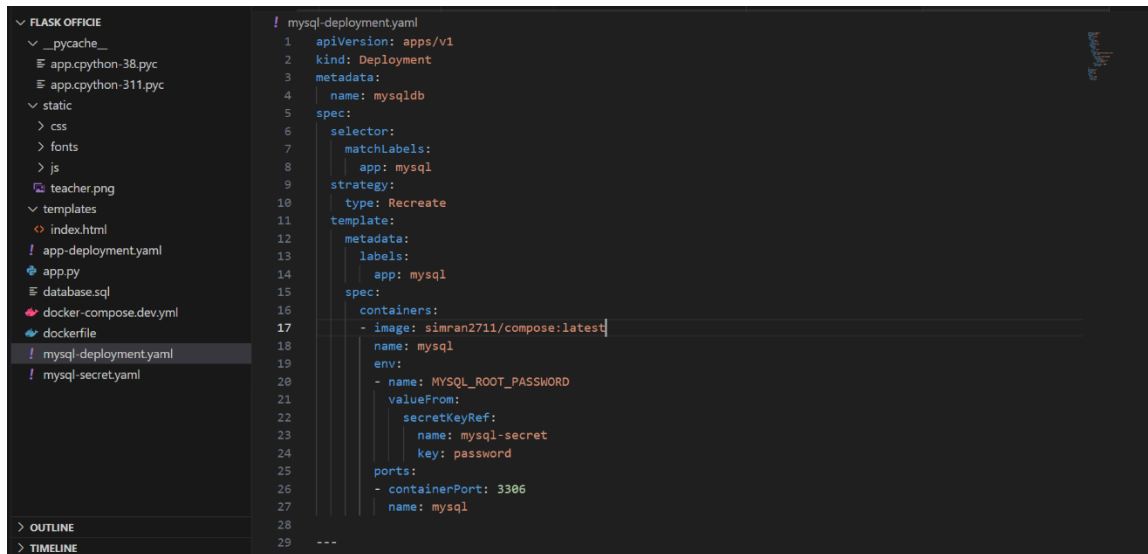
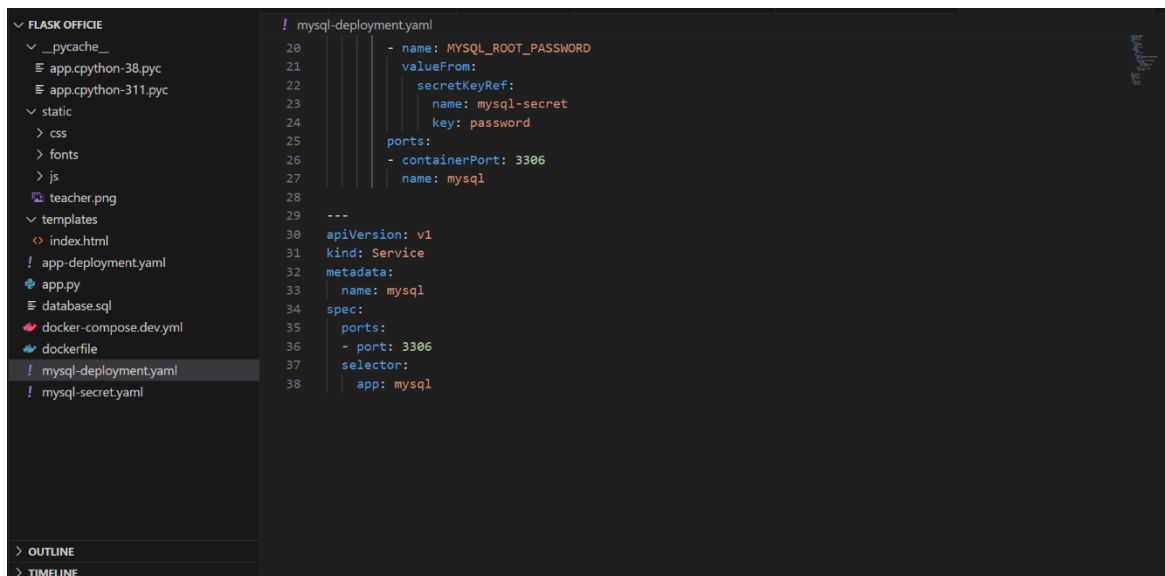


