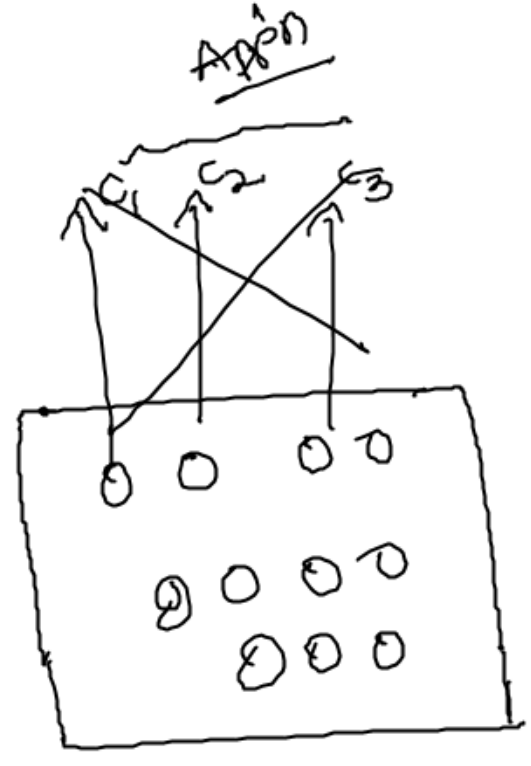
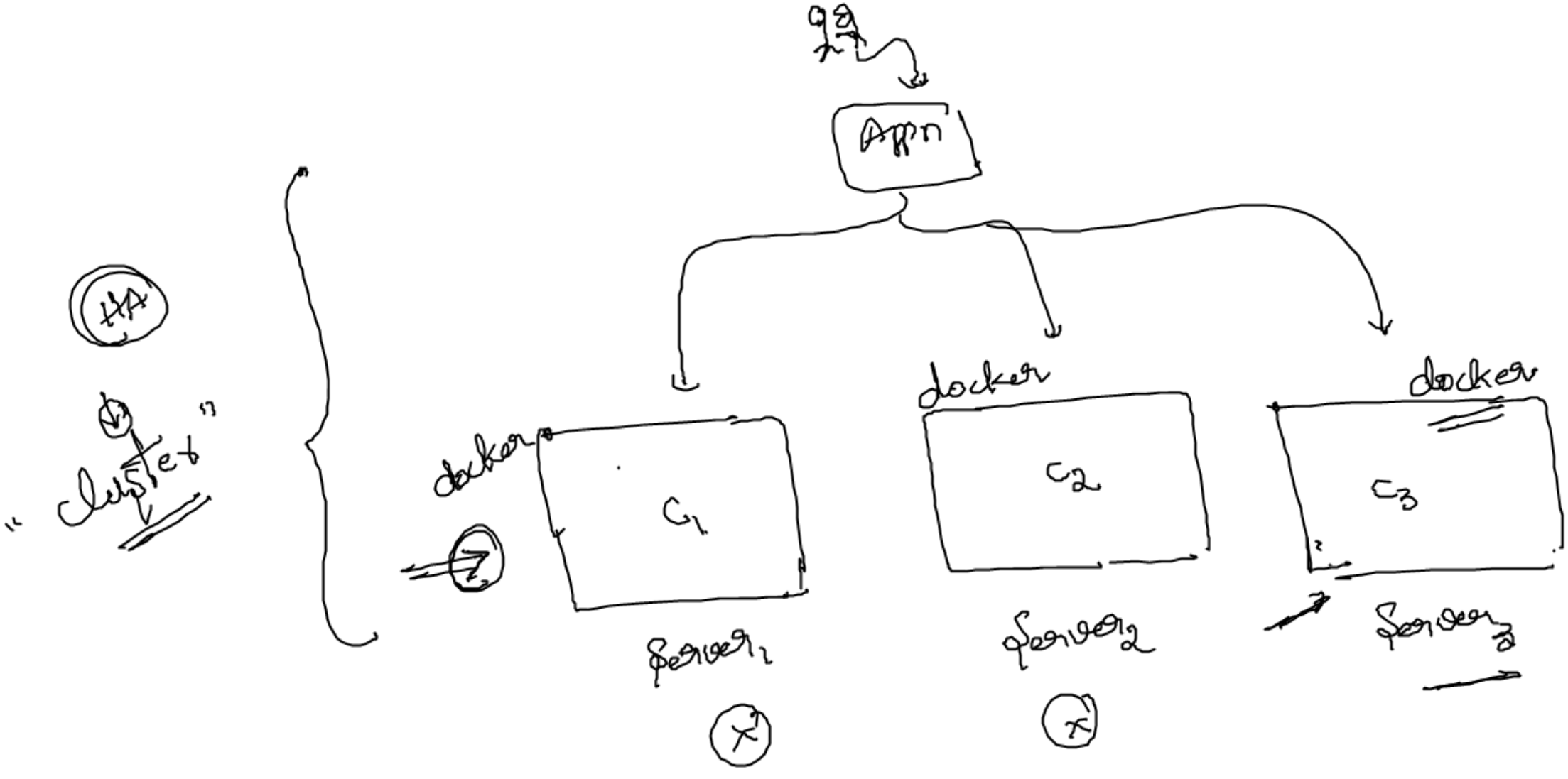
Lucy

Kubernetes – K8S

drawbacks of docker :-



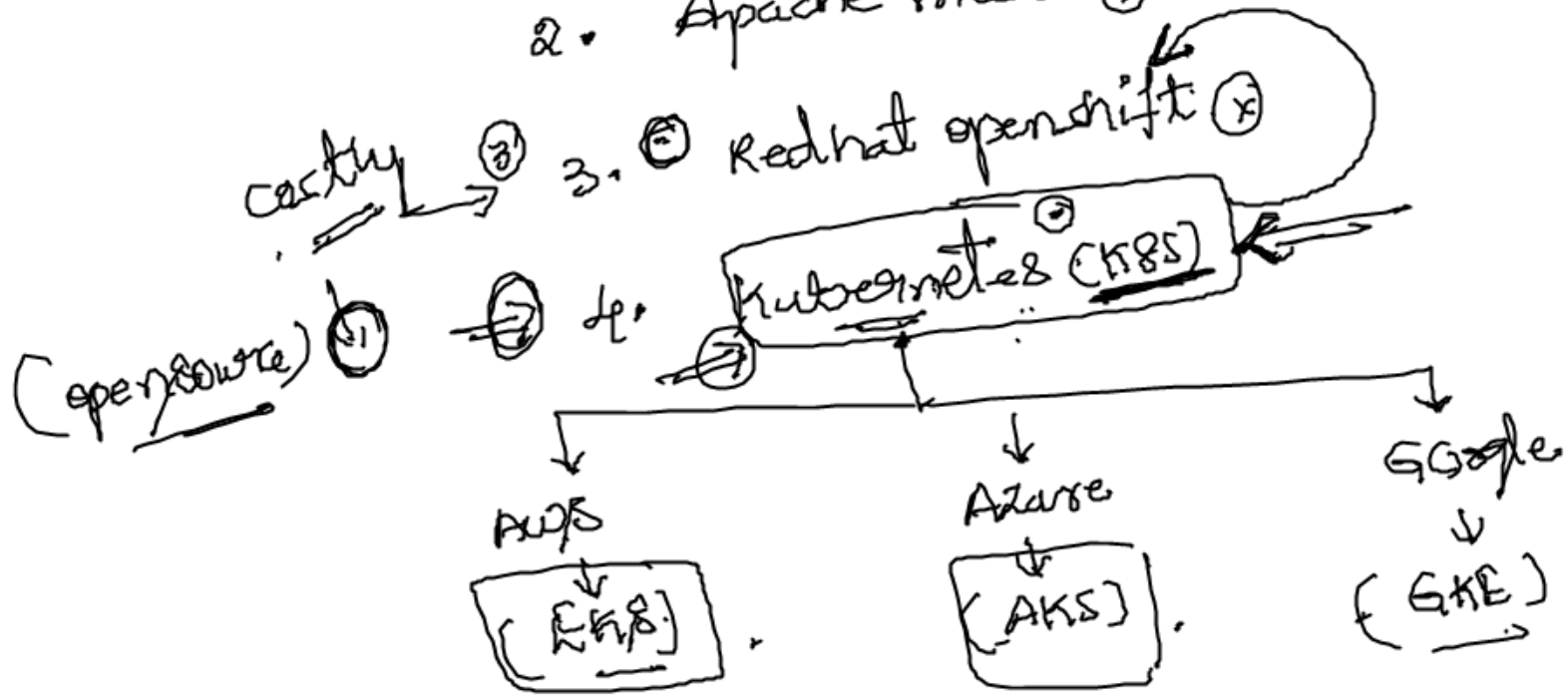
Docker ??


