Day-7

i) Service

ii) Types of Services.

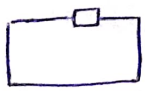
iii) Kubectl Service Commands.

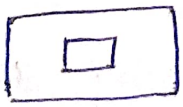
1) Service :-

Kubernetes objects that connects with your pod. The way to expose an application on a set of pods as a network service.

- pods are mortal, dispossable
- IPs are not static
- Service will provide us static endpoint to pod.

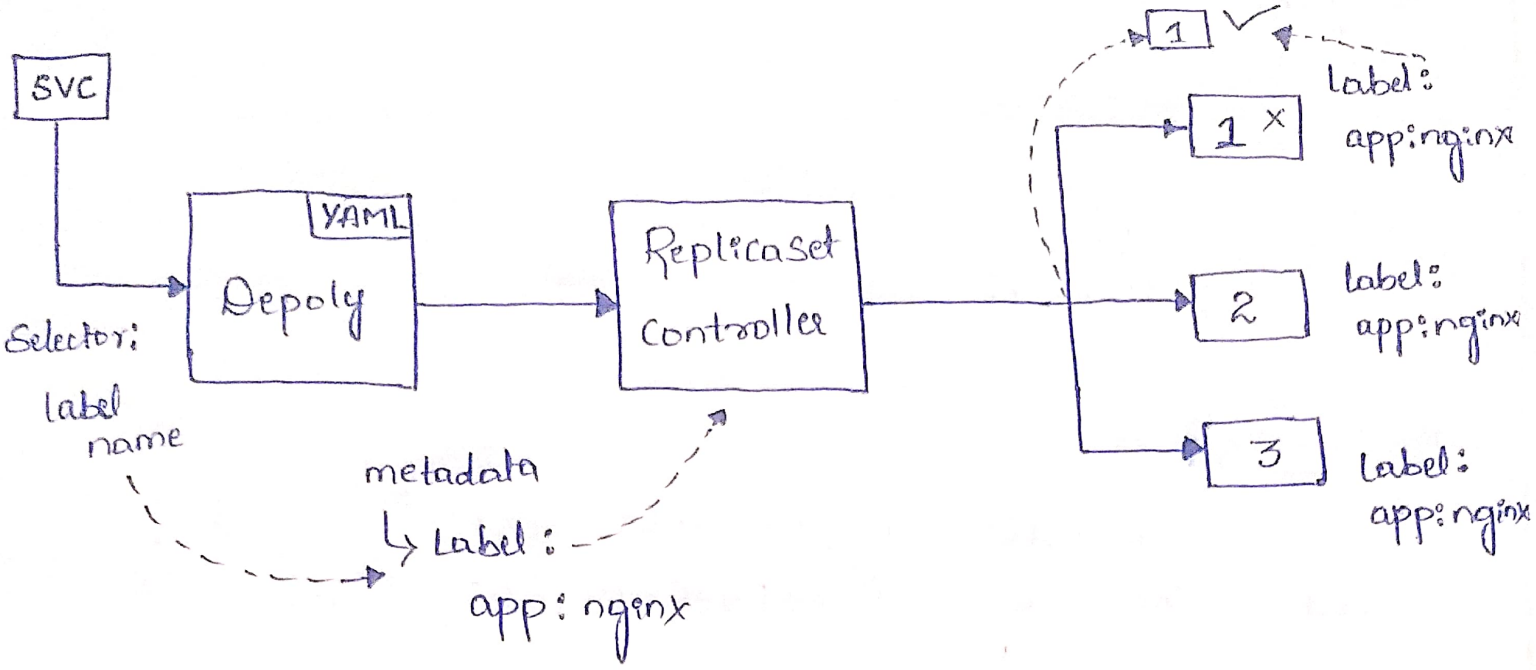
2) Types of Services :-

i) Nodeport 

ii) clusterIP 

iii) Load balancer 

```
# kubectl create -f <service>.yml
# kubectl get svc
# kubectl describe svc <service_name>
```



Service object in kubernetes has following advantages such as :

i) Load balancing.

Labels & Selectors: ii) Service Discovery

iii) Exposing application to external.

1) ClusterIp :-

- The application is still accessible only on inside kubernetes cluster.
- Offers Service discovery and load balancing.

