**Kubernetes Installation through kubeadm method on Ubuntu16.04**

**Step1) Prerequisites**

Master 2vcpu -4gb ram

Worker1 2vcpu - 4gb ram

Worker2 1vcpu - 3gb ram

**Step 2) Disable Firewall , Swap off memory**

**(**<https://www.mirantis.com/blog/how-install-kubernetes-kubeadm/>)

**# Sudo Privileges**

sudo su -

**#Checking state of firewall:-**

sudo firewall-cmd --state

**#Stopping the fire wall**

systemctl stop firewalld

**#Disabling swap off memory :-**

(<https://docs.platform9.com/support/disabling-swap-kubernetes-node/>)

**Disable SWAP for kubernetes installation by running the following commands.**

swapoff -a

sed -i '/ swap / s/^\(.\*\)$/#\1/g' /etc/fstab

**#Disable SE Linux**

(<https://linuxize.com/post/how-to-disable-selinux-on-centos-7/>)

**#status of se linix**

sestatus

setenforce 0

set -i 's/enforcing/disabled/g' /etc/selinix/config

**Step3:) Download and Install Docker | kubelet |kubeadm | kubectl**

(<https://www.howtoforge.com/tutorial/centos-kubernetes-docker-cluster/> )

**#Note : below commands be executed on all nodes**

**#Add the kubernetes repository to the centos 7 system by running the following command.**

cat <<EOF > /etc/yum.repos.d/kubernetes.repo

[kubernetes]

name=Kubernetes

baseurl=https://packages.cloud.google.com/yum/repos/kubernetes-el7-x86\_64

enabled=1

gpgcheck=1

repo\_gpgcheck=1

gpgkey=https://packages.cloud.google.com/yum/doc/yum-key.gpg

https://packages.cloud.google.com/yum/doc/rpm-package-key.gpg

EOF

**# Install the package dependencies for docker-ce.**

yum install -y yum-utils device-mapper-persistent-data lvm2

yum-config-manager --add-repo https://download.docker.com/linux/centos/docker-ce.repo

**#Installing docker and kubernetes**

yum update -y

yum install -y docker-ce kubelet kubeadm kubectl --disableexcludes=kubernetes

**#starting docker and kubernetes services**

usermod -aG docker $(whoami)

systemctl enable docker && systemctl start docker

systemctl enable kubelet && systemctl start kubelet

cat <<EOF > /etc/sysctl.d/k8s.conf

net.bridge.bridge-nf-call-ip6tables = 1

net.bridge.bridge-nf-call-iptables = 1

EOF

sysctl net.bridge.bridge-nf-call-ip6tables=1

sysctl net.ipv4.ip\_forward=1

sysctl --system

echo "1" > /proc/sys/net/ipv4/ip\_forward

**#restarting services**

systemctl daemon-reload

systemctl restart kubelet

**STEP 4: Configuring Kubernetes master node.**

**MASTER ONLY**

**kubeadm init --apiserver-advertise-address=10.160.0.4 --pod-network-cidr=10.244.0.0/16**

**OR**

kubeadm init --pod-network-cidr=10.244.0.0/16

mkdir -p $HOME/.kube

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

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

**Flannel network plugin install pod network**

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

**NODES**

**JOIN command**

Then you can join any number of worker nodes by running the following on each as root:

kubeadm join 10.160.0.4:6443 --token 6ye73m.38vedxl8h38a3jq3 \

--discovery-token-ca-cert-hash sha256:841b7c37006ab8c86fe986c54e750057ddefe8705929bfaf1ed093848b681443

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**warning.**

[init] Using Kubernetes version: v1.15.1

[preflight] Running pre-flight checks

[WARNING IsDockerSystemdCheck]: detected "cgroupfs" as the Docker cgroup driver. The recommended driver is "systemd". Please follow the guide at https://kubernetes.io/docs/setup/cri/

[WARNING SystemVerification]: this Docker version is not on the list of validated versions: 19.03.1. Latest validated version: 18.09

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