

# **Lab notebook Week 4**

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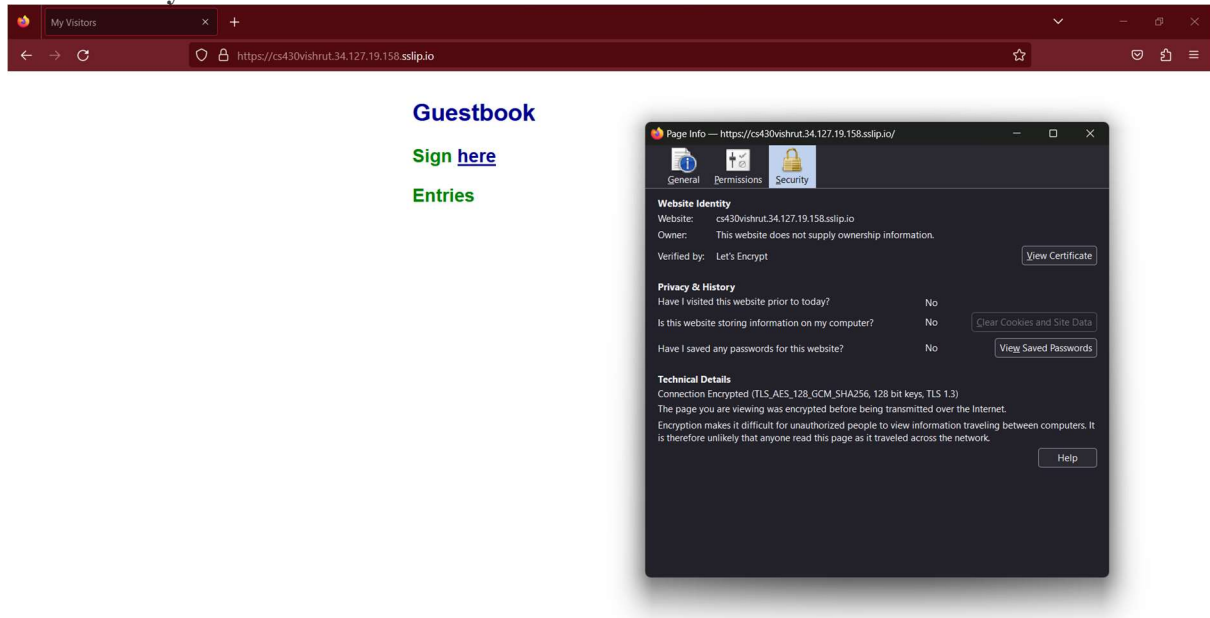
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## 04.1g: nginx Compute Engine Guestbook

### 6. Install the application

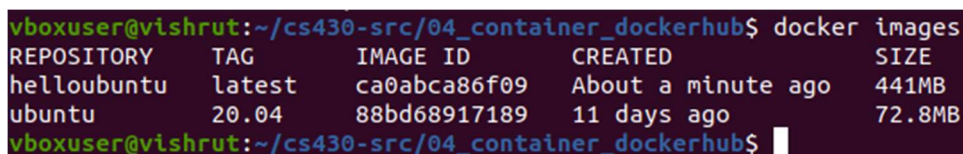
- Take a screenshot of the site along with its Let's Encrypt certificate and include it in your lab notebook



## 04.2g. Docker Guestbook

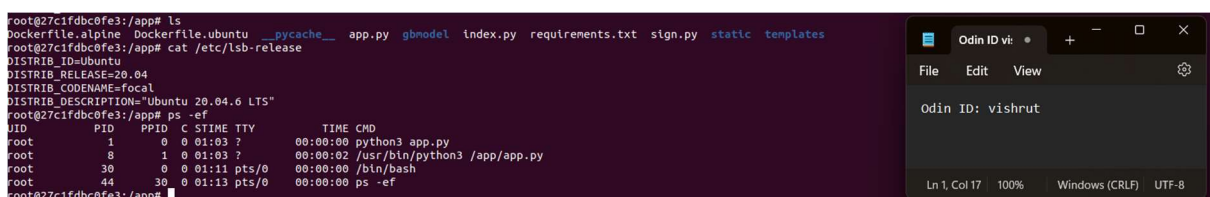
### 3. Build and run the Ubuntu-based container

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



### 4. Docker commands

Within the container, show the contents of the current directory via `ls`, the contents of the file specifying the Linux standard base being used (`/etc/lsb-release`), and the output of the process listing command (`ps -ef`). Exit out of the shell and container.

