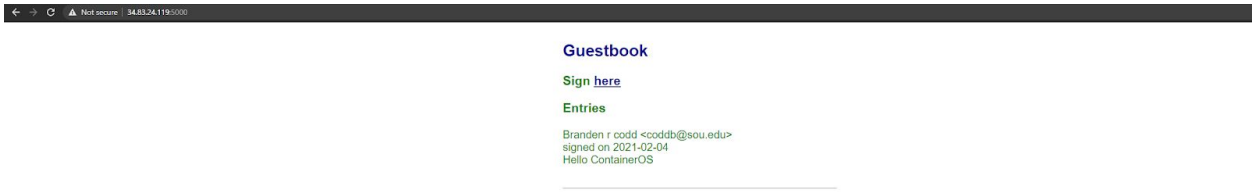


11. Compute Engine ContainerOS VM deployment (1)

- No screenshots or observations

12. Compute Engine ContainerOS VM deployment (2)

- Finally, visit the site via the external IP address on port 5000 to show the site is running. Add a "Hello ContainerOS!" guestbook entry and take a screenshot for your lab.



13. Clean up

- Deleted the vms