



Summary

- Revision on deployment
- A secret is an object that contains a small amount of sensitive data such as a password, a token, or a key
- How to create a secret in Kubernetes

```
C:\Users\Vimal Daga>kubectl create secret generic mysecret --from-literal=p=redhat --from-literal=u=vimal
secret/mysecret created

C:\Users\Vimal Daga>kubectl get secret
NAME                                TYPE                                DATA  AGE
default-token-qmvqq                kubernetes.io/service-account-token  3      41d
mysecret                           Opaque                               2      6s

C:\Users\Vimal Daga>
```

- In databases, a good practice is to use recreate deployment strategy
- Kustomize is a way in Kubernetes in which we can create PVC, PV, Svc, deployment, and pods in one click
- Practical:- Launching WordPress pod & connecting MY_SQL database with kustomize

- Manifest file for WordPress

```
apiVersion: v1
kind: Service
metadata:
  name: wordpress
  labels:
    app: wordpress
spec:
  ports:
    - port: 80
  selector:
    app: wordpress
    tier: frontend
  type: NodePort
---
apiVersion: v1
kind: PersistentVolumeClaim
metadata:
  name: wp-pv-claim
  labels:
    app: wordpress
spec:
  accessModes:
    - ReadWriteOnce
  resources:
    requests:
      storage: 20Gi
---
```

```

---
apiVersion: apps/v1 # for versions before 1.9.0 use
apps/v1beta2
kind: Deployment
metadata:
  name: wordpress
  labels:
    app: wordpress
spec:
  selector:
    matchLabels:
      app: wordpress
      tier: frontend
  strategy:
    type: Recreate
  template:
    metadata:
      labels:
        app: wordpress
        tier: frontend
    spec:
      containers:
        - image: wordpress:4.8-apache
          name: wordpress
          env:
            - name: WORDPRESS_DB_HOST
              value: wordpress-mysql
            - name: WORDPRESS_DB_PASSWORD
              valueFrom:
                secretKeyRef:
                  name: mysql-pass
                  key: password
          ports:
            - containerPort: 80
              name: wordpress
          volumeMounts:
            - name: wordpress-persistent-storage
              mountPath: /var/www/html
      volumes:
        - name: wordpress-persistent-storage
          persistentVolumeClaim:
            claimName: wp-pv-claim

```

○ Manifest file for MY-SQL database

```

apiVersion: v1
kind: Service
metadata:
  name: wordpress-mysql
  labels:
    app: wordpress
spec:
  ports:
    - port: 3306
  selector:
    app: wordpress
    tier: mysql
  type: ClusterIP
  clusterIP: None
---
apiVersion: v1
kind: PersistentVolumeClaim
metadata:
  name: mysql-pv-claim
  labels:
    app: wordpress
spec:
  accessModes:
    - ReadWriteOnce
  resources:
    requests:
      storage: 20Gi

```

```

---
apiVersion: apps/v1 # for versions before 1.9.0 use
apps/v1beta2
kind: Deployment
metadata:
  name: wordpress-mysql
  labels:
    app: wordpress
spec:
  selector:
    matchLabels:
      app: wordpress
      tier: mysql
  strategy:
    type: Recreate
  template:
    metadata:
      labels:
        app: wordpress
        tier: mysql
    spec:
      containers:
        - image: mysql:5.6
          name: mysql
          env:
            - name: MYSQL_ROOT_PASSWORD
              valueFrom:
                secretKeyRef:
                  name: mysql-pass
                  key: password
          ports:
            - containerPort: 3306
              name: mysql
          volumeMounts:
            - name: mysql-persistent-storage
              mountPath: /var/lib/mysql
      volumes:
        - name: mysql-persistent-storage
          persistentVolumeClaim:
            claimName: mysql-pv-claim

```

- Manifest file for kustomize

```

apiVersion: kustomize.config.k8s.io/v1beta1
kind: Kustomization
secretGenerator:
- name: mysql-pass
  literals:
    - password=redhat
resources:
- mysql-deployment.yaml
- wordpress-deployment.yaml

```

- Command to create Kustomize file

- * Kubectl create -k (path or . if we are in the same dir)
 - * As soon as we run the kustomize file the entire setup ie pod, PVC, svc, secrets, PV, RC will be created

```
C:\Users\Vimal Daga\Desktop\kube_code>kubectl create -k .
secret/mysql-pass-8d668bfdmt created
service/wordpress created
service/wordpress-mysql created
persistentvolumeclaim/mysql-pv-claim created
persistentvolumeclaim/wp-pv-claim created
deployment.apps/wordpress created
deployment.apps/wordpress-mysql created

C:\Users\Vimal Daga\Desktop\kube_code>kubectl get svc
NAME                TYPE          CLUSTER-IP      EXTERNAL-IP      PORT(S)          AGE
kubernetes           ClusterIP      10.96.0.1        <none>            443/TCP           2m48s
wordpress            NodePort       10.104.219.60    <none>            80:30626/TCP      71s
wordpress-mysql      ClusterIP      None             <none>            3306/TCP          71s

C:\Users\Vimal Daga\Desktop\kube_code>kubectl get deploy
NAME                READY    UP-TO-DATE    AVAILABLE    AGE
wordpress           1/1      1              1             98s
wordpress-mysql     1/1      1              1             98s

C:\Users\Vimal Daga\Desktop\kube_code>
```

```
C:\Users\Vimal Daga\Desktop\kube_code>kubectl create -k .
secret/mysql-pass-8d668bfdmt created
service/wordpress created
service/wordpress-mysql created
persistentvolumeclaim/mysql-pv-claim created
persistentvolumeclaim/wp-pv-claim created
deployment.apps/wordpress created
deployment.apps/wordpress-mysql created

C:\Users\Vimal Daga\Desktop\kube_code>kubectl get svc
NAME                TYPE          CLUSTER-IP      EXTERNAL-IP      PORT(S)          AGE
kubernetes           ClusterIP      10.96.0.1        <none>            443/TCP           2m48s
wordpress            NodePort       10.104.219.60    <none>            80:30626/TCP      71s
wordpress-mysql      ClusterIP      None             <none>            3306/TCP          71s

C:\Users\Vimal Daga\Desktop\kube_code>kubectl get deploy
NAME                READY    UP-TO-DATE    AVAILABLE    AGE
wordpress           1/1      1              1             98s
wordpress-mysql     1/1      1              1             98s

C:\Users\Vimal Daga\Desktop\kube_code>
```

```
C:\Users\Vimal Daga\Desktop\kube_code>kubectl get svc
NAME                TYPE          CLUSTER-IP      EXTERNAL-IP      PORT(S)          AGE
kubernetes           ClusterIP      10.96.0.1        <none>            443/TCP           4m2s
wordpress            NodePort       10.104.219.60    <none>            80:30626/TCP      2m25s
wordpress-mysql      ClusterIP      None             <none>            3306/TCP          2m25s

C:\Users\Vimal Daga\Desktop\kube_code>minikube ip
192.168.59.104

C:\Users\Vimal Daga\Desktop\kube_code>
```

- We can access our WordPress from the IP address & port no

Welcome

Welcome to the famous five-minute WordPress installation process! Just fill in the information below and you'll be on your way to using the most extendable and powerful personal publishing platform in the world.

Information needed

Please provide the following information. Don't worry, you can always change these settings later.

Site Title

Username

Use usernames that can have only alphanumeric characters, spaces, underscores, hyphens, periods, and the @ symbol.

Password