

## Lab 04

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CS530: Internet Web & Cloud, Fall 2023

Odin: srimel

\*\* In all the terminal screenshots my Odin name is in the terminal prompt \*\*

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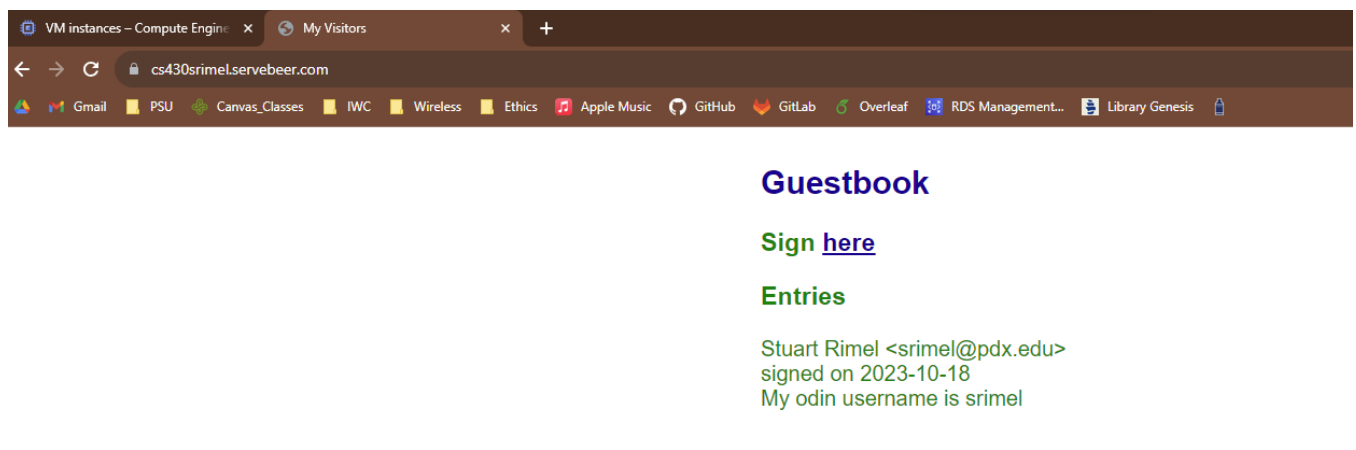
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## 4.1 g: nginx Compute Engine Guestbook

### 4.1.6: Install the application

The certificate window covers the Guestbook view, so I made separate screenshots



## Certificate Viewer: cs430srimel.servebeer.com



### General

### Details

#### Issued To

Common Name (CN)	cs430srimel.servebeer.com
Organization (O)	<Not Part Of Certificate>
Organizational Unit (OU)	<Not Part Of Certificate>

#### Issued By

Common Name (CN)	R3
Organization (O)	Let's Encrypt
Organizational Unit (OU)	<Not Part Of Certificate>

#### Validity Period

Issued On	Tuesday, October 17, 2023 at 6:59:11 PM
Expires On	Monday, January 15, 2024 at 5:59:10 PM

#### SHA-256 Fingerprints

Certificate	9c69d5a9ea6c87ce2a00ec096a9a57f49405bc285ffe91a4c8a25d20819a265b
Public Key	cd63dddc96d14c87bf2bbb6addfb312c0dfedb6a20aeca7830c3889c5a7151d1

## 4.2g: Docker Guestbook

### 4.2.3: Build and run the Ubuntu-based container

```
srime1@course-vm:~/cs430-src/04_container_dockerhub$ docker images
REPOSITORY      TAG          IMAGE ID       CREATED        SIZE
helloubuntu     latest      258c8913e620   16 seconds ago 446MB
ubuntu          20.04       bf40b7bc7a11   2 weeks ago    72.8MB
srime1@course-vm:~/cs430-src/04_container_dockerhub$
```

### 4.2.6: Running from Docker Hub

```
srime1@course-vm:~/cs430-src/04_container_dockerhub$ docker run -di -p 8000:5000 --name hellou srime1/helloubuntu
Unable to find image 'srime1/helloubuntu:latest' locally
latest: Pulling from srime1/helloubuntu
96d54c3075c9: Already exists
282725162ea3: Pull complete
3dd0d41eb86c: Pull complete
ee13d834cbef: Pull complete
34f3a5070e35: Pull complete
Digest: sha256:5c1d0f2fe6851bde2089faf435387fcad7c78203f701a942cb4bdc4dc581edc3
Status: Downloaded newer image for srime1/helloubuntu:latest
68d2aafa6e605ce0b7818ab2444eb337558ecbe0a021aedef8512515f9cf9f543
srime1@course-vm:~/cs430-src/04_container_dockerhub$
```

IMAGE LAYERS ?

