Services


```
>curl http://10.244.0.2
Hello World!
```

NodePort:


```
>curl http://192.168.1.2:30008
Hello World!
```

192.168.1.10

192.168.1.2

10.244.0.0

30008

Service

10.244.0.2

POD

Node

Services Types

NodePort

ClusterIP

LoadBalancer

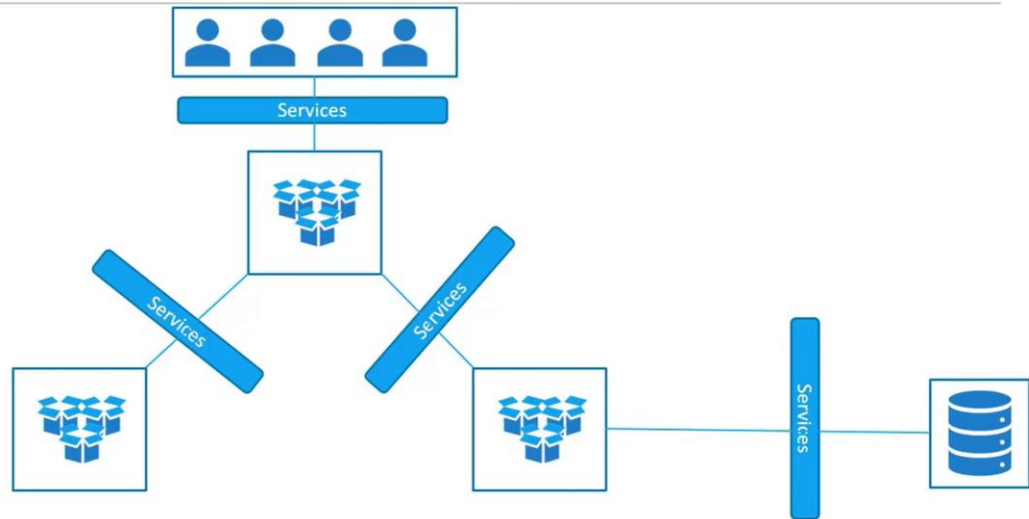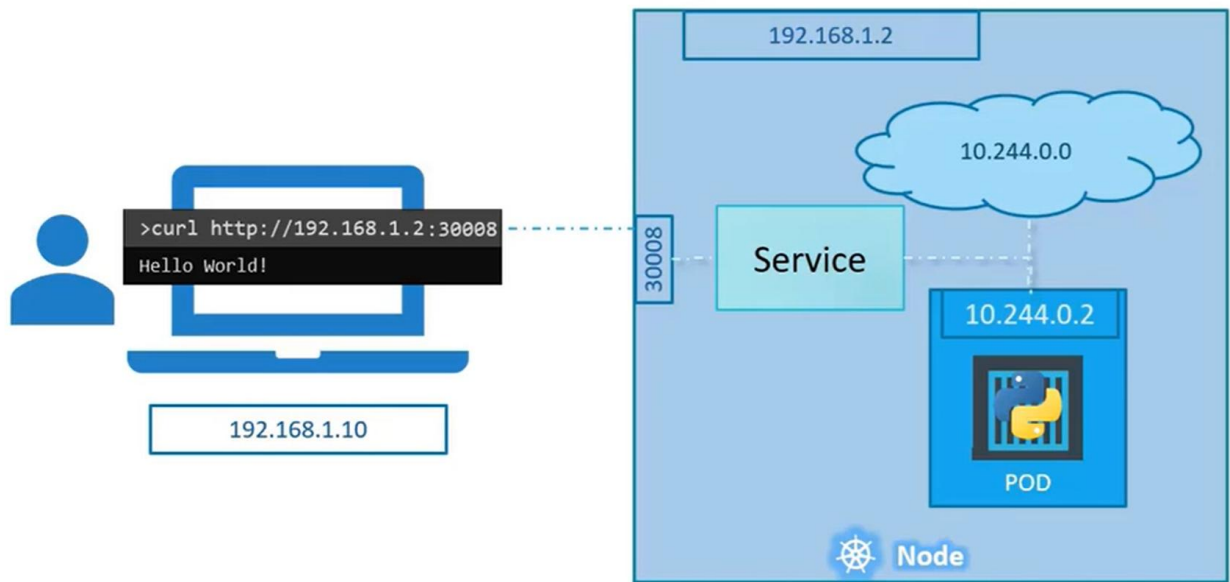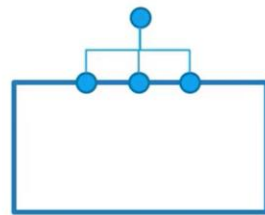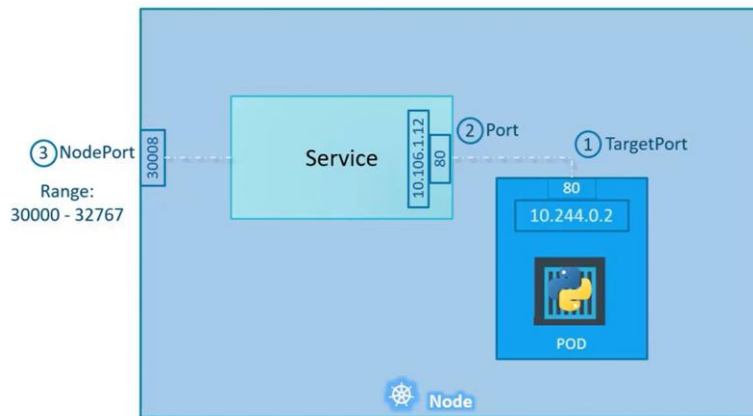# Service - NodePort


```yaml
service-definition.yml

apiVersion: v1
kind: Service
metadata:
    name: myapp-service

spec:
    type: NodePort
    ports:
     - targetPort: 80
      *port: 80
       nodePort: 30008
```

```yaml
service-definition.yml

apiVersion: v1
kind: Service
metadata:
    name: myapp-service

spec:
    type: NodePort
    ports:
     - targetPort: 80
       port: 80
       nodePort: 30008
    selector:
       app: myapp
       type: front-end
```

```yaml
pod-definition.yml

apiVersion: v1
kind: Pod

metadata:
 name: myapp-pod
 labels:
   app: myapp
   type: front-end
spec:
  containers:
   - name: nginx-container
     image: nginx
```

```
> kubectl create -f service-definition.yml
service "myapp-service" created
```

```
> kubectl get services
NAME            TYPE        CLUSTER-IP       EXTERNAL-IP   PORT(S)        AGE
kubernetes      ClusterIP   10.96.0.1        <none>        443/TCP        16d
myapp-service   NodePort    10.106.127.123   <none>        80:30008/TCP   5m
```

```
> curl http://192.168.1.2:30008
<html>
<head>
<title>Welcome to nginx!</title>
<style>
    body {
        width: 35em;
        margin: 0 auto;
        font-family: Tahoma, Verdana, Arial, sans-serif;
    }
</style>
</head>
<body>
```

