

# Experiment: NodePort with k3d

Create a cluster, mapping the port 30080 from agent-0 to localhost:8082

```
$ k3d cluster create mycluster -p "8082:30080@agent:0" --agents 1
```

**Note:** the quotes around the port argument are not

**Note:** Kubernetes' default NodePort range is [30000-32767](#)

**Note:** You could expose the whole NodePort range from the very beginning, e.g. via `k3d cluster create mycluster --agents 3 -p 30000-32767:30000-32767@server[0]` (See [this video from @portainer](#)) but we won't do that for this lab.

**Note:** You'll recall that in our Helm Chart example we exposed this differently using the ClusterIP. Here our port rule when we create our cluster allows us to not have to create the manual port forwarding that we did as a loadbalancer rule on the cluster create.

Create the nginx deployment

```
$ kubectl create deployment nginx --image=nginx
```

Create a NodePort service for it with **kubectl apply -f simple-nodeport.yaml** file provided in the GitHub repo, but also available via curl or wget as noted below.

```
apiVersion: v1
kind: Service
metadata:
  labels:
    app: nginx
    name: nginx
spec:
  ports:
    - name: 80-80
      nodePort: 30080
      port: 80
      protocol: TCP
      targetPort: 80
  selector:
    app: nginx
  type: NodePort
```

~/projects/k3d/simple-ingress \$ curl -O

<https://raw.githubusercontent.com/GeorgeNiece/KubernetesNetworking/master/labs/simple-nodeport.yaml>

or

```
$ wget  
https://raw.githubusercontent.com/GeorgeNiece/KubernetesNetworking/master/labs/simple-nodeport.yaml
```

```
$ kubectl apply -f simple-nodeport.yaml
```

Curl it via localhost

```
$ curl localhost:8082/
```