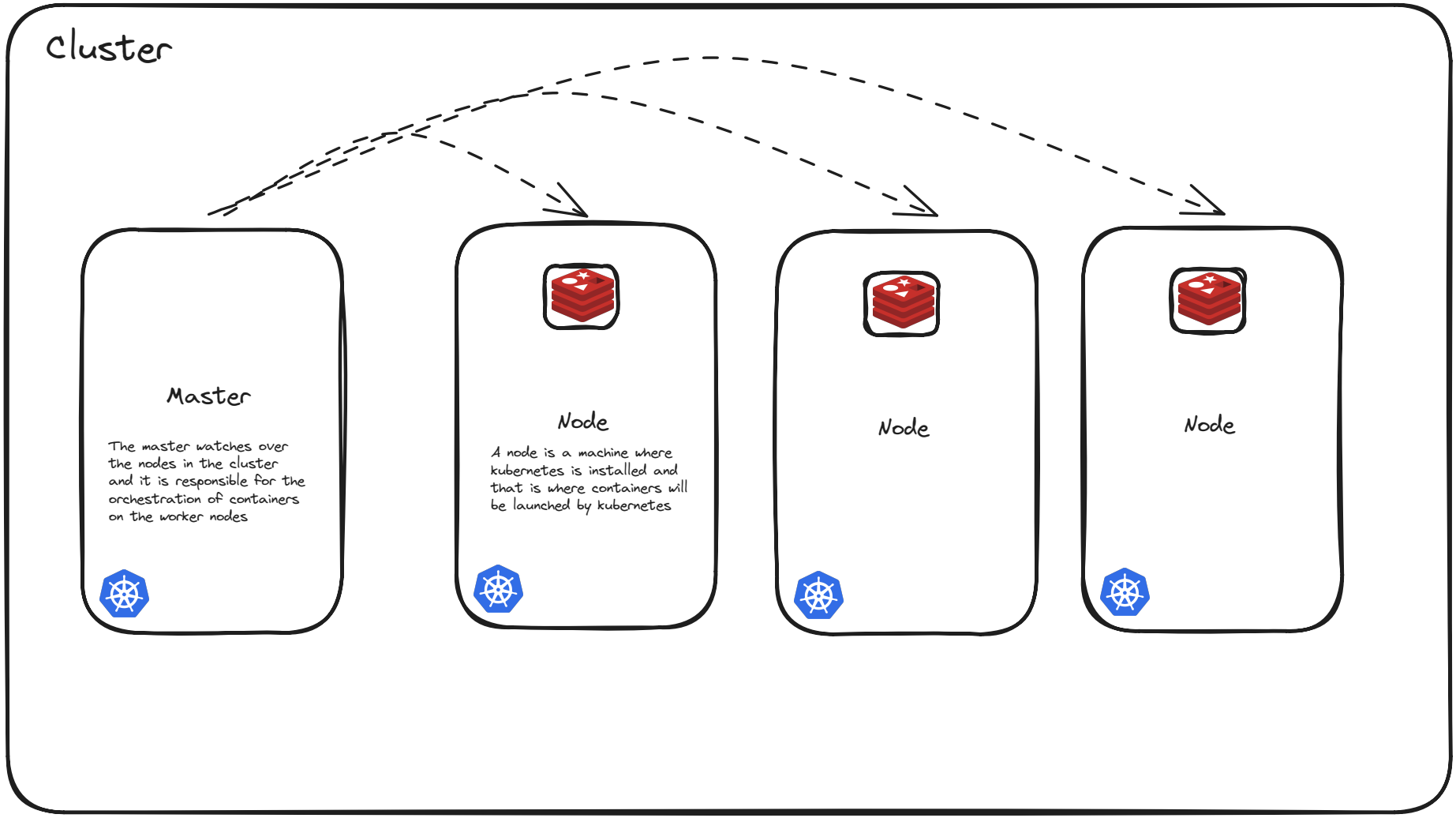
1. Kubernetes Cluster

-> It contains one or more nodes

