Service :

In Kubernetes, a Service is a method for exposing a network application that is running as one or more [Pods](https://kubernetes.io/docs/concepts/workloads/pods/) in your cluster

Kubernetes service will take care of

Load balancing

Service discovery

External Traffic

Zero down time deployments

Nginx-service : 10.244.1.5

8083

Pod2

Pod1

Node

Cluster

Type f Services :

1. ClusterIP : cannot accept the traffic from the outside of the cluster . this service is used to communication between pods inside the cluster.

The pods can be accessed by port forward of the service for testing purpose .

Ex:

Kubectl port-forward <servivename> <hostport:serviceport>

Kubectl port-forward service/nginx-servive 9091:8082

Then access the application using : <http://localhost:9091>

Try to access the application from pod using curl and Cluster IP

Kubectl exec <podname > -- sh

Curl <cluster-ip>:8082 we should get the nginx response

Curl <nameofservice>:8082

Load balancing :

1. Go into any of the pod using exec command

Kubectl exec -it <podname > --sh

1. Execute below code snippet to generate the request for 20 times

i=1

while [ "$i" -le 20 ]; do

curl nginx-service:8082;

i=$((i+1))

done

1. View the logs of each pod

Kubectl logs <podname>

Enpoints :

Kubectl get ep

When a service is created service end point is also created with which all pod id will be associated.

1. NodePort

NodePort service can be accessed by using node ip and node ip (on linux)

Change the type of service to NodePort and add the nodePort

A computer screen shot of a number

Description automatically generated

To run the service on windows

Minikube service <servicname>

To access from local host :

kubectl port-forward service/nginx-service 9000:8082

since ip of the node change , it is not advised to use NodePort service in production environments.

1. LoadBalancer (for cloud providers)

Exposes the Service externally using an external load balancer. Kubernetes does not directly offer a load balancing component; you must provide one, or you can integrate your Kubernetes cluster with a cloud provider.

For windows

1. Create the service from manifest file (yaml)
2. Start the tunnel (minkube tunnel)
3. Access the application <localhost:<service port>

Localhost:8082