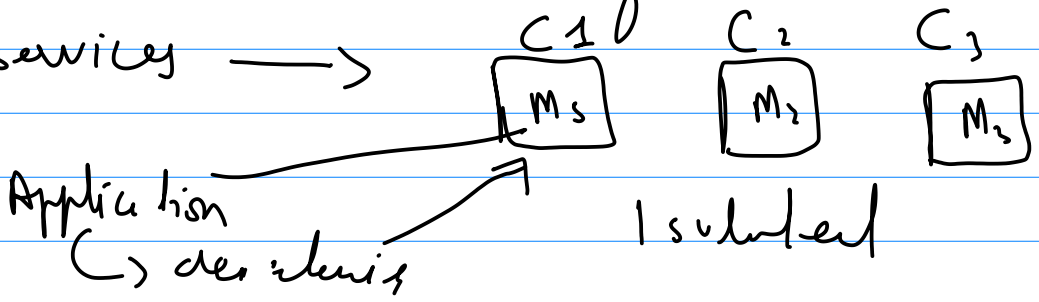
Week - 15

Kubernetes

Docker ⟶ Containerization

Microservices ⟶



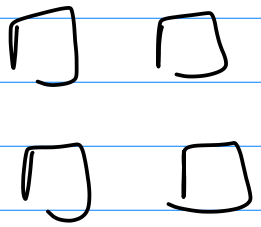
Microservices Architecture Complexity

∴ We need Automation

✓ - Automatic Scheduling

✓ - Automatic Configuration

- Failure Handling



2014 ⟶ Google ⟶ Kubernetes

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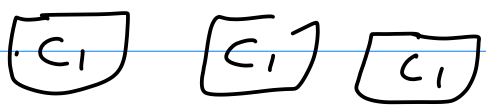
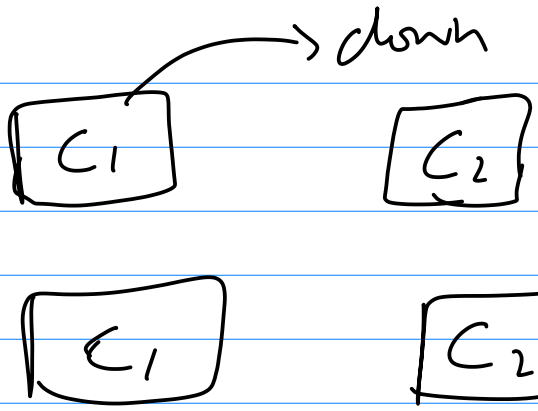
Container Orchestration ⟶ Manager of Containers

What do we mean by Manager / Orchestrator ?

