# Service NodePort

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. Create the Service:

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

1. Check availability of the service from outside cluster (separate terminal):

$ minikube service list  
$ minikube service myservice --url [-n mynamespace]  
$ while true; do curl $(minikube service myservice -n default --url); sleep 1; done

or

$ export NODE\_IP=$(minikube ip)  
$ export NODE\_PORT=$(kubectl get service/myservice -o jsonpath="{.spec.ports[\*].nodePort}")  
$ while true; do curl $NODE\_IP:$NODE\_PORT; sleep 1; done

1. Clean up:

* remove the service
* remove the deployments

## Solution

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-fg5lh 1/1 Running 0 79s app=mygo,inservice=myservice,pod-template-hash=55894d8449  
mynode-deployment-5d58f6459-ndpn8 1/1 Running 0 75s app=mynode,inservice=myservice,pod-template-hash=5d58f6459  
mypython-deployment-69c66864fc-c955c 1/1 Running 0 83s app=mypython,inservice=myservice,pod-template-hash=69c66864fc

1. Create the Service:

$ kubectl apply -f services/service-nodeport.yaml  
service/myservice created  
  
$ kubectl describe service myservice  
Name: myservice  
Namespace: msuslov  
Labels: <none>  
Annotations: <none>  
Selector: inservice=myservice  
Type: NodePort  
IP Families: <none>  
IP: 10.109.101.55  
IPs: 10.109.101.55  
Port: <unset> 80/TCP  
TargetPort: 8000/TCP  
NodePort: <unset> 30007/TCP  
Endpoints: 172.17.0.3:8000,172.17.0.5:8000,172.17.0.6:8000  
Session Affinity: None  
External Traffic Policy: Cluster  
Events: <none>  
  
$ kubectl get service -o wide  
NAME TYPE CLUSTER-IP EXTERNAL-IP PORT(S) AGE SELECTOR  
myservice NodePort 10.109.101.55 <none> 80:30007/TCP 12s inservice=myservice

1. Check availability of the service from outside cluster (separate terminal):

$ minikube service list  
|-------------|------------|--------------|---------------------------|  
| NAMESPACE | NAME | TARGET PORT | URL |  
|-------------|------------|--------------|---------------------------|  
| default | kubernetes | No node port |  
| kube-system | kube-dns | No node port |  
| msuslov | myservice | 80 | http://192.168.49.2:30007 |  
|-------------|------------|--------------|---------------------------|  
  
$ minikube service myservice --url -n msuslov  
🏃 Starting tunnel for service myservice.  
|-----------|-----------|-------------|------------------------|  
| NAMESPACE | NAME | TARGET PORT | URL |  
|-----------|-----------|-------------|------------------------|  
| msuslov | myservice | | http://127.0.0.1:55722 |  
|-----------|-----------|-------------|------------------------|  
http://127.0.0.1:55722  
  
$ while true; do curl $(minikube service myservice -n default --url); sleep 1; done  
Node Hello on mynode-deployment-5d58f6459-ndpn8 0  
Python Hello on mypython-deployment-69c66864fc-c955c  
Go Hello on mygo-deployment-55894d8449-fg5lh  
Node Hello on mynode-deployment-5d58f6459-ndpn8 1  
Node Hello on mynode-deployment-5d58f6459-ndpn8 2  
...

Yes, we have a connection to service via node port. Another way to check it out:

$ minikube ssh  
Last login: Sun Jun 13 20:00:09 2021 from 192.168.49.1  
  
docker@minikube:~$ while true; do curl http://192.168.49.2:30007; sleep 1; done  
Go Hello on mygo-deployment-55894d8449-fg5lh  
Node Hello on mynode-deployment-5d58f6459-ndpn8 4  
Node Hello on mynode-deployment-5d58f6459-ndpn8 5  
Go Hello on mygo-deployment-55894d8449-fg5lh  
Node Hello on mynode-deployment-5d58f6459-ndpn8 6  
Go Hello on mygo-deployment-55894d8449-fg5lh  
^C

1. Clean up:

* remove the service
* remove the deployments

$ 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