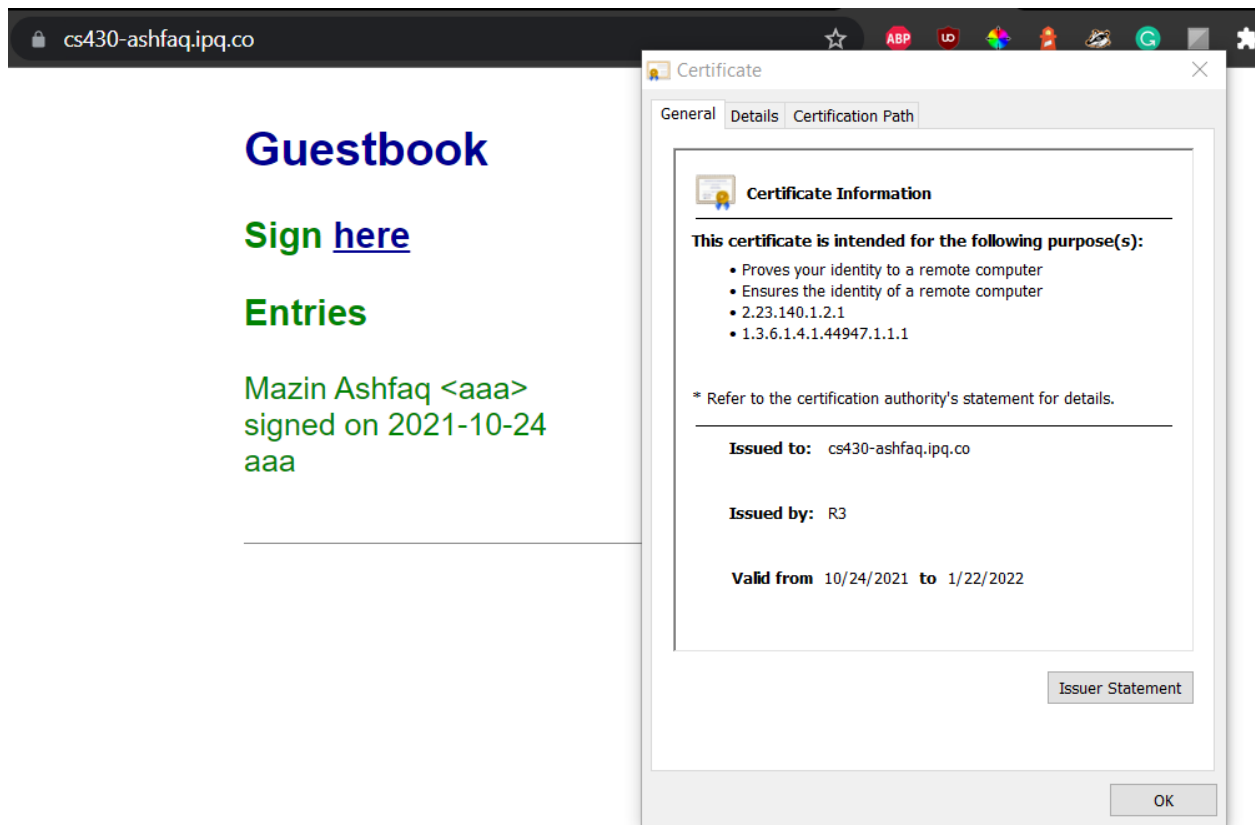


Add Headings (Format > Paragraph styles) and they will appear in your table of contents.