1	ARG RELEASE	0 B
2	ARG LAUNCHPAD_BUILD_ARCH	0 B
3	LABEL org.opencontainers.image.re...	0 B
4	LABEL org.opencontainers.image.ve...	0 B
5	ADD file ... in /	26.23 MB
6	CMD ["/bin/bash"]	0 B
7	LABEL maintainer=srimel@pdx.edu	0 B
8	/bin/sh -c apt-get update -y	31.15 MB
9	/bin/sh -c apt-get install -y	97.64 MB
10	COPY dir:10ee7765eea6ac1255db...	3.01 KB
11	WORKDIR /app	0 B
12	/bin/sh -c pip install -r	1.93 MB
13	ENTRYPOINT ["python3"]	0 B
14	CMD ["app.py"]	0 B

Command

ARG RELEASE

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Layer # 9 seems to add the most to the image. It adds 97.64 MB.

## 4.2.8: Build and run the Alpine-based container

```
srime1@course-vm:~/cs430-src/04_container_dockerhub$ docker images
REPOSITORY      TAG          IMAGE ID       CREATED        SIZE
helloalpine     latest      ad8d9c2e28d8   27 seconds ago 66MB
python          alpine     a4c7645b18dc   4 days ago    51.8MB
ubuntu          20.04      bf40b7bc7a11   2 weeks ago   72.8MB
srime1@course-vm:~/cs430-src/04_container_dockerhub$
```

The Alpine-based container image is 380 MB smaller than the ubuntu one.

```
srime1@course-vm:~/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 director
y: unknown
srime1@course-vm:~/cs430-src/04_container_dockerhub$
```

I think the Alpine version doesn't have /bin/bash as a tradeoff for a smaller footprint.

```
srime1@course-vm:~/cs430-src/04_container_dockerhub$ docker exec -it helloa /bin/sh
/app # cat /etc/alpine-release
3.18.4
/app # ps -ef
PID   USER     TIME  COMMAND
   1  root      0:00  python3 app.py
   7  root      0:00  /usr/local/bin/python3 app.py
  15  root      0:00  /bin/sh
  22  root      0:00  ps -ef
/app #
```

## 4.2.9: Docker Hub Alpine

IMAGE LAYERS ?

1	ADD file ... in /	3.24 MB
2	CMD ["/bin/sh"]	0 B
3	ENV PATH=/usr/local/bin:/usr/local/sbin:/usr/l...	0 B
4	ENV LANG=C.UTF-8	0 B
5	RUN /bin/sh -c set -eux;	687.74 KB
6	ENV GPG_KEY=7169605F62C751356D054A26A821E680E5...	0 B
7	ENV PYTHON_VERSION=3.12.0	0 B
8	RUN /bin/sh -c set -eux;	11.39 MB
9	RUN /bin/sh -c set -eux;	240 B
10	ENV PYTHON_PIP_VERSION=23.2.1	0 B
11	ENV PYTHON_GET_PIP_URL=https://github.com/pypa...	0 B
12	ENV PYTHON_GET_PIP_SHA256=22b849a10f86f5ddf7ce...	0 B
13	RUN /bin/sh -c set -eux;	2.54 MB
14	CMD ["python3"]	0 B
15	LABEL maintainer=srimel@pdx.edu	0 B
16	COPY dir:ef8d57328f0046f857f0eb12401349f56...	3.01 KB
17	WORKDIR /app	0 B
18	/bin/sh -c pip install --no-cache	5.16 MB
19	ENTRYPOINT ["python3"]	0 B
20	CMD ["app.py"]	0 B