App
docker
C1
C2
C3
docker
docker
Server1
Server2
Server3
cluster

cluster of nodes) docker

1. docker swarm.
2. Apache mesos
3. Redhat openshift
4. Kubernetes (K8S)
5. Rancher Kubernetes

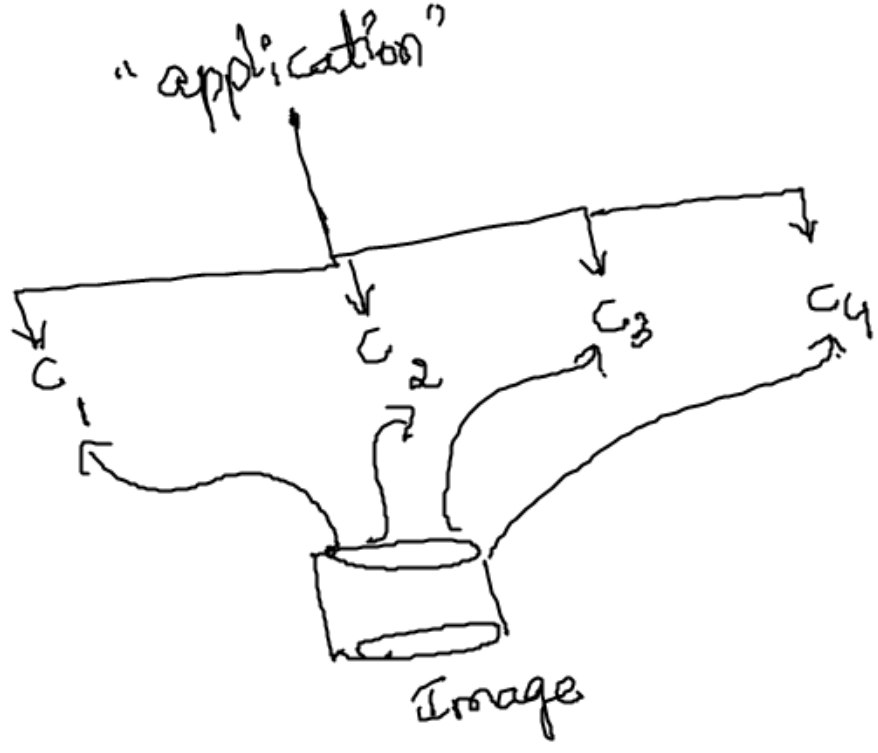
(open source)