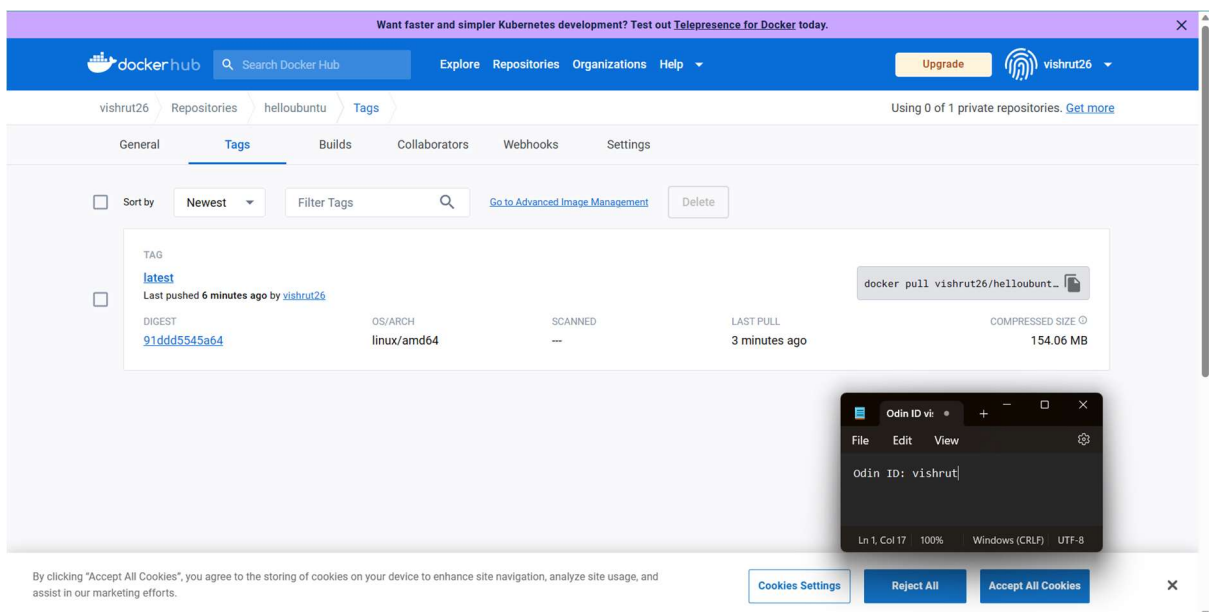


## 6. Running from Docker Hub

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

```
vboxuser@vishrut:~/cs430-src/04_container_dockerhub$ docker run -di -p 8000:5000 --name hellou vishrut26/helloubuntu
Unable to find image 'vishrut26/helloubuntu:latest' locally
latest: Pulling from vishrut26/helloubuntu
ca1778b69356: Already exists
58b4cda735d7: Pull complete
69be57a810f8: Pull complete
59248e222805: Pull complete
1c004d7ac315: Pull complete
Digest: sha256:91ddd5545a6421f8532f1f6dbf883161e14af4e4a2dafad20a5e68d1f3cc5ee8
Status: Downloaded newer image for vishrut26/helloubuntu:latest
896f7eac109d9e5ad31a7e4d0487725f12a27c8efc6e4d1f6fd8d08d3b3aabbf1
vboxuser@vishrut:~/cs430-src/04_container_dockerhub$
```

- Take a screenshot of the container image and its size for your lab notebook.



## 8. Build and run the Alpine-based container

- Take a screenshot of the image generated and its size for your lab notebook. How much smaller is the image than the Ubuntu one?

The image generated is 5.6 MB smaller than Ubuntu.

```
vboxuser@vishrut:~/cs430-src/04_container_dockerhub$ docker images
REPOSITORY    TAG       IMAGE ID       CREATED        SIZE
helloalpine   latest    0abeacf63689   9 seconds ago  67.2MB
ubuntu        20.04    88bd68917189   11 days ago   72.8MB
python        alpine    8a7f410141c5   2 weeks ago   51.8MB
vboxuser@vishrut:~/cs430-src/04_container_dockerhub$
```

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

The error message suggests that the `/bin/bash` executable file does not exist inside the container. The `/bin/bash` executable might have been removed or moved from its default location inside the container.