MySQL CRUD Operations deployment on Kubernetes

- Mysql-deployment.yaml file.



```
! mysql-deployment.yaml
1  apiVersion: apps/v1
2  kind: Deployment
3  metadata:
4    name: mysql
5  spec:
6    selector:
7      matchLabels:
8        app: mysql
9    strategy:
10     type: Recreate
11    template:
12     metadata:
13       labels:
14         app: mysql
15     spec:
16       containers:
17       - image: simran2711/compose:latest
18         name: mysql
19         env:
20         - name: MYSQL_ROOT_PASSWORD
21           valueFrom:
22             secretKeyRef:
23               name: mysql-secret
24               key: password
25         ports:
26         - containerPort: 3306
27           name: mysql
28
29 ---
```



```
! mysql-service.yaml
20
21   - name: MYSQL_ROOT_PASSWORD
22     valueFrom:
23       secretKeyRef:
24         name: mysql-secret
25         key: password
26   ports:
27   - containerPort: 3306
28     name: mysql
29
30 ---
31 apiVersion: v1
32 kind: Service
33 metadata:
34   name: mysql
35 spec:
36   ports:
37   - port: 3306
38   selector:
39     app: mysql
```

- App-deployment-yaml file.

```

! app-deployment.yaml
1  apiVersion: apps/v1
2  kind: Deployment
3  metadata:
4    name: flask
5    labels:
6      app: web
7  spec:
8    replicas: 1
9    selector:
10     matchLabels:
11       app: web
12    template:
13     metadata:
14       labels:
15         app: web
16     spec:
17       containers:
18         - name: web
19           image: simran2711/compose:latest
20           ports:
21             - containerPort: 5000
22

```

- Docker build image.

```

PS C:\Users\User\Desktop\Docker\flask officie> docker --version
Docker version 23.0.5, build bc4487a
PS C:\Users\User\Desktop\Docker\flask officie> ls

Directory: C:\Users\User\Desktop\Docker\flask officie

Mode                LastWriteTime         Length Name
----                -
d-----          28-04-2023      11:38         static
d-----          28-04-2023      11:38        templates
d-----          07-05-2023      18:39         __pycache__
-a-----          07-05-2023       02:00          364 app-deployment.yaml
-a-----          10-05-2023      22:35         1988 app.py
-a-----          07-05-2023       00:20          764 database.sql
-a-----          02-05-2023      14:15          320 docker-compose.dev.yml
-a-----          02-05-2023       02:31          224 dockerfile
-a-----          07-05-2023       01:45          664 mysql-deployment.yaml
-a-----          07-05-2023       00:59          129 mysql-secret.yaml

PS C:\Users\User\Desktop\Docker\flask officie> docker build -t composeimage:latest
ERROR: "docker buildx build" requires exactly 1 argument.
See 'docker buildx build --help'.

Usage: docker buildx build [OPTIONS] PATH | URL | -

Start a build
PS C:\Users\User\Desktop\Docker\flask officie> docker build -t composeimage:latest .
[+] Building 72.3s (15/15) FINISHED
=> [internal] load .dockerignore                                0.1s
=> => transferring context: 2B                                  0.0s
=> [internal] load build definition from dockerfile             0.1s
=> => transferring dockerfile: 263B                             0.0s
=> resolve image config for docker.io/docker/dockerfile:1      3.5s

