

WHAT IS KUBERNETES

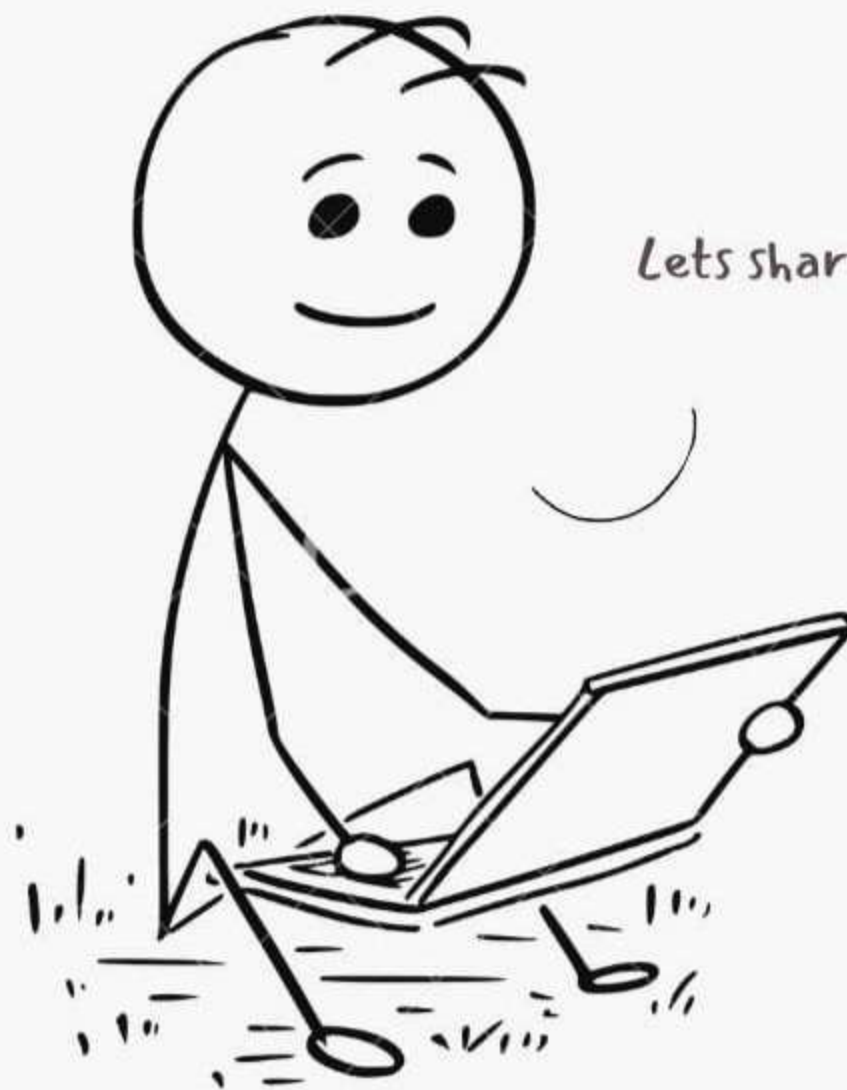
Credit : The Fwoosh



APPLICATION



Lets say you have
created an application



Lets share it with the world



And used **Docker containers**
to package the application

*Docker should make my application work
the same regardless of the environment*



DEPLOYED



Say you have deployed on 3
different servers using Docker

and ...

Your application starts getting massive traffic

Wow my application is doing
better than I thought it would



SCALING



Now you need to scale up fast; how will you go from 3 servers to 40 servers that you may require?

How to decide which container should go where?
Monitor all containers ? & make sure they restart if they die?



OUT OF CONTROL



How am I going to
manage all this?

ah I need to
restart them



huh I need to create
more instances

Wouldn't it be easier if
this behavior was
handled by a system?

KUBERNETES



This is where Kubernetes comes into play

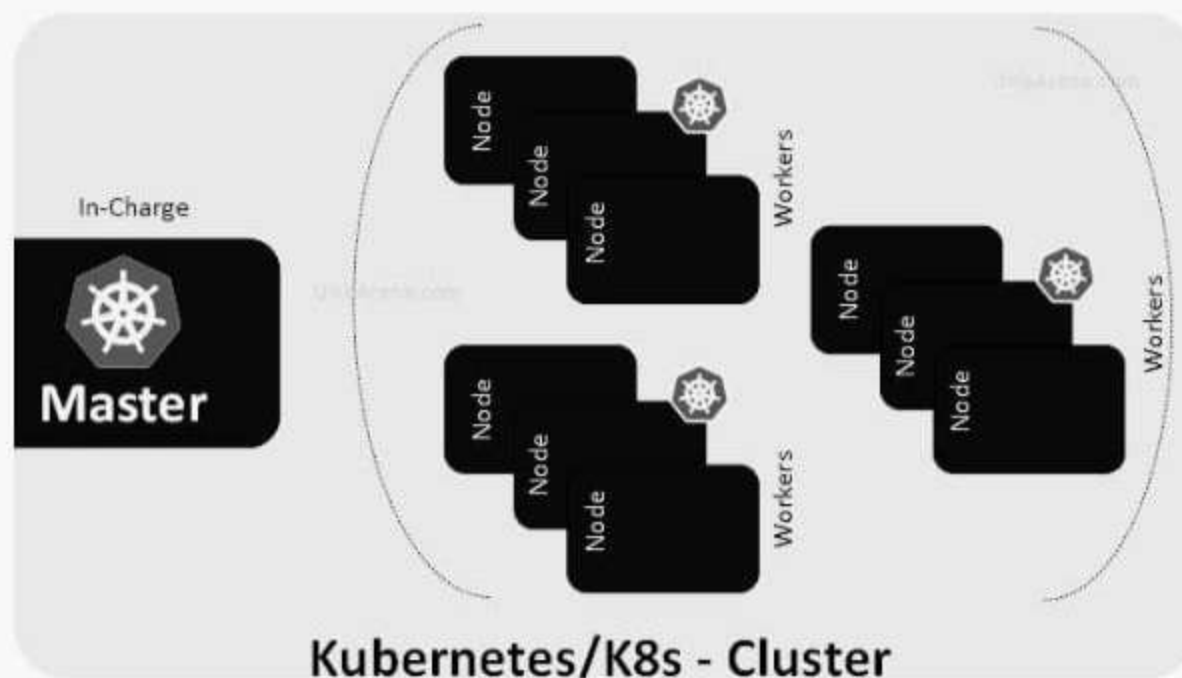
Kubernetes (aka k8s or “kube”) is an open source **container orchestration** platform that automates deploying, managing, and scaling containerized applications.



