节点IP地址：192.168.30.141

节点主机名：k8s-master-01

flannel部署方式有两种方式：

1. YAML文件
2. 二进制文件

证书存放目录：/etc/kubernetes/flannel/ssl/

配置文件目录：/etc/kubernetes/flannel/conf/

CNI插件目录：/opt/cni/bin/ /etc/cni/net.d/

1. YAML文件部署方式

创建所需目录

mkdir -p /opt/cni/bin/ /etc/cni/net.d/

下载CNI插件文件

cd /usr/local/src/

wget https://github.com/containernetworking/plugins/releases/download/v0.8.6/cni-plugins-linux-amd64-v0.8.6.tgz

tar xf cni-plugins-linux-amd64-v0.8.6.tgz -C /opt/cni/bin/

下载YAML文件

wget https://raw.githubusercontent.com/shadowmktk/kubernetes/master/kube-flannel/kube-flannel-v0.12.0-amd64.yaml

部署flannel组件

kubectl apply -f kube-flannel-v0.12.0-amd64.yaml

检查组件状态

kubectl get pods -n kube-system

1. 二进制文件部署方式

创建所需目录

mkdir -p /etc/kubernetes/flannel/{ssl,conf} /opt/cni/bin /etc/cni/net.d/

创建证书签名请求

cd /usr/local/src/ssl/

cat > flannel-csr.json <<EOF

{

"CN": "flannel",

"hosts": [],

"key": {

"algo": "rsa",

"size": 2048

},

"names": [{

"C": "CN",

"ST": "BeiJing",

"L": "BeiJing",

"OU": "System"

}]

}

EOF

生成证书和私钥

cfssl gencert -ca=/etc/kubernetes/ssl/ca.pem \

-ca-key=/etc/kubernetes/ssl/ca-key.pem \

-config=/etc/kubernetes/ssl/ca-config.json \

-profile=kubernetes flannel-csr.json | cfssljson -bare flannel

复制证书和私钥到证书文件目录

cp flannel.pem flannel-key.pem /etc/kubernetes/flannel/ssl/

下载flannel二进制文件

cd /usr/local/src/

wget https://github.com/shadowmktk/kubernetes/blob/master/kube-flannel/flannel-v0.12.0-linux-amd64.tar.gz

tar xf flannel-v0.12.0-linux-amd64.tar.gz

cp /usr/local/src/{flanneld,mk-docker-opts.sh} /usr/bin/

创建flannel配置文件

cat > /etc/kubernetes/flannel/conf/flannel.conf <<EOF

FLANNEL\_ETCD="-etcd-endpoints=https://192.168.30.141:2379,https://192.168.30.142:2379,https://192.168.30.143:2379"

FLANNEL\_ETCD\_KEY="-etcd-prefix=/coreos.com/network"

FLANNEL\_ETCD\_CAFILE="-etcd-cafile=/etc/kubernetes/ssl/ca.pem"

FLANNEL\_ETCD\_CERTFILE="-etcd-certfile=/etc/kubernetes/flannel/ssl/flannel.pem"

FLANNEL\_ETCD\_KEYFILE="-etcd-keyfile=/etc/kubernetes/flannel/ssl/flannel-key.pem"

EOF

创建服务文件

cat > /usr/lib/systemd/system/flannel.service <<EOF

[Unit]

Description=Flanneld overlay address etcd agent

After=network.target

Before=docker.service

[Service]

EnvironmentFile=-/etc/kubernetes/flannel/conf/flannel.conf

ExecStart=/usr/bin/flanneld \${FLANNEL\_ETCD} \${FLANNEL\_ETCD\_KEY} \${FLANNEL\_ETCD\_CAFILE} \${FLANNEL\_ETCD\_CERTFILE} \${FLANNEL\_ETCD\_KEYFILE}

ExecStartPost=/usr/bin/mk-docker-opts.sh -d /run/flannel/docker

Type=notify

[Install]

WantedBy=multi-user.target

RequiredBy=docker.service

EOF

下载CNI插件文件

cd /usr/local/src/

wget https://github.com/containernetworking/plugins/releases/download/v0.8.6/cni-plugins-linux-amd64-v0.8.6.tgz

tar xf cni-plugins-linux-amd64-v0.8.6.tgz -C /opt/cni/bin/

创建CNI插件配置文件

cat > /etc/cni/net.d/10-flannel.conflist <<EOF

{

"name": "cbr0",

"cniVersion": "0.3.1",

"plugins": [{

"type": "flannel",

"delegate": {

"hairpinMode": true,

"isDefaultGateway": true

}

},

{

"type": "portmap",

"capabilities": {

"portMappings": true

}

}]

}

EOF

启动服务并设置为开机自启动

systemctl daemon-reload

systemctl enable flannel

systemctl start flannel

systemctl status flannel