kubernetes

Application components

docker



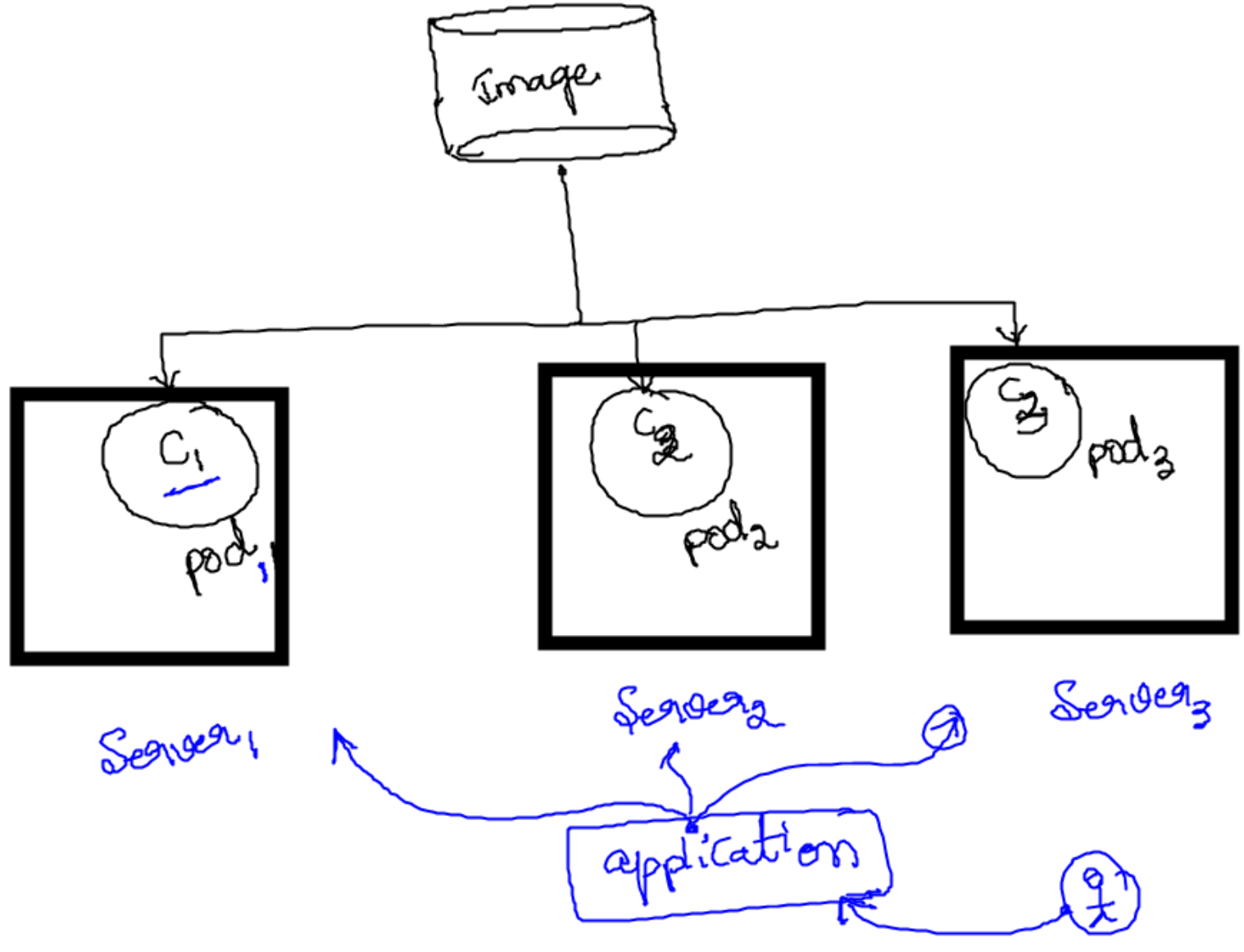
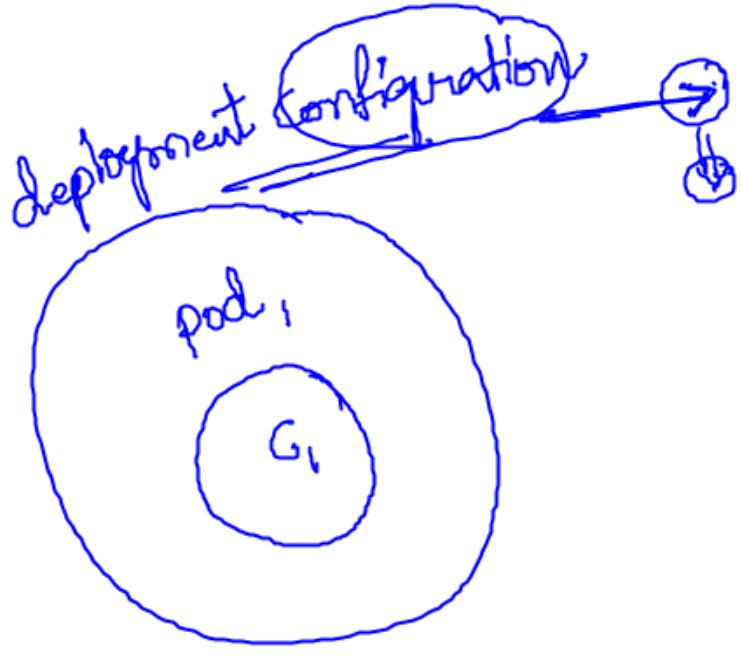
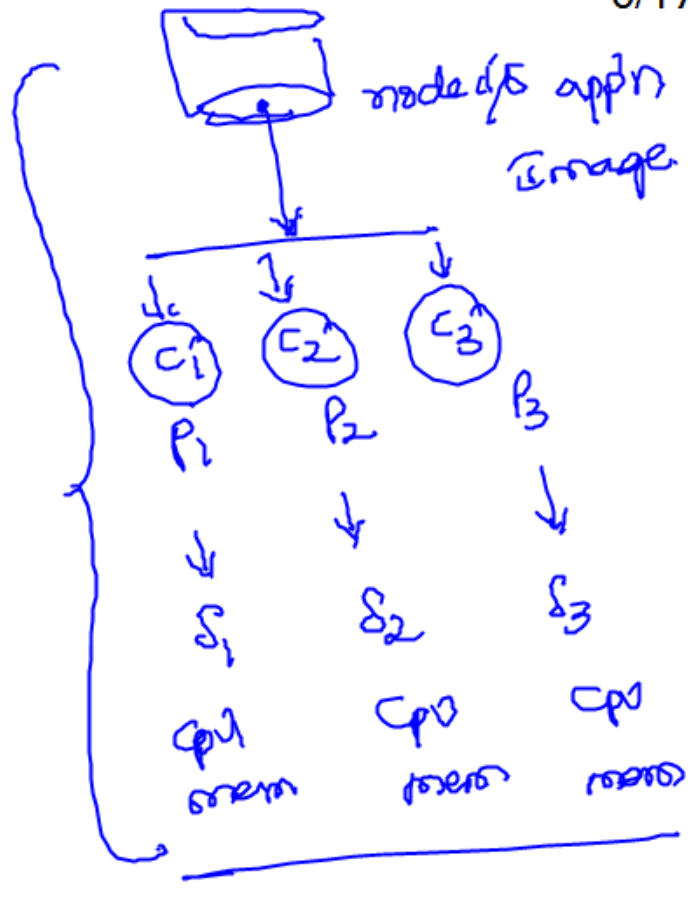
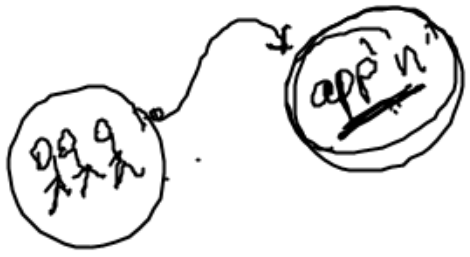
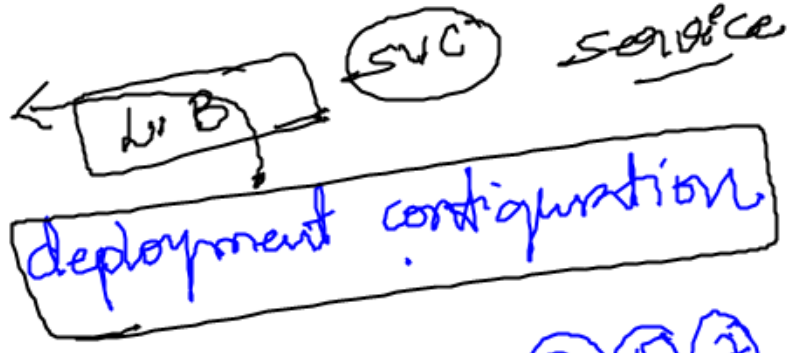


