# Service LoadBalancer

1. Update the Pod template in the following deployments
   * services/dep-mypython.yaml
   * services/dep-mygo.yaml
   * services/dep-mynode.yaml

* by adding label inservice=myservice.

1. Create Pods:

$ kubectl apply -f services/dep-mypython.yaml  
$ kubectl apply -f services/dep-mygo.yaml  
$ kubectl apply -f services/dep-mynode.yaml  
$ kubectl get pod --show-labels

1. Update services/service-loadbalancer.yaml to include pods with labels inservice=myservice.
2. Create the Service:

$ kubectl apply -f services/service-loadbalancer.yaml  
$ kubectl describe service myservice  
$ kubectl get service -o wide

⏳ It takes a couple of minutes to get IP address. Before:

$ kubectl get svc myservice  
NAME TYPE CLUSTER-IP EXTERNAL-IP PORT(S) AGE  
myservice LoadBalancer 172.20.229.237 <pending> 80:30567/TCP 12s

After:

$ k get svc myservice  
NAME TYPE CLUSTER-IP EXTERNAL-IP PORT(S) AGE  
myservice LoadBalancer 172.20.214.132 something.eu-central-1.elb.amazonaws.com 80:30652/TCP 5m45s

1. Curl it:

$ while true; do  
 curl something.eu-central-1.elb.amazonaws.com  
 sleep 1  
done  
Python Hello on mypython-deployment-695974c768-4p8sj  
Go Hello on mygo-deployment-566455b476-mnww2  
Node Hello on mynode-deployment-6b8556ff98-s8wx8  
...

1. Clean up:
   * remove the service
   * remove the deployments

## Solution for AWS

1. Create Pods:

$ kubectl apply -f services/dep-mypython.yaml  
deployment.apps/mypython-deployment created  
  
$ kubectl apply -f services/dep-mygo.yaml  
deployment.apps/mygo-deployment created  
  
$ kubectl apply -f services/dep-mynode.yaml  
deployment.apps/mynode-deployment created  
  
$ kubectl get pod --show-labels  
NAME READY STATUS RESTARTS AGE LABELS  
mygo-deployment-55894d8449-bm5sd 1/1 Running 0 37s app=mygo,inservice=myservice,pod-template-hash=55894d8449  
mynode-deployment-5d58f6459-wsbzf 1/1 Running 0 32s app=mynode,inservice=myservice,pod-template-hash=5d58f6459  
mypython-deployment-69c66864fc-jzz78 1/1 Running 0 43s app=mypython,inservice=myservice,pod-template-hash=69c66864fc

1. Create the Service:

$ kubectl apply -f services/service-loadbalancer.yaml  
service/myservice created  
  
$ kubectl describe service myservice  
Name: myservice  
Namespace: default  
Labels: <none>  
Annotations: <none>  
Selector: inservice=myservice  
Type: LoadBalancer  
IP Families: <none>  
IP: 172.20.165.10  
IPs: 172.20.165.10  
LoadBalancer Ingress: ad85ea6b471264456b80b8fe8d4dfc37-1268250253.eu-central-1.elb.amazonaws.com  
Port: <unset> 80/TCP  
TargetPort: 8000/TCP  
NodePort: <unset> 32427/TCP  
Endpoints: 10.0.1.161:8000,10.0.1.211:8000,10.0.2.4:8000  
Session Affinity: None  
External Traffic Policy: Cluster  
Events:  
 Type Reason Age From Message  
 ---- ------ ---- ---- -------  
 Normal EnsuringLoadBalancer 5s service-controller Ensuring load balancer  
 Normal EnsuredLoadBalancer 3s service-controller Ensured load balancer  
  
$ kubectl get service -o wide  
NAME TYPE CLUSTER-IP EXTERNAL-IP PORT(S) AGE SELECTOR  
kubernetes ClusterIP 172.20.0.1 <none> 443/TCP 4h12m <none>  
myservice LoadBalancer 172.20.165.10 ad85ea6b471264456b80b8fe8d4dfc37-1268250253.eu-central-1.elb.amazonaws.com 80:32427/TCP 20s inservice=myservice

1. Curl it:

$ while true; do  
> curl ad85ea6b471264456b80b8fe8d4dfc37-1268250253.eu-central-1.elb.amazonaws.com  
> sleep 1  
> done  
Go Hello on mygo-deployment-55894d8449-bm5sd  
Go Hello on mygo-deployment-55894d8449-bm5sd  
Node Hello on mynode-deployment-5d58f6459-wsbzf 1  
Go Hello on mygo-deployment-55894d8449-bm5sd  
Node Hello on mynode-deployment-5d58f6459-wsbzf 2  
Node Hello on mynode-deployment-5d58f6459-wsbzf 3  
Node Hello on mynode-deployment-5d58f6459-wsbzf 4  
Node Hello on mynode-deployment-5d58f6459-wsbzf 5  
Python Hello on mypython-deployment-69c66864fc-jzz78  
Node Hello on mynode-deployment-5d58f6459-wsbzf 6  
Python Hello on mypython-deployment-69c66864fc-jzz78  
^C  
...

1. Clean up:

$ kubectl delete service myservice  
service "myservice" deleted  
  
$ kubectl delete deploy mygo-deployment mynode-deployment mypython-deployment  
deployment.apps "mygo-deployment" deleted  
deployment.apps "mynode-deployment" deleted  
deployment.apps "mypython-deployment" deleted