# kubernetes

Day 1- 05ᵗʰ January 2020

Kubernetes also known as K8 or "kube" is an open source container Orchestration platform that automates many of the manual processes involved in deploying, managing, and scaling containerized applications.

In other words you can cluster together groups of hosts running Linux Containers and Kubernetes helps you easily and magnificiently manage those cluster.
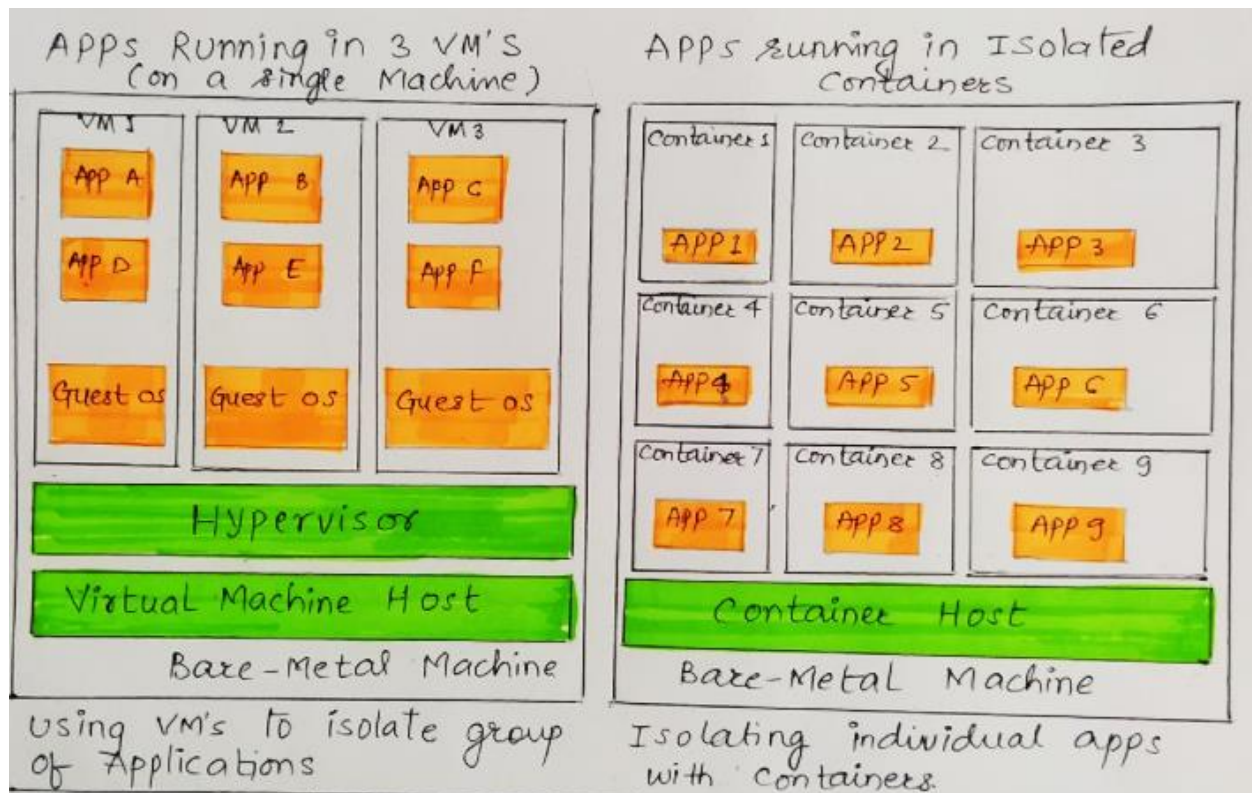
K8's will not launch applications. K8's only helps the containers to launch the applications.

K8's won't uses containers directly. It wraps containers in a box or we can say it takes the meta-data of the containers known as PODS.

In the above diagram, Left side has Oracle Virtual Machine having 3 VM's and each VM is separated Applications launched in it.

Where as in Right Hand side, in which only One VM or container Host we have launched 9 applications independently in container.

Why Kubernetes if we have Docker?

If Someone indulged to monitor OS. For a company a critical Software is their and many clients are connected to it. I don't want any down time. So he will check for the down time(crash) of the Container.

Why don't, I would set up a PROGRAM and say yu're responsibility is to keep on monitoring, if container goes down-> Again Restart or launch the same.

KUBERENETES keep on Checking Docker Container

KUBERNETES CLUSTER
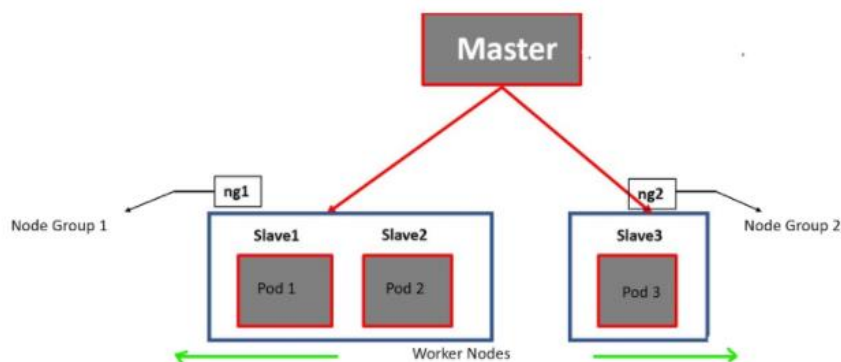
For Deploying your Application, You need Infrastructure that manages Your Infrastructure and respective resources. The Underlined Infrastructure is Container Technology.

If your Application Running in container Technology then if the container fails then nobody gonna helps you to get back your application.

So, to manage the containers and monitors the containerization is done by some tool, Kubernetes is one of those.

When the container goes down, The entire connectivity loses. Client will not be able to get the application. **Challenge is all about management and monitoring the containers.**

So, we need one program that Kubernetes will gives you the facility and therefore Kubernetes Known as CONTAINER MANAGEMENT TOOL.

Stable version of K8's is v1.20

We need to download the Kubernetes server which is given by **minkube**. This will helps you to provide Single Node Environment.