Image
C1
pod1
C2
pod2
C3
pod3
Server1
Server2
Server3
application

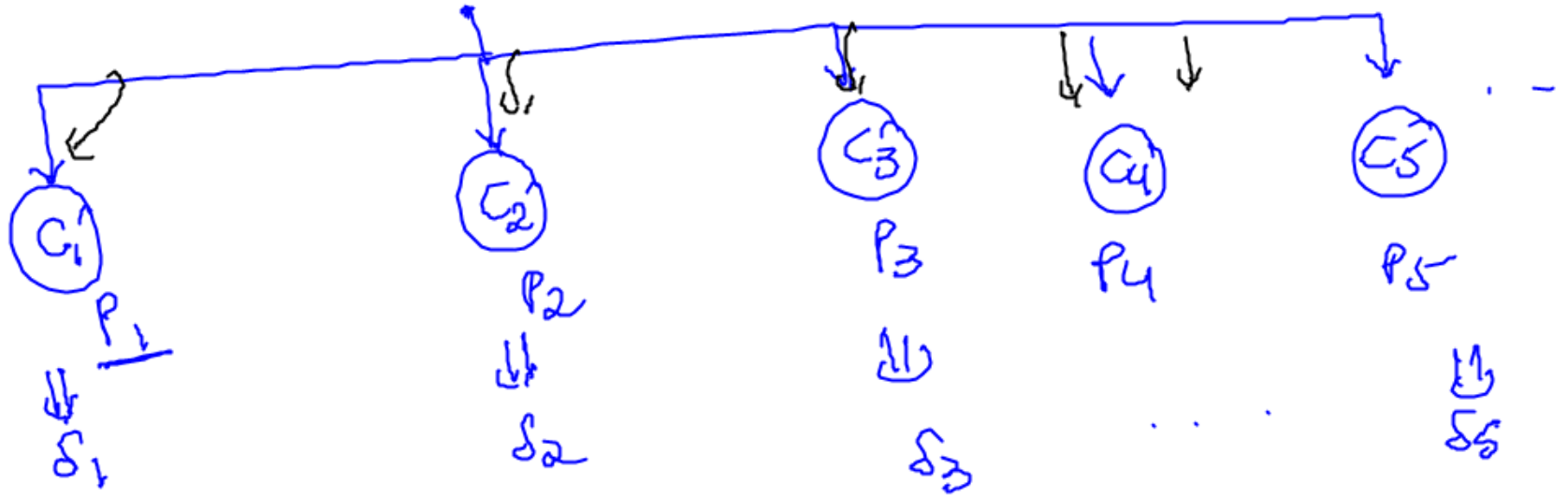

deployment configuration
pod 1
C_1

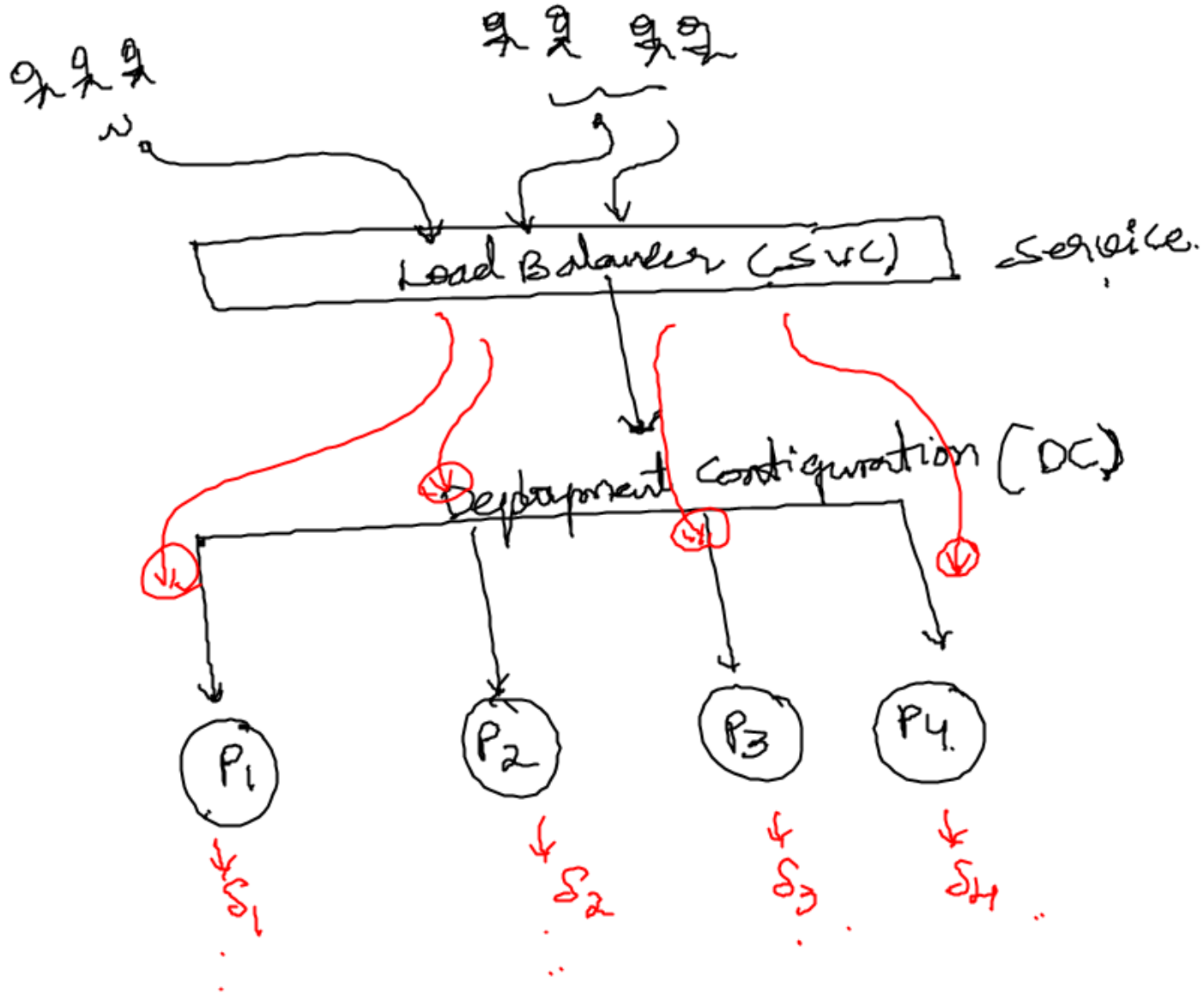

node d/s appln