192.168.1.2   30008

Service

```
selector:
    app: myapp
```

10.244.0.3   10.244.0.2   10.244.0.4

Algorithm: Random
SessionAffinity: Yes

```
labels:
    app: myapp
```

POD   POD   POD

Node

```
>curl http://192.168.1.2:30008
>curl http://192.168.1.3:30008
>curl http://192.168.1.4:30008
```

192.168.1.2   30008
192.168.1.3   30008
192.168.1.4   30008

Service

10.244.0.3   10.244.0.2   10.244.0.4

POD   POD   POD

⎈ Node   ⎈ Node   ⎈ Node

ClusterIP

front-end
10.244.0.3   10.244.0.2   10.244.0.4
POD   POD   POD

back-end

back-end
10.244.0.5   10.244.0.6   10.244.0.7
POD   POD   POD

redis

redis
10.244.0.8   10.244.0.9   10.244.0.10
POD   POD   POD

```yaml
service-definition.yml
apiVersion: v1
kind: Service
metadata:
    name: back-end

spec:
    type: ClusterIP
    ports:
     - targetPort: 80
       port: 80

    selector:
        app: myapp
        type: back-end
```

```yaml
pod-definition.yml
apiVersion: v1
kind: Pod

metadata:
 name: myapp-pod
 labels:
    app: myapp
    type: back-end
spec:
  containers:
   - name: nginx-container
