

# kubernetes



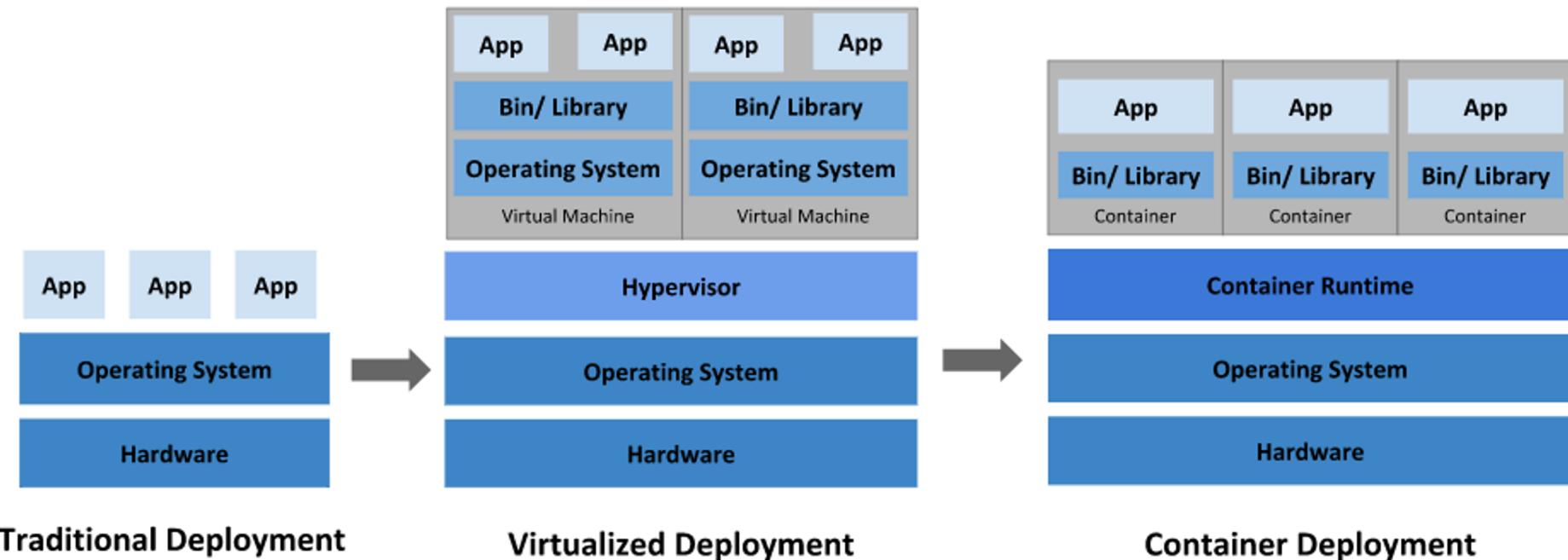
## 컨테이너 잘 관리하기 위해 나옴

Kubernetes is a portable, extensible, open-source platform for managing containerized workloads and services, that facilitates both declarative configuration and automation. It has a large, rapidly growing ecosystem. Kubernetes services, support, and tools are widely available.

# Kubernetes provides

- Service discovery and load balancing
- Storage orchestration
- Automated rollouts and rollbacks
- Automatic bin packing
- Self-healing
- Secret and configuration management

# container



# dashboard

 **kubernetes** Search + CREATE | 👤

☰ Workloads > Pods

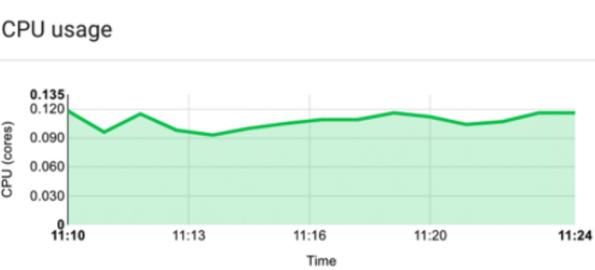
Nodes  
Persistent Volumes  
Roles  
Storage Classes