Image
C_1
C_2
C_3
P_1
P_2
P_3
S_1
S_2
S_3
CPU
CPU
CPU



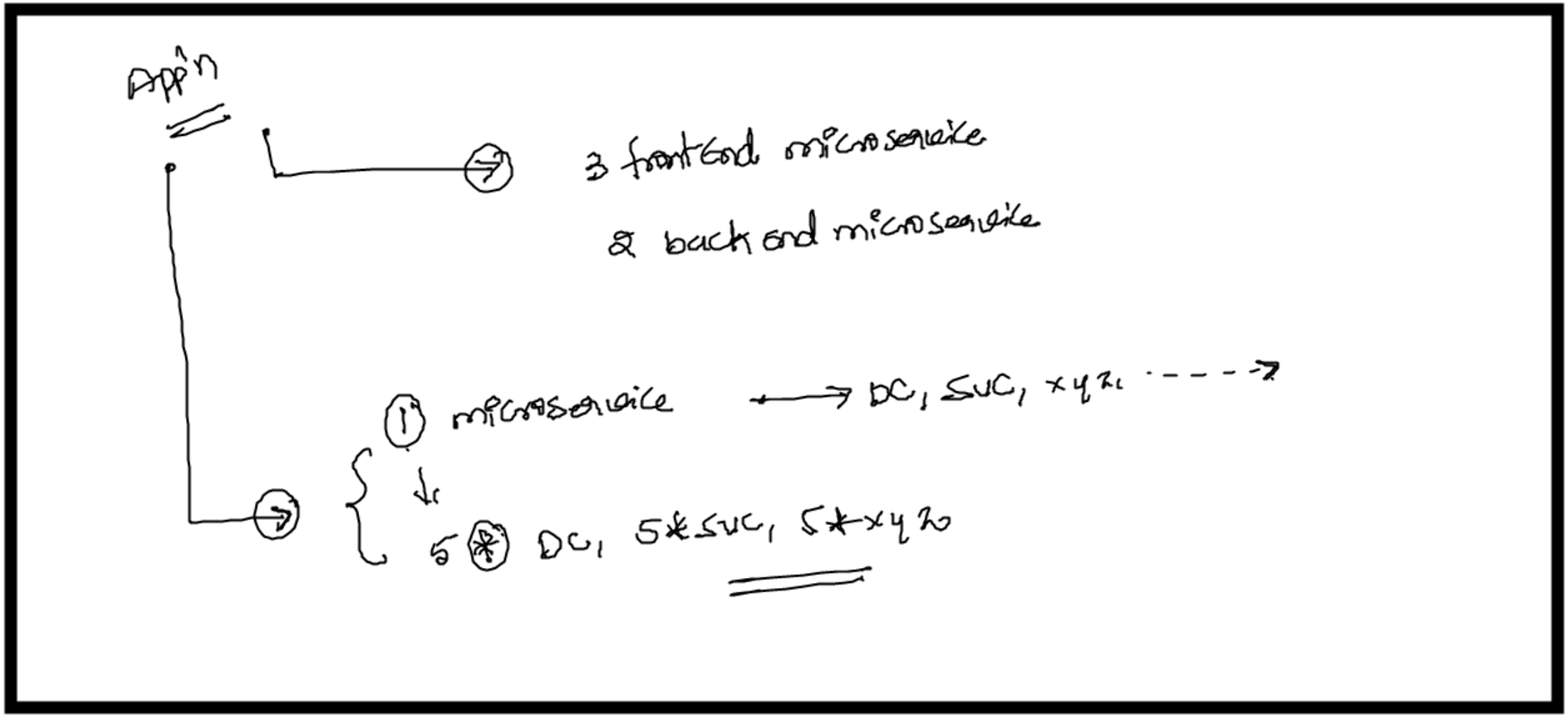


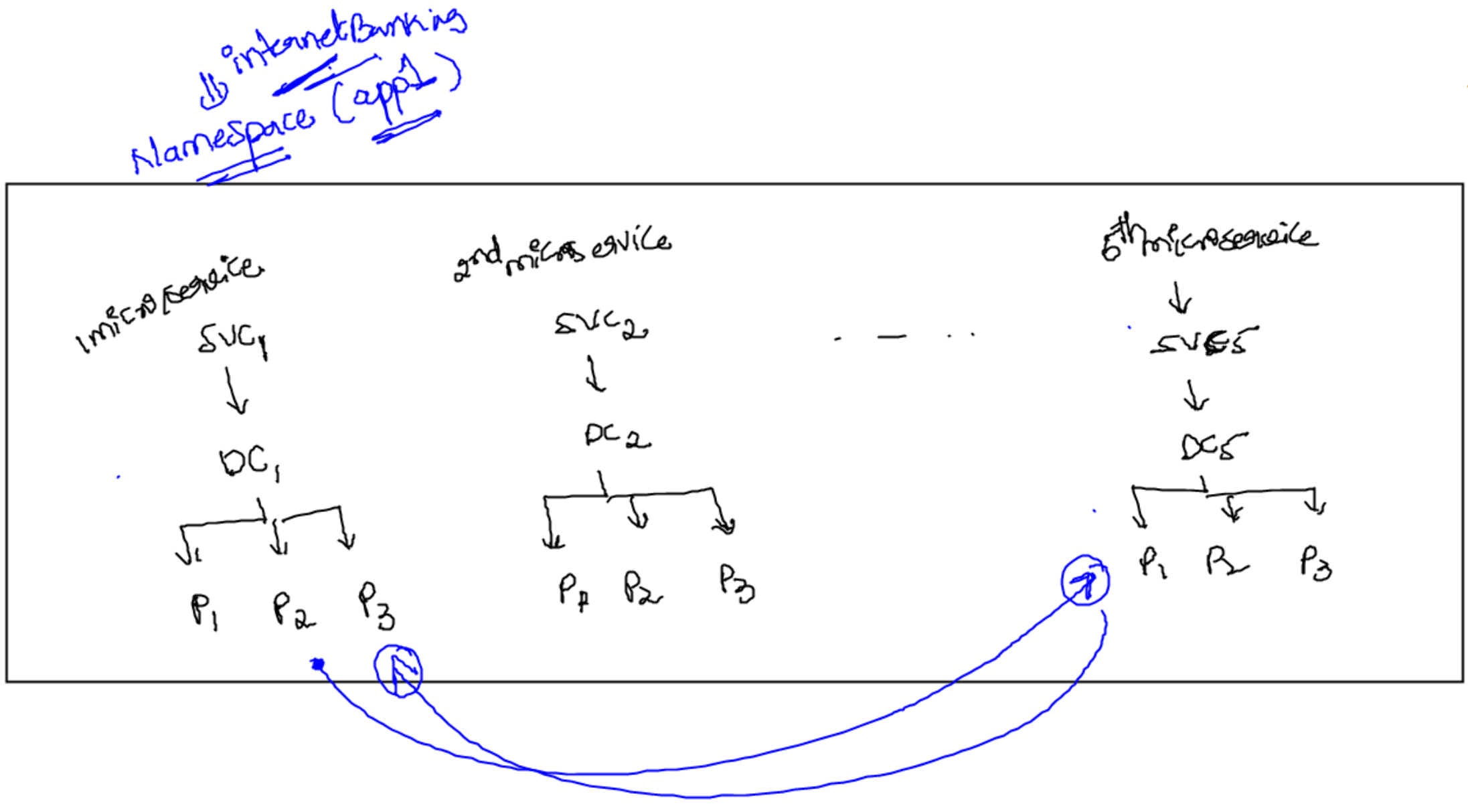
replicas : 3 5 7
image : nodejs
cpu : 100 m
ram : 100 mb