HOW IT WORKS ?

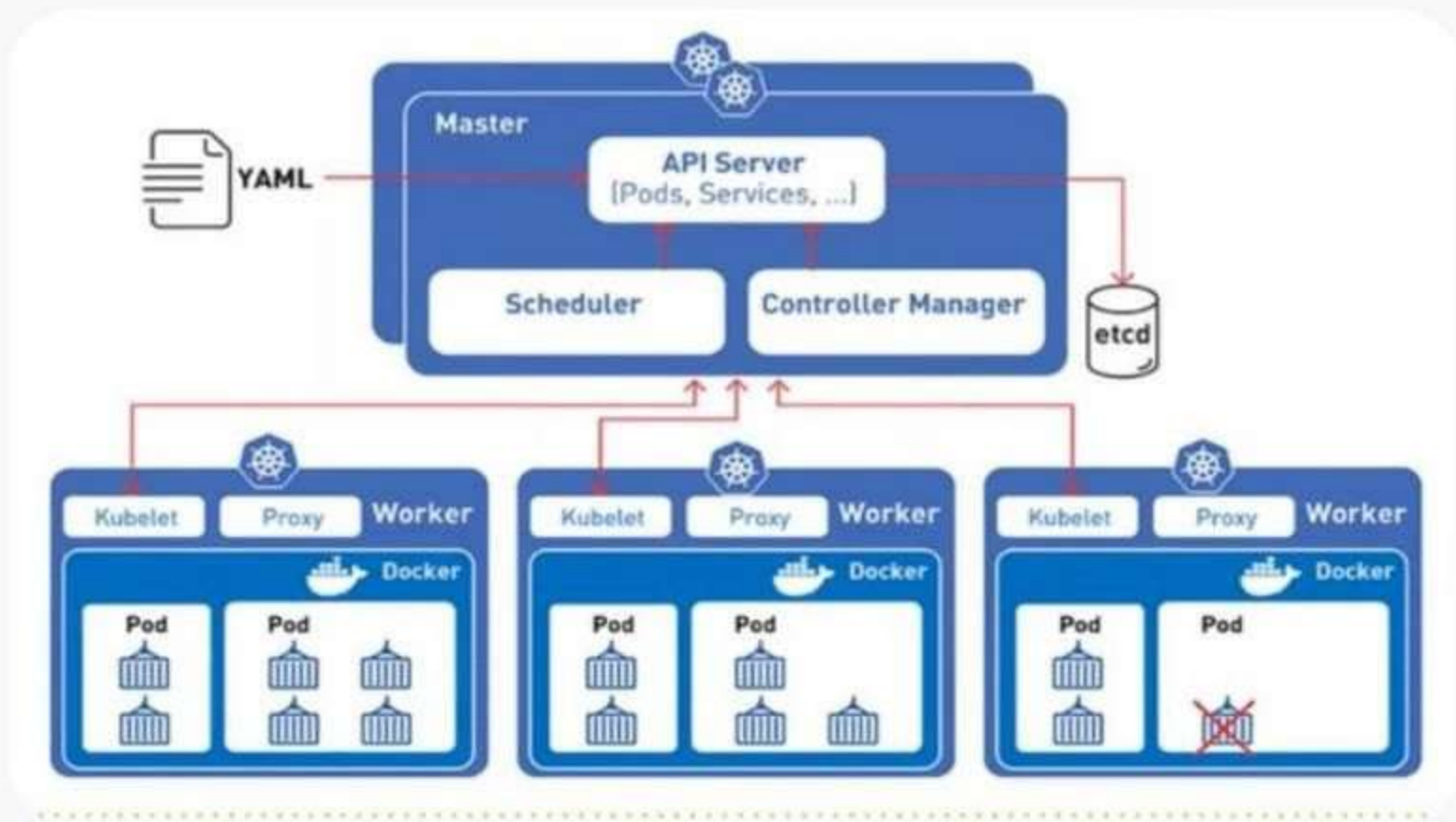


A Kubernetes cluster consists of a set of worker machines, called **nodes**, that run containerized applications



Every cluster has at least one **worker node**. Hence if a node fails, your application will still be accessible from the other nodes as in a cluster, **multiple** nodes are grouped.

ARCHITECTURE



Every node contains a container runtime, **Kubelet** (for starting, stopping, and managing individual containers by requests from the Kubernetes control plane), and **kube-proxy** (for networking and load balancing).