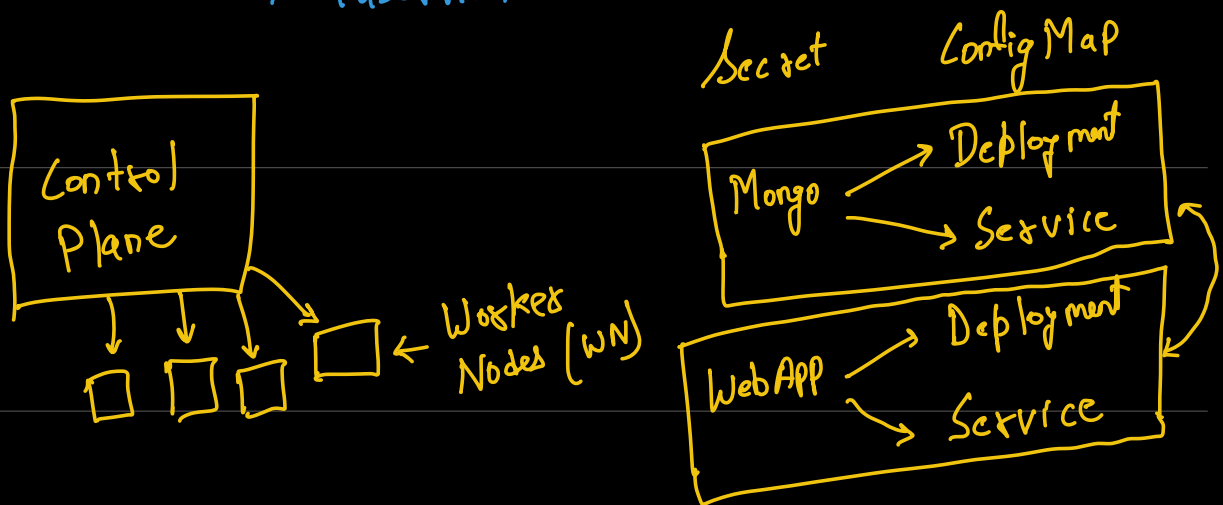


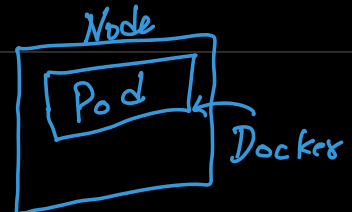
⇒ Kubernetes



⇒ K8's Architecture

- ETcd
- Kube API
- Control Manager
- Kube Scheduler
- Kubelet
- Kube Proxy

⇒ Pods



⇒ ETCD

- ↳ Database, Key-Value
- ↳ store info about Nodes

⇒ Kube Scheduler

- ↳ Identify node, info, capacity
resources required

⇒ Controller

- ↳ node controller
- ↳ Replication controller
- ↳ - - - - -
- ↳ - - - - -

} Handle node
↳ on board new nodes
↳ Desired nodes are running or not
↳ nodes are not available

⇒ Kube API server

↳ manage All communication

⇒ How does the worker node communicate?

↳ Kubelet

↳ Installed on all WN

↳ Communicate via Kube API

↳ Periodically fetch the info (destroyed)

⇒ How does the DB reaches to our Web-App?