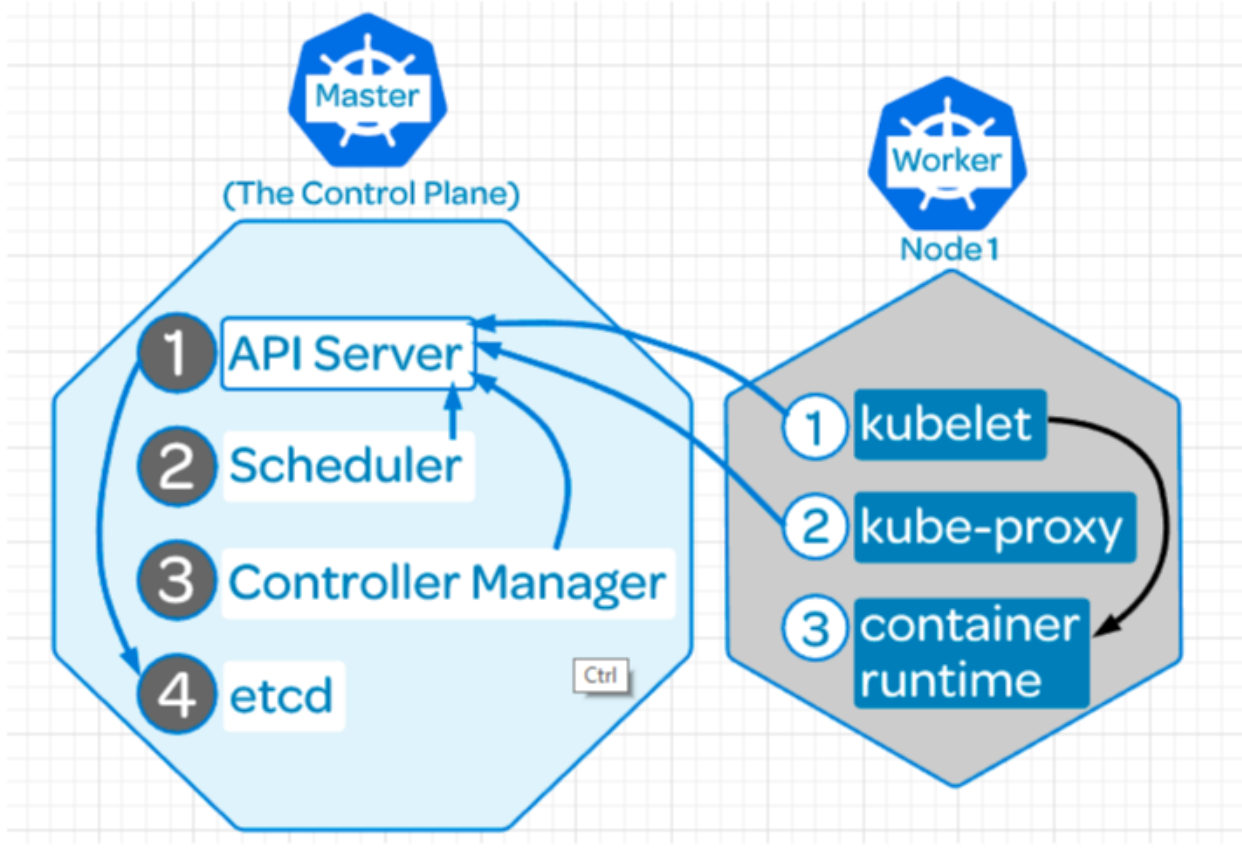


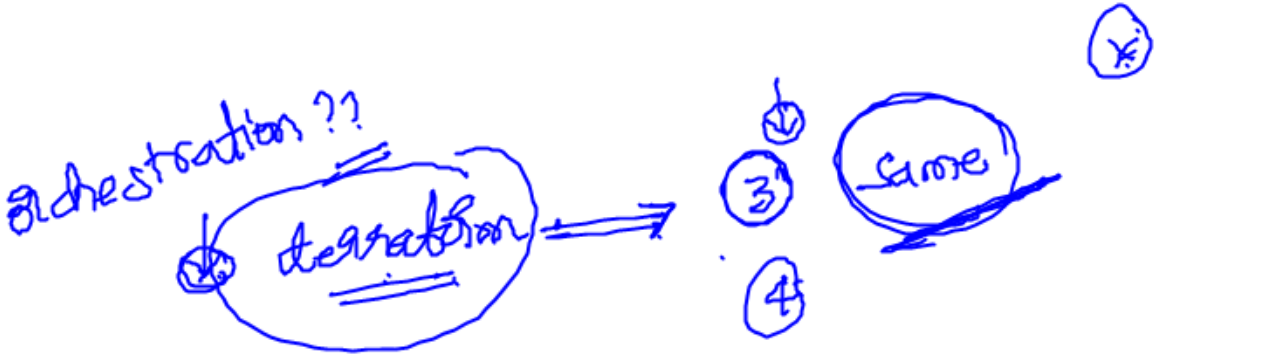

Load Balancer (Svc)
service.
Deployment configuration (DC)
P1
P2
P3
P4
S1
S2
S3
S4

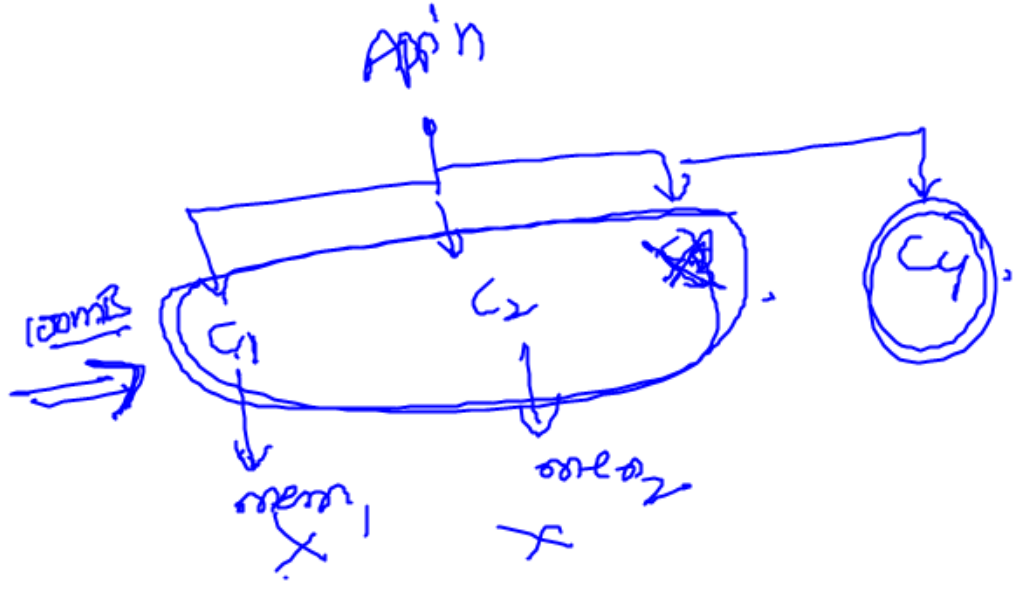
Namespace - dev , - sit , - uat, - pt, - prod