Supervision ⟶

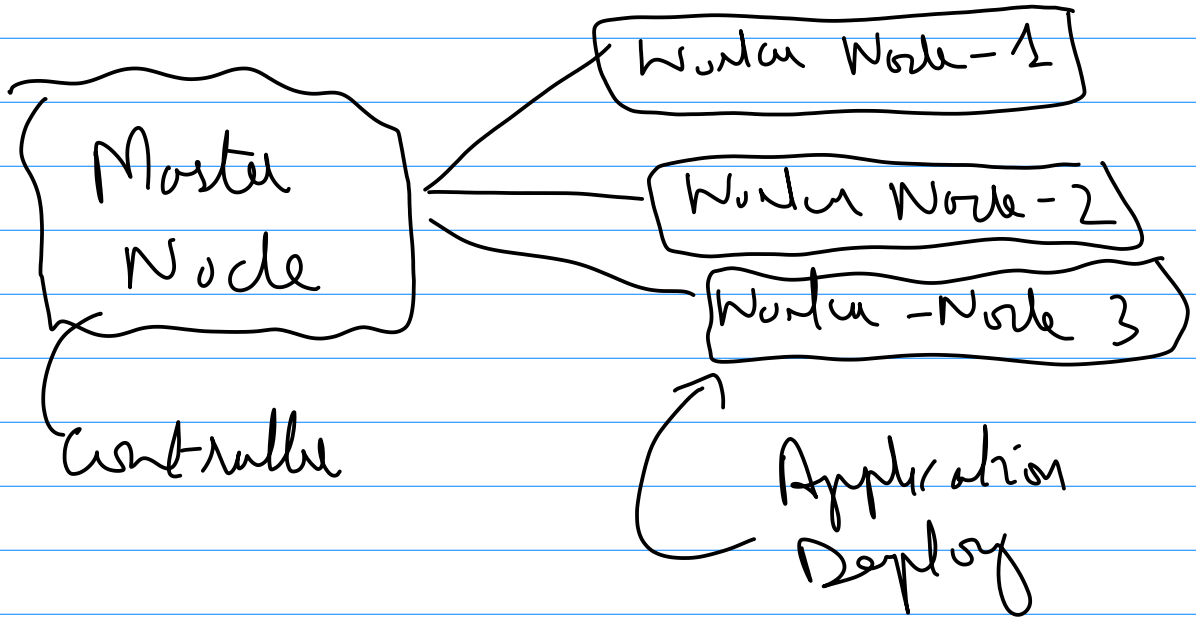


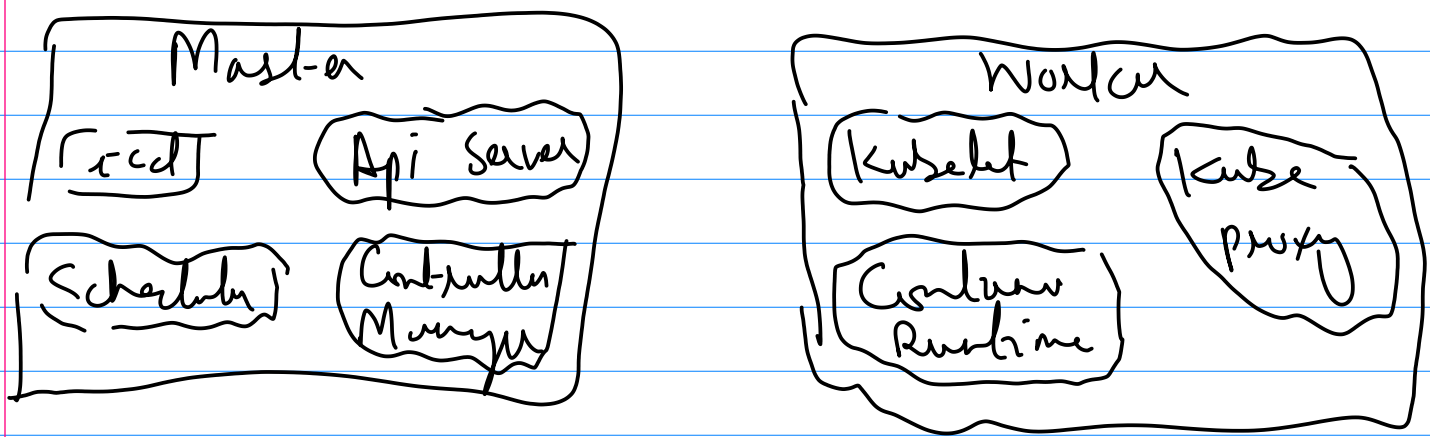
Scaling / Load Balancing



Kubernetes

Kubernetes Architecture



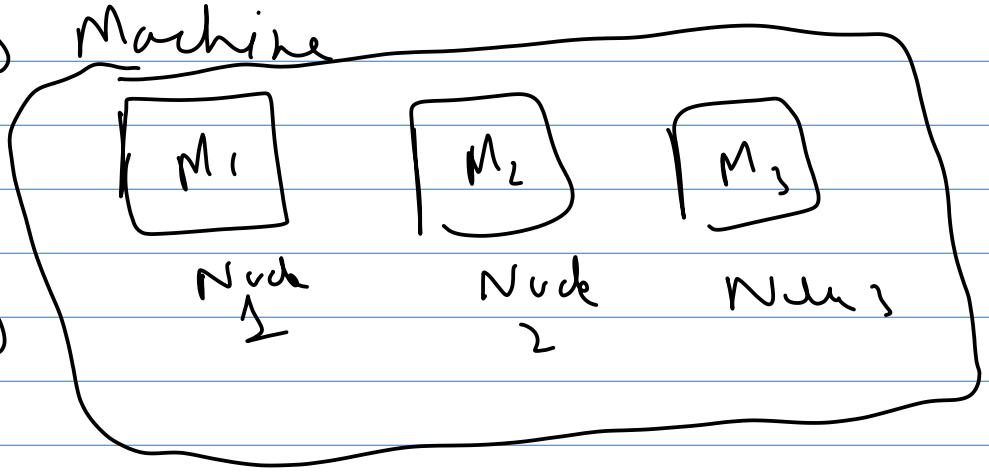


Controller Manager

1) Cluster level Functionality

2) Scheduler

Node ——> Machine



Cluster is a group of Nodes

Api Server
||
Front-End

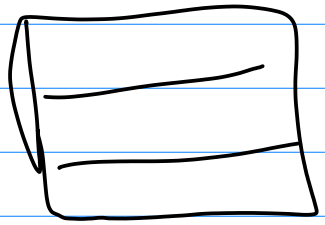
User
||
Command
CLI

Container Runtime
Container Runtime

etcd

Key Value Pairs

Big Data



M1 / C1
M2 / C2
M3 / C1

kubelet ——> Agent
kube proxy ——> Communication

Tools for Running Kubernetes

1) Docker
2) Minikube — Master Node, Worker Node
3) kubectl ——> CLI / command