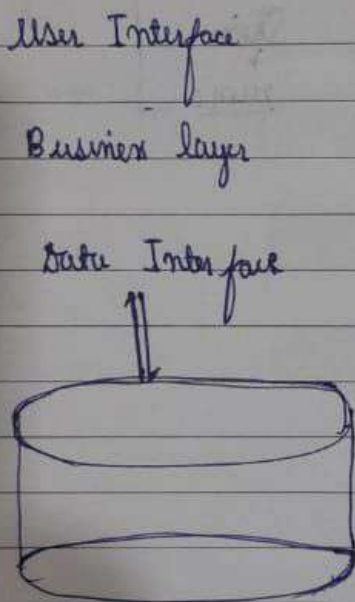


# KUBERNETES

## • Monolithic v/s microservices.

A monolithic application is built as a single unified unit while as microservices architecture is a collection of smaller, independently deployable services.

### Monolithic Architecture



### Microservice Architecture



- Orchestrators:- They help us in developing, deploying and managing containers dynamically.

- Deploy
  - Zero down time updates
  - Upscale applications
  - Heal containers
- } Cloud-Native app.

**Kubernetes:-** Kubernetes is an open-source container orchestration system for automating software deployment, scaling and management. Designed by Google, now maintained by Cloud Native Computing Foundation (CNCF).

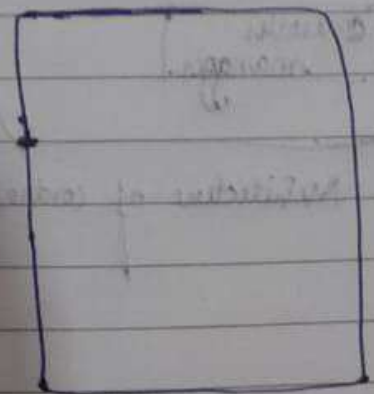
K8s

Microservice

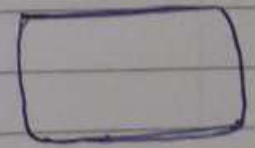
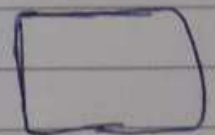


• Cluster:- Control Plane + Nodes

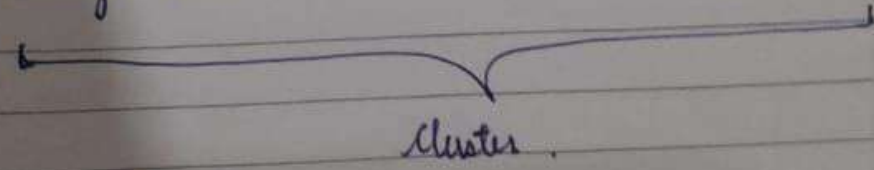
KUBE  
CTL →



Control Plane  
↓  
Manages Worker nodes



Worker Node  
↓  
Application runs here



Cluster



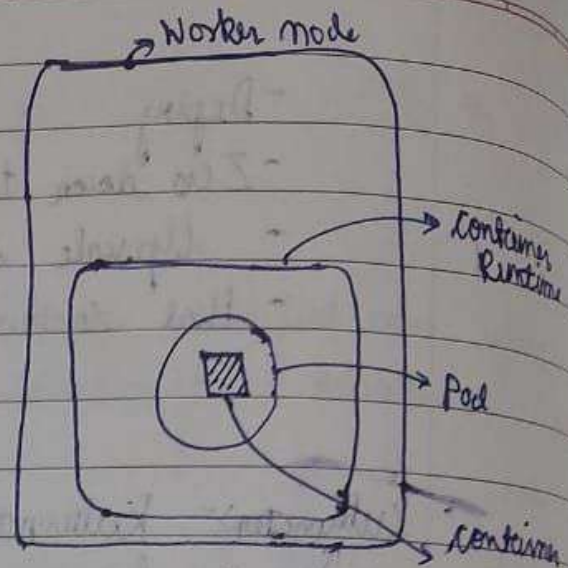
• Pod:- scheduling unit.

(i) Create Microservice

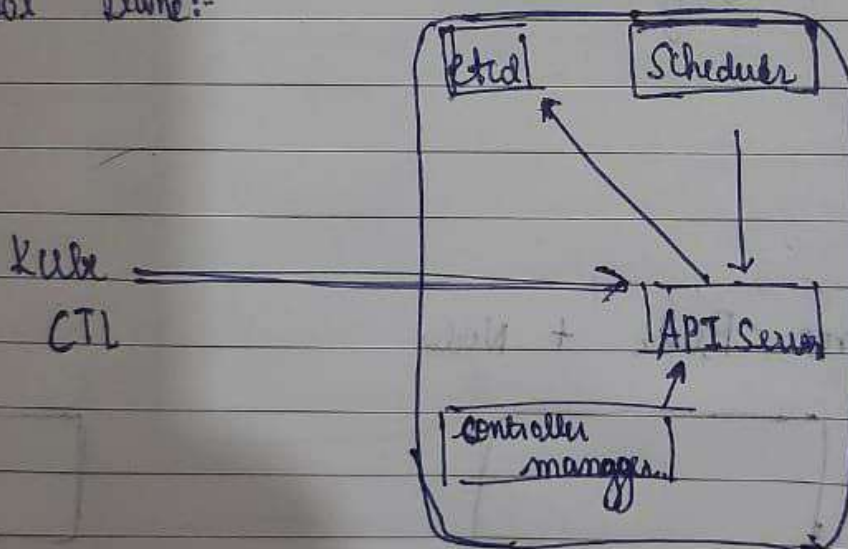
(ii) Add Containerization  
(Add every microservice in container).

