**Kubernetes Installation Instructions**

***\*\*Following steps needs to be performed on Master and all the worker nodes:***

1. The first thing that we are going to do is use SSH to log in to all machines. Once we have logged in, we need to elevate privileges using sudo.

sudo su

1. Disable SELinux.

setenforce 0

sed -i --follow-symlinks 's/SELINUX=enforcing/SELINUX=disabled/g' /etc/sysconfig/selinux

1. Enable the br\_netfilter module for cluster communication.

modprobe br\_netfilter

echo '1' > /proc/sys/net/bridge/bridge-nf-call-iptables

1. Disable swap to prevent memory allocation issues.

swapoff -a

1. Install Docker CE.
2. Install the Docker prerequisites.

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

1. Add the Docker repo and install Docker.

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

yum install -y docker-ce

1. Add the Kubernetes repo.

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=0

repo\_gpgcheck=0

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

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

EOF

1. Install Kubernetes.

yum install -y kubelet kubeadm kubectl

1. Reboot.
2. Enable and start Docker and Kubernetes.

systemctl enable docker

systemctl enable kubelet

systemctl start docker

systemctl start kubelet

1. Check the group Docker is running in.

docker info | grep -i cgroup

1. Set Kubernetes to run in the same group.

sed -i 's/cgroup-driver=systemd/cgroup-driver=cgroupfs/g' /etc/systemd/system/kubelet.service.d/10-kubeadm.conf

1. Reload systemd for the changes to take effect, and then restart Kubernetes.

systemctl daemon-reload

systemctl restart kubelet

***\*\*Following steps needs to be performed ONLY on Master!***

1. Initialize the cluster using the IP range for Flannel.

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

1. Copy the kubeadmin join command.
2. Deploy Flannel.

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

1. Exit sudo and run the following:

mkdir -p $HOME/.kube

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

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

1. Check the cluster state.

Kubectl get pods —all-namespaces

***Note: Complete the following steps on the NODES ONLY!***

1. Run the join command that you copied earlier, then check your nodes from the master.

Kubectl get nodes