Kubernetes Install Steps

Ubuntu-

```
sudo mkdir /etc/docker

cat <<EOF | sudo tee /etc/docker/daemon.json
{
"exec-opts": ["native.cgroupdriver=systemd"],
"log-driver": "json-file",
"log-opts": {
  "max-size": "100m"
},
   "storage-driver": "overlay2"
}
EOF

cat /etc/docker/daemon.json

sudo apt-get update

sudo apt-get install     apt-transport-https     ca-certificates     curl     gnupg
lsb-release

curl -fsSL https://download.docker.com/linux/ubuntu/gpg | sudo gpg --dearmor -o
/usr/share/keyrings/docker-archive-keyring.gpg

echo   "deb [arch=amd64 signed-by=/usr/share/keyrings/docker-archive-keyring.gpg]
https://download.docker.com/linux/ubuntu \
$(lsb_release -cs) stable" | sudo tee /etc/apt/sources.list.d/docker.list > /dev/null

sudo apt-get update

sudo add-apt-repository "deb [arch=amd64] https://download.docker.com/linux/ubuntu \
$(lsb_release -cs) stable"
```

Then, set up the Docker and Kubernetes repositories:

```
curl -fsSL https://download.docker.com/linux/ubuntu/gpg | sudo apt-key add -

sudo add-apt-repository    "deb [arch=amd64] https://download.docker.com/linux/ubuntu
\
   $(lsb_release -cs) \
   stable"

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

```
cat << EOF | sudo tee /etc/apt/sources.list.d/kubernetes.list
deb https://apt.kubernetes.io/ kubernetes-xenial main
EOF
```

Install Docker and Kubernetes packages:

Note that if you want to use a newer version of Kubernetes, change the version installed for `kubelet`, `kubeadm`, and `kubectl`. Make sure all three use the same version.

```
sudo apt-get update

sudo apt-get install -y docker-ce=18.06.1~ce~3-0~ubuntu kubelet=1.14.5-00
kubeadm=1.14.5-00 kubectl=1.14.5-00

sudo apt-mark hold docker-ce kubelet kubeadm kubectl
```

Enable iptables bridge call:

```
echo "net.bridge.bridge-nf-call-iptables=1" | sudo tee -a /etc/sysctl.conf

sudo modprobe br_netfilter

sudo sysctl -p
```

On the Kube Master Server

Initialize the cluster:

```
sudo nano /proc/sys/net/ipv4/ip_forward
(Change from 0 to 1)

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

Set up local `kubeconfig`:

```
mkdir -p $HOME/.kube

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

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

Install Flannel networking:

```
kubectl apply -f
https://raw.githubusercontent.com/coreos/flannel/bc79dd1505b0c8681ece4de4c0d86c5cd2643275/Documentation/kube-flannel.yml
```

Note: If you are using Kubernetes 1.16 or later, you will need to use a newer flannel installation yaml instead:

```
kubectl apply -f
https://raw.githubusercontent.com/coreos/flannel/3f7d3e6c24f641e7ff557ebcea1136fdf4b1b6a1/Documentation/kube-flannel.yml
```

On Each Kube Node Server

Join the node to the cluster. Do this by copying the provided line from the output when initializing the master node. Keep in mind that when copying the command, the system will add a newline character if it stretches over multiple lines in the web terminal. To get around this, copy the command to a text editor and make sure it fits on one entire line. It should look something like the following:

```
sudo kubeadm join $controller_private_ip:6443 --token $token
--discovery-token-ca-cert-hash $hash
```

On the Kube Master Server

Verify that all nodes are joined and ready:

```
kubectl get nodes
```

You should see all three servers with a status of Ready:

```
NAME                      STATUS   ROLES    AGE   VERSION
wboyd1c.mylabserver.com   Ready    master   54m   v1.13.4
wboyd2c.mylabserver.com   Ready    <none>   49m   v1.13.4
wboyd3c.mylabserver.com   Ready    <none>   49m   v1.13.4
```

Centos 7

https://phoenixnap.com/kb/how-to-install-kubernetes-on-centos

Step 1 from above link
sudo yum install -y kubelet kubeadm kubectl

```
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

 yum install docker
 docker version
 systemctl enable docker
 systemctl start docker
 kubeadm init --pod-network-cidr=10.244.0.0/16 --ignore-preflight-errors=All
```

Step 2 Set Home Dir

```
mkdir -p $HOME/.kube

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

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

Step 3 Setup cgroup driver as systemd. Kubelet and docker should use same cgroup driver

```
cat <<EOF | sudo tee /etc/docker/daemon.json
{
"exec-opts": ["native.cgroupdriver=systemd"],
"log-driver": "json-file",
"log-opts": {
  "max-size": "100m"
},
   "storage-driver": "overlay2"
}
EOF
```

Now join other nodes

```
kubeadm join $controller_private_ip:6443 --token $token
--discovery-token-ca-cert-hash $hash

Example -
```

kubeadm join 172.31.94.18:6443 --token <> --discovery-token-ca-cert-hash
sha256:d2da04720c250576ef476015cc2c5fe8a8d0f6842e281c99b42f3b39b35227e3