

Kubernetes Deployment Scaling

Demonstration of basic scaling by manually increasing and decreasing the load

Scaling up the load

- Scaled up with 10 replicas using the following command:
 - `kubectl scale deployment api --replicas=10`

```
root@13917e0e62f8:/app# kubectl get pods
NAME                                READY   STATUS    RESTARTS   AGE
api-9d678d44f-5kkrz                 1/1     Running   0           15h
frontend-666d4c7b6-kszsc            1/1     Running   0           15h
nginx-ingress-controller-ff66f65d4-prtqm 1/1     Running   0           21h
vector-db-6fddbcb594-7jvt9          1/1     Running   0           21h
root@13917e0e62f8:/app# kubectl scale deployment api --replicas=10
deployment.apps/api scaled
root@13917e0e62f8:/app# kubectl get pods
NAME                                READY   STATUS    RESTARTS   AGE
api-9d678d44f-5kkrz                 1/1     Running   0           15h
api-9d678d44f-77kll                  1/1     Running   0           13s
api-9d678d44f-7c52z                  1/1     Running   0           13s
api-9d678d44f-hcbvk                  1/1     Running   0           12s
api-9d678d44f-htrzt                  1/1     Running   0           12s
api-9d678d44f-jkgq6                  1/1     Running   0           13s
api-9d678d44f-kzw86                  1/1     Running   0           13s
api-9d678d44f-lm7ld                  1/1     Running   0           13s
api-9d678d44f-vddx5                  1/1     Running   0           13s
api-9d678d44f-w8bdw                  1/1     Running   0           13s
frontend-666d4c7b6-kszsc            1/1     Running   0           15h
nginx-ingress-controller-ff66f65d4-prtqm 1/1     Running   0           21h
vector-db-6fddbcb594-7jvt9          1/1     Running   0           21h
```

Scaling down the load

- Scaled down the load with 5 replicas using the following command:

```
root@13917e0e62f8:/app# kubectl get pods
NAME                                READY   STATUS    RESTARTS   AGE
api-9d678d44f-5kkrz                1/1     Running   0           15h
api-9d678d44f-77kll                1/1     Running   0           68s
api-9d678d44f-7c52z                1/1     Running   0           68s
api-9d678d44f-hcbvk                1/1     Running   0           67s
api-9d678d44f-htrzt                1/1     Running   0           67s
api-9d678d44f-jkgq6                1/1     Running   0           68s
api-9d678d44f-kzw86                1/1     Running   0           68s
api-9d678d44f-lm7ld                1/1     Running   0           68s
api-9d678d44f-vddx5                1/1     Running   0           68s
api-9d678d44f-w8bdw                1/1     Running   0           68s
frontend-666d4c7b6-kszsc           1/1     Running   0           15h
nginx-ingress-controller-ff66f65d4-prtqm 1/1     Running   0           21h
vector-db-6fddbcb594-7jvt9         1/1     Running   0           21h
root@13917e0e62f8:/app# kubectl scale deployment api --replicas=5
deployment.apps/api scaled
root@13917e0e62f8:/app# kubectl get pods
NAME                                READY   STATUS    RESTARTS   AGE
api-9d678d44f-5kkrz                1/1     Running   0           15h
api-9d678d44f-77kll                1/1     Running   0           90s
api-9d678d44f-7c52z                1/1     Running   0           90s
api-9d678d44f-hcbvk                1/1     Terminating 0           89s
api-9d678d44f-htrzt                1/1     Terminating 0           89s
api-9d678d44f-jkgq6                1/1     Terminating 0           90s
api-9d678d44f-kzw86                1/1     Running      0           90s
api-9d678d44f-lm7ld                1/1     Terminating 0           90s
api-9d678d44f-vddx5                1/1     Running      0           90s
api-9d678d44f-w8bdw                1/1     Terminating 0           90s
frontend-666d4c7b6-kszsc           1/1     Running   0           15h
nginx-ingress-controller-ff66f65d4-prtqm 1/1     Running   0           21h
vector-db-6fddbcb594-7jvt9         1/1     Running   0           21h
root@13917e0e62f8:/app# kubectl get pods
NAME                                READY   STATUS    RESTARTS   AGE
api-9d678d44f-5kkrz                1/1     Running   0           15h
api-9d678d44f-77kll                1/1     Running   0           2m
api-9d678d44f-7c52z                1/1     Running   0           2m
api-9d678d44f-kzw86                1/1     Running   0           2m
api-9d678d44f-vddx5                1/1     Running   0           2m
frontend-666d4c7b6-kszsc           1/1     Running   0           15h
nginx-ingress-controller-ff66f65d4-prtqm 1/1     Running   0           21h
vector-db-6fddbcb594-7jvt9         1/1     Running   0           21h
```

- After scaling down, we can see that some of the replicas start terminating