Kubernetes Advanced

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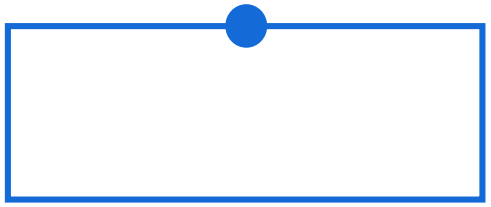
Agenda

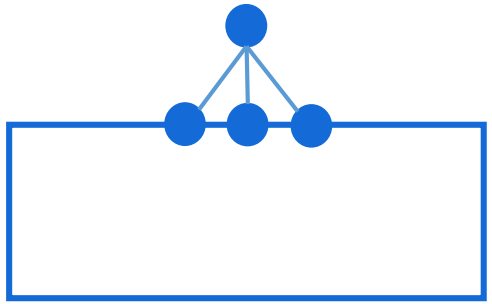
- Types of Service
- Deployment
- Replicaset
- Namespace

Types of Services



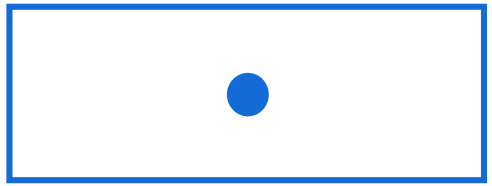
NodePort

- Expose App to external world



LoadBalancer

- Equally distribute the load in nodes

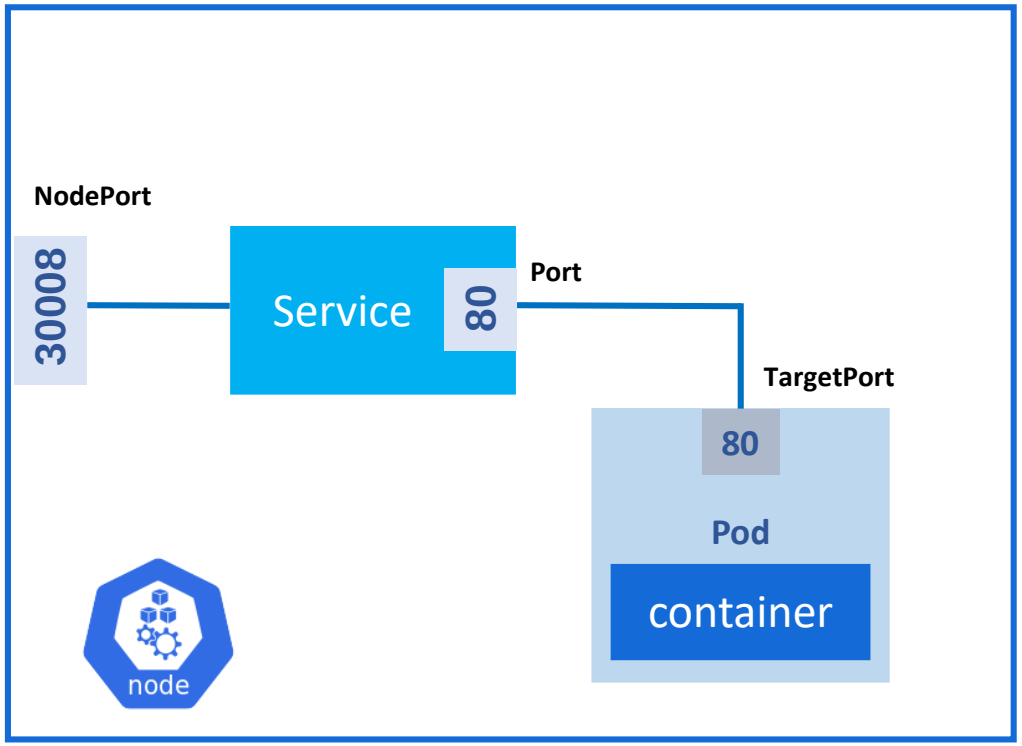


ClusterIP

- Reachable within the cluster
- Connect front-end pod to backend pod

NodePort Service

Range: 30000-32767




```yaml
apiVersion: v1
kind: Service
metadata:
  name: my-service
spec:
  selector:
    name: my-app
  ports:
  - port: 80
    nodePort: 30008
  type: NodePort
```

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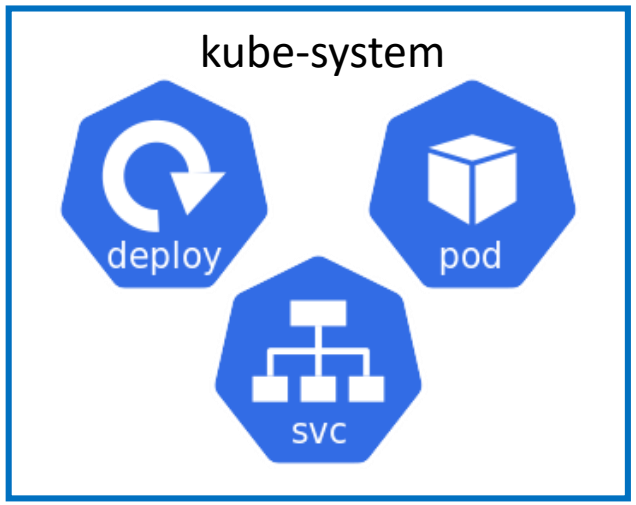
LoadBalancer Service

