

Step three

In this step we need to run step two app in a kubernetes cluster.

Prerequisites

- [Docker](#)
- [Kubernetes](#)
- [Minikube](#)
- [Step two](#)

3.1 Download minikube

Download minikube from [here](#)

or you can use this command:

```
docker pull kicbase/stable:v0.0.36
```

3.2 Start minikube

```
minikube start --driver=docker
```

3.3 Install kompose

```
curl -L https://github.com/kubernetes/kompose/releases/download/v1.26.0/kompose-linux-amd64 -o  
chmod +x kompose  
sudo mv ./kompose /usr/local/bin/kompose
```

3.4 Run kompose

convert docker-compose.yml to kubernetes resources

```
kompose convert
```

3.5 Run kubernetes resources

```
kubectl apply -f .
```

3.6 Check kubernetes resources

```
kubectl get all
```

Results

```
mohamad@mamads:/mnt/mamads/uni/7/Cloud/HW/cloudCompunting-HWs/HW2/step_three/crypto$ minikube kubectl -- get pods
NAME                READY   STATUS    RESTARTS   AGE
crypto-59c4ff444-dd7nf 1/1     Running   0           9m52s
crypto-59c4ff444-qtjqf 1/1     Running   0           9m52s
redis-98ddc5ccd-s9jnp 0/1     Terminating 0           9m31s
mohamad@mamads:/mnt/mamads/uni/7/Cloud/HW/cloudCompunting-HWs/HW2/step_three/crypto$ minikube kubectl -- get pv
NAME                CAPACITY   ACCESS MODES   RECLAIM POLICY   STATUS   CLAIM                STORAGECLASS   REASON   AGE
pvc-bd38f3b8-cb0f-4329-921e-c888b425b683 100Mi      RWO            Delete           Bound    default/redis-data   standard     9m22s
mohamad@mamads:/mnt/mamads/uni/7/Cloud/HW/cloudCompunting-HWs/HW2/step_three/crypto$ minikube kubectl -- get configmaps
NAME    DATA   AGE
env     4       10m
kube-root-ca.crt 1       10m
mohamad@mamads:/mnt/mamads/uni/7/Cloud/HW/cloudCompunting-HWs/HW2/step_three/crypto$ minikube kubectl -- get service
NAME                TYPE        CLUSTER-IP   EXTERNAL-IP   PORT(S)   AGE
crypto              ClusterIP   10.106.29.121 <none>        8000/TCP   10m
kubernetes           ClusterIP   10.96.0.1     <none>        443/TCP   11m
redis               ClusterIP   10.101.116.194 <none>        6379/TCP   10m
mohamad@mamads:/mnt/mamads/uni/7/Cloud/HW/cloudCompunting-HWs/HW2/step_three/crypto$ minikube kubectl -- get deployment
NAME                READY   UP-TO-DATE   AVAILABLE   AGE
crypto              2/2     2             2           10m
redis               0/1     1             0           10m
mohamad@mamads:/mnt/mamads/uni/7/Cloud/HW/cloudCompunting-HWs/HW2/step_three/crypto$
```

```
redis-86b55bcf4f-tvns 1/1     Running   0           6m39s
mohamad@mamads:/mnt/mamads/uni/7/Cloud/HW/cloudCompunting-HWs/HW2/step_three/crypto$ minikube kubectl -- get all
NAME                READY   STATUS    RESTARTS   AGE
pod/crypto-59c4ff444-dd7nf 1/1     Running   0           16m
pod/crypto-59c4ff444-qtjqf 1/1     Running   0           16m
pod/redis-86b55bcf4f-tvns 1/1     Running   0           6m39s

NAME                TYPE        CLUSTER-IP   EXTERNAL-IP   PORT(S)   AGE
service/crypto       ClusterIP   10.106.29.121 <none>        8000/TCP   16m
service/kubernetes   ClusterIP   10.96.0.1     <none>        443/TCP   17m
service/redis        ClusterIP   10.101.116.194 <none>        6379/TCP   16m

NAME                READY   UP-TO-DATE   AVAILABLE   AGE
deployment.apps/crypto 2/2     2             2           16m
deployment.apps/redis  1/1     1             1           16m

NAME                DESIRED   CURRENT   READY   AGE
replicaset.apps/crypto-59c4ff444 2          2          2       16m
replicaset.apps/redis-86b55bcf4f 1          1          1       6m39s
replicaset.apps/redis-98ddc5ccd 0          0          0       16m
mohamad@mamads:/mnt/mamads/uni/7/Cloud/HW/cloudCompunting-HWs/HW2/step_three/crypto$
```

```
mohamad@mamads:/mnt/mamads/uni/7/Cloud/HW/cloudCompunting-HWs/HW2/step_three/crypto$ minikube kubectl -- get pv
NAME                CAPACITY   ACCESS MODES   RECLAIM POLICY   STATUS   CLAIM                STORAGECLASS   REASON   AGE
pvc-bd38f3b8-cb0f-4329-921e-c888b425b683 100Mi      RWO            Delete           Bound    default/redis-data   standard     16m
mohamad@mamads:/mnt/mamads/uni/7/Cloud/HW/cloudCompunting-HWs/HW2/step_three/crypto$ minikube kubectl -- get pvc
NAME                STATUS   VOLUME                                     CAPACITY   ACCESS MODES   STORAGECLASS   AGE
redis-data          Bound    pvc-bd38f3b8-cb0f-4329-921e-c888b425b683 100Mi      RWO            standard       16m
mohamad@mamads:/mnt/mamads/uni/7/Cloud/HW/cloudCompunting-HWs/HW2/step_three/crypto$
```

first pod ip

```
Normal Started 21m kubelet Started container crypto
mohamad@mamads:/mnt/mamads/uni/7/Cloud/HW/cloudCompunting-HWs/HW2/step_three/crypto$ minikube kubectl -- describe pods crypto-59c4ff444-qtjqf
Name:         crypto-59c4ff444-qtjqf
Namespace:    default
Priority:      0
Service Account: default
Node:         minikube/192.168.49.2
Start Time:   Thu, 22 Dec 2022 07:19:59 +0330
Labels:       io.kompose.network/crypto=true
              io.kompose.service=crypto
              pod-template-hash=59c4ff444
Annotations:  kompose.cmd: kompose convert
              kompose.version: 1.26.0 (40646f47)
Status:       Running
IP:           172.17.0.3
IPs:          IP: 172.17.0.3
Controlled By: ReplicaSet/crypto-59c4ff444
Containers:
  crypto:
```

second pod ip

```
mohamad@mamads:/mnt/mamads/uni/7/Cloud/HW/cloudCompunting-HWs/HW2/step_three/crypto$ minikube kubectl -- describe pods crypto-59c4ff444-dd7nf
Name:         crypto-59c4ff444-dd7nf
Namespace:    default
Priority:      0
Service Account: default
Node:         minikube/192.168.49.2
Start Time:   Thu, 22 Dec 2022 07:19:59 +0330
Labels:       io.kompose.network/crypto=true
              io.kompose.service=crypto
              pod-template-hash=59c4ff444
Annotations:  kompose.cmd: kompose convert
              kompose.version: 1.26.0 (40646f47)
Status:       Running
IP:           172.17.0.4
IPs:          IP: 172.17.0.4
Controlled By: ReplicaSet/crypto-59c4ff444
Containers:
```