Command

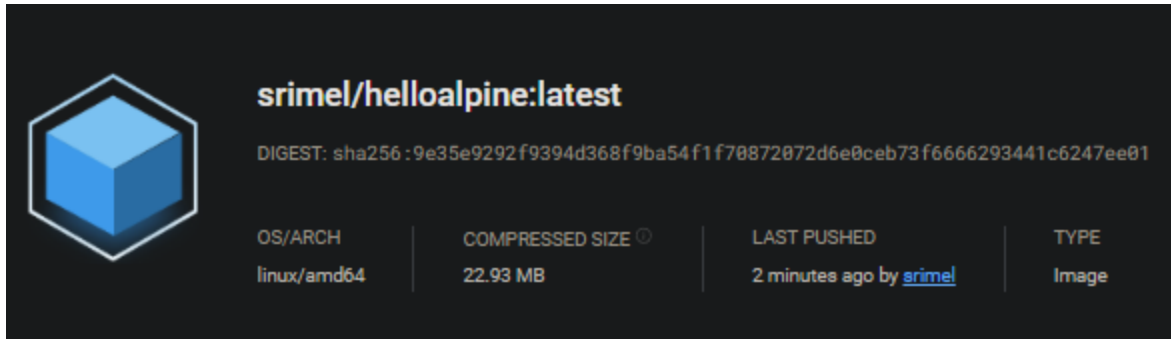
ADD file:756183bt

Odin

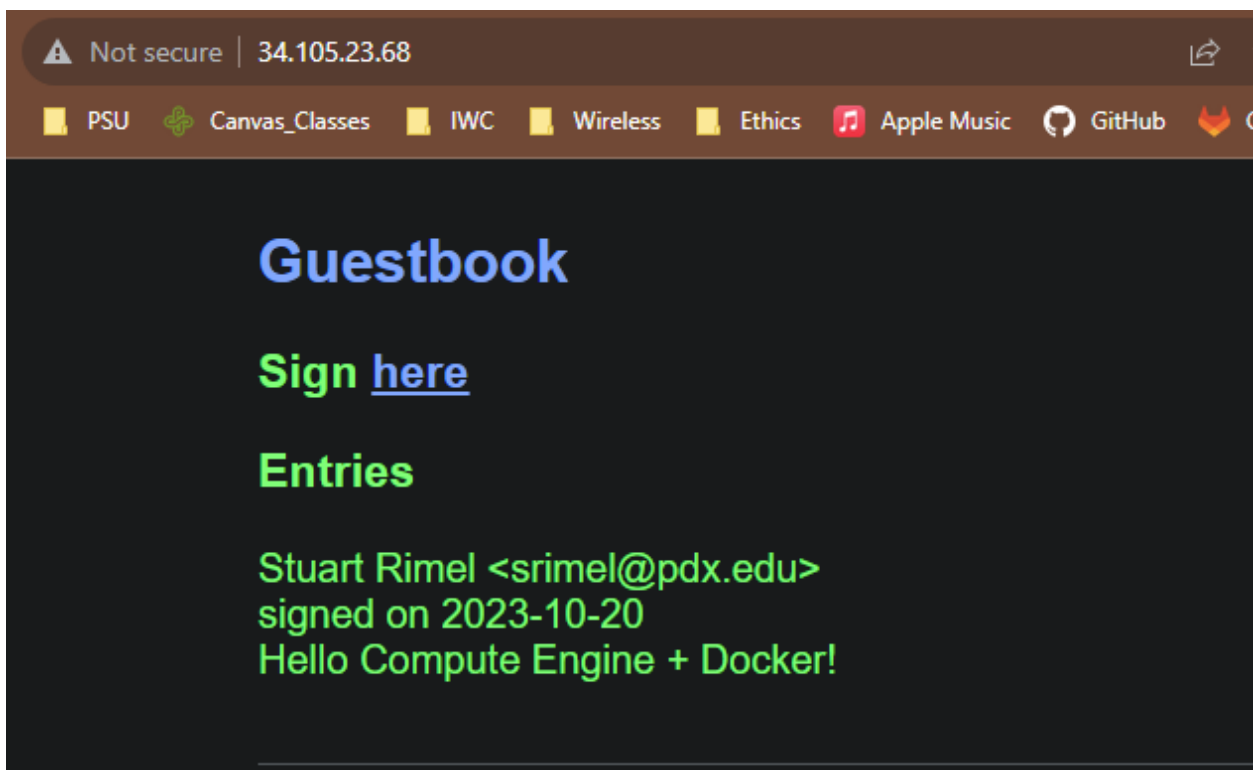
File Edit View

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#### 4.2.10: Compute Engine Ubuntu VM deployment



4.2.13: -