Namespace  
kube-system ▾

Overview

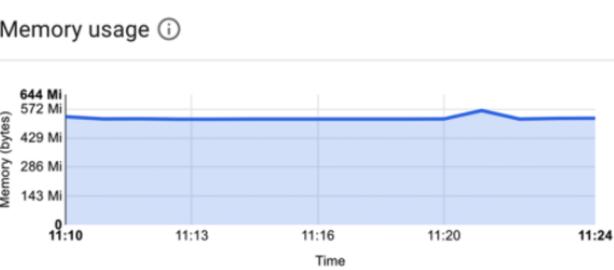
Workloads  
Cron Jobs  
Daemon Sets  
Deployments  
Jobs  
**Pods**  
Replica Sets  
Replication Controllers  
Stateful Sets  
Discovery and Load Balancing

### CPU usage



Time: 11:10, 11:13, 11:16, 11:20, 11:24

Memory usage ⓘ



Time: 11:10, 11:13, 11:16, 11:20, 11:24

### Pods

Name	Node	Status	Restarts	Age	CPU (cores)	Memory (bytes)
kubernetes-dashboard-7b9c7b	minikube	Running	0	27 minutes	0	19.746 Mi
heapster-qhq6r	minikube	Running	0	27 minutes	0	18.004 Mi
influxdb-grafana-77c7p	minikube	Running	0	27 minutes	0	43.926 Mi
kube-scheduler-minikube	minikube	Running	0	20 hours	0.01	11.930 Mi
etcd-minikube	minikube	Running	0	20 hours	0.015	58.445 Mi

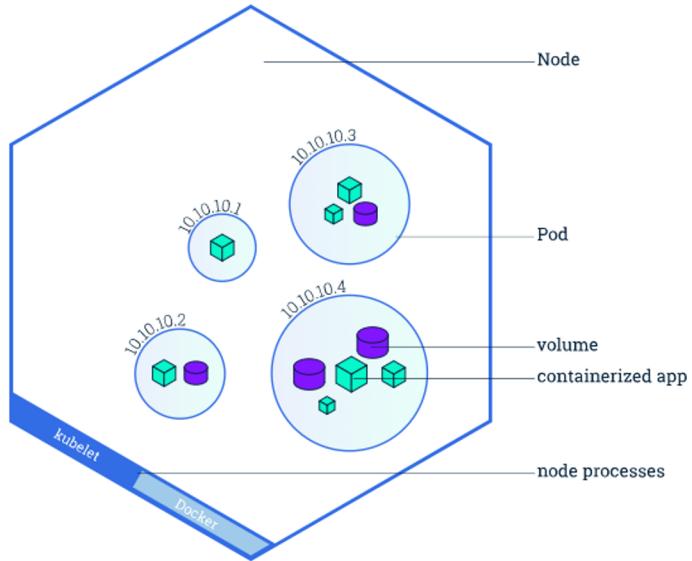
# namespace

```
> kubectl get namespace
```

NAME	STATUS	AGE
default	Active	42m
docker	Active	41m
kube-node-lease	Active	42m
kube-public	Active	42m
kube-system	Active	42m
kubernetes-dashboard	Active	25m