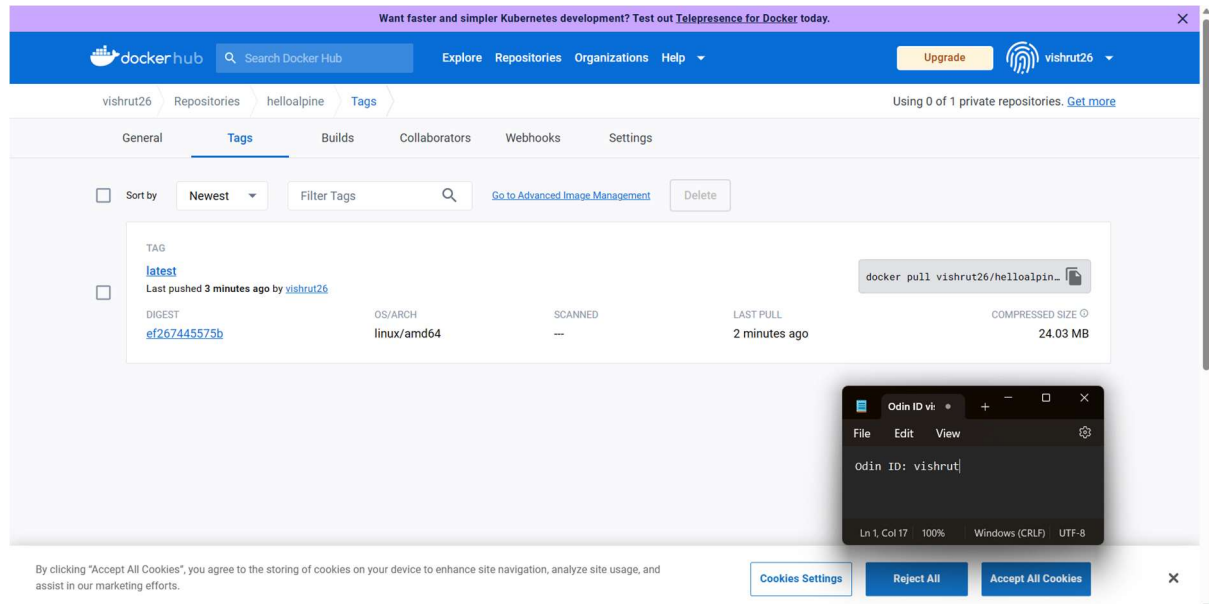
```
vboxuser@vishrut:~/cs430-src/04_container_dockerhub$ docker exec -it helloa /bin/bash
OCI runtime exec failed: exec failed: unable to start container process: exec: "/bin/bash": stat /bin/bash: no such file or directory: unknown
vboxuser@vishrut:~/cs430-src/04_container_dockerhub$
```

- Take a screenshot of the output of each

```
vboxuser@vishrut:~/cs430-src/04_container_dockerhub$ docker exec -it helloa /bin/sh
/app # cat /etc/alpine-release
3.17.3
/app # ps -ef
PID    USER     TIME   COMMAND
   1   root      0:00   python3 app.py
   7   root      0:00   /usr/local/bin/python3 /app/app.py
  17   root      0:00   /bin/sh
  25   root      0:00   ps -ef
/app #
```

## 9. Docker Hub Alpine

- Take a screenshot of the container image and its size.



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TAG	DIGEST	OS/ARCH	SCANNED	LAST PULL	COMPRESSED SIZE
<a href="#">latest</a>	<a href="#">ef267445575b</a>	linux/amd64	---	2 minutes ago	24.03 MB

docker pull vishrut26/helloalpine...

