Run a Stateful Application

SSH to your AWS Workstation
ssh devops@<public-ip-addr> of your Workstation
Password is : **Dev0p$!!/**
Replace <your-name> with your name throughout the lab.

Run the below commands on your AWS-Workstation.

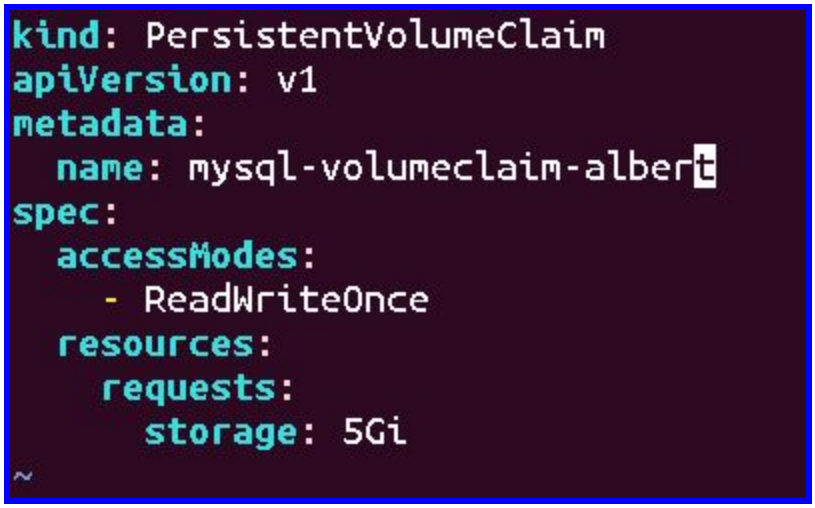
1. Create your PersistentVolumes and PersistentVolumeClaims

```
$ sudo su
# mkdir stateless-application
# cd stateless-application/
# curl -f https://pastebin.com/raw/rVB5i6K0 > mysql-volumeclaim-<your-name>.yaml
```

2. Replace <your-name> with your name in the volume claim yaml file.

```
# vim mysql-volumeclaim-<your-name>.yaml
```

Save and exit.

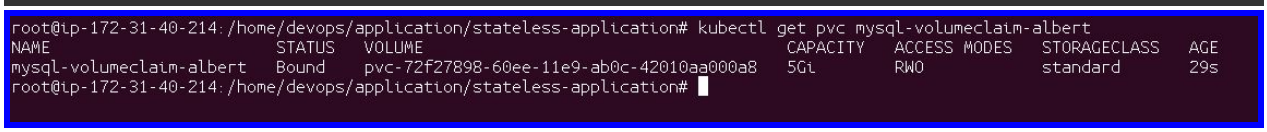


3. Create a volume Claim

```
# kubectl apply -f mysql-volumeclaim-<your-name>.yaml
```

4. Check the Persistent Volume Claim created

```
# kubectl get pvc mysql-volumeclaim-<your-name>
```



5. Set up MySQL - Create a Secret to store password

```
# kubectl create secret generic mysql-<your-name>
--from-literal=password=password
```

6. Download the mysql deployment yaml

```
# curl -f https://pastebin.com/raw/eBY9xmTc > mysql-<your-name>.yaml
```

7. Edit and replace <your-name> with your name in the mysql-<your-name>.yaml

```
# vim mysql-<your-name>.yaml
```

Save and exit.

8. Create the mysql deployment on the Kubernetes Cluster.

```
# kubectl create -f mysql-<your-name>.yaml
```

9. Check the mysql POD status.

```
# kubectl get pod -l app=mysql-<your-name>
```

10. Create MySQL service

```
# curl -f https://pastebin.com/raw/x8jz3kf0 > mysql-service-<your-name>.yaml
```

11. Edit and replace <your-name> with your name in the mysql-service-<your-name>.yaml

```
# vim mysql-service-<your-name>.yaml
```

12. Create the mysql service on the Kubernetes Cluster

```
# kubectl create -f mysql-service-<your-name>.yaml
```

13. Inspect the PersistentVolumeClaim:

```
# kubectl describe pvc mysql-volumeclaim-<your-name>
```

```
root@ip-172-31-40-214:/home/devops/application/stateless-application# kubectl describe pvc mysql-volumeclaim-albert
Name:          mysql-volumeclaim-albert
Namespace:     default
StorageClass:  standard
Status:        Bound
Volume:        pvc-72f27898-60ee-11e9-ab0c-42010aa000a8
Labels:        <none>
Annotations:   kubectl.kubernetes.io/last-applied-configuration:
                 {"apiVersion":"v1","kind":"PersistentVolumeClaim","metadata":{"annotations":{},"name":"mysql-volumeclaim-albert","namespace":"default
"},"s...
               pv.kubernetes.io/bind-completed: yes
               pv.kubernetes.io/bound-by-controller: yes
               volume.beta.kubernetes.io/storage-provisioner: kubernetes.io/gce-pd
Finalizers:    [kubernetes.io/pvc-protection]
Capacity:      5Gi
Access Modes:  RWO
Events:
  Type       Reason                 Age   From                         Message
  ----       ------                 ----  ----                         -------
  Normal     ProvisioningSucceeded  16m   persistentvolume-controller  Successfully provisioned volume pvc-72f27898-60ee-11e9-ab0c-42010aa000a8 using
kubernetes.io/gce-pd
Mounted By:  mysql-albert-5c99674869-ph82z
root@ip-172-31-40-214:/home/devops/application/stateless-application#
```

14. Run a MySQL client to connect to the server. Replace <your-name> with your name.

```
# kubectl run -it --rm --image=mysql:5.6 --restart=Never
mysql-client-<your-name> -- mysql -h mysql-<your-name> -ppassword
```

This command creates a new Pod in the cluster running a MySQL client and connects it to the server through the Service. If it connects, you know your stateful MySQL database is up and running.

```
root@ip-172-31-26-76:/home/devops/stateless-application# kubectl run -it --rm --image=mysql:5.6 --restart=Never mysql-client -- mysql -h mysql-demo -p
password
If you don't see a command prompt, try pressing enter.

mysql>
```

15. Get the databases running on mysql.

Run the below command on once you connect to the mysql server.

```
mysql> show databases;
```

```
+--------------------+
| Database           |
+--------------------+
| information_schema |
| mysql              |
| performance_schema |
+--------------------+
3 rows in set (0.00 sec)

mysql> CREATE DATABASE demo;
Query OK, 1 row affected (0.00 sec)

mysql> show databases;
+--------------------+
| Database           |
+--------------------+
| information_schema |
| demo               |
| mysql              |
| performance_schema |
+--------------------+
4 rows in set (0.00 sec)
```

16. Create a sample database

```
mysql>CREATE DATABASE <dbname>;
```

Disconnect from the mysql server by pressing **CRTL+C**

17. Delete the Deployment and Services.

```
# kubectl delete deployment,svc mysql-<your-name>
# kubectl delete pvc mysql-volumeclaim-<your-name>
```