- 쿠버네티스에서 리소스를 구분하는 논리적인 단위
- 쿠버 클러스터 안에 가상 클러스터를 구축
- 리소스 구분 용도

# node



- aws에서는 ec2에 해당, instance 의미  
node는 컨테이너가 올라가기 위한 서버

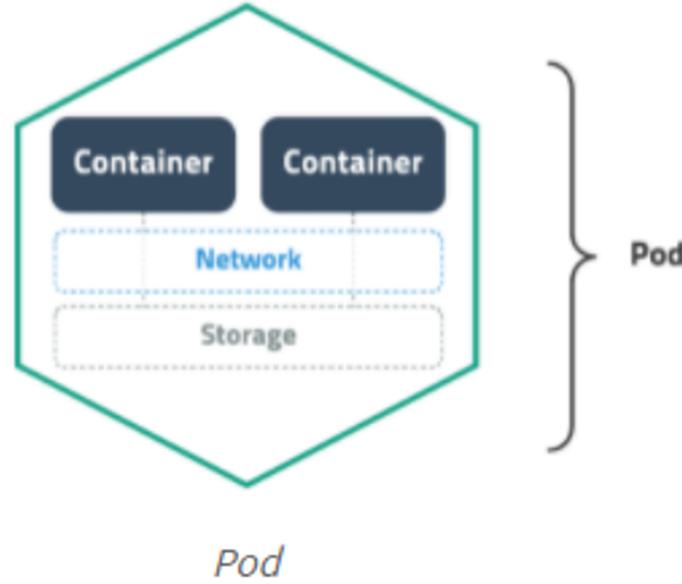
# deployment resource

pod

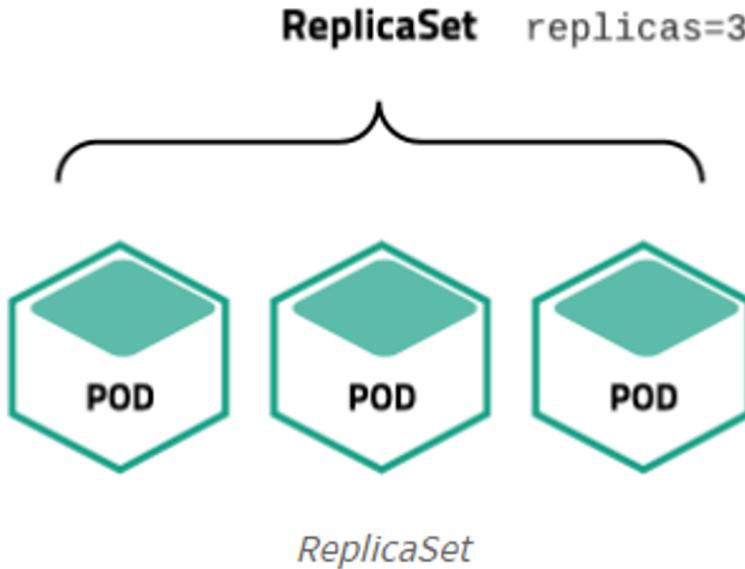
replicaset

deployment

pod



