

# #043 Kubernetes - Services 3

## Introduction

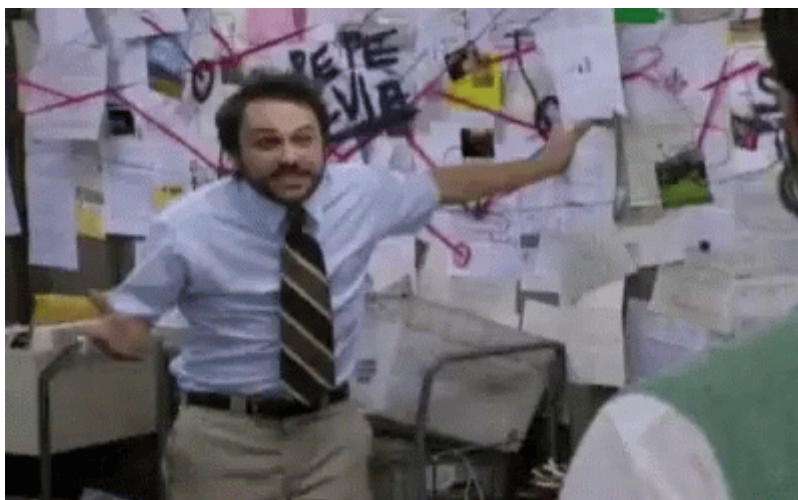


this is part 43 from the journey it's a long journey(360 day) so go please check previous parts , and if you need to walk in the journey with me please make sure to follow because I may post more than once in 1 Day but surely I will post daily at least one ☺.

And I will cover lot of tools as we move on.

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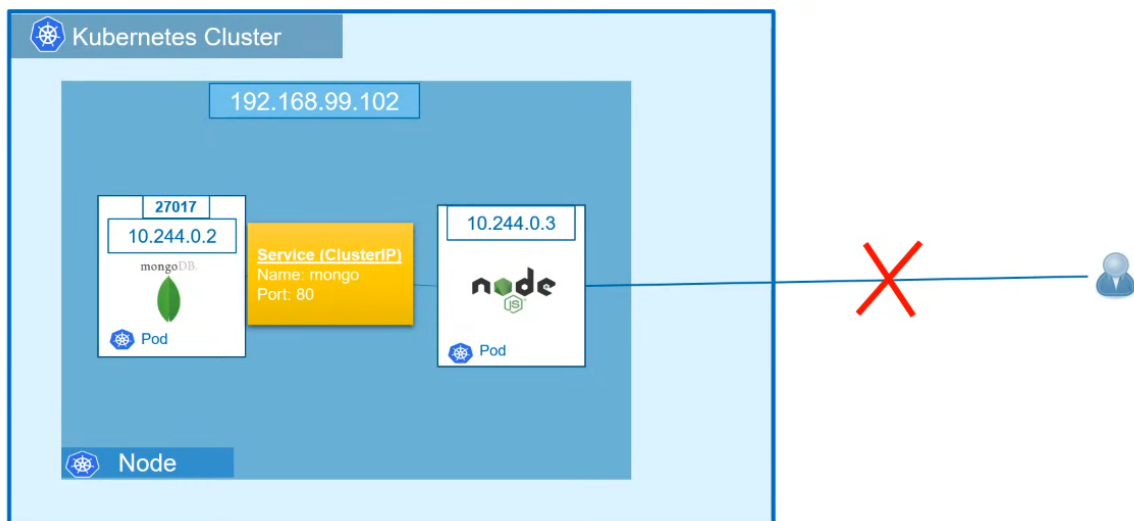
## NodePort



