

Setup Kubernetes

Kubernetes setup - Introduction
and k3s





Set up a Highly Available Kubernetes Cluster using kubeadm

#1. Install docker engine

```
{  
  apt install -y apt-transport-https ca-certificates curl gnupg-agent  
software-properties-common  
  curl -fsSL https://download.docker.com/linux/ubuntu/gpg | apt-key add -  
  add-apt-repository "deb [arch=amd64]  
https://download.docker.com/linux/ubuntu $(lsb_release -cs) stable"  
  apt update && apt install -y docker-ce=5:19.03.10~3-0~ubuntu-focal  
containerd.io  
}
```



Kubernetes Setup

#1. Add Apt repository

```
{  
    curl -s https://packages.cloud.google.com/apt/doc/apt-key.gpg | apt-key  
add -  
    echo "deb https://apt.kubernetes.io/ kubernetes-xenial main" >  
/etc/apt/sources.list.d/kubernetes.list  
}
```

#2. Install Kubernetes components

```
apt update && apt install -y kubeadm=1.19.2-00 kubelet=1.19.2-00  
kubectl=1.19.2-00
```

On any one of the Kubernetes master node (Eg: kmaster1)

Initialize Kubernetes Cluster

```
kubeadm init
```

Deploy Calico network

```
kubectl --kubeconfig=/etc/kubernetes/admin.conf create -f  
https://docs.projectcalico.org/v3.15/manifests/calico.yaml
```

Join other nodes to the cluster (kmaster2 & kworker1)

```
kubeadm join 172.31.24.35:6443 --token 2pyjvv.xcxzeu39pf8n2x3f \  
--discovery-token-ca-cert-hash  
sha256:0528afd30426f7fd7ed2aa6fa1e9679efe7e02129ffa13773d817ac8b955d542
```

K3s Installation



Install And Enable k3s

```
curl -sfL https://get.k3s.io | sh -  
  
systemctl status k3s
```

Check below directory exists or not no your local system if already exists then delete that older dir

```
cd ~/.kube  
  
sudo rm -rf ~/.kube
```

Create new directory

```
mkdir ~/.kube
```



Then go to below direcorey

```
cd ~/.kube
```

Copy the k3s.yaml file from rancher to kube directory

```
sudo cp /etc/rancher/k3s/k3s.yaml ~/.kube
```

Copy the k3s.yaml file to config

```
sudo cp k3s.yaml config
```

Set the permission to config file to access

```
sudo chmod 644 config
```

Now your machine is ready

```
kubectl get node
```

Uninstall k3s

AGE

VERSION

control-plane,master 42m/usr/local/bin/k3s-uninstall.sh