K3s Lightweight Kubernetes

CONCEPTS

K3s is one small binary: the install script drops it in /usr/local/bin, adds kubectl, crictl and ctr links, and sets up a systemd service.

INSTALL

`curl -sfL https://get.k3s.io | sh -`
Install a single-node server

`curl -sfL https://get.k3s.io | K3S_URL=https://<server>:6443 K3S_TOKEN=<token> sh -`
Install as agent and join

`curl -sfL https://get.k3s.io | INSTALL_K3S_VERSION=<version> sh -`
Pin a version

`INSTALL_K3S_EXEC="server --cluster-init"`
Set the command and flags

`K3S_KUBECONFIG_MODE=644`
Make the kubeconfig readable

Install variables are saved into the service. Re-running the installer without them loses the old values.

SERVER AND AGENT

`k3s server`
Run a server node

`k3s agent`
Run a worker node

`--cluster-init`
Start an embedded-etcd cluster

`--server https://<server>:6443`
Join an existing cluster

`--token <token>`
Shared join secret

`--tls-san <host-or-ip>`
Add a name to the API cert

`--disable traefik`
Skip a packaged component

CONFIG FILE

`/etc/rancher/k3s/config.yaml`
Main config file

CONFIG FILE (cont.)

config.yaml

```
# flag names without the dashes
write-kubeconfig-mode: "0644"
tls-san:
  - k3s.example.com
disable:
  - traefik
node-taint+:
  - "dedicated=infra:NoSchedule"
```

CLI flags override the file. A key ending in + appends to the earlier value instead of replacing it.

`/var/lib/rancher/k3s/server/manifests/`
YAML here is auto-applied

CLUSTER AND NODES

`/etc/rancher/k3s/k3s.yaml`
Server kubeconfig

`export KUBECONFIG=/etc/rancher/k3s/k3s.yaml`
Use it with plain kubectl

`k3s kubectl get nodes`
Embedded kubectl

`/var/lib/rancher/k3s/server/node-token`
Token to join agents

SERVICE

`systemctl status k3s`
Server service state

`sudo systemctl restart k3s`
Restart after config changes

`journalctl -u k3s -f`
Follow server logs

`/usr/local/bin/k3s-uninstall.sh`
Remove a server

ETCD AND BACKUPS

`k3s etcd-snapshot save`
Snapshot now

`k3s server --cluster-reset --cluster-reset-restore-path=<snapshot>`
Restore a snapshot