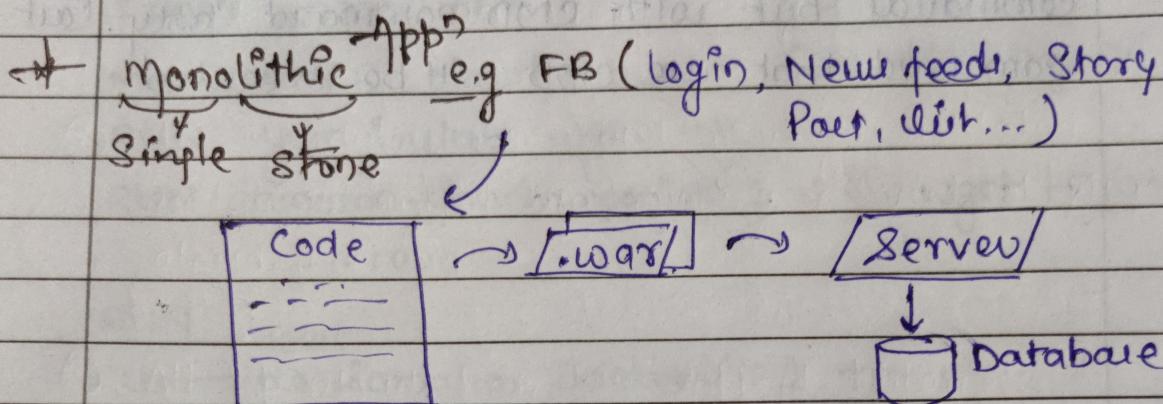


Kubernetes

Date: / /

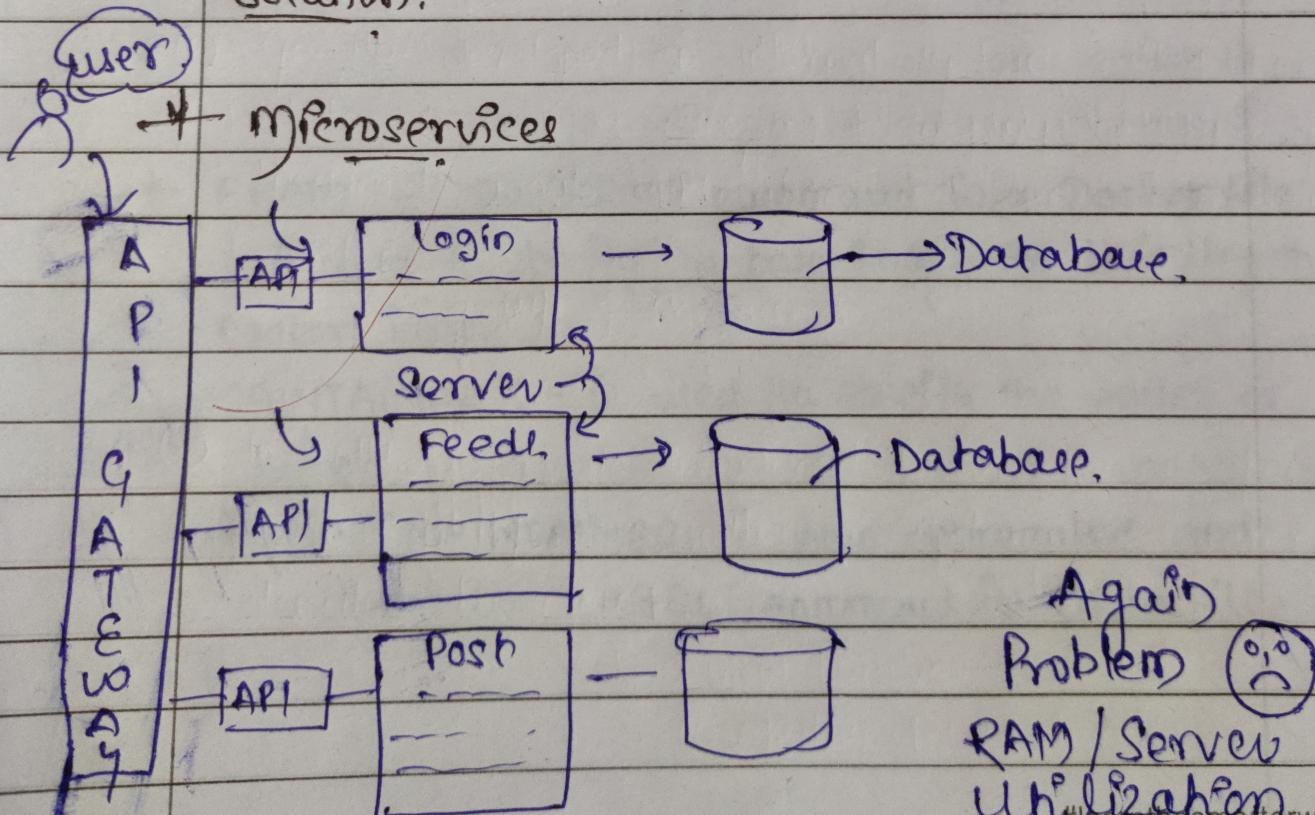
Project Seven

K8s ?



Problem:- Modification?

Solution:-

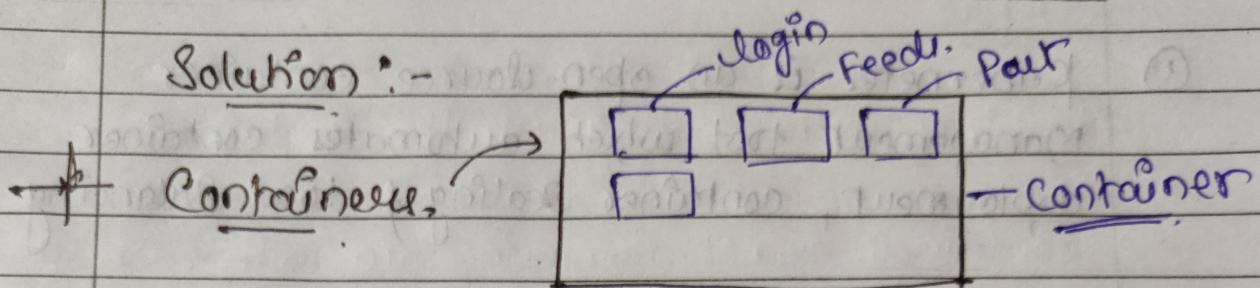


Shot on OnePlus

Powered by Quad Camera

Date: / /

Solution :-



But where in Kubernetes?

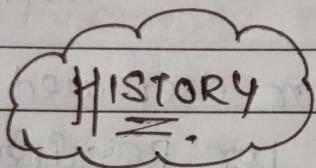
Again Problem :- multiple Container Management

Here comes Kubernetes Container Management Tool.

- No. of containers increased or decreased are controlled by Kubernetes as per required.
- Kubernetes can also control all the containers e.g. Docker, Rocket, Container-D

Date: ___/___/___

- ① Kubernetes is an open-source container management tool which automates container deployment, container scaling & load balancing.
- ② It schedules, runs and manages isolated containers which are running on virtual/physical cloud machines.
- ③ All top cloud providers support Kubernetes.



- ④ Google developed an internal system called 'borg' (later named as Omega) to deploy and manage thousands of Google applications and services on their cluster.
→ group of containers

- ⑤ In 2014, Google introduced Kubernetes an open source platform written in 'GoLang' and later donated to CNCF.

Cloud Native

Computing Foundation.

Date: / /
- DECODE -

Online Platform for K8s.

① Kubernetes Playground

② Play with K8s.

③ Play with Kubernetes Classroom.

Cloud Based K8s Services

① GKE - Google Kubernetes Service

② AKS - Azure Kubernetes Service

③ Amazon EKS - (Elastic Kubernetes Service)

Kubernetes Installation Tool

① Minikube

② Kubeadm

Docker Swarm ?

