Cluster contains multiple nodes but there will be only one master node.

**kubectl version**: to get version of kubernetes

**POD**

**kubectl run <pod\_name> --image=<image\_name>** -> it will run a new pod with image.

**kubectl run nginx --image=nginx** -> it will run a new pod called nginx with image as nginx.

**kubectl get pods** -> to get all the pods

**kubectl get pods -o wide** -> to get more details for the pods

**kubectl describe pod <pod-name>** -> it will give us the detailed info about the specific pod

Kubernetes yaml file must contain these fields -> apiVersion, kind, metadata, spec

|  |  |
| --- | --- |
| **kind** | **version** |
| Pod | v1 |
| Service | v1 |
| ReplicationController(deprecated) | v1 |
| ReplicaSet | apps/v1 |
| Deployment | apps/v1 |

nginx-pod.yaml

apiVersion: v1

kind: Pod

metadata:

  name: nginx

  tier: frontend

spec:

  containers:

    - name: nginx

      image: nginx

      resources:

      limits:

        memory: "128Mi"

        cpu: "500m"

      ports:

      - containerPort: 80

**kubectl apply/create -f nginx-pod.yaml** -> to create a pod with this yaml file.

**kubectl describe pod nginx** -> to give more description of the nginx pod

**kubectl edit pod nginx** -> it will open a vi editor where we can change the pod definition file also this is a in memory pod definition file which is maintained by Kubernetes.

**kubectl delete pod nginx** -> to delete the nginx pod

**kubectl delete --all pods** -> delete all the pods

**kubectl run redis --image=redis --dry-run=client -o yaml > redis-pod.yaml** -> It will not create any pod rather it’s a imperative style of writing definition file where a pod definition file will created with the necessary fields.

**ReplicaSet**

ReplicaSet is a group of same pods where we can scale in(reduce) or scale out(increase) the number of the pods.

**kubectl create/apply -f <replicaset-definition.yaml>** -> it will create a replicaset from the definition file.

**kubectl get replicateset** -> to get all the replicaset in the default namespace

**kubectl describe replicaset** -> to get all the replicaset in the default namespace

**kubectl delete replicaset <replicaset-name>** -> to delete the replicaset