

Part 1

mysql-secret.yaml

mysql-secret.yaml created and across all deployment file. The env variable defined . Cotrolled the secret paths within the volume where Secret keys are projected.

Followed the best practices from Kubernetes and CIS benchmark

<https://www.cisecurity.org/benchmark/kubernetes/>

```
1  apiVersion: v1
2  data:
3    MYSQL_DB: R2lmdGNhcmRTaXR1REI=
4    MYSQL_ROOT_PASSWORD: dGhpc2lzYXRlc3R0aGluZy4=
5  kind: Secret
6  metadata:
7    creationTimestamp: "2020-12-17T04:23:03Z"
8    managedFields:
9      - apiVersion: v1
10        fieldsType: FieldsV1
11        fieldsV1:
12          f:data:
13            .: {}
14            f:MYSQL_DB: {}
15            f:MYSQL_ROOT_PASSWORD: {}
16          f:type: {}
17        manager: kubectl-create
18        operation: Update
19        time: "2020-12-17T04:23:03Z"
20    name: mysql-secret
21    namespace: default
22    resourceVersion: "882"
23    selfLink: /api/v1/namespaces/default/secrets/mysql-secret
24    uid: 407a7f4c-d0e5-47c6-9b10-5da7f42bf7f8
25  type: Opaque
```

Part 2

Two Jobs created

One for migration DB jobs . First crreated setup migration scripts and migrated data. The new docker image createdfor migration.

```
1  apiVersion: batch/v1
2  kind: Job
3  metadata:
4    creationTimestamp: null
5    name: mysql-migration-job
6  spec:
7    template:
8      metadata:
9        creationTimestamp: null
10     spec:
11       containers:
12         - image: nyuappsec/assign3-db-migration:v0
13           name: mysql-migration-job
14           resources: {}
15           volumeMounts:
16             - name: mysql-volume-mount
17               mountPath: /var/lib/mysql
18       restartPolicy: Never
19       volumes:
20         - name: mysql-volume-mount
21           persistentVolumeClaim:
22             claimName: mysql-pvc
23  status: {}
```

Seed JOB created and enclosed the script. This modify the docker and seed database

25 lines (25 sloc) | 613 Bytes

```
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2  data:
3    MYSQL_DB: R2lmdGNhcmRTaXRlREI=
4    MYSQL_ROOT_PASSWORD: dGhpc2lzYXRlc3R0aGluZy4=
5  kind: Secret
6  metadata:
7    creationTimestamp: "2020-12-17T04:23:03Z"
8    managedFields:
9      - apiVersion: v1
10        fieldsType: FieldsV1
11        fieldsV1:
12          f:data:
13            .: {}
14            f:MYSQL_DB: {}
15            f:MYSQL_ROOT_PASSWORD: {}
16          f:type: {}
17        manager: kubectl-create
18        operation: Update
19        time: "2020-12-17T04:23:03Z"
20    name: mysql-secret
21    namespace: default
22    resourceVersion: "882"
23    selfLink: /api/v1/namespaces/default/secrets/mysql-secret
24    uid: 407a7f4c-d0e5-47c6-9b10-5da7f42bf7f8
25  type: Opaque
```

Part 3

Added Helm package .

Installed Helm using the following commands

```
helm repo add prometheus-community https://prometheus-community.github.io/helm-charts
```

```
helm repo add stable https://charts.helm.sh/stable
```

```
helm repo update
```

Added 404 error nonitoring acn counter. removed unwanted monitoring

Removed the unwanted monitoring and update countermonitor for 404

```
raji@VenkatesansiMac AppSecAssignment3.1-1 % k get pods
NAME                                READY   STATUS    RESTARTS   AGE
assignment3-django-deploy-7dbb569459-wpfzl   1/1     Running   0           4d23h
mysql-container-6666d5b4bc-rkxnk             1/1     Running   0           4d23h
mysql-migration-job-kxm22                    0/1     ImagePullBackOff  0           18s
mysql-seed-job-5r6g5                         0/1     Error     0           35h
mysql-seed-job-llqw2                         0/1     Error     0           35h
mysql-seed-job-pfvvtq                       0/1     Error     0           35h
mysql-seed-job-qwxsm                        0/1     Error     0           35h
mysql-seed-job-rcxbb                        0/1     Error     0           35h
mysql-seed-job-rtnj2                        0/1     Error     0           35h
mysql-seed-job-wxpgn                        0/1     Error     0           35h
prometheus-alertmanager-74fd55449c-7mqxp     2/2     Running   0           4d23h
prometheus-kube-state-metrics-95d956569-7dw9v 1/1     Running   0           4d23h
prometheus-node-exporter-4nmpz               1/1     Running   0           4d23h
prometheus-pushgateway-7fc849bb75-jg2hk      1/1     Running   0           4d23h
prometheus-server-6856796dbc-5dzrh           2/2     Running   0           4d23h
proxy-7d858d4486-p6wqk                      1/1     Running   0           4d23h
```

Monitoring Evidence for different counter