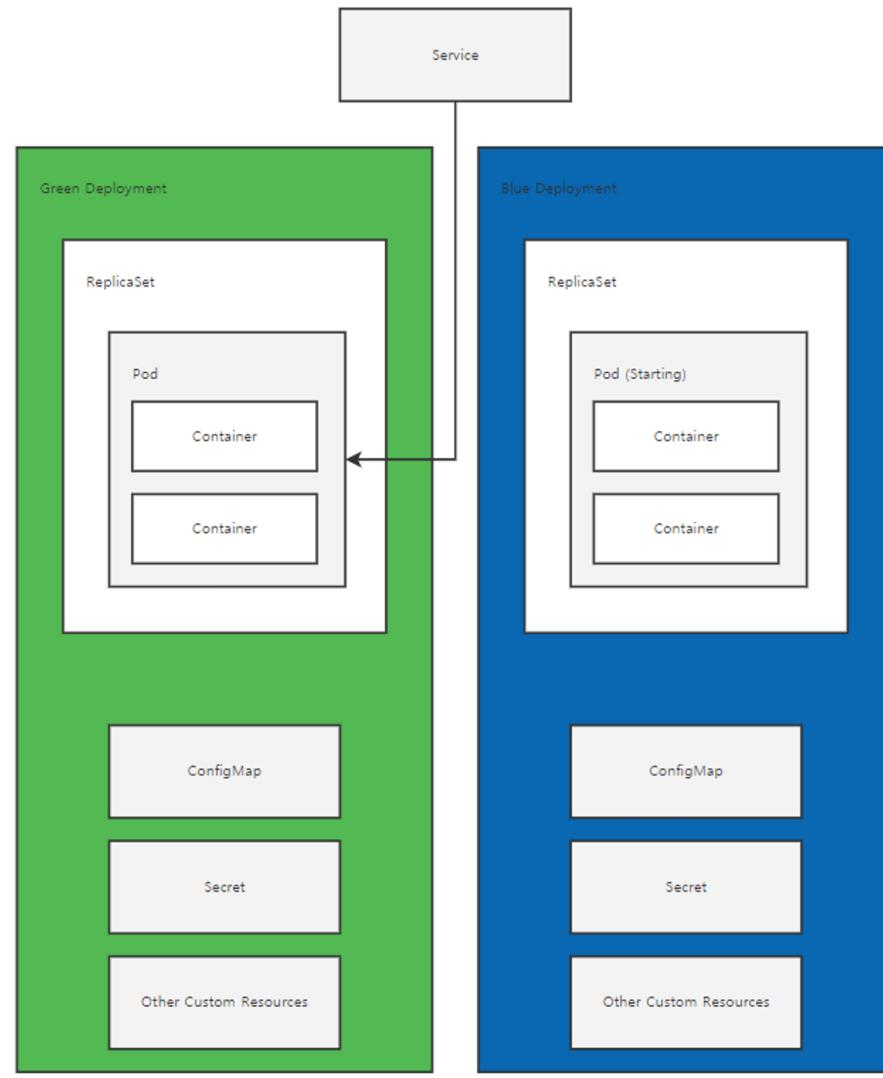
- k8s에서 가장 작은 단위
- 컨테이너는 파드안에 존재하고 하나의 파드는 여러개의 컨테이너가 있음
- 파드에 속한 컨테이너는 스토리와 네트워크를 공유하고 서로 local로 접근 가능



```
1 apiVersion: v1
2 kind: Pod
3 metadata:
4   name: example
5 spec:
6   containers:
7     - name: busybox
8       image: busybox:1.25
```

