Kubernetes:

If we want to deploy the application without downtime i.e. Zero downtime then Kubernetes is the best option.

Docker is a containerization tool

Kubernetes is a containerization orchestration technique tool

Kubernetes is product of Google.

One master and n number of kubernetes nodes

Master is the control brain of Kubernetes.All major decisions are made by Kubernetes Master

In kubernetes we define our cluster using json or yml language. It is called Manifest file

Architecture:

API SERVER

ETCD

CONTROL MANAGER

SCHEDULER

Components of Kubernetes Master:

API SERVER: It is the front end component of kubernetes master. In kubernetes we define our cluster using json or yml language which is called Manifest file

In the manifest file we follow declarative approach in which we put all our instructions in our yml file.

When we run the yml file all the data in the yml file will be fed to the api server. API SERVER will validate the yml file. If everything is correct it will deploy the manifest file to the cluster.

ETCD: memory for application. Store all the information about the cluster.

CONTROLLER MANAGER: This will verify whether our actual ouput is intended with what we want. For example, if I created an yml file with scaling 10 i.e. in the code I write scaling as 10 instances. It will make sure all the 10 instances are taken care is not.

Scheduler: scheduling the things.

**Components of Kubernets Nodes:**

Kubelets: Major component of Kubernetes node. Any interaction between Kubernetes master and Kubernets node happens between API SERVER and KUBELET.

KUBELET is the receiving agent on the node architecture of the kubernetes and it will take the work from the master and it will depoly the container.

KUBE PROXY: takes care of networking concepts

CA ADVISOR: To make sure what container we are running like whether it is docker or rocket.

It will Provide the run time environment.

POD: containers are present inside POD. It is a layer above container. POD is present in HOST Machine.

**How to create 3 node Kubernetes cluster** video -13 from 2hr 00 Min

Run the command: yum install -y kubectl

Whenever we create cluster we link our cluster to specific project in cloud.

To get the project id: Click on Project and you will get the project id of your project

