**Kubernetes Setup**

Reference: <https://vitux.com/install-and-deploy-kubernetes-on-ubuntu/>

**Docker:**

(At all nodes)

sudo apt install docker.io

sudo systemctl enable docker

**Kubernetes:**

(At all nodes)

curl -s https://packages.cloud.google.com/apt/doc/apt-key.gpg | sudo apt-key add

sudo apt-add-repository "deb http://apt.kubernetes.io/ kubernetes-xenial main"

sudo apt install kubeadm

sudo swapoff –a Disable swap memory

hostnamectl set-hostname <hostname> Set unique hostname

(At master node)

sudo kubeadm init --pod-network-cidr=10.244.0.0/16 Initialize the master node

This command will output information for joining machine, please note down the output.

(Run following as regular user at Master Node)

mkdir -p $HOME/.kube

sudo cp -i /etc/kubernetes/admin.conf $HOME/.kube/config

sudo chown $(id -u):$(id -g) $HOME/.kube/config

**To join machine:**

kubeadm join <Master Node IP>:6443 --token <Token> --discovery-token-ca-cert-hash sha256:<CA sha256> This command come from initialization of master node.

Example:

sudo kubeadm join 140.92.152.61:6443 --token wkry3m.fn4umk0u9ugmlfxz \

--discovery-token-ca-cert-hash sha256:2ae3a437401e230bfbe2b0022baa199fea03e39002f7c4f5f515a1c70f05b353

Note:

The token will expire after 24 hours, to generate new token:

<https://blog.csdn.net/mailjoin/article/details/79686934>

(At Master Node)

kubeadm token create (--ttl 0)

--ttl 0 will create non-expire token

To get CA SHA256:

<https://kubernetes.io/docs/reference/setup-tools/kubeadm/kubeadm-join/#token-based-discovery-with-ca-pinning>

(At Master Node)

openssl x509 -pubkey -in /etc/kubernetes/pki/ca.crt | openssl rsa -pubin -outform der 2>/dev/null | openssl dgst -sha256 -hex | sed 's/^.\* //'

To check Nodes in kubernetes Cluster:

(At Master Node)

Kubectl get nodes

Deploy a Pod Network:

sudo kubectl apply -f https://raw.githubusercontent.com/coreos/flannel/master/Documentation/kube-flannel.yml