Consul Service discovery and KV

CONCEPTS

Every command talks to a local agent over HTTP (default 127.0.0.1:8500). Point it elsewhere with -http-addr or CONSUL_HTTP_ADDR, and authenticate with CONSUL_HTTP_TOKEN.

Service your app
↓ register
Client agent on each node
↓ RPC
Server agents Raft quorum
↓ query
Catalog DNS and HTTP

Run 3 or 5 servers so Raft keeps a quorum. Losing the majority stops writes; -dev mode is one in-memory server and never for production.

AGENT

consul agent -dev
Run a single in-memory dev server

consul agent -server -bootstrap-expect=*<n>* **-data-dir=***<dir>*
Start a server in a new cluster

consul agent -data-dir=*<dir>* **-retry-join=***<addr>*
Start a client that joins a server

consul agent -config-dir=*<dir>*
Load .json and .hcl config files

consul validate *<file-or-dir>*
Check config before starting

CLUSTER

consul members
List members and their status

consul leave
Leave gracefully and shut down

consul reload
Re-read config without a restart

CLUSTER (cont.)

consul monitor
Stream logs from the agent

CATALOG AND SERVICES

consul catalog services
List services

consul catalog nodes
List nodes

consul services register *<file>*
Register services from HCL or JSON

KEY-VALUE STORE

consul kv put *<key>* *<value>*
Set or update a key

consul kv get *<key>*
Read a key

consul kv get -recurse *<prefix>***/**
Read all keys under a prefix

consul kv get -keys *<prefix>***/**
List key names only

consul kv delete *<key>*
Delete a key

SNAPSHOTS AND RAFT

consul snapshot save *<file>*
Save a point-in-time snapshot

consul operator raft list-peers
Show Raft servers and leader

ACL

consul acl token create -policy-name *<name>* **-description** *<text>*
Create a token for a policy

DNS

dig @127.0.0.1 -p 8600 *<name>***.service.consul SRV**
Get addresses and ports