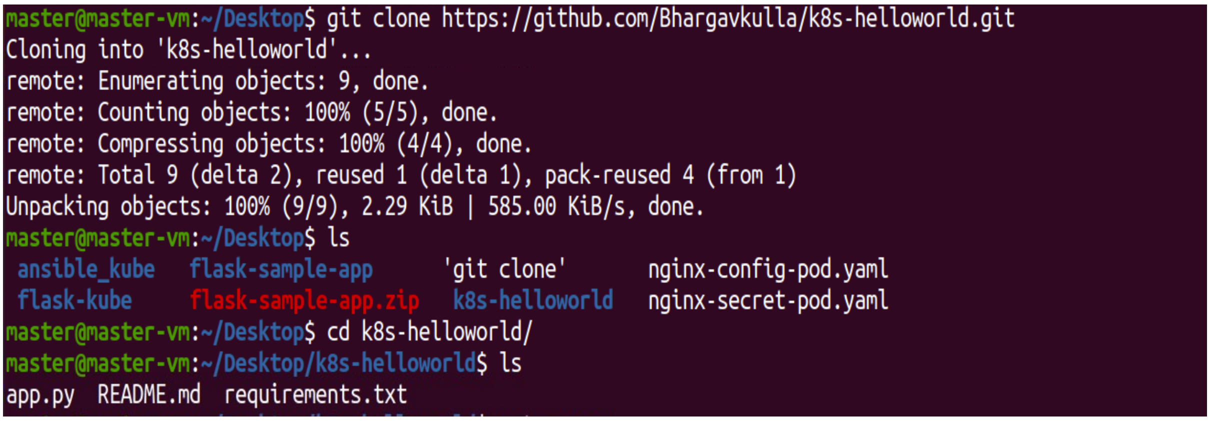
**Docker and Container Internals**

1)first fork the repo

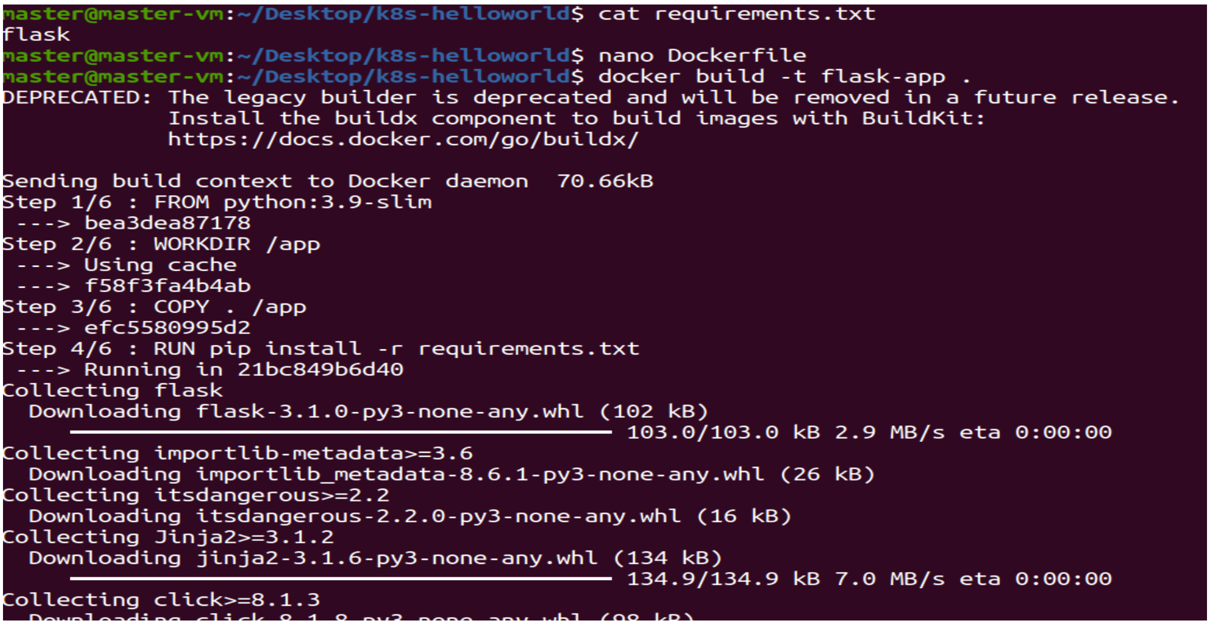
2)clone your github repo

3)create a Dockerfile



```
master@master-vm:~/Desktop$ git clone https://github.com/Bhargavkulla/k8s-helloworld.git
Cloning into 'k8s-helloworld'...
remote: Enumerating objects: 9, done.
remote: Counting objects: 100% (5/5), done.
remote: Compressing objects: 100% (4/4), done.
remote: Total 9 (delta 2), reused 1 (delta 1), pack-reused 4 (from 1)
Unpacking objects: 100% (9/9), 2.29 KiB | 585.00 KiB/s, done.
master@master-vm:~/Desktop$ ls
 ansible_kube   flask-sample-app      'git clone'      nginx-config-pod.yaml
 flask-kube     flask-sample-app.zip   k8s-helloworld  nginx-secret-pod.yaml
master@master-vm:~/Desktop$ cd k8s-helloworld/
master@master-vm:~/Desktop/k8s-helloworld$ ls
app.py  README.md  requirements.txt
```