2) Nodeport :-

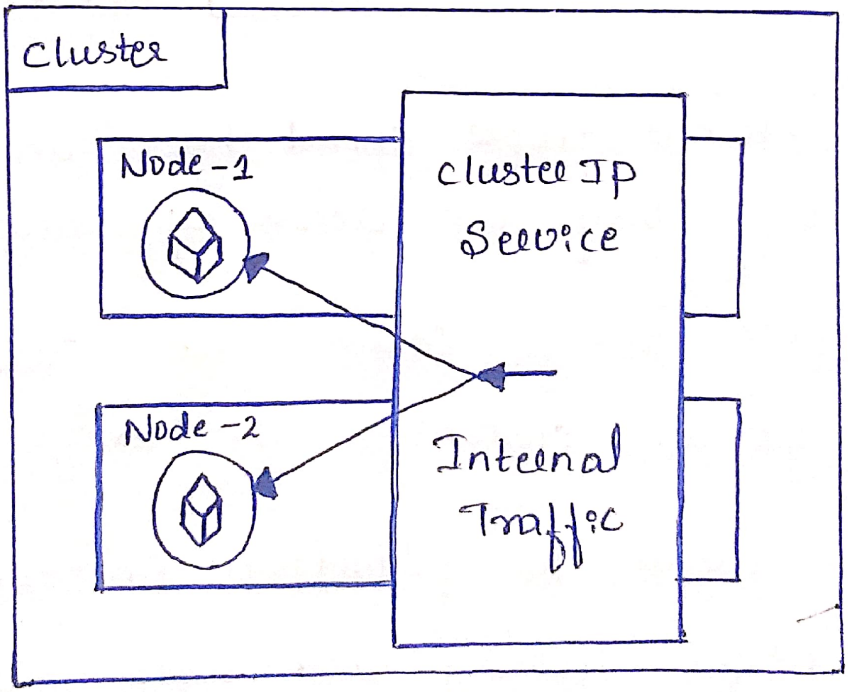
- Can be able access if Someone has access to node or node allow the request.
- It will also offers all features of Service.

3) Load balancer :-

- It will allow anyone in the world can access the application.
- EKS, AKS will use the application LB to manages load.

i) ClusterIp :-

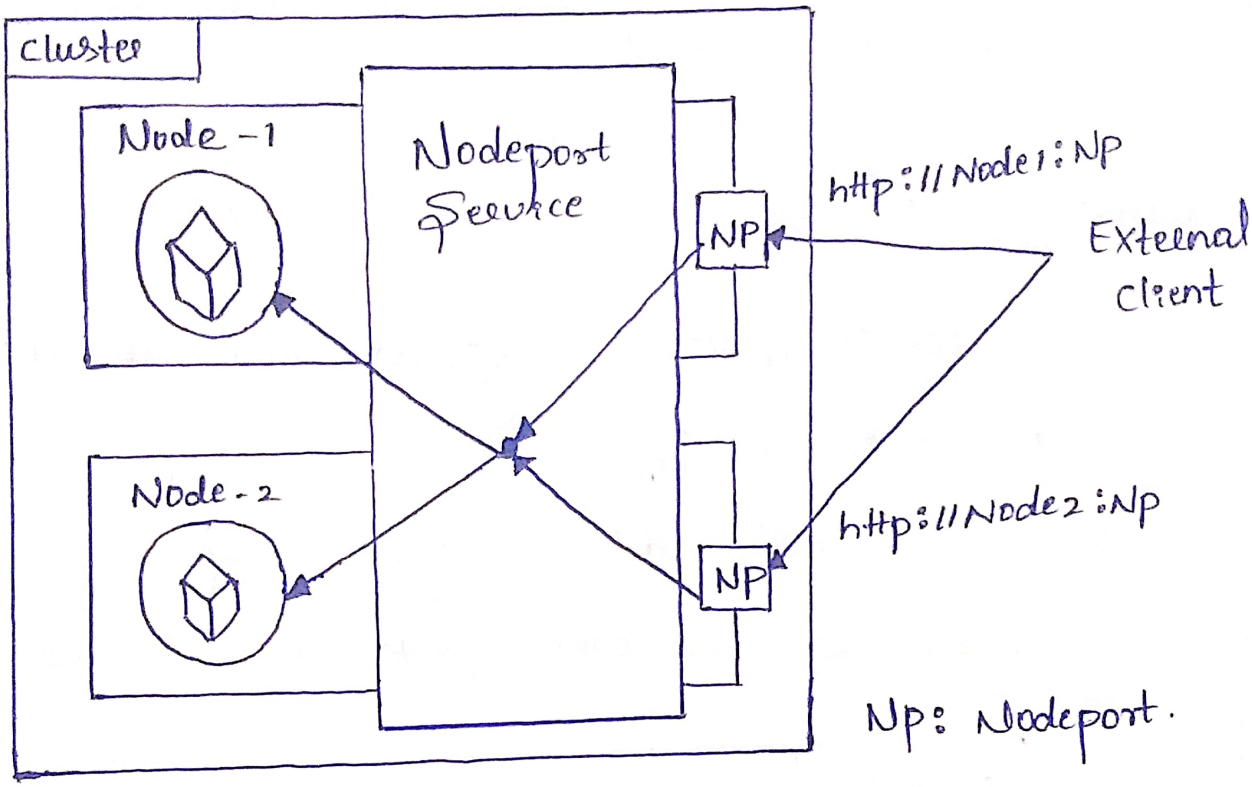
- clusterIp services Exposes pods to internal network traffic.
- use case might be you may expose a database to other pods via a clusterIp.



