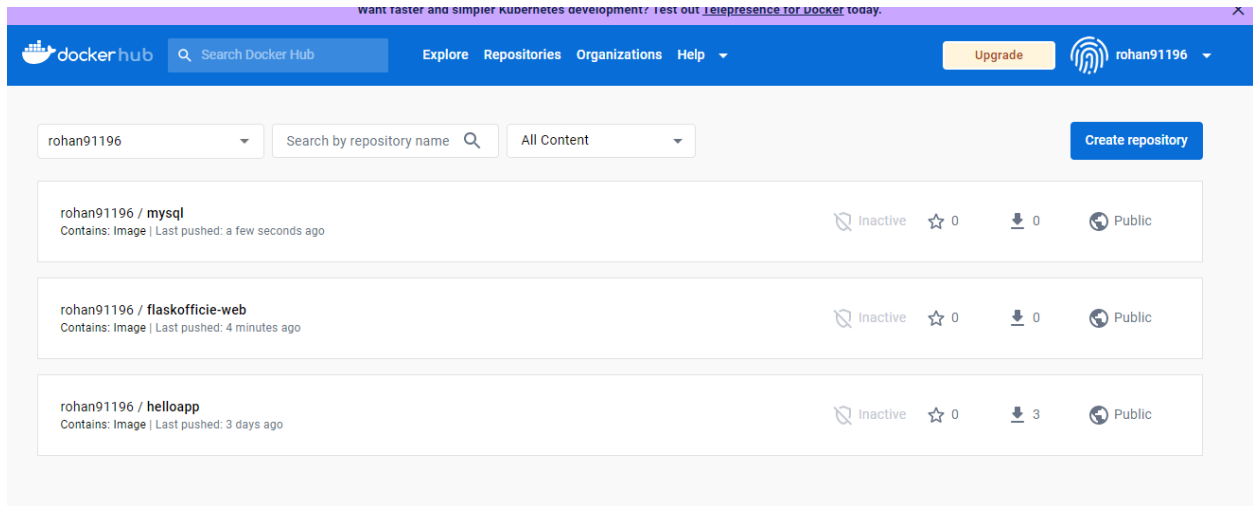
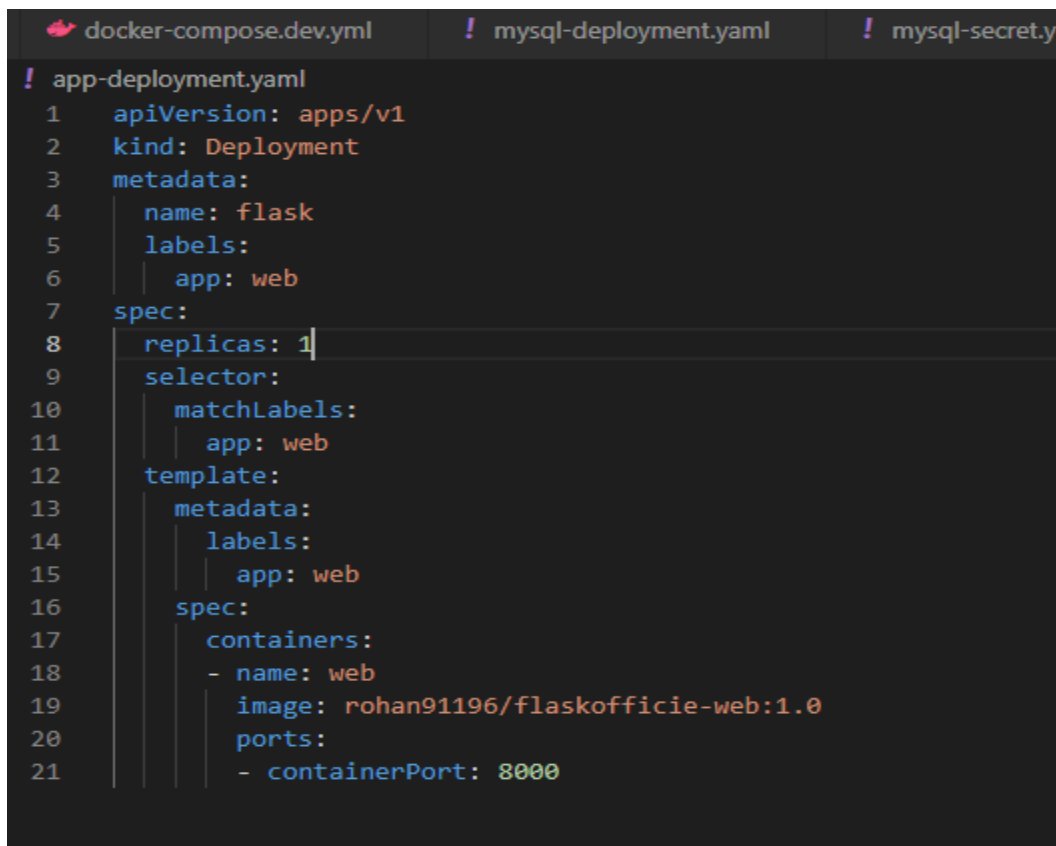