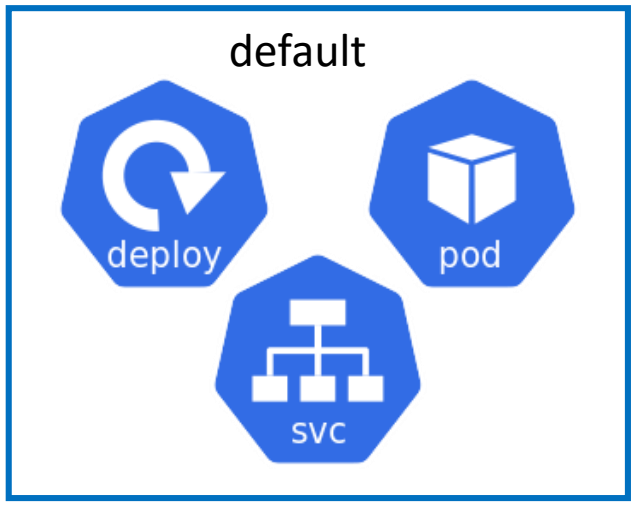
```yaml
apiVersion: v1
kind: Service
metadata:
  name: aspnet-service
spec:
  selector:
    app: aspnet-pod
  ports:
  - port: 3080
    targetPort: 80
  type: LoadBalancer
```

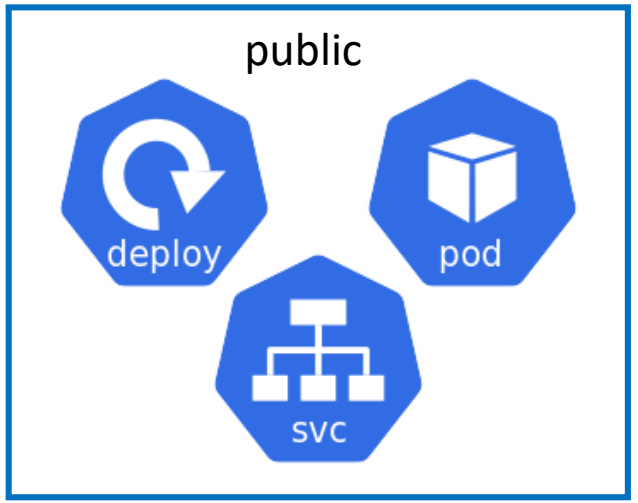
Deployments

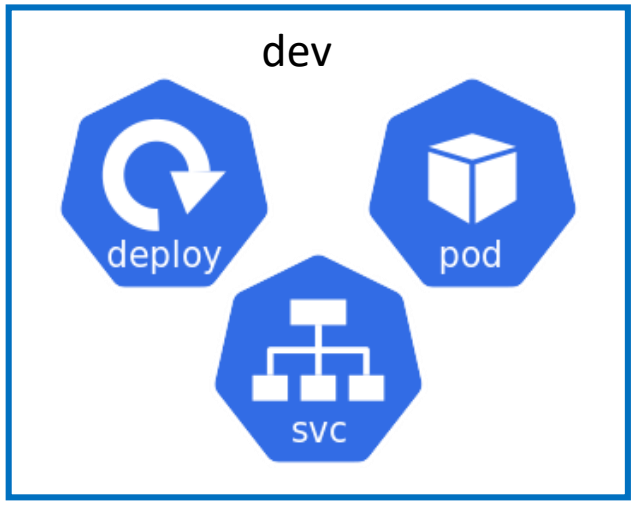
- Represent a set of multiple and identical Pods .
- A deployment is responsible for keeping a set of pods running.
- A deployment can be used without a service to keep a set of identical pods running in the Kubernetes cluster.
- Without service, Each pod could be accessed individually via direct network requests (rather than abstracting them behind a service).
- Services and Deployments can work together.

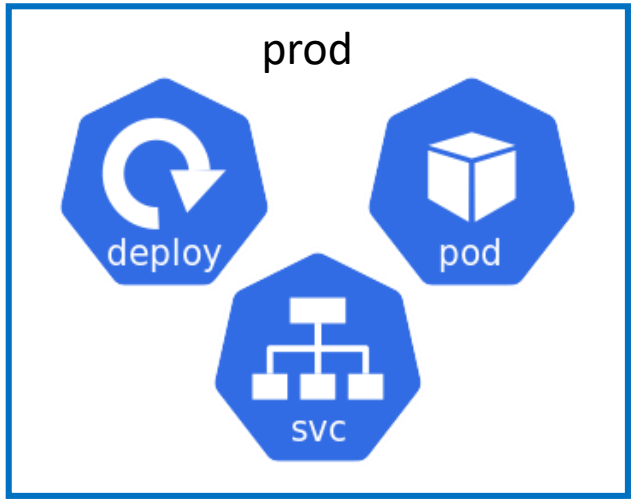
Namespace - Isolation











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Namespace Commands

```yaml
apiVersion: v1
kind: Namespace
metadata:
  name:  dev
```

```
> kubectl apply –f dev-namespace.yaml

> kubectl apply –f my-pod.yaml --namespace=dev
> kubectl get pods --namespace=dev
```

```
> kubectl get pods --namespace=dev
> kubectl get pods --all-namespaces
```

```
> kubectl config set-context $(kubectl config current-context) --namespace=dev
```

CI/CD Pipeline