etcdctl etcd command line

START HERE

`etcdctl put <key> <value>`
Write a key

`etcdctl watch <key>`
Stream changes

`etcdctl get <key>`
Read a key

`etcdctl endpoint health`
Is it up?

`etcdctl get <prefix> --prefix`
Read by prefix

`etcdctl member list`
Show cluster

`etcdctl del <key>`
Delete a key

`etcdctl snapshot save <file>`
Back up the DB

put / del writes bump the revision → `raft` → **Cluster** members agree on one history → `compact` → **History** old revisions pile up → `defrag` → **Disk** space is returned

CONCEPTS

Every key has a revision. Reads, watches and compaction all work in revisions, not timestamps.

Without --endpoints etcdctl talks to 127.0.0.1:2379. Secure clusters need the TLS flags on every call.

Snapshot restore and status moved to etcdutl in v3.6. etcdctl keeps only snapshot save.

CONNECTION

`--endpoints=<host:port,...>`
Cluster members to contact
Also ETCDCTL_ENDPOINTS. Any flag maps to ETCDCTL_<NAME> in upper case with underscores.

`--cacert=<ca.crt>`
CA that signed the server cert

`--cert=<client.crt> --key=<client.key>`
Client certificate and key

`--user=<user>[:<password>]`
Authenticate as a user

`-w json`
Output as JSON (also table, fields)
Default is simple. table and fields suit endpoint and member commands.

`--dial-timeout=<dur>`
Give up connecting after a time

`export ETCDCTL_ENDPOINTS=<list>`
Set the flag once per shell

`etcdctl version`
Print client version

KEYS

`etcdctl put <key> <value>`
Set a key

`etcdctl get <key>`
Read a key and its value

`etcdctl get <key> --print-value-only`
Value only, no key line

`etcdctl get --prefix <prefix>`
All keys starting with a prefix

`etcdctl get --prefix --keys-only <prefix>`
List key names only

`etcdctl get <key> <end-key>`
Range from key up to end-key

KEYS (cont.)

`etcdctl get --from-key <key>`
All keys at or after a key

`etcdctl get <key> --limit=<n>`
Cap the result count

`etcdctl get <key> --rev=<n>`
Read as of an old revision

`etcdctl get --prefix --sort-by=<field> --order=DESCEND <prefix>`
Sort results

`etcdctl get <key> --consistency=s`
Serializable read, may be stale

`etcdctl get <key> --hex`
Show key and value in hex

`etcdctl put <key> --prev-kv`
Print the old value too

`etcdctl del <key>`
Delete a key

`etcdctl del --prefix <prefix>`
Delete all keys under a prefix

`etcdctl del <key> --prev-kv`
Print what was deleted

WATCH

`etcdctl watch <key>`
Print changes to a key

`etcdctl watch --prefix <prefix>`
Watch every key under a prefix

`etcdctl watch <key> --rev=<n>`
Replay from a past revision

`etcdctl watch <key> --prev-kv`
Include the old value in events

`etcdctl watch <key> -- <cmd> [args]`
Run a command on each event
The key and value reach the command as ETCD_WATCH_KEY and ETCD_WATCH_VALUE.

`etcdctl watch -i`
Interactive mode with several watches

LEASES

`etcdctl lease grant <ttl>`
Create a lease with a TTL in seconds

`etcdctl put <key> <value> --lease=<id>`
Attach a key to a lease

LEASES (cont.)

`etcdctl lease keep-alive <id>`
Keep a lease from expiring

`etcdctl lease timetolive <id> --keys`
Remaining TTL and attached keys

`etcdctl lease list`
List active leases

`etcdctl lease revoke <id>`
Revoke lease and delete its keys

TRANSACTIONS AND LOCKS

`etcdctl txn -i`
Compare-and-swap in interactive mode
Enter compares, a blank line, success requests, a blank line, then failure requests.

`etcdctl lock <name> [cmd args]`
Hold a distributed mutex while cmd runs

`etcdctl compaction <revision>`
Discard history before a revision

CLUSTER

`etcdctl member list -w table`
List members and IDs

`etcdctl endpoint health --cluster`
Check each member responds

`etcdctl endpoint status --cluster -w table`
Leader, DB size, raft term

`etcdctl member add <name> --peer-urls=<url>`
Add a member to the cluster

`etcdctl member remove <id>`
Remove a member

MAINTENANCE

`etcdctl snapshot save <file>`
Write a point-in-time backup

`etcdutl snapshot status <file>`
Inspect a snapshot file

`etcdutl snapshot restore <file> --data-dir=<dir>`
Restore into a new data dir
From v3.6 this is etcdutl only. Run it on every member with its own name and peer URL.

MAINTENANCE (cont.)

`etcdctl defrag --cluster`
Reclaim disk space, one member at a time
Blocks the member while it runs.

`etcdctl alarm list`
Show active alarms such as NOSPACE

`etcdctl alarm disarm`
Clear alarms after freeing space

AUTH

`etcdctl user add <user>`
Create a user

`etcdctl role add <role>`
Create a role

`etcdctl role grant-permission <role> readwrite --prefix <prefix>`
Grant access to a prefix

`etcdctl user grant-role <user> <role>`
Give a user a role

`etcdctl user add root`
Create root before enabling auth
Auth enable needs a root user and role to exist first.

`etcdctl auth enable`
Turn authentication on

`etcdctl user passwd <user>`
Change a password

RECIPES

Secure connection once

```
export ETCDCTL_ENDPOINTS=https://10.0.0.1:2379,https://10.0.0.2:2379
export ETCDCTL_CACERT=/etc/etcd/ca.crt
export ETCDCTL_CERT=/etc/etcd/client.crt
export ETCDCTL_KEY=/etc/etcd/client.key
etcdctl endpoint health --cluster -w table
```

Key that expires

```
etcdctl lease grant 60
# lease 694d7a1c1e3b4f2a granted with TTL(60s)
etcdctl put session/abc ok --lease=694d7a1c1e3b4f2a
etcdctl get session/abc
```

Back up and verify

```
etcdctl snapshot save backup.db
etcdutl snapshot status backup.db -w table
```

Free space after NOSPACE

```
rev=$(etcdctl endpoint status -w json | jq '.[0].Status.header.revision')
etcdctl compaction $rev
etcdctl defrag --cluster
etcdctl alarm disarm
```