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3 contributors

99 lines (93 sloc) | 2.78 KB

Install Kubernetes Cluster using kubeadm

Follow this documentation to set up a Kubernetes cluster on **CentOS 7**.

This documentation guides you in setting up a cluster with one master node and one worker node.

Assumptions

Role	FQDN	IP	OS	RAM	CPU
Master	kmaster.example.com	172.16.16.100	CentOS 7	2G	2
Worker	kworker.example.com	172.16.16.101	CentOS 7	1G	1

On both Kmaster and Kworker

Perform all the commands as root user unless otherwise specified

Disable Firewall

```
systemctl disable firewalld; systemctl stop firewalld
```

Disable swap

```
swapoff -a; sed -i '/swap/d' /etc/fstab
```

Disable SELinux

```
setenforce 0
sed -i --follow-symlinks 's/^SELINUX=enforcing/SELINUX=disabled/' /etc/sysconfig/selinux
```

Update sysctl settings for Kubernetes networking

```
cat >>/etc/sysctl.d/kubernetes.conf<<EOF
net.bridge.bridge-nf-call-ip6tables = 1
net.bridge.bridge-nf-call-iptables = 1
EOF
sysctl --system
```

Install docker engine

```
yum install -y yum-utils device-mapper-persistent-data lvm2
yum-config-manager --add-repo https://download.docker.com/linux/centos/docker-ce.repo
yum install -y docker-ce-19.03.12
systemctl enable --now docker
```

Kubernetes Setup

Add yum repository

```
cat >>/etc/yum.repos.d/kubernetes.repo<<EOF
[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 Kubernetes components

```
yum install -y kubeadm-1.18.5-0 kubelet-1.18.5-0 kubectl-1.18.5-0
```

Enable and Start kubelet service

```
systemctl enable --now kubelet
```

On kmaster

Initialize Kubernetes Cluster

```
kubeadm init --apiserver-advertise-address=172.16.16.100 --pod-network-cidr=192.168.0.0/16
```

Deploy Calico network

```
kubectl --kubeconfig=/etc/kubernetes/admin.conf create -f https://docs.projectcalico.org/v3.14/manifests/calico.yaml
```

Cluster join command

```
kubeadm token create --print-join-command
```

To be able to run kubectl commands as non-root user

If you want to be able to run kubectl commands as non-root user, then as a non-root user perform these

```
mkdir -p $HOME/.kube
sudo cp -i /etc/kubernetes/admin.conf $HOME/.kube/config
sudo chown $(id -u):$(id -g) $HOME/.kube/config
```

On Kworker

Join the cluster

Use the output from **kubeadm token create** command in previous step from the master server and run here.

Verifying the cluster

Get Nodes status

```
kubectl get nodes
```

Get component status

```
kubectl get cs
```

Have Fun!!