let's start with the theory first ,

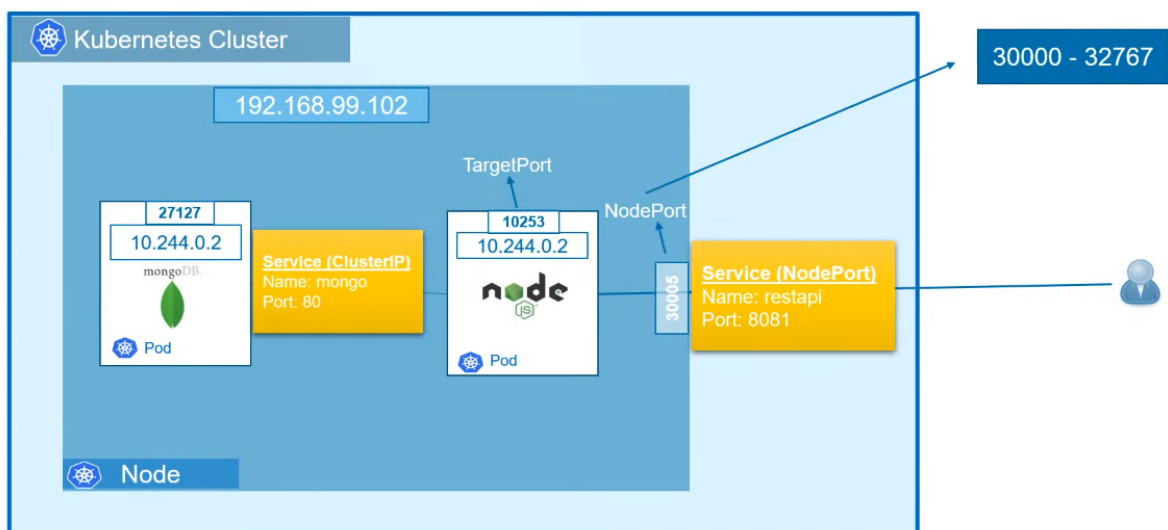
***ClusterIP vs NodePort***

The clusterIP service let us to communicate inside the cluster itself , but let's say we need the user to interact with the app , so he need a service to do this , it's can be assigned to any pod inside the cluster , it's valid using the NodePort service which let our cluster communicate with the outside of cluster.



In the picture we can see that the user can't interact with the cluster directly.

### how NodePort work



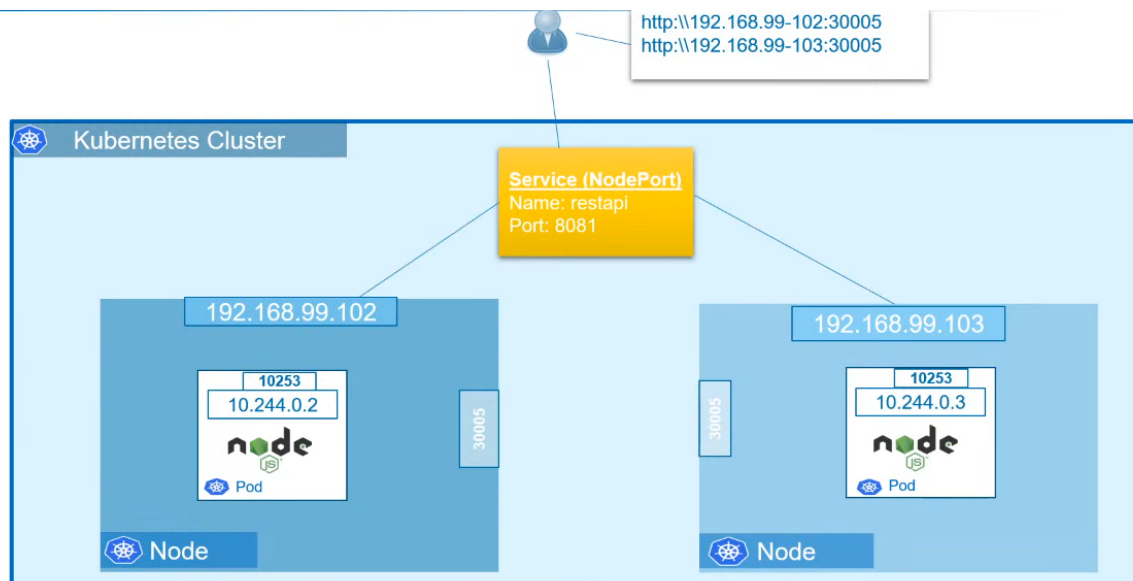
We need to know that every node it self have an port ranging between 30000-32767 , also container had port called target port , and lastly our service had a port.

```
apiVersion: v1
kind: Service
metadata:
  name: api-service
spec:
  type: Nodeport
  ports:
    - targetPort: 10253
      port: 8081
      nodePort: 30005
  selector:
    app: myapp
    type: rest-api
```

we can see in the specs the ports we describe them like this , myapp is the name of the pod.

if i need to access the pod in browser I use the link in this form NodeIP:port , NodeIp in the image is 192.168.99.102 and port is 30005 , so the link will look like this 192.168.99.102:30005 and now I can access the node from outside of cluster. in real life the port is 80 , those settings can be done when we buy the host , we can use a proxy to change port from 30005 to 80 , and domain name to access it using a name not ip.

A good question here if I have a 10 replicas , every one is in a node every node have an IP , What is the solution?



We can do a lot of things here like load balancing and Ingress , Ingress is very good for big applications.