Date: / /

Before:-

Problems with Scaling up the containers

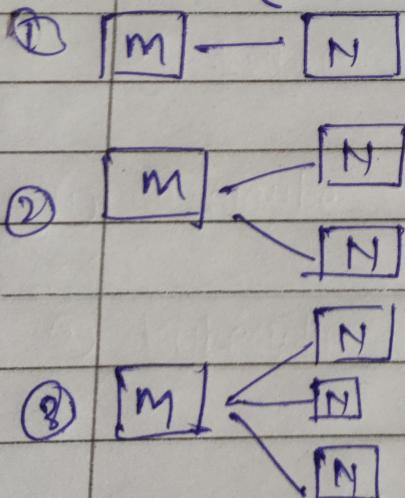
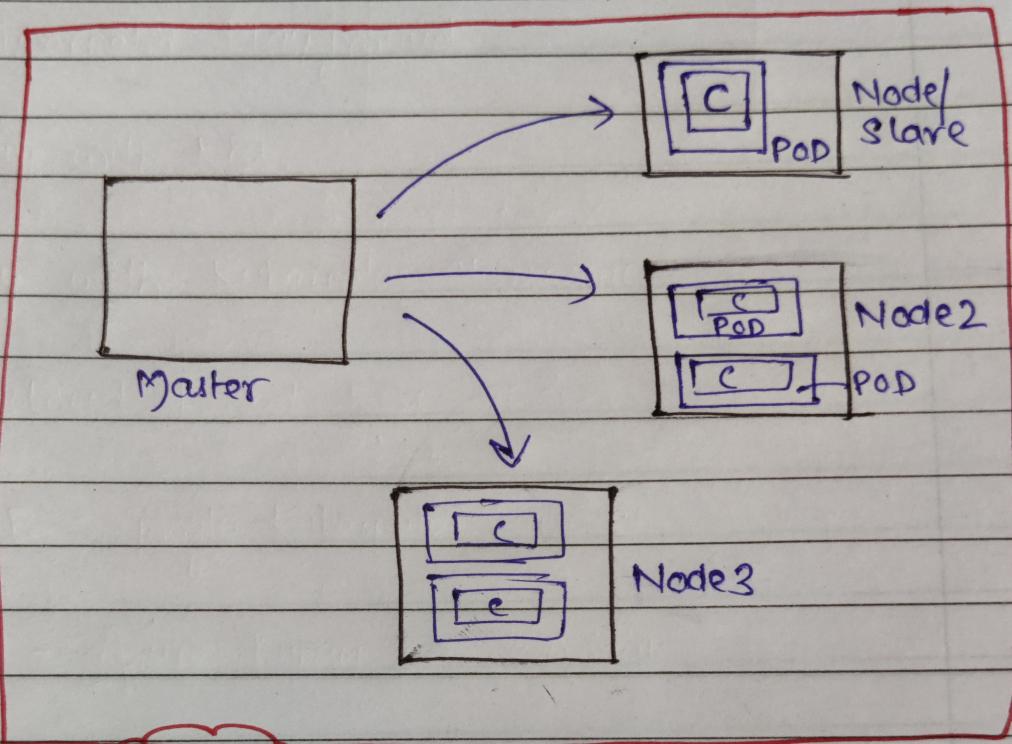
- containers cannot communicate with each other
- Autoscaling and Load Balancing was not possible.
- Containers had to be managed carefully.

features of Kubernetes → JSON | YAML
(support script)

- Orchestration (clustering of any no. of containers running on different n/w)
- Autoscaling and Auto Healing and Load Balancing.
 Vertical & Horizontal
- Platform Independent (Cloud / Virtual / Physical)
- Fault Tolerance (Node / Pod failure)
- Rollback (going back to previous version)
- Health Monitoring of Containers
- Batch Execution (One time, Sequential, Parallel)

Date: ___/___/___

Kubernetes Architecture



POD:-
is the smallest
unit of
Kubernetes.

