

# Demo

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通用环境变量设置，编写启动脚本

```
#!/bin/bash

export TOKEN=token-01
export CLUSTER_STATE=new
export NAME_1=etcd01
export NAME_2=etcd02
export NAME_3=etcd03
export HOST_1=192.168.74.201
export HOST_2=192.168.74.202
export HOST_3=192.168.74.203
export
CLUSTER=${NAME_1}=http://${HOST_1}:2380,${NAME_2}=http://${HOST_2}:2380,${NAME_3}=http://${HOST_3}:2380
export THIS_NAME=${NAME_1}
export THIS_IP=${HOST_1}
export ENDPOINTS=192.168.74.201:2379,192.168.74.202:2379,192.168.74.203:2379

etcd --data-dir=data.etcd --name ${THIS_NAME} \
    --initial-advertise-peer-urls http://${THIS_IP}:2380 --listen-peer-urls
http://${THIS_IP}:2380 \
    --advertise-client-urls http://${THIS_IP}:2379 --listen-client-urls http://0.0.0.0:2379 \
    --initial-cluster ${CLUSTER} \
    --initial-cluster-state ${CLUSTER_STATE} --initial-cluster-token ${TOKEN}
```

## 基本操作

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### put

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```
[root@etcd01 ~]# etcdctl put --endpoints=$ENDPOINTS web1 value1
OK
[root@etcd01 ~]# etcdctl put --endpoints=$ENDPOINTS web2 value2
OK
[root@etcd01 ~]# etcdctl put --endpoints=$ENDPOINTS web3 value3
OK
```

### get

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```
[root@etcd01 ~]# etcdctl get --endpoints=$ENDPOINTS web2
web2
value2
```

```
# get by prefix
[root@etcd01 ~]# etcdctl get --endpoints=$ENDPOINTS web --prefix
web1
value1
web2
value2
web3
value3
```

## watch

监控某一或某些键值对的变化

```
etcdctl --endpoints=$ENDPOINTS watch stock1
etcdctl --endpoints=$ENDPOINTS put stock1 1000

etcdctl --endpoints=$ENDPOINTS watch stock --prefix
etcdctl --endpoints=$ENDPOINTS put stock1 10
etcdctl --endpoints=$ENDPOINTS put stock2 20
```

## lease

租约机制TTL，支持keep-alive续租，支持revoke撤销

```
etcdctl --endpoints=$ENDPOINTS lease grant 300
# Lease 2be7547fbc6a5afa granted with TTL(300s)

# 使用Lease
etcdctl --endpoints=$ENDPOINTS put sample value --lease=2be7547fbc6a5afa
etcdctl --endpoints=$ENDPOINTS get sample

etcdctl --endpoints=$ENDPOINTS lease keep-alive 2be7547fbc6a5afa
etcdctl --endpoints=$ENDPOINTS lease revoke 2be7547fbc6a5afa
# or after 300 seconds
etcdctl --endpoints=$ENDPOINTS get sample
```

## lock分布式锁

```
etcdctl --endpoints=$ENDPOINTS lock mutex1

# another client with the same name blocks
etcdctl --endpoints=$ENDPOINTS lock mutex1
```

# 集群状态

```
etcdctl --write-out=table --endpoints=$ENDPOINTS endpoint status
```

# 快照

```
[root@etcd01 ~]# etcdctl --endpoints=192.168.74.201:2379 snapshot save my.db
{"level":"info","ts":1628157982.6030016,"caller":"snapshot/v3_snapshot.go:68","msg":"created temporary db file","path":"my.db.part"}
{"level":"info","ts":1628157982.6039493,"logger":"client","caller":"v3/maintenance.go:211","msg":"opened snapshot stream; downloading"}
{"level":"info","ts":1628157982.6039803,"caller":"snapshot/v3_snapshot.go:76","msg":"fetching snapshot","endpoint":"192.168.74.201:2379"}
{"level":"info","ts":1628157982.6051815,"logger":"client","caller":"v3/maintenance.go:219","msg":"completed snapshot read; closing"}
{"level":"info","ts":1628157982.6225078,"caller":"snapshot/v3_snapshot.go:91","msg":"fetched snapshot","endpoint":"192.168.74.201:2379","size":"20 kB","took":"now"}
{"level":"info","ts":1628157982.6225886,"caller":"snapshot/v3_snapshot.go:100","msg":"saved","path":"my.db"}
Snapshot saved at my.db
```

# 数据迁移

```
export ETCDCCTL_API=2
etcdctl --endpoints=http://$ENDPOINT set foo bar
# read key in etcd v2
etcdctl --endpoints=$ENDPOINTS --output="json" get foo

# stop etcd node to migrate, one by one

# migrate v2 data
export ETCDCCTL_API=3
etcdctl --endpoints=$ENDPOINT migrate --data-dir="default.etcd" --wal-dir="default.etcd/member/wal"
# restart etcd node after migrate, one by one

# confirm that the key got migrated
etcdctl --endpoints=$ENDPOINTS get /foo
```

# RBAC

```
etcdctl --endpoints=${ENDPOINTS} role add root
etcdctl --endpoints=${ENDPOINTS} role grant-permission root readwrite foo
etcdctl --endpoints=${ENDPOINTS} role get root

etcdctl --endpoints=${ENDPOINTS} user add root
etcdctl --endpoints=${ENDPOINTS} user grant-role root root
etcdctl --endpoints=${ENDPOINTS} user get root
```

```
etcdctl --endpoints=${ENDPOINTS} auth enable
```

*# now all client requests go through auth*

```
etcdctl --endpoints=${ENDPOINTS} --user=root:123 put foo bar
```

```
etcdctl --endpoints=${ENDPOINTS} get foo
```

```
etcdctl --endpoints=${ENDPOINTS} --user=root:123 get foo
```

```
etcdctl --endpoints=${ENDPOINTS} --user=root:123 get foo1
```