- clusterIp services Expose the smallest surface are and should be used for pods that only need to be exposed to other pods in the cluster.

ii) Nodeport :-

- Nodeport Service that directs traffic to any of nodeport on each Node to the respective pods that matches label mentioned.

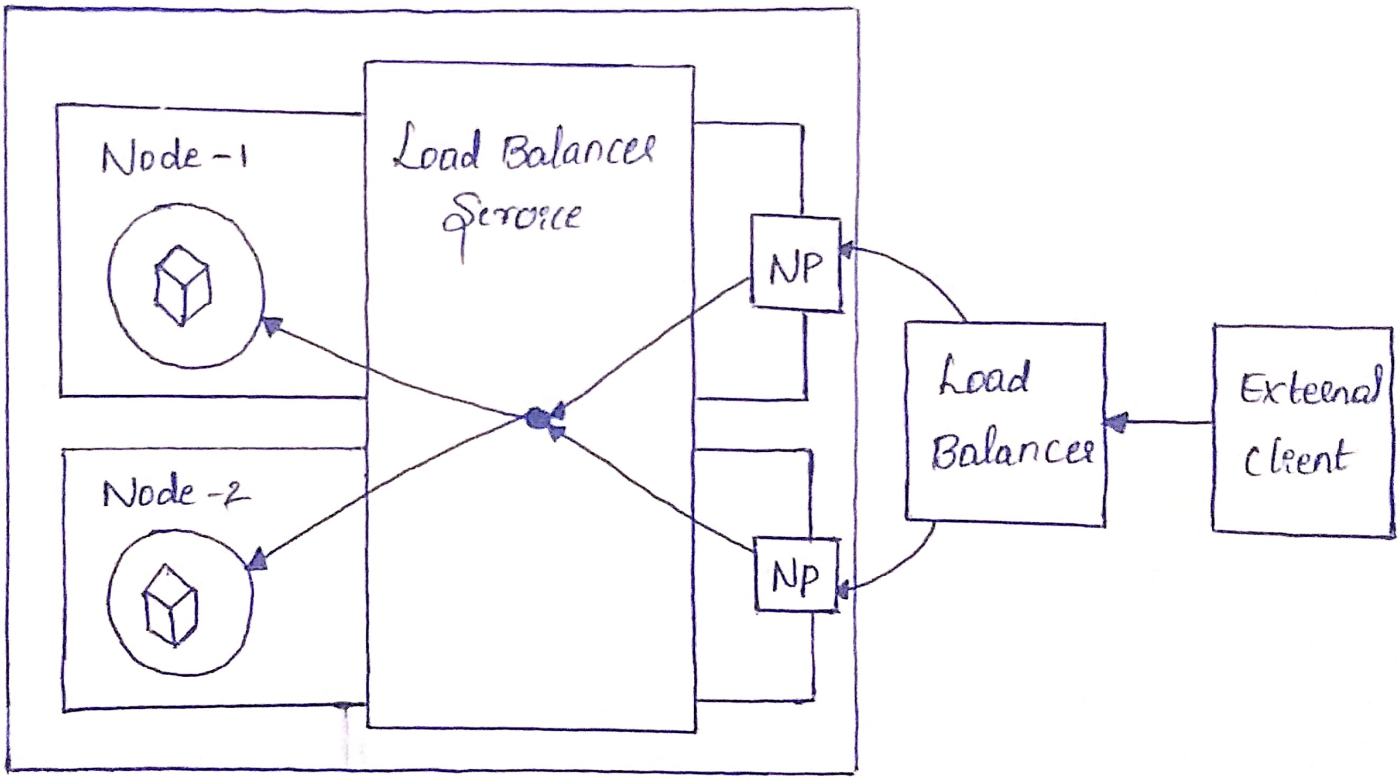


- Here external people should have access to Nodes then only they can access application.
- Nodeport range starts from 30000 - 32768 but we can customize the range.
- Not useful for poduction Environment, mostly used for testing and dev purpose.

iii) Load Balancers :-

- The traffic directs from any port (80/443) on a public load balancer and can be routed to application port. again using Labels and selectors.

Example: EKS on AWS uses ELB service as Load balancer.



- This is the most common use case for production Scenario.
- It is also costs you as per CSP changes for Load balancer.