- pod 갯수 유지
- 새로 생성되는 pod에 대한 템플릿 정보 저장
- deployment가 replicaset을 참조

deployment



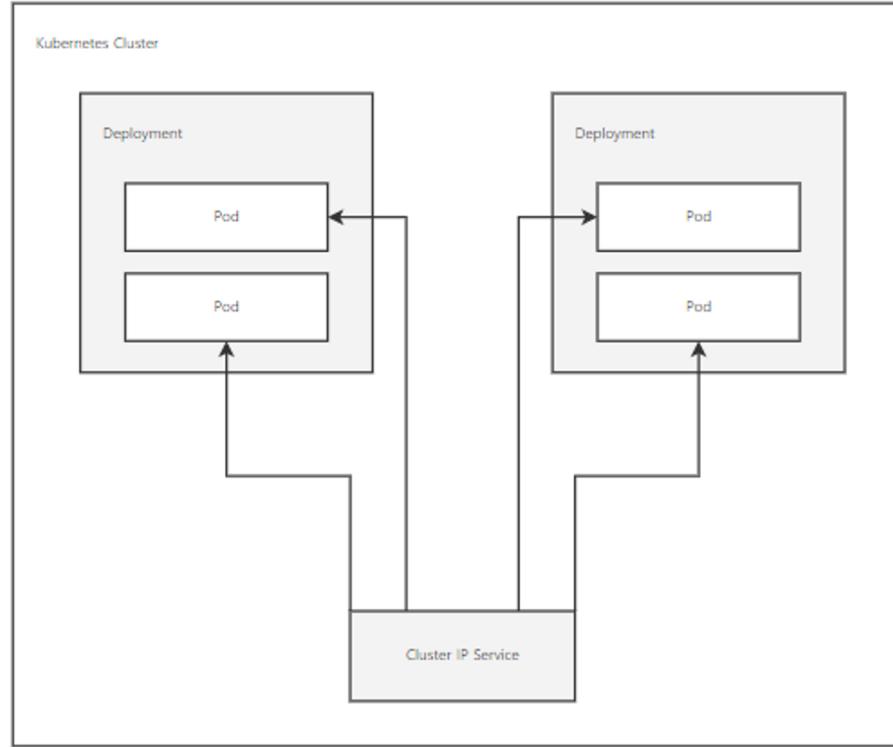
# service

Cluster IP

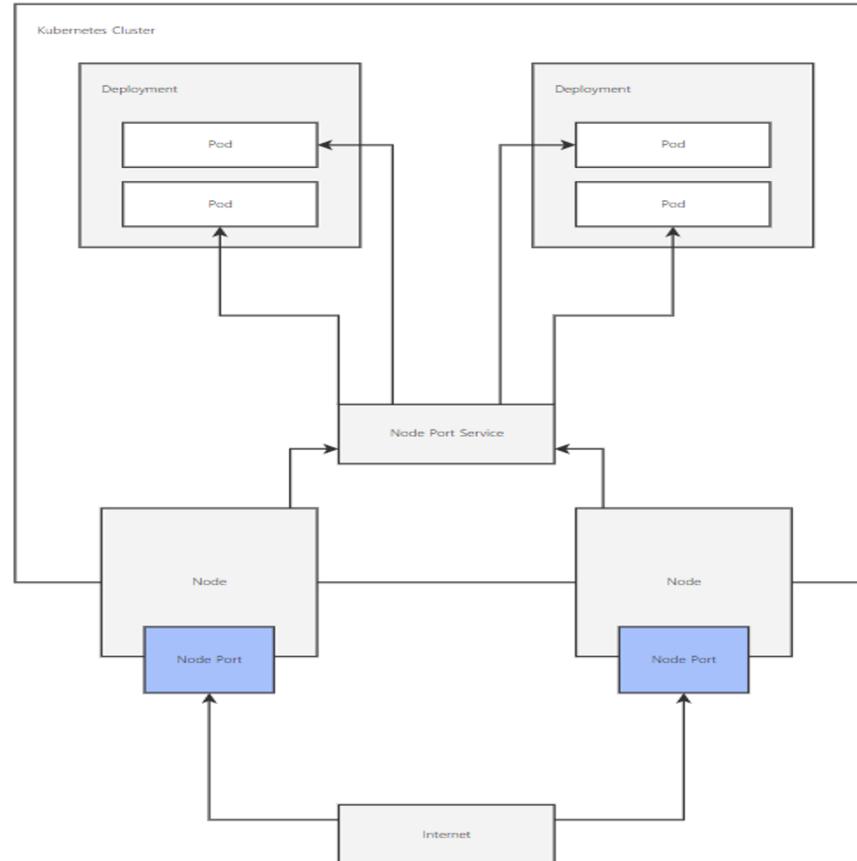
Node Port

Load Balancer

