## **Overview of Single/Multi node kubernetes setup using kubeadm tool and containerd CRI:**

Prerequisites for setting up the kubernetes cluster:

* Bare-metal/physical server, VM and Cloud Instance/VM.

Note: If we do not have enough resources to set up a VM in our local devices, then we can use the cloud instance/VM.

* OS: Ubuntu 22.04 LTS server.
* At least 2 cores of CPU for each server/node.
* Min 2+GB RAM as per number of applications increases.
* Disabling swap memory.

Note: Swap memory is stored on disc, unlike RAM. Recommended to do so by kubernetes.

* Proper network, not NAT.

Containerd and k8s setup:

Since docker was deprecated by kubernetes, we are going to use containerd for containerization.

* Install and setup containerd as CRI for kubernetes.
* Install kubeadm, kubelet and kubectl packages.

Note: kubelet is the daemon service for our nodes in the cluster. Kubectl is a CLI tool which we use to pass commands.

* Setup Calico as CNI for k8s networking.

Note: Calico assigns the ip address for pods. By default, Calico uses overlay networking.

* Disable taints on control plane nodes for single-node setups.