Control Plane → Its a common architectural pattern in distributed systems mostly in cloud infrastructure systems.

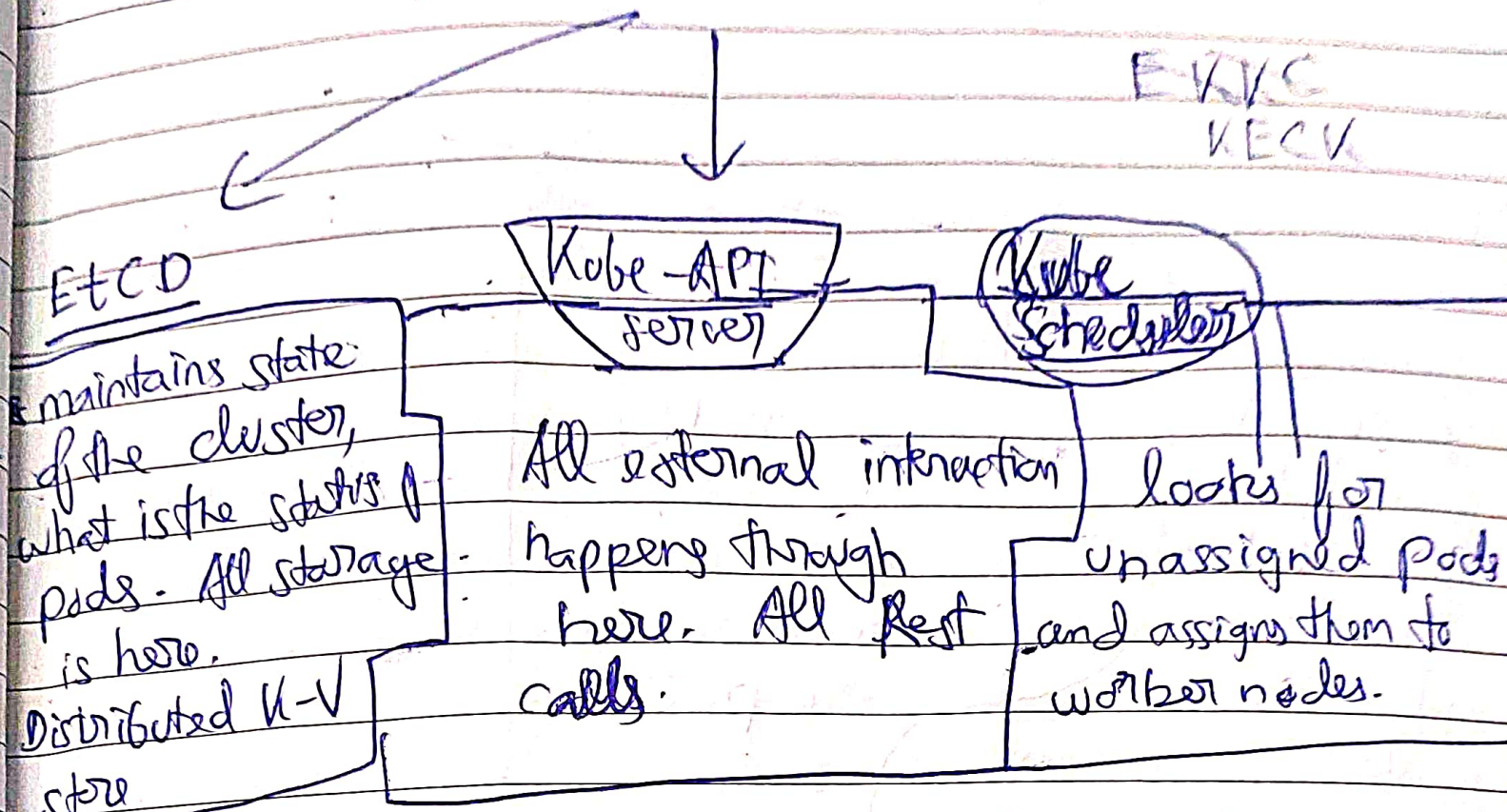
It is a set of components responsible for
① making decisions,
② managing states
③ co-ordinating the system.

* Control plane takes all the decisions, monitors health etc.

* Data Plane does all the work based on control plane's instructions.

(Worker Nodes)

Control Plane.



(Kube-controller manager)

Runs multiple ~~class~~ controller processes to match the desired state.

Example.

Node Controller → monitors for health.

Replication Controller → watches out of actual number of replicas.

Worker Node.

Kubelet

checks the yaml file which it got from Kube-API server, and checks if all the containers are running or not.

Container-Runtime

Docker / Container-D which actually keeps the image running on the pod.

Kube-proxy

manages network rules on each node like port forwarding & load balancing etc.

To understand,

Ingress, ~~Egg~~ Egress properly,

Ingress → Someone knocking at your door (incoming connection to your pod)

Egress → You going out to knock on someone else's door (outgoing connection from your pod).

My misconception :-

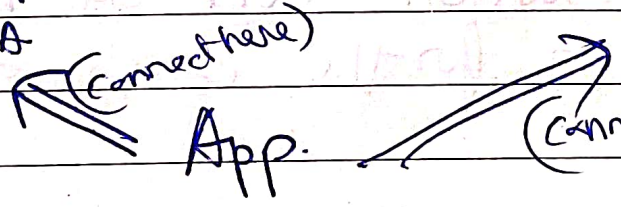
Topic A → App → Topic B

I was thinking Topic A was ingress and Topic B of Kafka was egress.

But Ingress, Egress are restricted to network here our data we are talking is incoming and outgoing

But in terms of network, Kafka is not connecting to our App, Rather we are connecting to it to get the data.

So in terms of network, both are Egress.



Sample Example → Lets say we have a weather APP. which hits other upstream services of Kafka for metrics and Responds Back.

Ingress is customer. Egress is the other services that it is hitting

Key Components in K8s

ConfigMaps → (secrets and configuration)

Volumes → Persistent Storages for containers.

Pods → [Container 1
Container 2
Container 3]

Deployments → [Manage pods & replication factor and stuff].

***

Heapster → New service I came to know about for K8s cluster. Such as HPA.
To create the UI for the dashboard.