Odin ID vishrut

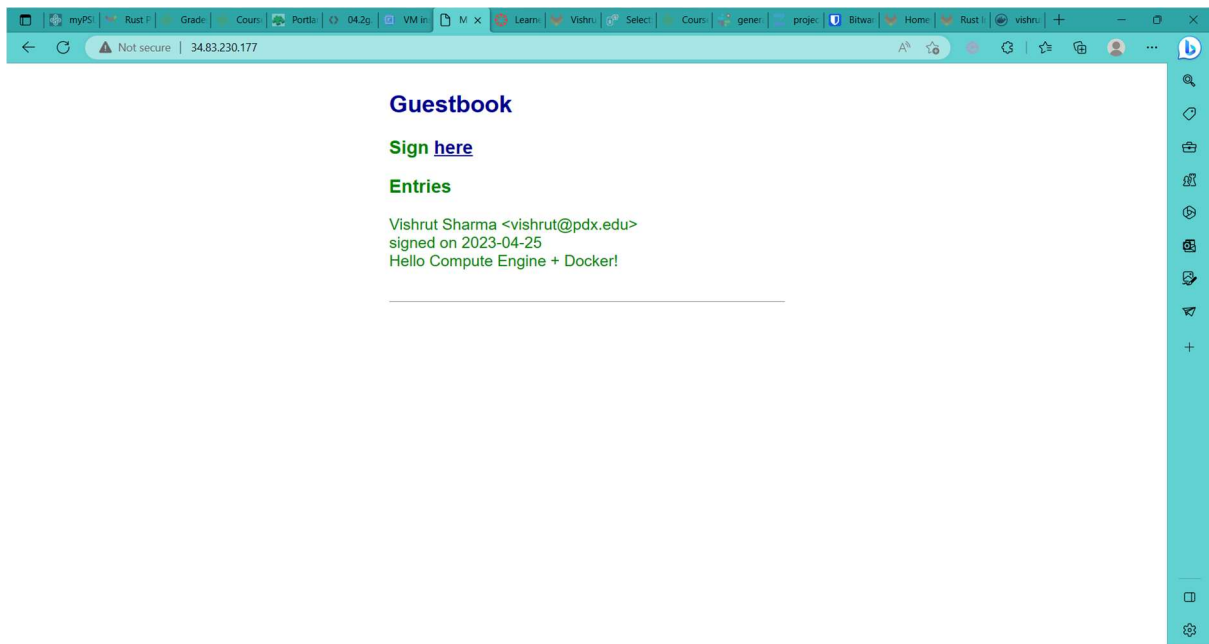
Ln 1, Col 17 100% Windows (CRLF) UTF-8

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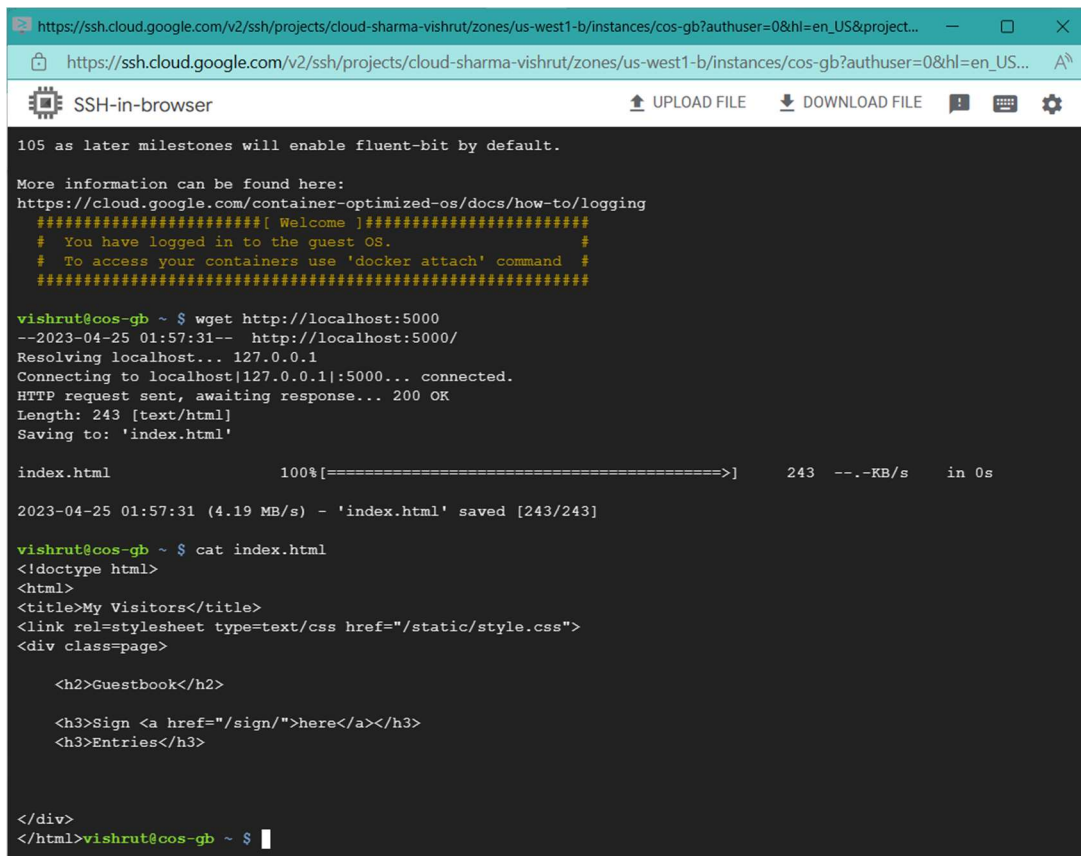
## 10. Compute Engine Ubuntu VM deployment

- Take a screenshot of the entry that includes the VM's external IP address for your lab notebook



## 13. -

Perform a local request to the web app (e.g. `wget http://localhost:5000`) to ensure the container is running.



- Take a screenshot of the entry that includes the VM's external IP address for your lab notebook

