搭建etcd集群 （2台机器也可以运行，生产还是建议3台）
选择本次机器编号 141 148 146

关闭防火墙，禁止开机启动（开发环境）
systemctl stop firewalld.service
systemctl disable firewalld.service

打开外网2379端口，内网2380端口（同时配置阿里云防火墙控制台）

安装etcd
yum install etcd -y
~~创建etcd系统用户：~~
~~sudo groupadd --system etcd~~
~~sudo useradd -s /sbin/nologin --system -g etcd etcd~~
将/var/lib/etcd/目录所有权设置为etcd用户：
sudo chown -R etcd:etcd /var/lib/etcd/

etcd.x86_64 0:3.3.11-2.el7.centos
配置etcd版本
vim /etc/profile
export ETCDCTL_API=3
source /etc/profile
清理etcd目录文件
rm -rf /var/lib/etcd/default.etcd/*

本次部署集群采用静态发现（预先配置）
节点名称 ip
master 10.0.0.148   对外开放2379,内网开放2380
node1   10.0.0.141   对外开放2379,内网开放2380
node2   10.0.0.146   对外开放2379,内网开放2380
etcd 集群配置
vim /etc/etcd/etcd.conf

master节点ectd 配置

```
1  #[Member]
2  ETCD_DATA_DIR="/var/lib/etcd/default.etcd"
3  ETCD_LISTEN_PEER_URLS="http://0.0.0.0:2380"
4  ETCD_LISTEN_CLIENT_URLS="http://0.0.0.0:2379"
5  ETCD_NAME="master"
6  #
7  #[Clustering]
8  ETCD_INITIAL_ADVERTISE_PEER_URLS="http://localhost:2380"
9  ETCD_ADVERTISE_CLIENT_URLS="http://10.0.0.148:2379"
10  ETCD_INITIAL_CLUSTER="master=http://localhost:2380,node1=http://10.0.0.141:2380,node2=http://10.0.0
11  ETCD_INITIAL_CLUSTER_TOKEN="etcd-cluster"
12  ETCD_INITIAL_CLUSTER_STATE="new"
```

node1节点配置

```
1   #〔Member〕
2   ETCD_DATA_DIR="/var/lib/etcd/default.etcd"
3   ETCD_LISTEN_PEER_URLS="http://0.0.0.0:2380"
4   ETCD_LISTEN_CLIENT_URLS="http://0.0.0.0:2379"
5   ETCD_NAME="node1"
6   #
7   #〔Clustering〕
8   ETCD_INITIAL_ADVERTISE_PEER_URLS="http://localhost:2380"
9   ETCD_ADVERTISE_CLIENT_URLS="http://10.0.0.141:2379"
10  ETCD_INITIAL_CLUSTER="master=http://10.0.0.148:2380,node1=http://localhost:2380,node2=http://10.0.0
11  ETCD_INITIAL_CLUSTER_TOKEN="etcd-cluster"
12  ETCD_INITIAL_CLUSTER_STATE="new"
```

node2节点配置

```
1   #〔Member〕
2   ETCD_DATA_DIR="/var/lib/etcd/default.etcd"
3   ETCD_LISTEN_PEER_URLS="http://0.0.0.0:2380"
4   ETCD_LISTEN_CLIENT_URLS="http://0.0.0.0:2379"
5   ETCD_NAME="node2"
6   #
7   #〔Clustering〕
8   ETCD_INITIAL_ADVERTISE_PEER_URLS="http://localhost:2380"
9   ETCD_ADVERTISE_CLIENT_URLS="http://10.0.0.146:2379"
10  ETCD_INITIAL_CLUSTER="master=http://10.0.0.148:2380,node1=http://10.0.0.141:2380,node2=http://local
11  ETCD_INITIAL_CLUSTER_TOKEN="etcd-cluster"
12  ETCD_INITIAL_CLUSTER_STATE="new"
```

每台机器上启动etcd

systemctl daemon-reload

 systemctl enable etcd

 systemctl start etcd

查看集群成员信息

etcdctl member list

查看当前节点状态

v3

etcdctl --write-out=table endpoint status

v2

etcdctl cluster-health

查看集群状态

etcdctl --write-out=table --endpoints=10.211.55.141:2379,10.211.55.146:2379,10.211.55.148:2379 endpoint

status

```
+--------------------+------------------+---------+---------+-----------+-----------+------------+
|      ENDPOINT      |       ID         | VERSION | DB SIZE | IS LEADER | RAFT TERM | RAFT INDEX |
+--------------------+------------------+---------+---------+-----------+-----------+------------+
| 10.10.10.141:2379  | 2d7cf5f6dba3701b |  3.3.11 |  20 kB  |   false   |    51     |     14     |
| 10.10.10.146:2379  | 82728d7983f11483 |  3.3.11 |  20 kB  |   false   |    51     |     14     |
| 10.10.10.148:2379  | 219e420ad76edca4 |  3.3.11 |  20 kB  |    true   |    51     |     14     |
+--------------------+------------------+---------+---------+-----------+-----------+------------+
```

集群检查检查

```
etcdctl --write-out=table --endpoints=10.211.55.141:2379,10.211.55.146:2379,10.211.55.148:2379  endpoint health
10.10.10.141:2379 is healthy: successfully committed proposal: took = 2.663904ms
10.10.10.146:2379 is healthy: successfully committed proposal: took = 2.615449ms
10.10.10.148:2379 is healthy: successfully committed proposal: took = 2.651264ms
```

在master上执行

```
etcdctl  put hello yangq
etcdctl get hello
```

在其他节点上执行

```
etcdctl get hello
```

在任意副本节点指向

```
etcdctl  put world qiangy
etcdctl get world
```

在其他节点执行

```
etcdctl get world
```

使用部署：

```
export ETCDCTL_API=3
export ETCDV3_SERVER_URL=http://10.211.55.141:2379,http://10.211.55.146:2379,http://10.211.55.148:2379
```

部署参考

https://etcd.io/docs/v3.1.12/demo/