```

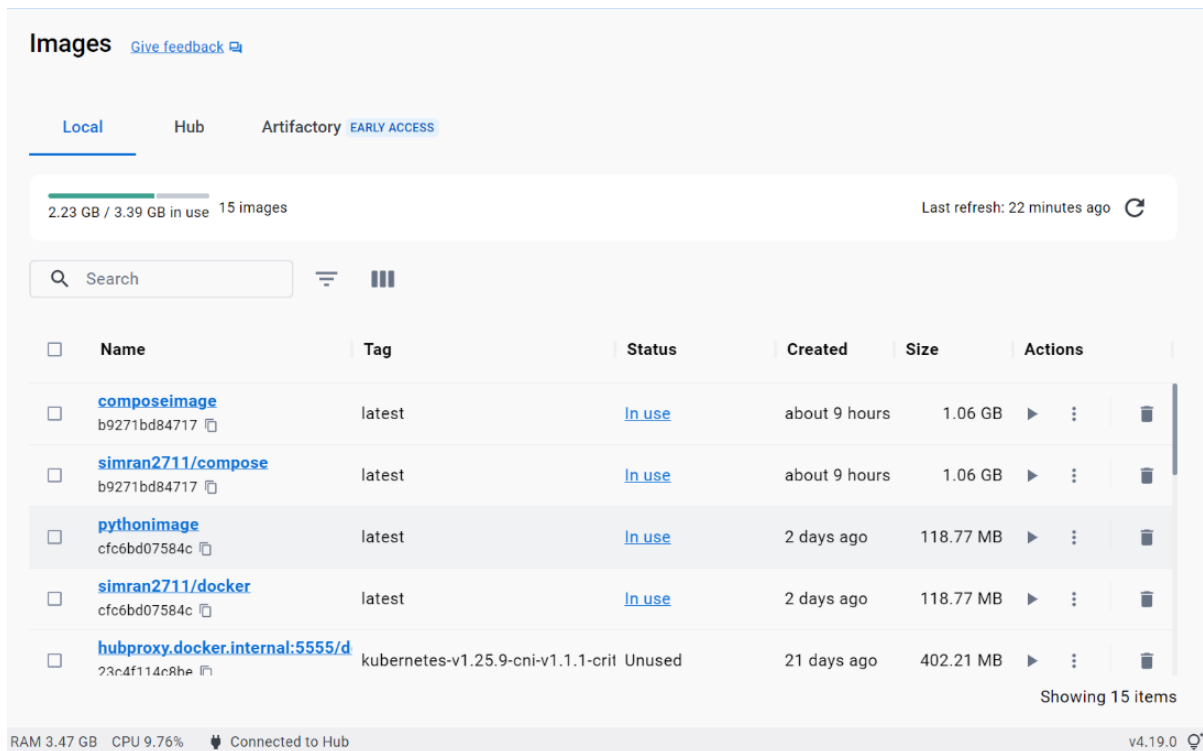
- Image running

```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL SQL CONSOLE
=> => extracting sha256:4eedd9c5abf7e5f63753a5e788cb0872a715fa1141e8ce5ea87638e6cd370a41 4.9s
=> => extracting sha256:9cdadd40055fb82fef74a0a38f29fb1ee7b6922e18370ebdc3502ec66f79fa3f 8.2s
=> => extracting sha256:2a12d0031f3fc457f41eaa0e29c0eaf4ba1376735aa940268ebccc76abb49f04 0.3s
=> => extracting sha256:24685c45a0666ce4c4fd2549486e75dddb514a707f696efffb172135bc73a1a4 0.7s
=> => extracting sha256:6ba57ec00f34b6d56ddaa10db393ec13c400f04ca2e42f6253880e71d5c2bdb5 0.0s
=> => extracting sha256:71bcc9787aa73b1ba974e185b1a5e3c8f87acf7bdd2728045367944faca54cd8 0.2s
=> [internal] load build context 0.2s
=> => transferring context: 1.75MB 0.2s
=> [2/6] WORKDIR /app 0.2s
=> [3/6] RUN pip install mysql-connector-python 7.7s
=> [4/6] RUN pip install flask 2.5s
=> [5/6] RUN pip install flask-mysqldb 4.4s
=> [6/6] COPY . . 0.1s
=> exporting to image 0.8s
=> => exporting layers 0.8s
=> => writing image sha256:b9271bd84717374de6f1158d36272035a1e78e5253a62abd4e9b56bafb32fd8f 0.0s
=> => naming to docker.io/library/composeimage:latest 0.0s
PS C:\Users\User\Desktop\Docker\flask officie> docker images
REPOSITORY          IMAGE ID            CREATED             SIZE                TAG
composeimage        b9271bd84717       32 seconds ago     1.06GB              latest
pythonimage         fce326961ae2       5 months ago       299MB               latest
registry.k8s.io/etcd 4873874c08ef       10 months ago      711kB               3.5.6-0
registry.k8s.io/pause 5185b96f0bec       11 months ago      48.8MB              3.8
registry.k8s.io/coredns/coredns 5185b96f0bec       11 months ago      48.8MB              v1.9.3
docker/desktop-vpnkit-controller 8c2c38aa676e       2 years ago        21MB                v2.0
docker/desktop-storage-provisioner 99f89471f470       2 years ago        41.9MB              v2.0
PS C:\Users\User\Desktop\Docker\flask officie> docker run -dp 3000:3000 composeimage
499131dfc26c4a722b1adcf9473b445a44175c2276523bf8b5bf21b6034b3b13
PS C:\Users\User\Desktop\Docker\flask officie>