     image: nginx
```
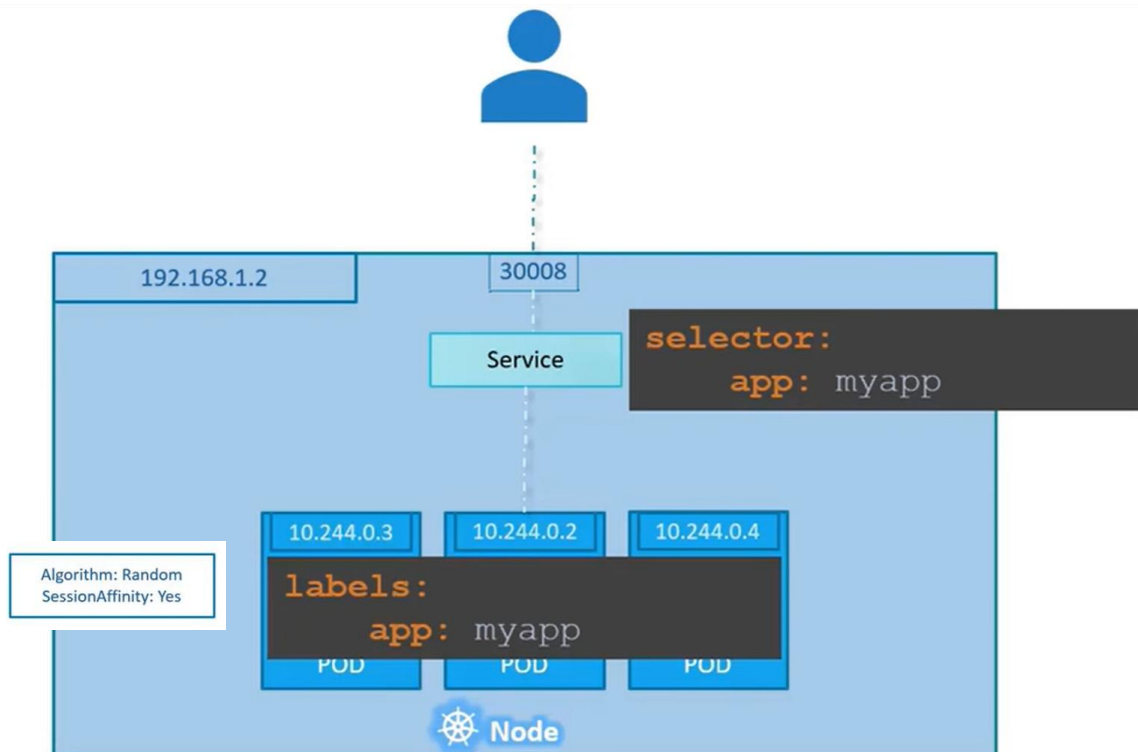
```
> kubectl create -f service-definition.yml
service "back-end" created
```
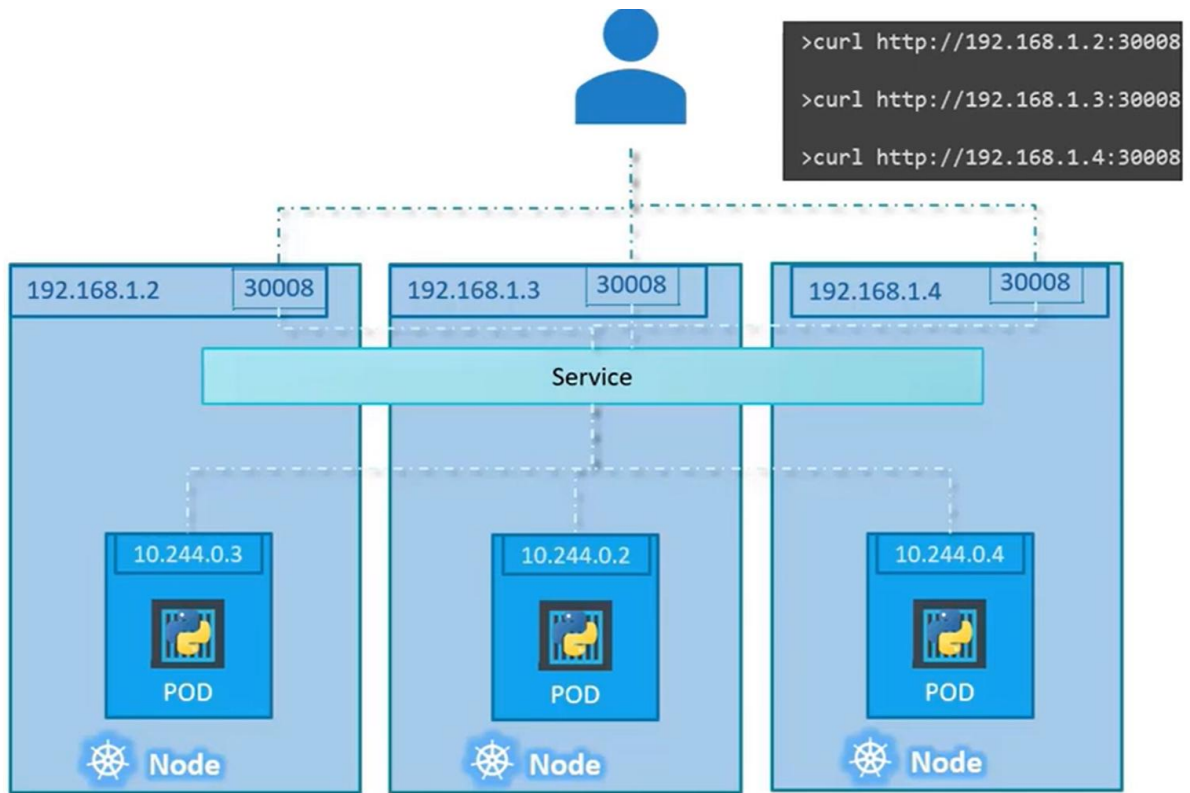
```
> kubectl get services
NAME          TYPE        CLUSTER-IP       EXTERNAL-IP   PORT(S)    AGE
kubernetes    ClusterIP   10.96.0.1        <none>        443/TCP    16d
back-end      ClusterIP   10.106.127.123   <none>        80/TCP     2m
```
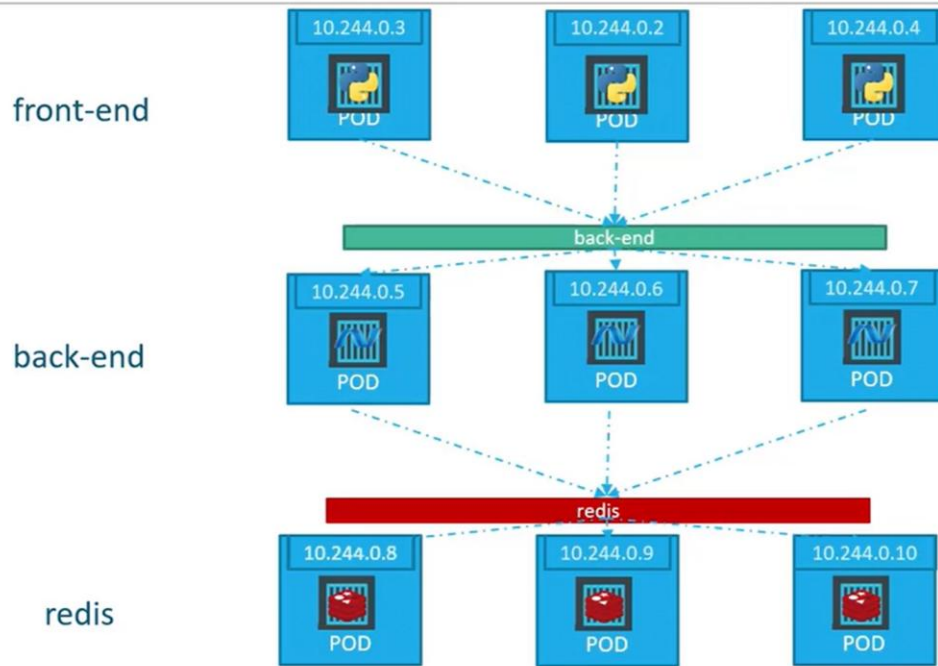
Services – Load balancer

Example voting app

http://example-vote.com
http://example-result.com

Google Cloud Platform

Native Load Balancer

```yaml
service-definition.yml
apiVersion: v1
kind: Service
metadata:
    name: myapp-service

spec:
    type: LoadBalancer
    ports:
     - targetPort: 80
       port: 80
       nodePort: 30008
```

192.168.56.70   192.168.56.71   192.16

Voting-App Service   30035
Result App – Service - 3106

POD voting-app   POD voting-app   POD voting-app

Deployment

Node   Node

POD result-app   POD result-app   POD result-app

Deployment

Node   Node