MYSQL CRUD OPERATION DEPLOYMENT ON KUBERNETES

Step 1: Uploaded all images to Docker hub



Step 2: Created Yaml file for app deployment



Step 3: Created yaml file for mysql

```
! mysql-deployment.yaml
1  apiVersion: apps/v1
2  kind: Deployment
3  metadata:
4    name: mysqldb
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: rohan91196/mysql:1.0
18            name: mysqldb
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: mysqldb
28
29  ---
30  apiVersion: v1
31  kind: Service
32  metadata:
```

```
! mysql-secret.yaml
1  apiVersion: v1
2  kind: Secret
3  metadata:
4    name: mysql-secret
5  type: kubernetes.io/basic-auth
6  stringData:
7    password: p@assw0rd1
```

Step 4: Creating pods

```

PS C:\Users\admin\Desktop\flask officie> kubectl apply -f app-deployment.yaml
deployment.apps/flask created
PS C:\Users\admin\Desktop\flask officie> kubectl apply -f mysql-deployment.yaml
deployment.apps/mysql created
service/mysql created
PS C:\Users\admin\Desktop\flask officie> kubectl get pods
NAME                                READY   STATUS    RESTARTS   AGE
flask-595897bcf9-kjz7d             1/1     Running   0           16s
mysql-6d96868d44-tbvmc             1/1     Running   0           6s
PS C:\Users\admin\Desktop\flask officie>

```

Step 5: creating services

```

PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL

PS C:\Users\admin\Desktop\flask officie> kubectl get pods
NAME                                READY   STATUS    RESTARTS   AGE
flask-595897bcf9-kjz7d             1/1     Running   0           16s
mysql-6d96868d44-tbvmc             1/1     Running   0           6s
PS C:\Users\admin\Desktop\flask officie> kubectl expose pod flask-595897bcf9-kjz7d --name=websvc --port=5000
service/websvc exposed
PS C:\Users\admin\Desktop\flask officie> kubectl get services
NAME      TYPE        CLUSTER-IP   EXTERNAL-IP   PORT(S)    AGE
kubernetes  ClusterIP   10.96.0.1    <none>        443/TCP    31m
mysql      ClusterIP   10.104.96.139 <none>        3306/TCP   2m6s
websvc     ClusterIP   10.97.82.122 <none>        5000/TCP   8s
PS C:\Users\admin\Desktop\flask officie>

```

Step 6: port address forwarding

The screenshot shows the Visual Studio Code interface. On the left, the Explorer pane shows a project named 'FLASK OFFICIE' with files like 'app-deployment.yaml', 'app.py', 'database.sql', 'docker-compose.dev.yml', 'dockerfile', 'mysql-deployment.yaml', and 'mysql-secret.yaml'. The central editor shows the 'app-deployment.yaml' file with the following content:

```

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

```

At the bottom, the TERMINAL pane shows an error message from kubectl:

```

ubectl : The term 'ubectl' is not recognized as the name of a cmdlet, function, script file, or operable program.
Check the spelling of the name, or if a path was included, verify that the path is correct and try again.
At line:1 char:1
+ ubectl port-forward service/websvc 5000:5000
+ ~~~~~
+ CategoryInfo          : ObjectNotFound: (ubectl:String) [], CommandNotFoundException
+ FullyQualifiedErrorId : CommandNotFoundException

PS C:\Users\admin\Desktop\flask officie> kubectl port-forward service/websvc 5000:5000
Forwarding from 127.0.0.1:5000 -> 5000
Forwarding from [::1]:5000 -> 5000

```

Step 7 : describing pods

