

KUBERNETES ASSIGNMENT WITH DIFFERENT REAL TIME SCENARIOS

Step 1-

https://github.com/praveen1994dec/Kubernetes_Manifest_files/blob/main/Horizontal_Pod_AutoScaler.yml

kubectl apply -f [Horizontal_Pod_AutoScaler.yml](#)

```
[root@ip-172-31-4-77 ec2-user]# kubectl apply -f hpa.yml
deployment.apps/php-apache created
service/php-apache created
[root@ip-172-31-4-77 ec2-user]# kubectl get [pods
error: the server doesn't have a resource type "[pods"
[root@ip-172-31-4-77 ec2-user]# ^C
[root@ip-172-31-4-77 ec2-user]# kubectl get pods
NAME                                READY   STATUS             RESTARTS   AGE
php-apache-678865dd57-qsw79        0/1     ContainerCreating   0           10s
[root@ip-172-31-4-77 ec2-user]# kubectl get pods
NAME                                READY   STATUS             RESTARTS   AGE
php-apache-678865dd57-qsw79        0/1     ContainerCreating   0           22s
[root@ip-172-31-4-77 ec2-user]# kubectl get pods
NAME                                READY   STATUS             RESTARTS   AGE
php-apache-678865dd57-qsw79        1/1     Running             0           24s
[root@ip-172-31-4-77 ec2-user]# kubectl autoscale deployment php-apache --cpu-percent=50 --min=1 --max=10
horizontalpodautoscaler.autoscaling/php-apache autoscaled
[root@ip-172-31-4-77 ec2-user]# kubectl get pods
NAME                                READY   STATUS             RESTARTS   AGE
php-apache-678865dd57-qsw79        1/1     Running             0           60s
[root@ip-172-31-4-77 ec2-user]# kubectl get pods
NAME                                READY   STATUS             RESTARTS   AGE
php-apache-678865dd57-qsw79        1/1     Running             0           61s
[root@ip-172-31-4-77 ec2-user]# kubectl get hpa
NAME                                REFERENCE           TARGETS      MINPODS   MAXPODS   REPLICAS   AGE
php-apache    Deployment/php-apache  cpu: <unknown>/50%  1          10         0           10s
[root@ip-172-31-4-77 ec2-user]# kubectl get hpa
NAME                                REFERENCE           TARGETS      MINPODS   MAXPODS   REPLICAS   AGE
php-apache    Deployment/php-apache  cpu: <unknown>/50%  1          10         0           12s
```

Scale the Application

```
kubectl autoscale deployment php-apache --cpu-percent=1 --min=2 --max=10
```

```
kubectl get hpa php-apache --watch
```

```
kubectl get deployment php-apache
```

```

php-apache-678865dd57-rcw7m 1/1 Running 0 3m
[root@ip-172-31-4-77 ec2-user]# kubectl get pods
NAME READY STATUS RESTARTS AGE
load-generator 0/1 Error 0 18m
load-generator1 0/1 Error 0 14m
php-apache-678865dd57-7c4s1 1/1 Running 0 3s
php-apache-678865dd57-qsw79 1/1 Running 0 20m
php-apache-678865dd57-rcw7m 1/1 Running 0 3m1s
[root@ip-172-31-4-77 ec2-user]# ^C
[root@ip-172-31-4-77 ec2-user]# ^C
[root@ip-172-31-4-77 ec2-user]# ^C
[root@ip-172-31-4-77 ec2-user]# kubectl get hpa php-apache --watch
NAME REFERENCE TARGETS MINPODS MAXPODS REPLICAS AGE
php-apache Deployment/php-apache cpu: <unknown>/1% 3 10 3 59s

```

Step 2 - Create the Service and POD

https://github.com/praveen1994dec/Kubernetes_Manifest_files/blob/main/Nginx.yml

kubectl apply -f Nginx.yml

```

[root@ip-172-31-4-77 ec2-user]# vim nginx.yml
[root@ip-172-31-4-77 ec2-user]# kubectl apply -f nginx.yml
pod/nginx created
service/nginx-service created

```

```

service/nginx-service created
[root@ip-172-31-4-77 ec2-user]# kubectl get pods
NAME READY STATUS RESTARTS AGE
load-generator 0/1 Error 0 35m
load-generator1 0/1 Error 0 31m
nginx 1/1 Running 0 101s
php-apache-678865dd57-7c4s1 1/1 Running 0 16m
php-apache-678865dd57-qsw79 1/1 Running 0 37m
php-apache-678865dd57-rcw7m 1/1 Running 0 19m
[root@ip-172-31-4-77 ec2-user]# kubectl get svc
NAME TYPE CLUSTER-IP EXTERNAL-IP PORT(S) AGE
kubernetes ClusterIP 10.96.0.1 <none> 443/TCP 40m
nginx-service ClusterIP 10.107.121.68 <none> 80/TCP 106s
php-apache ClusterIP 10.106.113.190 <none> 80/TCP 37m

```

Step 3 -

https://github.com/praveen1994dec/Kubernetes_Manifest_files/blob/main/Fluentd_DaemonSet.yml

Kubectl create ns demo

kubectl create -f ds.yml

kubectl get daemonset -n demo

```
Error from server (NotFound): error when creating "ds.yml": namespaces "demo" not found
[root@ip-172-31-4-77 ec2-user]# kubectl create ns demo
namespace/demo created
[root@ip-172-31-4-77 ec2-user]# kubectl create -f ds.yml
daemonset.apps/fluentsd created
[root@ip-172-31-4-77 ec2-user]# kubectl get pods
```

```
fluentsd 1 1 1 1 1 <none> 97s
[root@ip-172-31-4-77 ec2-user]# kubectl get daemonset -n demo
NAME          DESIRED  CURRENT  READY  UP-TO-DATE  AVAILABLE  NODE SELECTOR  AGE
fluentsd      1        1        1      1            1          <none>         2m15s
[root@ip-172-31-4-77 ec2-user]#
```

Step 4 -

https://github.com/praveen1994dec/Kubernetes_Manifest_files/blob/main/Secret.yml

```
kubectl apply -f Secret.yml
```

```
kubectl get secret test-secret
```

https://github.com/praveen1994dec/Kubernetes_Manifest_files/blob/main/Secret_Mapped_Pod.yml

```
kubectl apply -f Secret_Mapped_Pod.yml
```

Go into the container

```
kubectl exec -i -t secret-test-pod -- /bin/bash
```

```
ls /etc/secret-volume
```

```
secret-test-pod 1/1 Running 0 /s
[root@ip-172-31-4-77 ec2-user]# kubectl exec -i -t secret-test-pod -- /bin/bash
root@secret-test-pod:/# ls /etc/secret-volume
password  username
```

```
echo "$( cat /etc/secret-volume/username )"
```

```
echo "$( cat /etc/secret-volume/password )"
```

```
etc/secret-volume:
total 0
-rwxrwxrwx 1 root root 15 May  4 11:36 username -> ../data/username
-rwxrwxrwx 1 root root 15 May  4 11:36 password -> ../data/password
root@secret-test-pod:/# echo "$( cat /etc/secret-volume/username )"
my-app
root@secret-test-pod:/# echo "$( cat /etc/secret-volume/password )"
9528$vdg7Jb
root@secret-test-pod:/#
```

