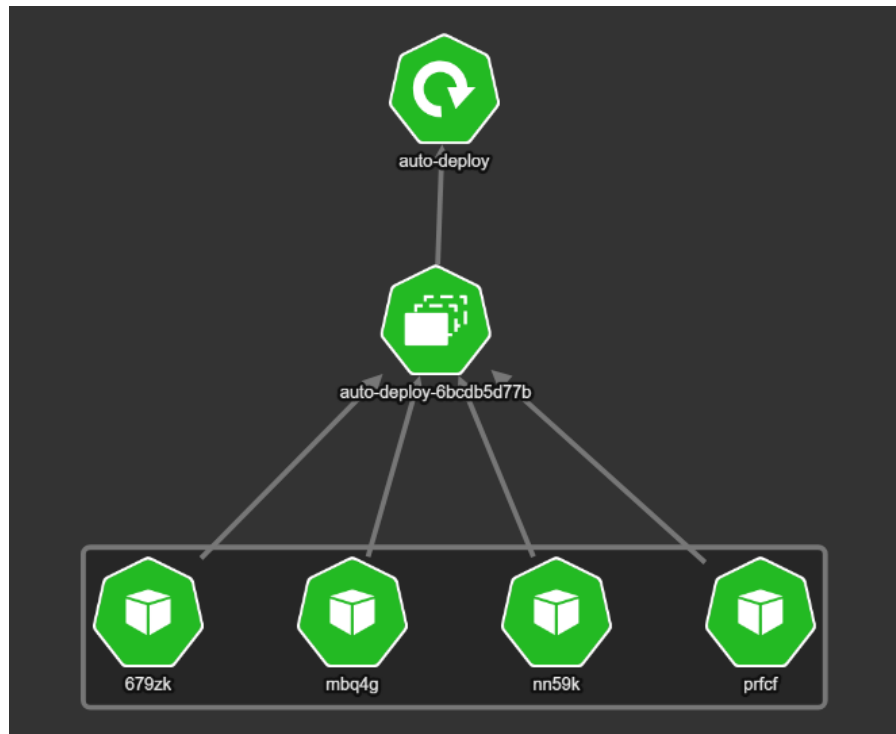# Horizontal auto scaling – deploy


```yaml
apiVersion: apps/v1
kind: Deployment
metadata:
    name: auto-deploy
spec:
  replicas: 4
  selector:
    matchLabels:
      app: Hauto
  template:
    metadata:
      name: nginx
      labels:
        app: Hauto
    spec:
      containers:
        - name: nginx
          image: nginx
          ports:
            - containerPort: 80
```

```
adham@master:/adhamk8s$ vim Hauto-deploy.yml
adham@master:/adhamk8s$
adham@master:/adhamk8s$ kubectl apply -f Hauto-deploy.yml
deployment.apps/auto-deploy created
adham@master:/adhamk8s$
adham@master:/adhamk8s$ kubectl get deploy
NAME           READY   UP-TO-DATE   AVAILABLE   AGE
auto-deploy    4/4     4            4           16s
deploy-web     3/3     3            3           74m
kubeview       1/1     1            1           24h
adham@master:/adhamk8s$
adham@master:/adhamk8s$ kubectl get pod
NAME                            READY   STATUS    RESTARTS       AGE
auto-deploy-6bcdb5d77b-679zk    1/1     Running   0              47s
auto-deploy-6bcdb5d77b-mbq4g    1/1     Running   0              47s
auto-deploy-6bcdb5d77b-nn59k    1/1     Running   0              47s
auto-deploy-6bcdb5d77b-prfcf    1/1     Running   0              47s
deploy-web-6498fd9b8c-78vrn     1/1     Running   0              75m
deploy-web-6498fd9b8c-wgkf7     1/1     Running   0              75m
deploy-web-6498fd9b8c-zk9df     1/1     Running   0              75m
kubeview-78dd597bd8-rskv8       1/1     Running   1 (90m ago)    24h
nginx-pod                       1/1     Running   1 (90m ago)    27h
stat-website                    1/1     Running   1 (90m ago)    26h
adham@master:/adhamk8s$
```

```
adham@node1:~$ kubectl get pod
NAME                            READY   STATUS    RESTARTS       AGE
auto-deploy-6bcdb5d77b-679zk    1/1     Running   0              4m37s
auto-deploy-6bcdb5d77b-mbq4g    1/1     Running   0              4m37s
auto-deploy-6bcdb5d77b-nn59k    1/1     Running   0              4m37s
auto-deploy-6bcdb5d77b-prfcf    1/1     Running   0              4m37s
deploy-web-6498fd9b8c-78vrn     1/1     Running   0              78m
deploy-web-6498fd9b8c-wgkf7     1/1     Running   0              78m
deploy-web-6498fd9b8c-zk9df     1/1     Running   0              78m
kubeview-78dd597bd8-rskv8       1/1     Running   1 (94m ago)    24h
nginx-pod                       1/1     Running   1 (94m ago)    27h
stat-website                    1/1     Running   1 (94m ago)    26h
adham@node1:~$
```

```
apiVersion: autoscaling/v1
kind: HorizontalPodAutoscaler
metadata:
  name: auto
spec:
  scaleTargetRef:
    apiVersion: apps/v1
    kind: Deployment
    name: auto-deploy
  minReplicas: 1
  maxReplicas: 5
  targetCPUUtilizationPercentage: 50
```

```
adham@master:/adhamk8s$ kubectl apply -f Hauto.yml
horizontalpodautoscaler.autoscaling/auto created
adham@master:/adhamk8s$
adham@master:/adhamk8s$ kubectl get hpa
NAME    REFERENCE               TARGETS              MINPODS   MAXPODS   REPLICAS   AGE
auto    Deployment/auto-deploy  cpu: <unknown>/50%   1         5         4          51s
adham@master:/adhamk8s$
```

```
adham@master:/adhamk8s$ kubectl describe deploy auto-deploy | grep auto
Name:                    auto-deploy
Selector:                app=Hauto
  Labels:   app=Hauto
NewReplicaSet:    auto-deploy-6bcdb5d77b (4/4 replicas created)
  Normal  ScalingReplicaSet  25m   deployment-controller   Scaled up replica set auto-deploy-6bcdb5d77b to 4
adham@master:/adhamk8s$
```