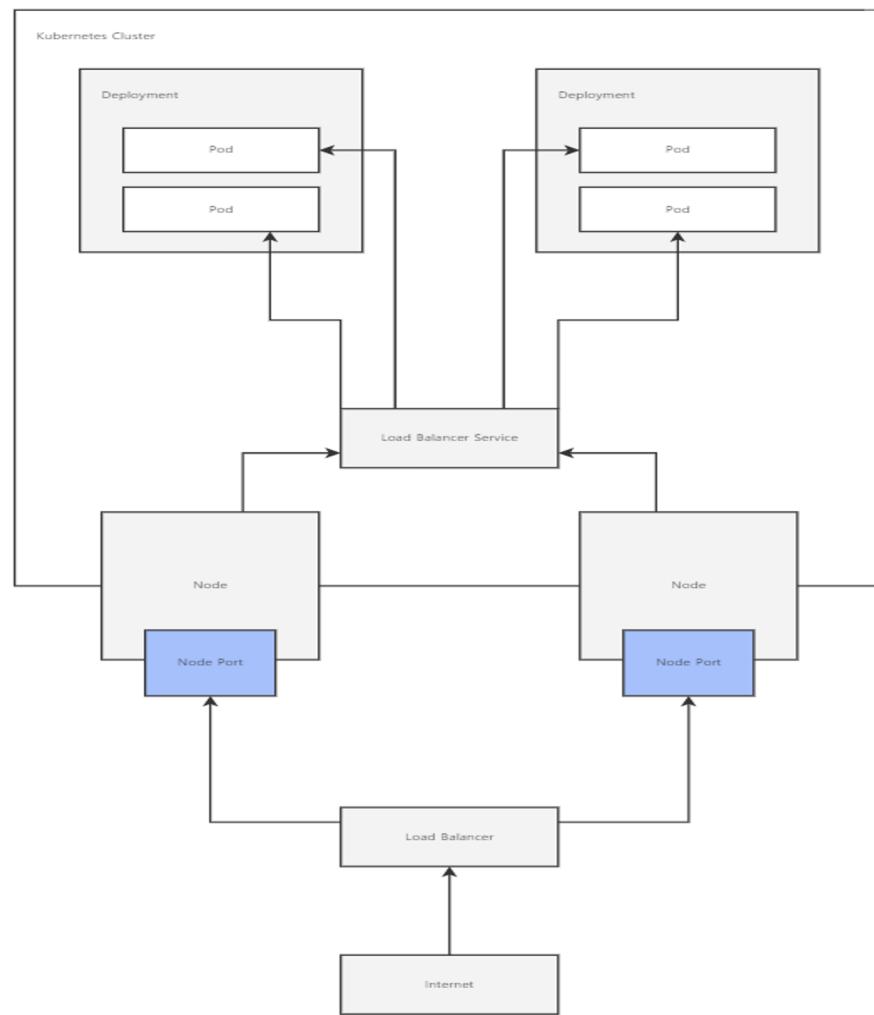
Cluster IP



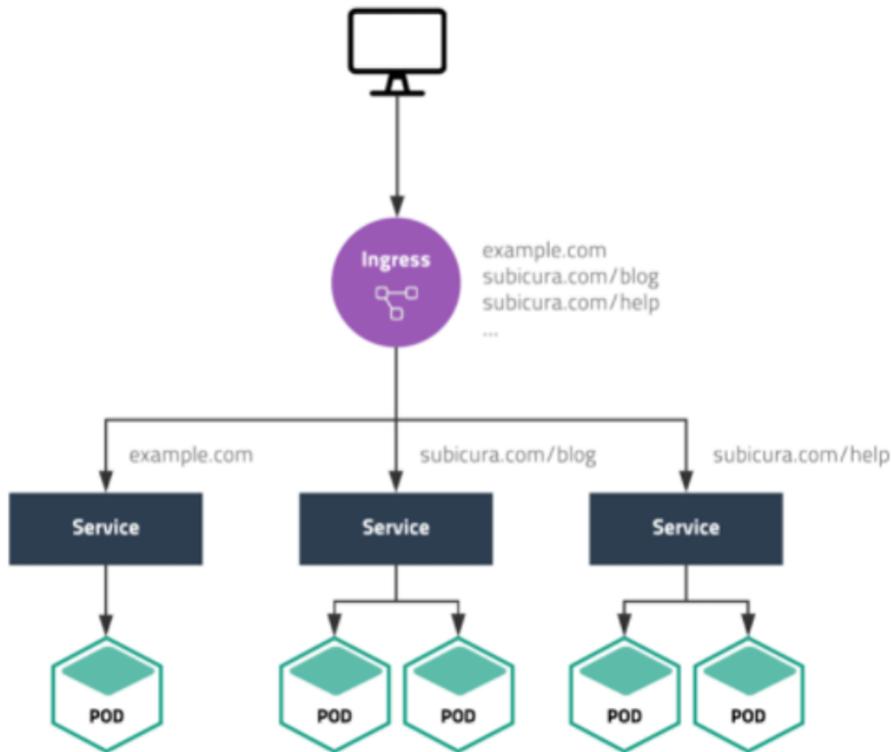
Node Port



Load Balancer

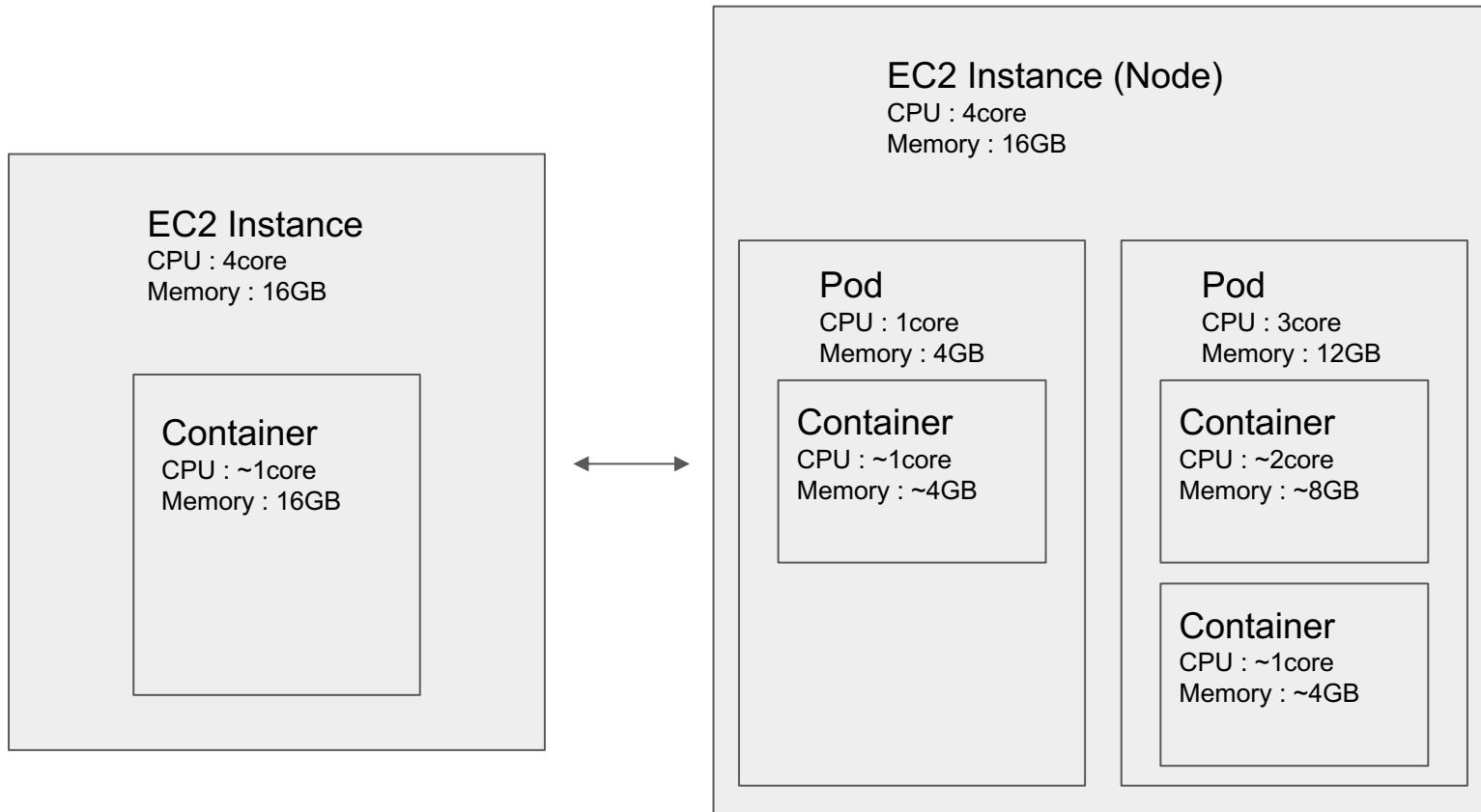


# ingress



- Service는 직접 외부의 트래픽을 받을 수 없음
- node 밖에서 들어오는 트래픽은 ingress가 받 아주고 service로 보내줌

# elb, k8s



# Kubernetes 정리

Node : instance

Pod : 가장 작은 단위

ReplicaSet : pod 매니저

Deployment : 배포 단위(replicaset 참조)

Service : pod 서비스 이용 통로

Ingress : node로 트래픽 밭을 때 필요

Configmap : 환경변수

Secret : 환경변수

Namespace: 리소스 구  
분