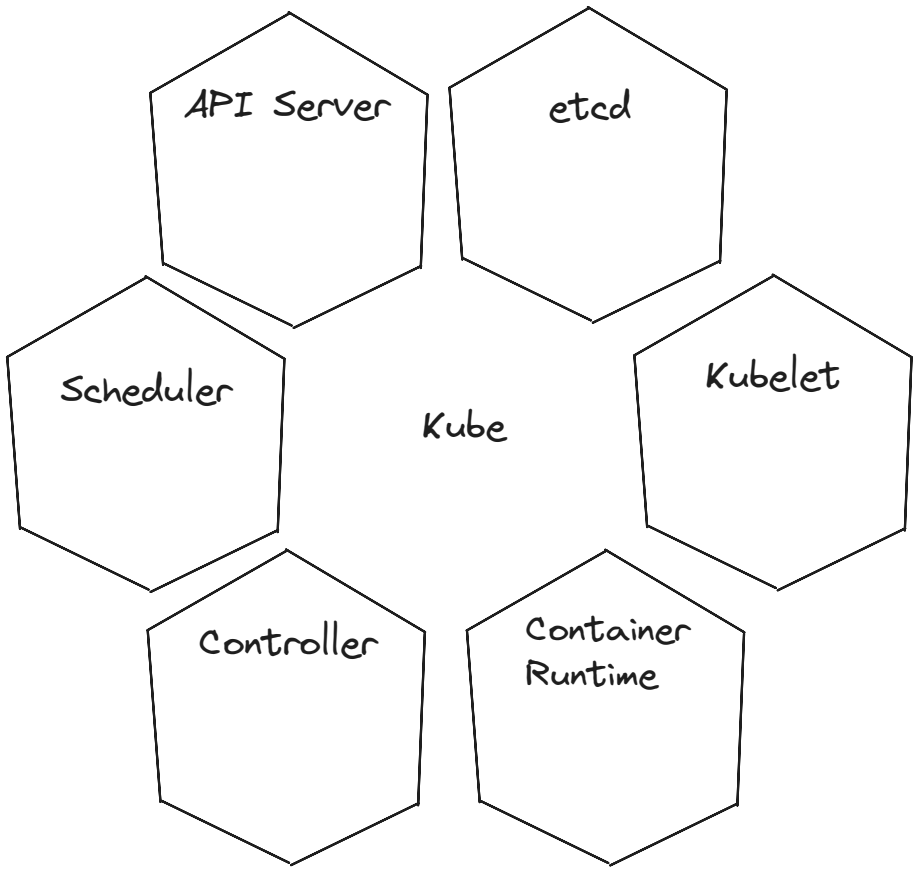
-> Master node is like cloudwatch agent which is responsible for managing the cluster