```

- Docker image is created.



- Containers

Containers
[Give feedback](#)

Only show running containers

<input type="checkbox"/>	Name	Image	Status	Port(s)	Last started	Actions
<input type="checkbox"/>	<div>vibrant_hawking</div> <div>55e5545bceea</div>	pythonimage	Exited	3000:3000	2 days ago	<div></div> <div></div> <div></div>
<input type="checkbox"/>	<div>minikube</div> <div>7e8f463a0186</div>	gcr.io/k8s-minikube/kicbase:v	Running	55501:22 Show all ports (5)	2 days ago	<div></div> <div></div> <div></div>
<input type="checkbox"/>	<div>intelligent_mclintock</div> <div>499131dfc26c</div>	composeimage	Running	3000:3000	9 hours ago	<div></div> <div></div> <div></div>

Showing 3 items

RAM 3.48 GB
CPU 15.95%
Connected to Hub
v4.19.0

- Tag and push to Dockerhub

```
PS C:\Users\User\Desktop\Docker\flask officie> docker tag composeimage simran2711/compose:latest
PS C:\Users\User\Desktop\Docker\flask officie> docker push simran2711/compose:latest
The push refers to repository [docker.io/simran2711/compose]
080faf27dbec: Pushed
6b50c8d94aa6: Pushed
3a76b401e00d: Pushed
e6ceed5a0d27: Pushing [=====>] 20.6MB/131.6MB
fae7774e88e1: Pushed
889828f94722: Waiting
b0f747a5176b: Waiting
7dac77253a2b: Waiting
0007505dc811: Waiting
f43725f97b9f: Waiting
9c42af2c6418: Waiting
d96e248f10e6: Waiting
d925e0fae4e6: Waiting
```

```
The push refers to repository [docker.io/simran2711/compose]
080faf27dbec: Pushed
6b50c8d94aa6: Pushed
3a76b401e00d: Pushed
e6ceed5a0d27: Pushed
fae7774e88e1: Pushed
889828f94722: Mounted from library/python
b0f747a5176b: Mounted from library/python
7dac77253a2b: Mounted from library/python
0007505dc811: Mounted from library/python
f43725f97b9f: Mounted from library/python
9c42af2c6418: Mounted from library/python
d96e248f10e6: Mounted from library/python
d925e0fae4e6: Mounted from library/python
latest: digest: sha256:71646da5b29468347a967a64040d5917637a79adaf88ec43ea7458af9893e5 size: 3057
PS C:\Users\User\Desktop\Docker\flask officie>
```

- Image pushed

simran2711 / compose

Docker commands

Public View

Description

This repository does not have a description

Last pushed: a few seconds ago

Tags

This repository contains 1 tag(s).

Tag	OS	Type	Pulled	Pushed
latest		Image	---	a few seconds ago

[See all](#)

application/vnd.docker.container.image.v1+json
 [Go to Advanced Image Management](#)

Automated Builds

Manually pushing images to Hub? Connect your account to GitHub or Bitbucket to automatically build and tag new images whenever your code is updated, so you can focus your time on creating.

Available with Pro, Team and Business subscriptions. [Read more about automated builds](#) .

