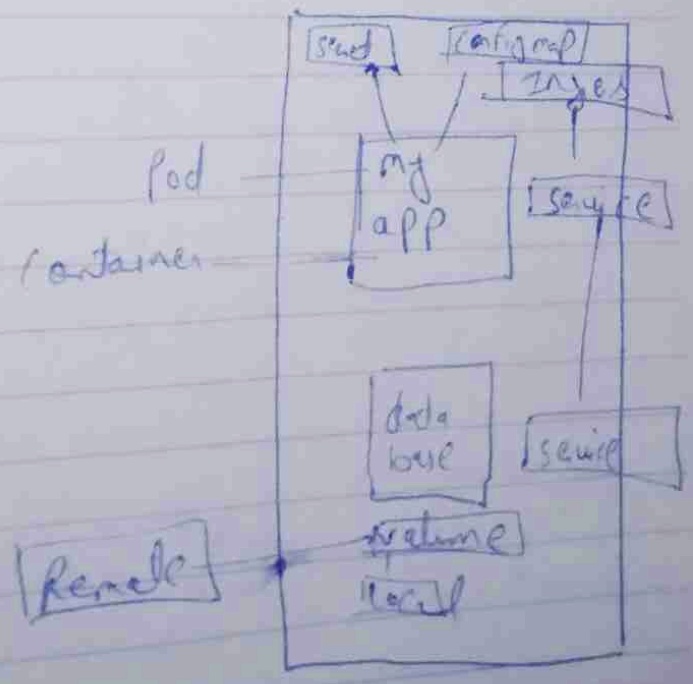
KUBERNETES

- Open source container orchestration tool
- developed by Google
- Helps you manage containerized applications in diff deployment environment.
- It offers high availibility and scalability
- It offers disaster recovery.

Kubernetes Components :-

1) Node / Pod : Pod is smallest unit of K8s
Abstraction over container

- Pod creates a running environment or layer over a container.
- Each pod gets its own IP address



Service : Permanent IP address
: lifecycle of Pod and Service not connected

2) External service is for application
Internal service for database

*3) From external service it goes to ingress to make the IP address into friendly DNS form, Ingress route traffic into cluster

* 4) Configmap and 5) secret

If we need to change the service name or URL name instead of rebuilding and pushing the image we upload new URL into Config map and then connect that config map to Pod

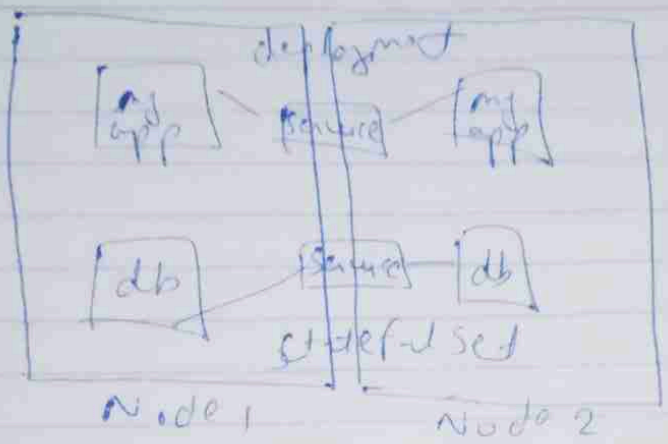
external configuration of our application, we can also push that into config map

for secret certificate, Pod we use secret.

6) Volume
data will get attached to physical storage to a harddrive on a Pod

K8s doesn't manage data persistence

* Deployment and Stateful set



Two functionalities:
- permanent IP
- load balancer

Instead of creating pod, we created blueprint of DC, we will be scale up or down.

* Deployment is abstraction of pods.

* Database can't be replicated with deployment because it has a state that is data.

* Stateful set is used for database.