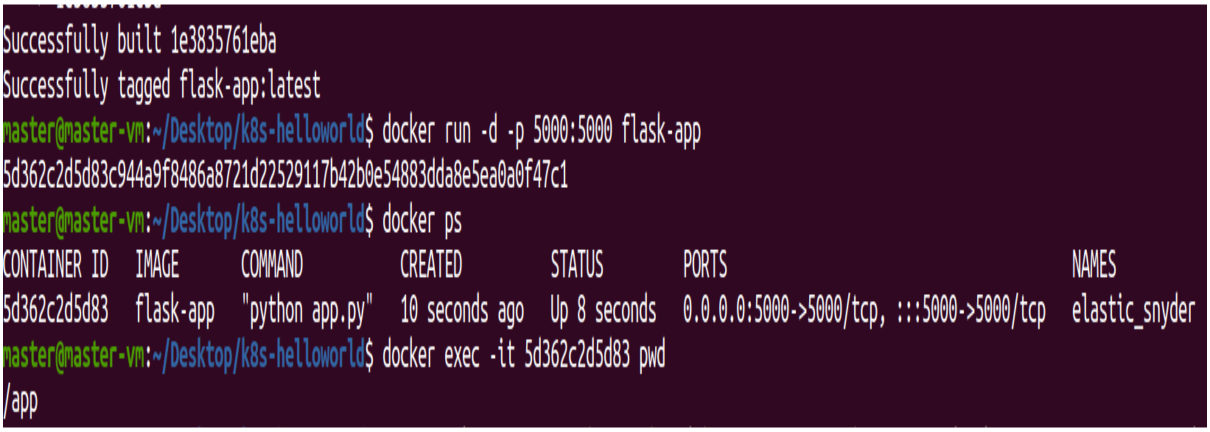
4)Build docker with docker build -t flask-app in the current directory



```
naster@master-vm:~/Desktop/k8s-helloworld$ cat requirements.txt
flask
naster@master-vm:~/Desktop/k8s-helloworld$ nano Dockerfile
naster@master-vm:~/Desktop/k8s-helloworld$ docker build -t flask-app .
DEPRECATED: The legacy builder is deprecated and will be removed in a future release.
            Install the buildx component to build images with BuildKit:
            https://docs.docker.com/go/buildx/

Sending build context to Docker daemon  70.66kB
Step 1/6 : FROM python:3.9-slim
 ---> bea3dea87178
Step 2/6 : WORKDIR /app
 ---> Using cache
 ---> f58f3fa4b4ab
Step 3/6 : COPY . /app
 ---> efc5580995d2
Step 4/6 : RUN pip install -r requirements.txt
 ---> Running in 21bc849b6d40
Collecting flask
  Downloading flask-3.1.0-py3-none-any.whl (102 kB)
     ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━ 103.0/103.0 kB 2.9 MB/s eta 0:00:00
Collecting importlib-metadata>=3.6
  Downloading importlib_metadata-8.6.1-py3-none-any.whl (26 kB)
Collecting itsdangerous>=2.2
  Downloading itsdangerous-2.2.0-py3-none-any.whl (16 kB)
Collecting Jinja2>=3.1.2
  Downloading jinja2-3.1.6-py3-none-any.whl (134 kB)
     ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━ 134.9/134.9 kB 7.0 MB/s eta 0:00:00
Collecting click>=8.1.3
```