2. Kubernetes Components

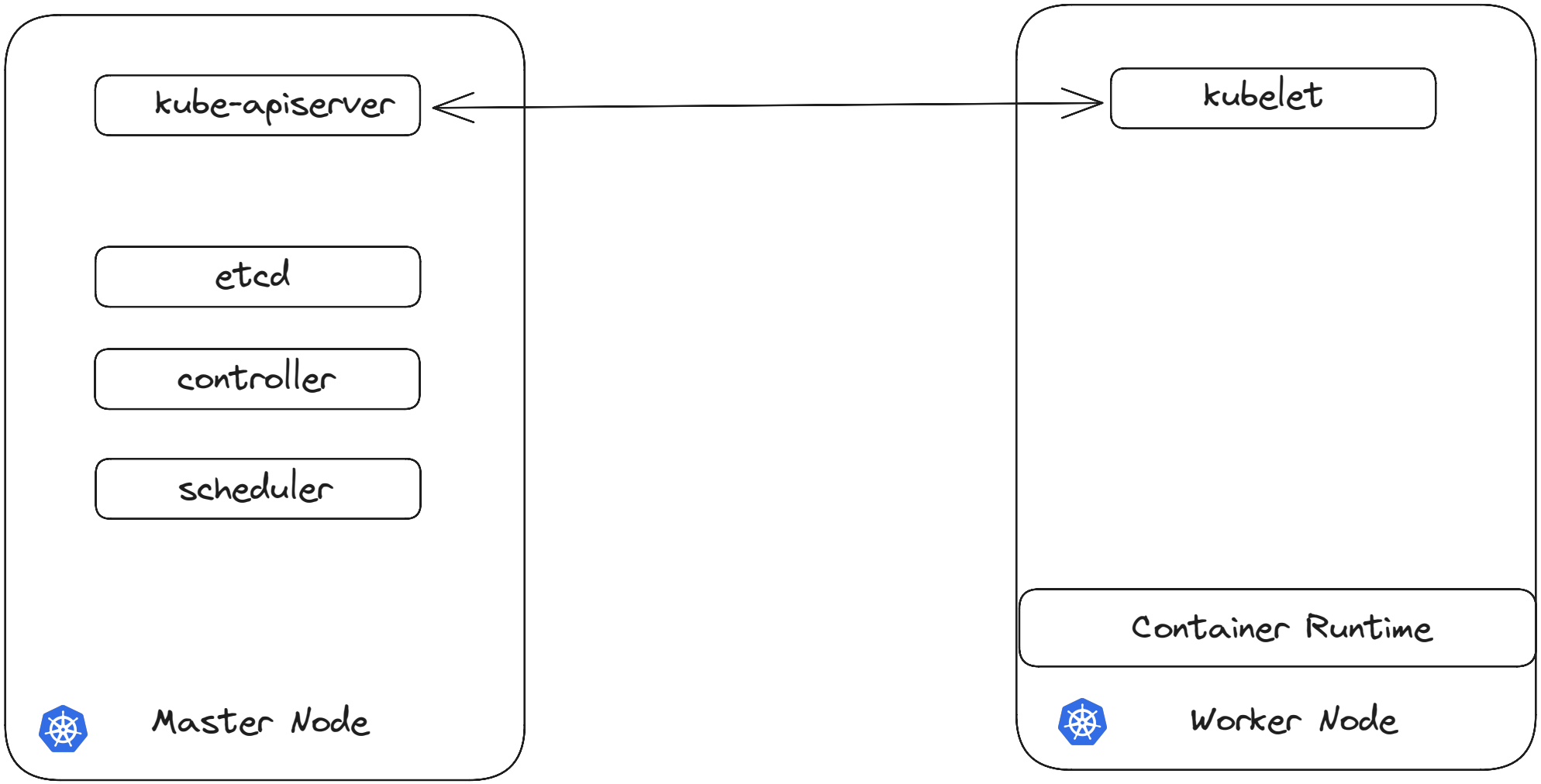
-> API Server acts as a frontend for kubernetes. The users, management devices, command line interfaces all talk to the api server to interact with the kubernetes cluster

-> etcd is a distributed reliable key value store used by kube to store all data used to manage the cluster, when you have Multiple Nodes and Multiple MASTERS in your cluster, etcd stores all the information of all the nodes in the cluster in a distrubuted manner.



-> etcd is also responsible for implementing locks within the cluster to ensure that there are no conflicts within the masters 🔒
-> Scheduler is responsible for distributing works or containers across multiple nodes, it looks for newly created containers and assigns them to nodes
-> Controllers are the brain behind orchesteration, they are responsible for noticing and responding when a nodes, containers or endpoints goes down.
-> Controllers make the decisions to bring up containers in such cases
-> Container runtimes are the underlying software that is used to run the containers (DOCKER)
-> Kubelet is the agent which runs on each node in the cluster, this agent is responsible for making sure that the containers are working as expected on the nodes

3. Master vs Worker Nodes



4. Kubectl and commands

-> kubectl run hello-minikube
-> kubectl cluster-info
-> kubectl get nodes