证书可用时限

1、go 环境部署

```
wget https://dl.google.com/go/go1.12.7.linux-amd64.tar.gz
tar -zxvf go1.12.1.linux-amd64.tar.gz -C /usr/local

vi /etc/profile
    export PATH=$PATH:/usr/local/go/bin
source /etc/profile
```

2、下载源码

```
cd /data && git clone https://github.com/kubernetes/kubernetes.git
git checkout -b remotes/origin/release-1.15.1 v1.15.1
```

3、修改 Kubeadm 源码包更新证书策略

```
vim staging/src/k8s.io/client-go/util/cert/cert.go  # kubeadm 1.14 版本之前
vim cmd/kubeadm/app/util/pkiutil/pki_helpers.go # kubeadm 1.14 至今
    const duration365d = time.Hour * 24 * 365
    NotAfter:     time.Now().Add(duration365d).UTC(),

make WHAT=cmd/kubeadm GOFLAGS=-v
cp _output/bin/kubeadm /root/kubeadm-new
```

4、更新 kubeadm

```
# 将 kubeadm 进行替换
cp /usr/bin/kubeadm /usr/bin/kubeadm.old
cp /root/kubeadm-new /usr/bin/kubeadm
chmod a+x /usr/bin/kubeadm
```

5、更新各节点证书至 Master 节点

```
cp -r /etc/kubernetes/pki /etc/kubernetes/pki.old
cd /etc/kubernetes/pki
kubeadm alpha certs renew all --config=/root/kubeadm-config.yaml
openssl x509 -in apiserver.crt -text -noout | grep Not
```

6、HA集群其余 mater 节点证书更新

```bash
#!/bin/bash

masterNode="192.168.66.20 192.168.66.21"
#for host in ${masterNode}; do
#    scp /etc/kubernetes/pki/{ca.crt,ca.key,sa.key,sa.pub,front-proxy-ca.crt,front-proxy-ca.key}
"${USER}"@$host:/etc/kubernetes/pki/
#    scp /etc/kubernetes/pki/etcd/{ca.crt,ca.key} "root"@$host:/etc/kubernetes/pki/etcd
#    scp /etc/kubernetes/admin.conf "root"@$host:/etc/kubernetes/
#done
for host in ${CONTROL_PLANE_IPS}; do
    scp /etc/kubernetes/pki/{ca.crt,ca.key,sa.key,sa.pub,front-proxy-ca.crt,front-proxy-ca.key}
"${USER}"@$host:/root/pki/
    scp /etc/kubernetes/pki/etcd/{ca.crt,ca.key} "root"@$host:/root/etcd
    scp /etc/kubernetes/admin.conf "root"@$host:/root/kubernetes/
done
```