(iii) Put containers in pods

(iv) Deploy these Pods to controllers in Kubernetes.

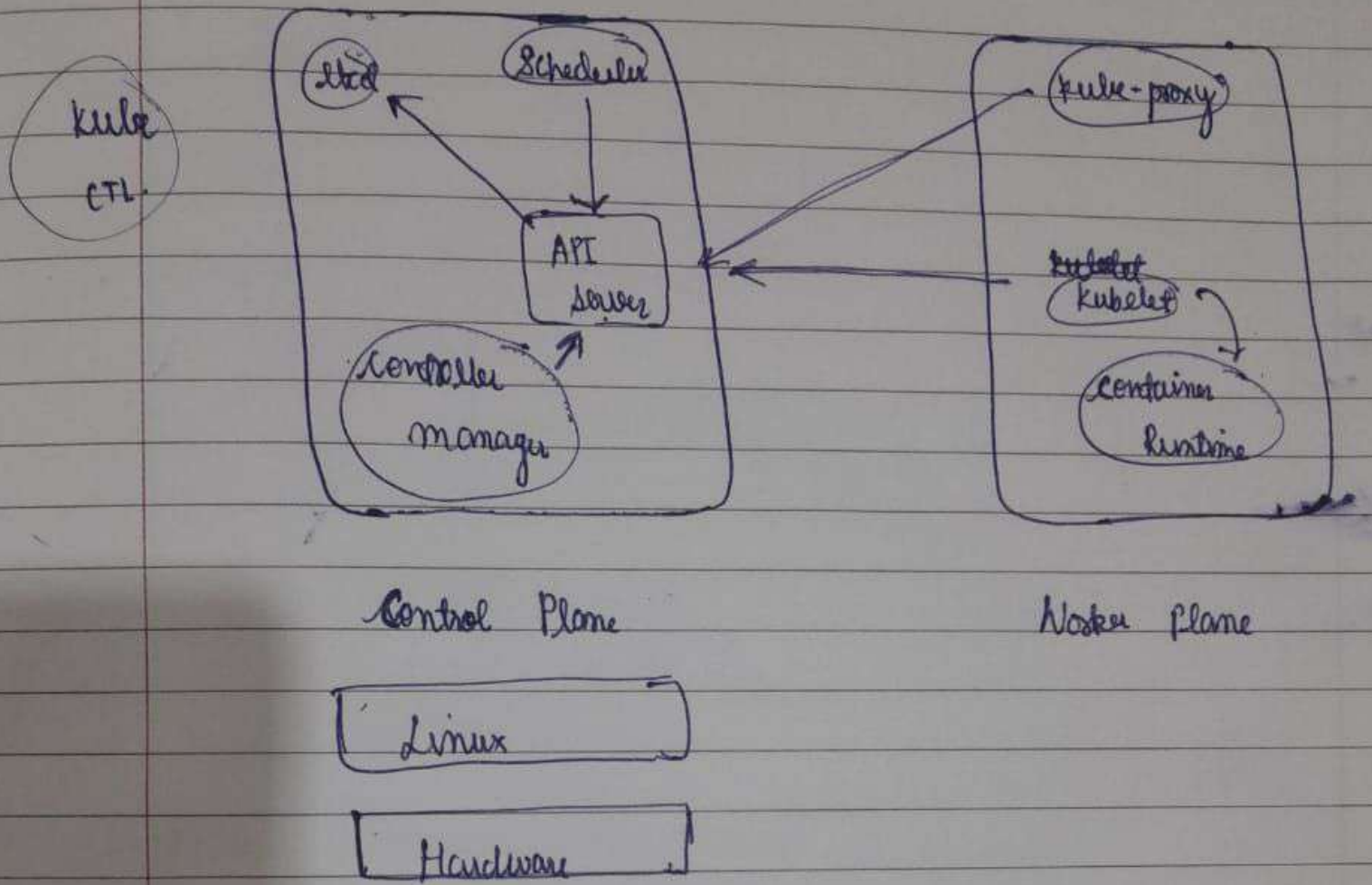


• Control Plane:-



Architecture of control plane

## • Kubernetes Architecture :-



## • Installation:-

- (i) Kubernetes
- (ii) Minikube