

Kubernetes In One Shot -Day1

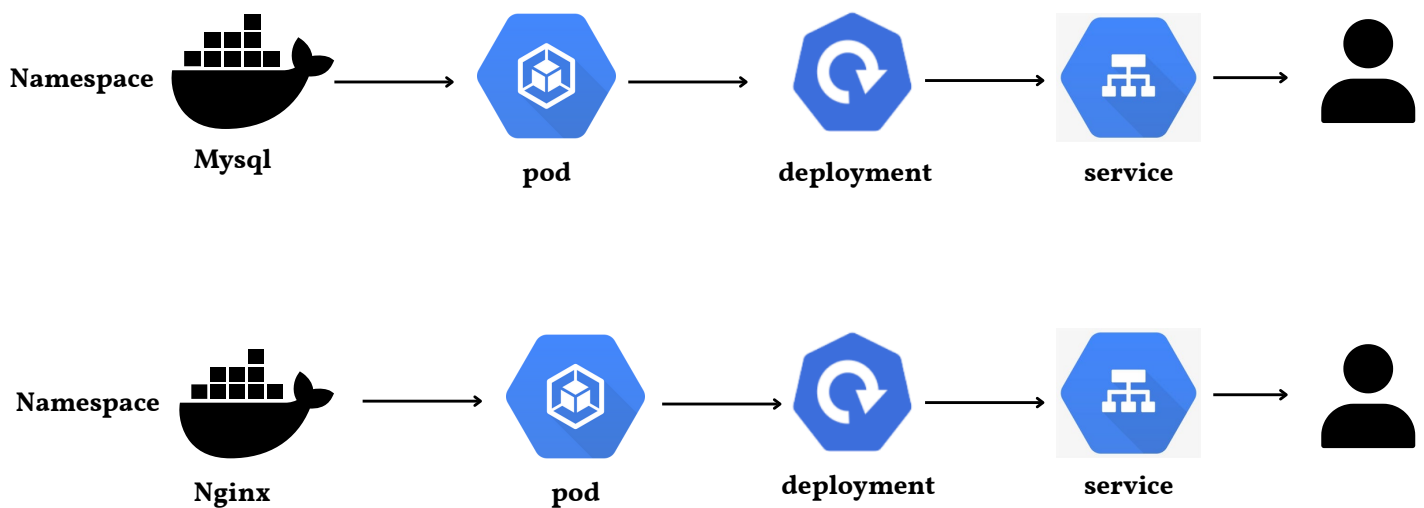
For each container image there is pod, deployment, service

Pod - will have multiple containers

Deployment - ensures that the desired number of Pod replicas are always running.

Service - to expose pods within the cluster or to the internet

Namespace - is like a group that provides isolation between applications or resources (e.g., NGINX, MySQL), so they don't interfere with each other.



- **Setting Up the KIND Cluster**

Create a kind-cluster-config.yaml file

```
kind: Cluster
apiVersion: kind.x-k8s.io/v1alpha4

nodes:
- role: control-plane
  image: kindest/node:v1.31.2
- role: worker
  image: kindest/node:v1.31.2
- role: worker
  image: kindest/node:v1.31.2
  extraPortMappings:
  - containerPort: 80
    hostPort: 80
    protocol: TCP
  - containerPort: 443
    hostPort: 80
    protocol: TCP
  - containerPort: 443
    hostPort: 443
    protocol: TCP
```

```
$ kind create cluster --name=K8s-cluster --config=config.yml
```

- **To create pod with command**

```
$ kubectl run nginx --image=nginx
```

```
$ kubectl get pods
```

```
ubuntu@ip-172-31-12-22:~/kubernetes-in-one-shot$ kubectl get pods
NAME      READY   STATUS    RESTARTS   AGE
nginx     1/1     Running   0           26s
```

To delete a pod

```
ubuntu@ip-172-31-12-22:~/kubernetes-in-one-shot$ kubectl delete pod nginx
pod "nginx" deleted
```

To create pod in namespace with command

```
$ kubectl run nginx - image-nginx -n nginx
```