↳ Kube Proxy } allow the WN to reach
each-other

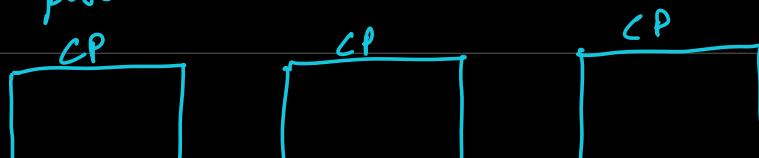
⇒ ETCD

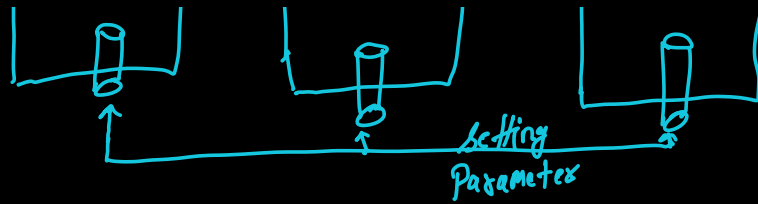
↳ get command

↳ node, pods, config, secret, Roles, Accounts

↳ once the change reach to ETCD, then only, it is considered as complete

↳ 2379 port





⇒ Kube API

{ } → API

↳ etcd

↳ Kube scheduler → monitor → API

↳ schedule a new node (WN)

↳ ETCD

↳ API server pass this info → Kubelet (WN)

↳ Kubelet create a container (Image)

↳ Kubelet update the API

↳ API update the ETCD

⇒ Control Manager

↳ Watch

↳ Remediate (take action to fix)

Node controller: desired nodes should be there

↳ Kube API → Is (Checks) } configurable
 ↳ Ks (Grace) }
 ↳ Im (New node) }

Replica controller

Deployment, Namespace, Endpoint, Job, Service, Account

⇒ Kube Scheduler

- ↳ It schedule which pod goes to which node
- ↳ It does not place the pods

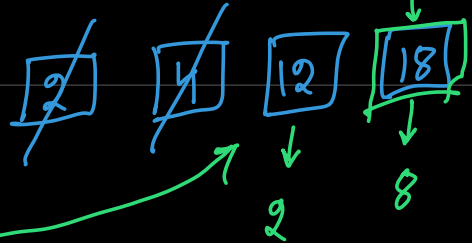
⇒ Why & Where

- ↳ find the best node

↓
filter
node

↓
Rank Node

Game → 10 RAM



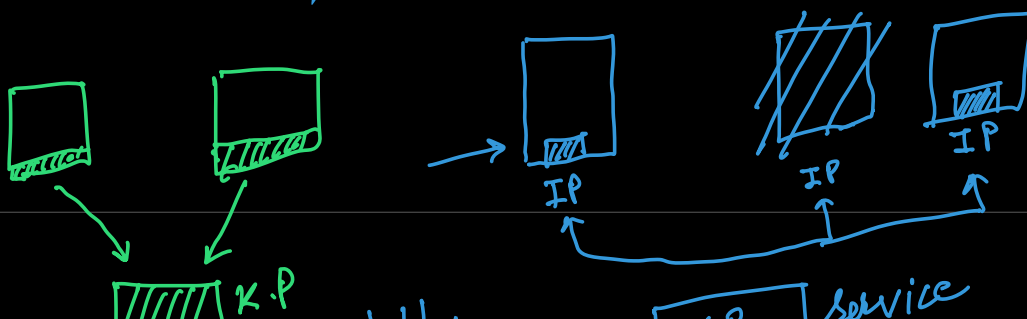
- Taints & toleration
- Resource limit

⇒ Kubelet

- ↳ WN
- ↳ connect to API (Kube API)
- ↳ Register a node
- ↳ monitor node & Report

⇒ Kube Proxy

- ↳ every pod can reach every other pod
- ↳ Pod network



||||| IP tables

K.R

⇒ Pods

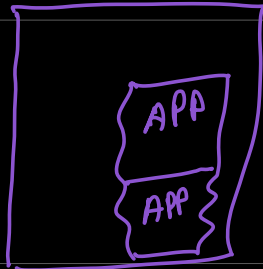
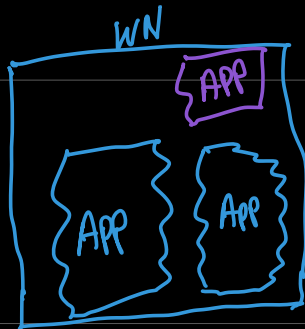
↳ Images → Docker → Pods

↳ Object → Pod

Doker

Containerd

Rkt



✗ 1 pod → 1 Image

↳ Helper pod