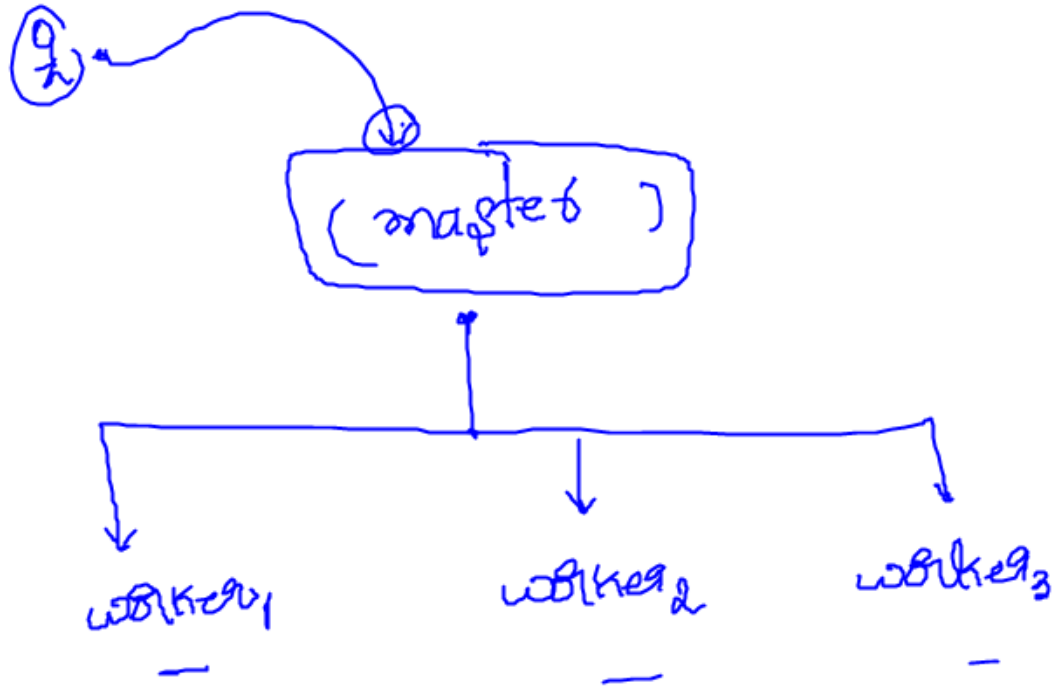


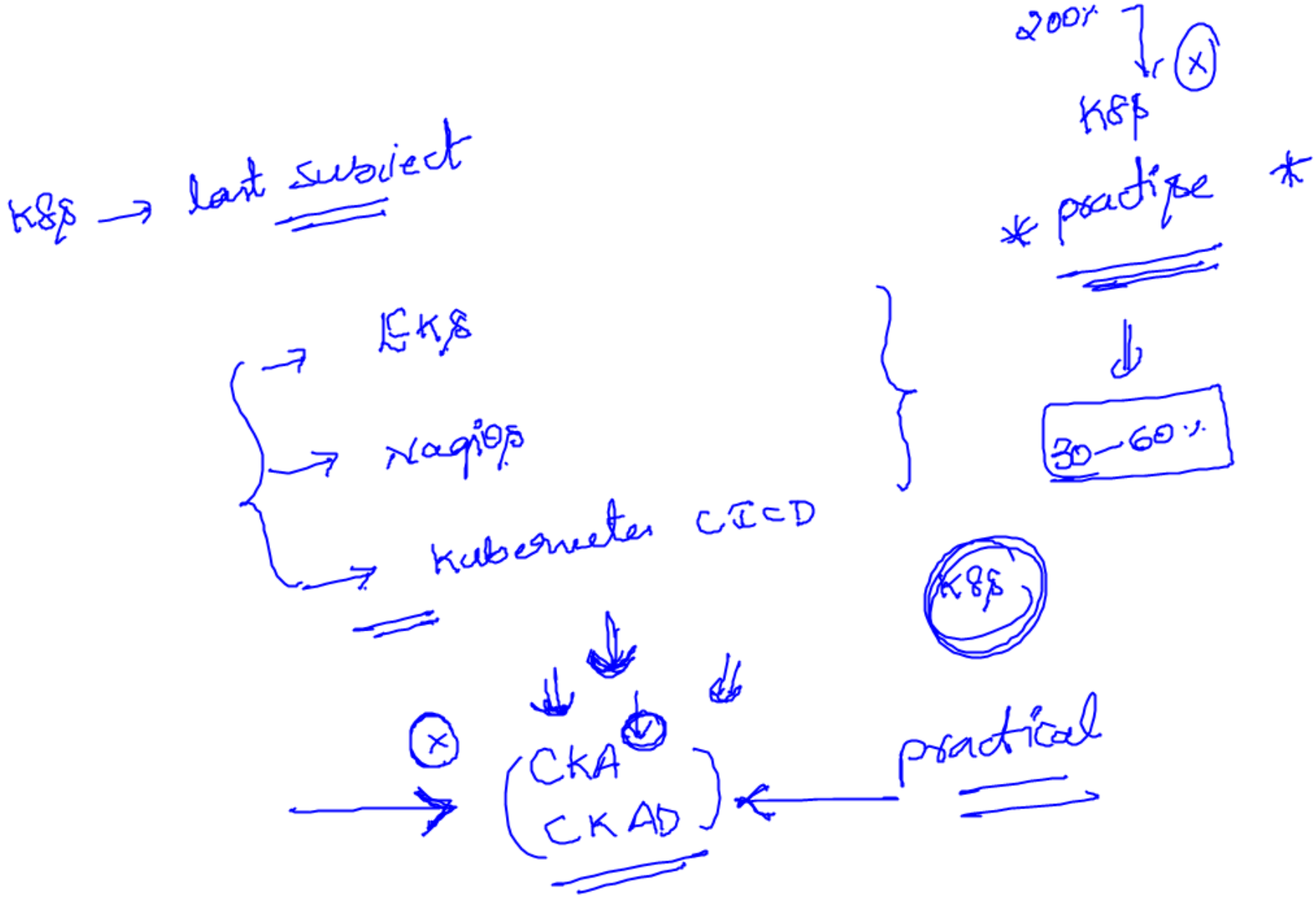

InternetBanking
NameSpace (app1)
1st microservice
SVC1
DC1
P1 P2 P3
2nd microservice
SVC2
DC2
P1 P2 P3
5th microservice
SVC5
DC5
P1 P2 P3


Master
(The Control Plane)
1 API Server
2 Scheduler
3 Controller Manager
4 etcd
Ctrl
Worker
Node1
1 kubelet
2 kube-proxy
3 container runtime