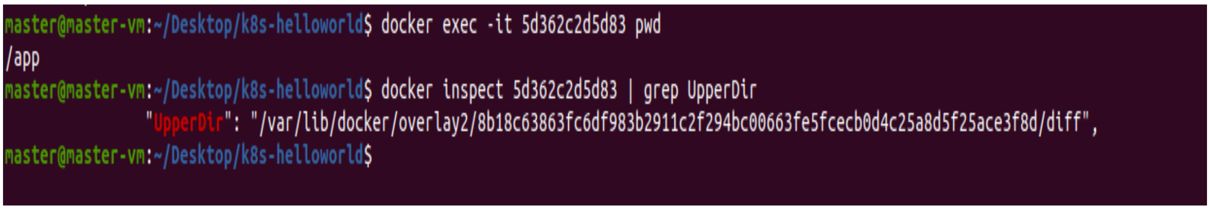
5)run the container



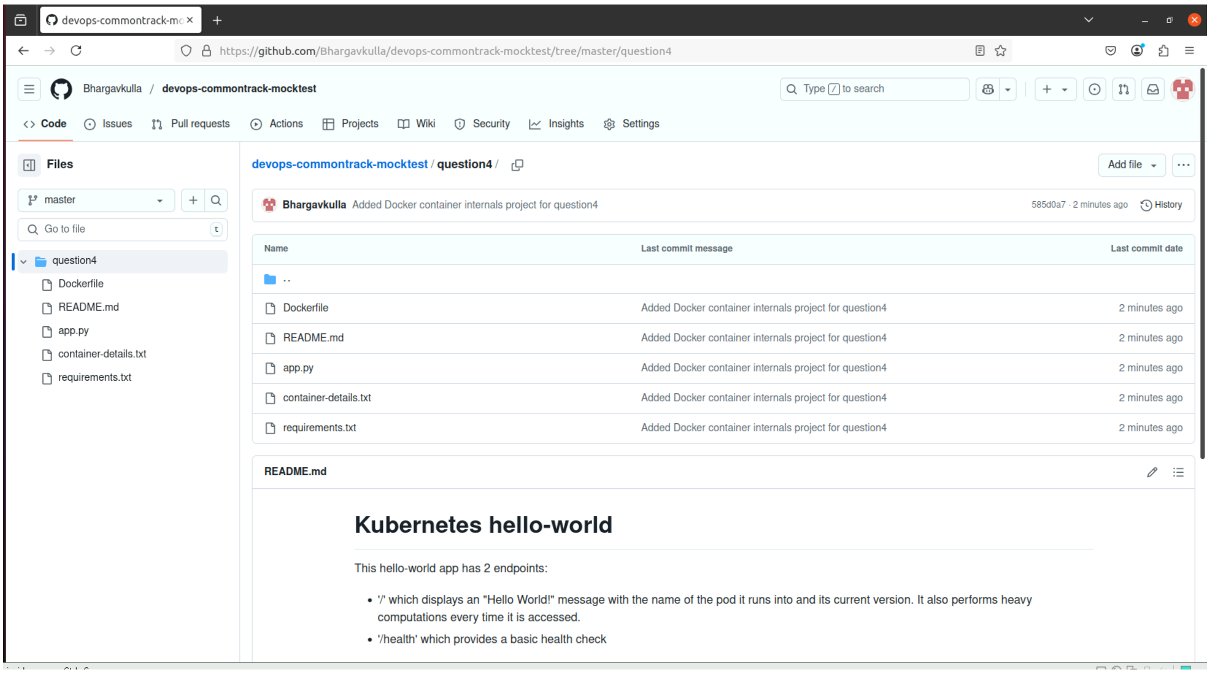
```
Successfully built 1e3835761eba
Successfully tagged flask-app:latest
naster@master-vm:~/Desktop/k8s-helloworld$ docker run -d -p 5000:5000 flask-app
5d362c2d5d83c944a9f8486a8721d22529117b42b0e54883dda8e5ea0a0f47c1
naster@master-vm:~/Desktop/k8s-helloworld$ docker ps
CONTAINER ID   IMAGE       COMMAND           CREATED          STATUS         PORTS                                       NAMES
5d362c2d5d83   flask-app   "python app.py"   10 seconds ago   Up 8 seconds   0.0.0.0:5000->5000/tcp, :::5000->5000/tcp   elastic_snyder
naster@master-vm:~/Desktop/k8s-helloworld$ docker exec -it 5d362c2d5d83 pwd
/app
```

6)get working directory inside the container

7)Get read-write layer directory on the host



```
master@master-vm:~/Desktop/k8s-helloworld$ docker exec -it 5d362c2d5d83 pwd
/app
master@master-vm:~/Desktop/k8s-helloworld$ docker inspect 5d362c2d5d83 | grep UpperDir
                "UpperDir": "/var/lib/docker/overlay2/8b18c63863fc6df983b2911c2f294bc00663fe5fcecb0d4c25a8d5f25ace3f8d/diff",
master@master-vm:~/Desktop/k8s-helloworld$
```



devops-commontrack-mocktest / question4 /

Bhargavkulla Added Docker container internals project for question4 585d0a7 · 2 minutes ago

| Name | Last commit message | Last commit date |
|---|---|---|
| .. | | |
| Dockerfile | Added Docker container internals project for question4 | 2 minutes ago |
| README.md | Added Docker container internals project for question4 | 2 minutes ago |
| app.py | Added Docker container internals project for question4 | 2 minutes ago |
| container-details.txt | Added Docker container internals project for question4 | 2 minutes ago |
| requirements.txt | Added Docker container internals project for question4 | 2 minutes ago |

README.md

## Kubernetes hello-world

This hello-world app has 2 endpoints:

- '/' which displays an "Hello World!" message with the name of the pod it runs into and its current version. It also performs heavy computations every time it is accessed.
- '/health' which provides a basic health check