Upgrade

- Pods and services

```

deployment.apps/mysqlldb created
service/mysql created
PS C:\Users\User\Desktop\Docker\flask officie> kubectl get pods
NAME                                READY   STATUS    RESTARTS   AGE
flask-6f4f9ffb76-m54fh              0/1     ContainerCreating   0           38s
mysqlldb-7ffffd74d4-zdc88           0/1     ContainerCreating   0            9s
PS C:\Users\User\Desktop\Docker\flask officie> kubectl expose pod flask-6f4f9ffb76-m54fh --name=websvc --port=5000
service/websvc exposed
PS C:\Users\User\Desktop\Docker\flask officie> kubectl get services
NAME      TYPE      CLUSTER-IP   EXTERNAL-IP  PORT(S)    AGE
kubernetes  ClusterIP  10.96.0.1    <none>       443/TCP    39h
mysql      ClusterIP  10.106.20.243 <none>       3306/TCP   6m6s
websvc     ClusterIP  10.102.25.62 <none>       5000/TCP   17s
PS C:\Users\User\Desktop\Docker\flask officie> kubectl port-forward service/websvc 5000:5000
Forwarding from [::1]:5000 -> 5000

```

- Describe pods

```
PS C:\Users\User\Desktop\Docke\flask officie> kubectl describe pods flask-6f4f9ffb76-m54fh
Name: flask-6f4f9ffb76-m54fh
Namespace: default
Priority: 0
Service Account: default
Node: minikube/192.168.49.2
Start Time: Thu, 11 May 2023 09:32:49 +0530
Labels: app=web
        pod-template-hash=6f4f9ffb76
Annotations: <none>
Status: Running
IP: 10.244.0.4
IPs:
  IP: 10.244.0.4
Controlled By: ReplicaSet/flask-6f4f9ffb76
Containers:
  web:
    Container ID: docker://ebc7fc6ff7e56e4b3caea99ba16a2143fa53184697366dc9800061995a15caab
    Image: rohan91196/flaskofficie-web:1.0
    Image ID: docker-pullable://rohan91196/flaskofficie-web@sha256:99451181f97aa238c2171d58a45d69b393505785e42da597
    37b1260db488247c
    Port: 5000/TCP
    Host Port: 0/TCP
    State: Running
      Started: Thu, 11 May 2023 09:34:04 +0530
    Ready: True
    Restart Count: 0
    Environment: <none>
    Mounts:
      /var/run/secrets/kubernetes.io/serviceaccount from kube-api-access-rz7hl (ro)
Conditions:
```

```
Port: 5000/TCP
Host Port: 0/TCP
State: Running
  Started: Thu, 11 May 2023 09:34:04 +0530
Ready: True
Restart Count: 0
Environment: <none>
Mounts:
  /var/run/secrets/kubernetes.io/serviceaccount from kube-api-access-rz7hl (ro)
Conditions:
  Type      Status
  Initialized   True
  Ready        True
  ContainersReady  True
  PodScheduled  True
Volumes:
  kube-api-access-rz7hl:
    Type: Projected (a volume that contains injected data from multiple sources)
    TokenExpirationSeconds: 3607
    ConfigMapName: kube-root-ca.crt
    ConfigMapOptional: <nil>
    DownwardAPI: true
QoS Class: BestEffort
Node-Selectors: <none>
Tolerations: node.kubernetes.io/not-ready:NoExecute op=Exists for 300s
              node.kubernetes.io/unreachable:NoExecute op=Exists for 300s
Events:
  Type      Reason      Age   From          Message
  ----      -
  Normal    Scheduled   14m   default-scheduler Successfully assigned default/flask-6f4f9ffb76-m54fh to minikube
  Normal    Pulling     14m   kubelet       Pulling image "rohan91196/flaskofficie-web:1.0"
  Normal    Pulled      12m   kubelet       Successfully pulled image "rohan91196/flaskofficie-web:1.0" in 1m12.5918631
  98s (1m12.592040098s including waiting)
  Normal    Created     12m   kubelet       Created container web
  Normal    Started     12m   kubelet       Started container web
PS C:\Users\User\Desktop\Docke\flask officie>
```