orchestration ??
degradation
3
4
same

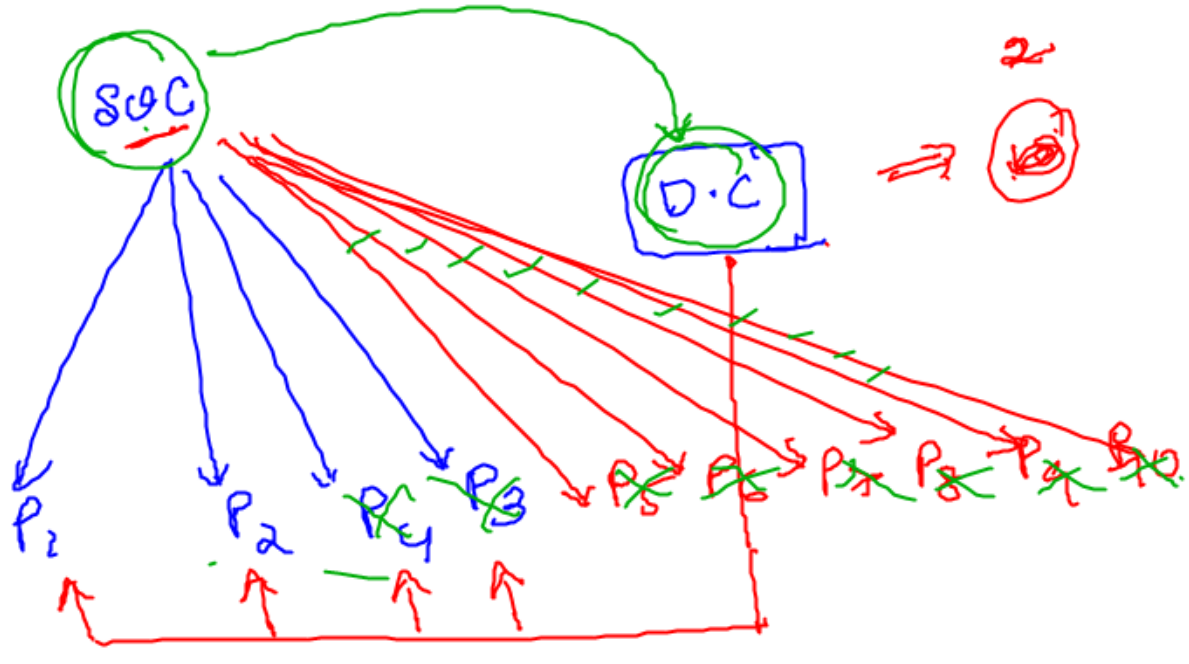

App'n
C1
C2
C4
mem1
mem2

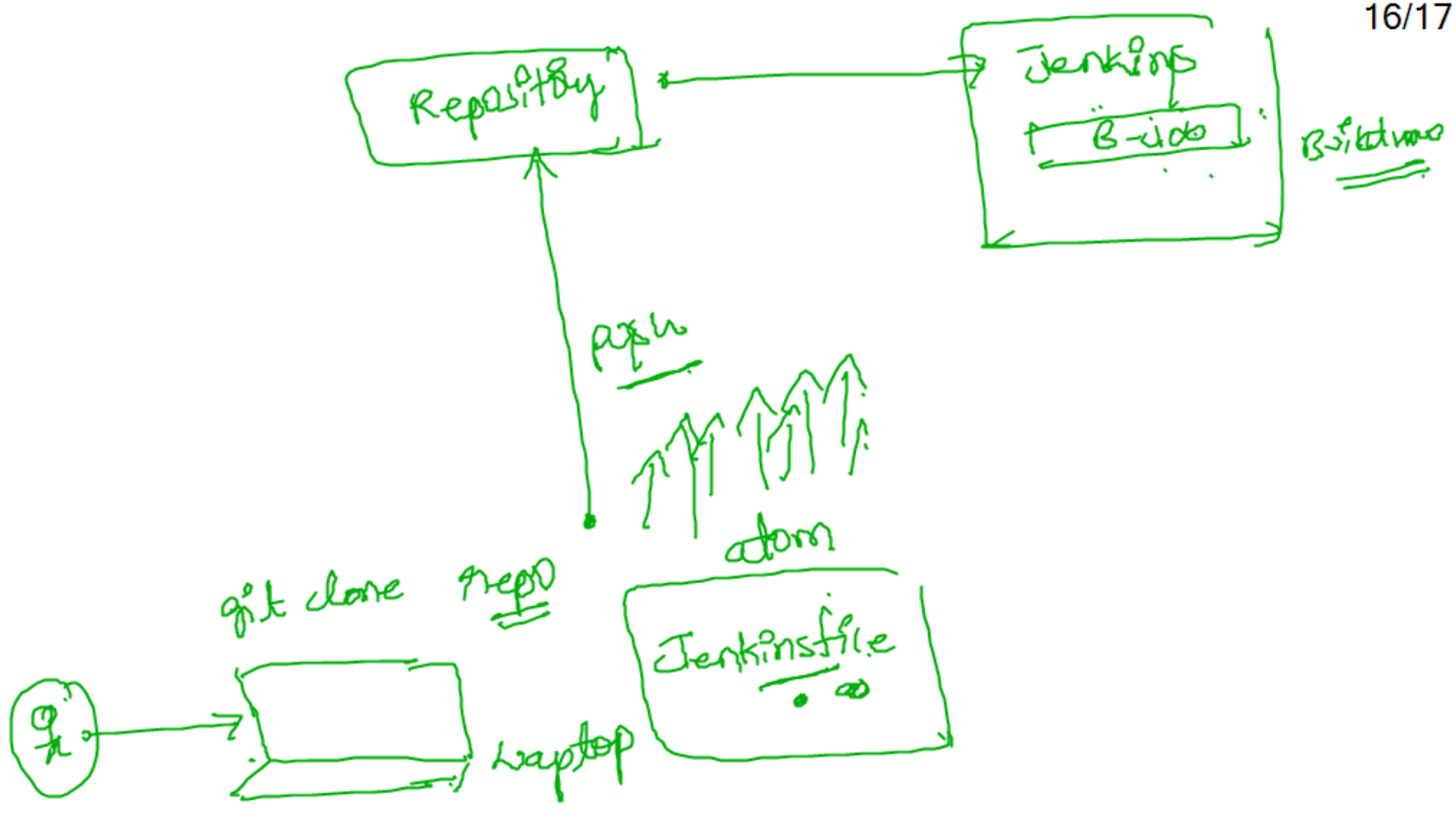

master
worker1
worker2
worker3

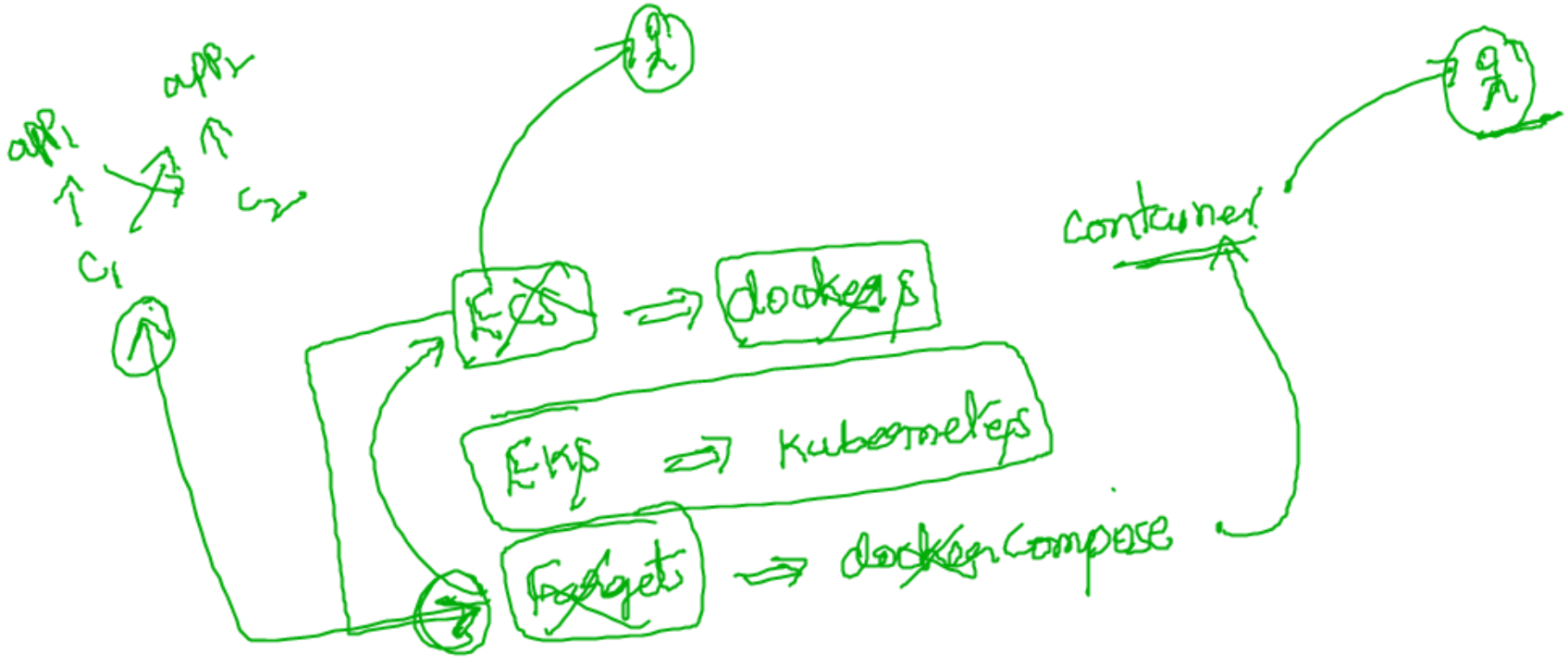

200x
X
K8s
* practise *
30-60 %
K8s → last subject
EKS
Nagios
Kubernetes CI-CD
K8s
X
CKA
CKAD
practical

100 microservices * 5 pods = 500 pods

25,000




Repository
Jenkins
B-ido
Bitbucket
push
clone
git clone repo
Jenkinsfile
Laptop


app1
app2
C1
C2
EKS
dockeps
Eks
Kubernetes
Fargate
dockerCompose
container