```

PS C:\Users\admin\Desktop\flask officie> kubectl describe pods ^C
PS C:\Users\admin\Desktop\flask officie> kubectl describe pods flask-595897bcf9-kjz7d
Name:          flask-595897bcf9-kjz7d
Namespace:     default
Priority:       0
Service Account: default
Node:          minikube/192.168.49.2
Start Time:    Tue, 02 May 2023 15:57:55 +0530
Labels:        app=web
                pod-template-hash=595897bcf9
Annotations:   <none>
Status:        Running
IP:            10.244.0.157
IPs:
  IP:          10.244.0.157
Controlled By: ReplicaSet/flask-595897bcf9
Containers:
  web:
    Container ID:  docker://21701f9ff98ca3537a88fa2f306eb45b4e4a1d790251659fa6a8694cd0029739
    Image:         rohan91196/flaskofficie-web:1.0
    Image ID:      docker-pullable://rohan91196/flaskofficie-web@sha256:d63c3573cd6ab0441b41c9fdd7c34ab0945ebc9f6f0f8
0562537ff6f5f4a4a99
    Port:         8000/TCP
    Host Port:    0/TCP
    State:        Running
    Started:      Tue, 02 May 2023 15:57:57 +0530

```

```

PS C:\Users\admin\Desktop\flask officie> kubectl describe pods mysqldb-6d96868d44-tbvmc
Name:          mysqldb-6d96868d44-tbvmc
Namespace:     default
Priority:       0
Service Account: default
Node:          minikube/192.168.49.2
Start Time:    Tue, 02 May 2023 15:58:04 +0530
Labels:        app=mysql
                pod-template-hash=6d96868d44
Annotations:   <none>
Status:        Running
IP:            10.244.0.158
IPs:
  IP:          10.244.0.158
Controlled By: ReplicaSet/mysqldb-6d96868d44
Containers:
  mysqldb:
    Container ID:  docker://d989ccf948c00b5edc4262b425b27746f21acff977bb63f5fc17267e099f924a
    Image:         rohan91196/mysql:1.0
    Image ID:      docker-pullable://rohan91196/mysql@sha256:b45a7c3e6fb15526e8bf62ebb940cd460617e36f46155b8514fd9c93
88231817
    Port:         3306/TCP
    Host Port:    0/TCP
    State:        Running
    Started:      Tue, 02 May 2023 15:58:05 +0530
    Ready:        True

```

Step 8: Running server/pods

```

PS C:\Users\admin\Desktop\flask officie> kubectl port-forward service/websvc 5000:5000
Forwarding from 127.0.0.1:5000 -> 5000
Forwarding from [::1]:5000 -> 5000

```

Facing issue In communication

```

File "/usr/local/lib/python3.11/site-packages/flask/app.py", line 1486, in full_dispatch_request
    rv = self.handle_user_exception(e)
    ~~~~~
File "/usr/local/lib/python3.11/site-packages/flask/app.py", line 1484, in full_dispatch_request
    rv = self.dispatch_request()
    ~~~~~
File "/usr/local/lib/python3.11/site-packages/flask/app.py", line 1469, in dispatch_request
    return self.ensure_sync(self.view_functions[rule.endpoint])(**view_args)
    ~~~~~
File "/app/app.py", line 18, in Index
    cur = mysql.connection.cursor()
    ~~~~~
File "/usr/local/lib/python3.11/site-packages/flask_mysql_db/__init__.py", line 101, in connection
    ctx.mysql_db = self.connect
    ~~~~~
File "/usr/local/lib/python3.11/site-packages/flask_mysql_db/__init__.py", line 88, in connect
    return MySQLdb.connect(**kwargs)
    ~~~~~
File "/usr/local/lib/python3.11/site-packages/MySQLdb/__init__.py", line 123, in Connect
    return Connection(*args, **kwargs)
    ~~~~~
File "/usr/local/lib/python3.11/site-packages/MySQLdb/connections.py", line 185, in __init__
    super().__init__(*args, **kwargs2)
MySQLdb.OperationalError: (2005, "Unknown MySQL server host 'mysql_db' (-3)")
127.0.0.1 - - [02/May/2023 10:38:25] "GET / HTTP/1.1" 500 -
PS C:\Users\admin\Desktop\flask officie>

```