04.1g: nginx Compute Engine Guestbook

5. 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

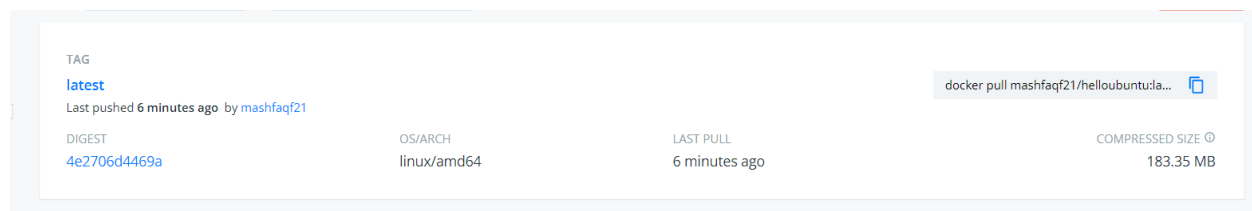
- Show the image generated and its size in a screenshot for your lab notebook using the command:

```
Successfully built d02c379f3ed0
Successfully tagged helloubuntu:latest
ashfaq@ashfaq-VirtualBox:~/Desktop/cloud-f21-mazin-ashfaq-ashfaq/cs430-src/04_container_dockerhub$ docker images
```

REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
helloubuntu	latest	d02c379f3ed0	16 seconds ago	450MB
ubuntu	18.04	5a214d77f5d7	3 weeks ago	63.1MB

6. Running from Docker Hub

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



The screenshot shows the Docker Hub interface for the image mashfaq21/helloubuntu:latest. The page displays the tag 'latest', the last push time '6 minutes ago by mashfaq21', the digest '4e2706d4469a', the OS/ARCH 'linux/amd64', the last pull time '6 minutes ago', and the compressed size '183.35 MB'. A button 'docker pull mashfaq21/helloubuntu:la...' is visible in the top right corner.

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?

```
ashfaq@ashfaq-VirtualBox:~/Desktop/cloud-f21-mazin-ashfaq-ashfaq/cs430-src/04_container_dockerhub$ docker images
```

REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
helloalpine	latest	96a33788d9c1	9 seconds ago	55.8MB
python	alpine	c9e1987b6bc6	2 weeks ago	45.4MB
ubuntu	18.04	5a214d77f5d7	3 weeks ago	63.1MB

```
ashfaq@ashfaq-VirtualBox:~/Desktop/cloud-f21-mazin-ashfaq-ashfaq/cs430-src/04_container_dockerhub$
```

It is 130 MB smaller.

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

```
ashfaq@ashfaq-VirtualBox:~/Desktop/cloud-f21-mazin-ashfaq-ashfaq/cs430-src/04_container_dockerhub$ docker ps -a
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS                               NAMES
e160b5b626e2   helloalpine   "python app.py"         About a minute   Up About a minute   0.0.0.0:8000->5000/tcp, :::8000->5000/tcp   helloa
ashfaq@ashfaq-VirtualBox:~/Desktop/cloud-f21-mazin-ashfaq-ashfaq/cs430-src/04_container_dockerhub$ docker exec -it helloa /bin/bash
OCI runtime exec failed: exec failed: container_linux.go:380: starting container process caused: exec: "/bin/bash": stat /bin/bash: no such file or directory: unknown
ashfaq@ashfaq-VirtualBox:~/Desktop/cloud-f21-mazin-ashfaq-ashfaq/cs430-src/04_container_dockerhub$
```

Bash is not installed by default.

- Take a screenshot of the output of each

```
ashfaq@ashfaq-VirtualBox:~/Desktop/cloud-f21-mazin-ashfaq-ashfaq/cs430-src/04_container_dockerhub$ docker exec -it helloa /bin/sh
/app # cat /etc/alpine-release
3.14.2
/app # ps -ef
PID   USER     TIME   COMMAND
  1  root      0:00   python app.py
  7  root      0:00   /usr/local/bin/python /app/app.py
 21  root      0:00   /bin/sh
 28  root      0:00   ps -ef
/app #
```

9. Docker Hub Alpine

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

☐

TAG

latest

Last pushed 2 minutes ago by mashfaq21

DOCKER HUB

docker pull mashfaq21/helloalpine:lat...

DIGEST

8843caf6c294

OS/ARCH

linux/amd64

LAST PULL

2 minutes ago

COMPRESSED SIZE

20.25 MB

10. Compute Engine Ubuntu VM deployment

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



Guestbook

Sign [here](#)

Entries

Mazin Ashfaq <ashfaq@pdx.edu>
signed on 2021-10-25
Hello Compute Engine + Docker!

12. -

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



Guestbook

Sign [here](#)

Entries

Mazin Ashfaq <ashfaq@pdx.edu>
signed on 2021-10-25
Hello ContainerOS!