Cilium CLI Kubernetes networking CLI

CONCEPTS

> The cilium CLI talks to the cluster in your kubeconfig and manages the install; hubble is a separate binary for reading flows.

cilium CLI install and manage
↓ deploys
Agent + operator per node, eBPF
↓ flows to
Hubble Relay cluster-wide
↓ queried by
hubble CLI / UI observe flows

> Every command takes --context to target another cluster in your kubeconfig.

INSTALL

`cilium` **`install`**
Install Cilium with detected defaults

`cilium` **`install --version`** *`<ver>`*
Install a specific release

`cilium` **`install --set`** *`<key>=<value>`*
Pass a Helm value

`cilium` **`install --dry-run`**
Show resources without applying

`cilium` **`install --dry-run-helm-values`**
Show non-default Helm values

`cilium` **`install --encryption=ipsec`**
Enable IPsec encryption

`cilium` **`upgrade --version`** *`<ver>`*
Upgrade to a release

`cilium` **`upgrade --reuse-values --set`** *`<key>=<value>`*
Change one value on upgrade

`cilium` **`upgrade --dry-run | kubectl diff -f -`**
Preview an upgrade

`cilium` **`uninstall`**
Remove Cilium

STATUS AND CONFIG

`cilium` **`status`**
Show component health

`cilium` **`status --wait`**
Block until Cilium is ready

`cilium` **`context`**
Show the cluster being targeted

`cilium` **`config view`**
Print the agent configuration

`cilium` **`sysdump`**
Collect a debug archive

`cilium` **`sysdump --node-list`** *`<nodes>`*
Dump only chosen nodes

CONNECTIVITY

`cilium` **`connectivity test`**
Run the end-to-end test suite

`cilium` **`connectivity test --single-node`**
Test on a one-node cluster

`cilium` **`connectivity test --context`** *`<a>`* **`--multi-cluster`** *`<b>`*
Test across a cluster mesh

> The test deploys into the cilium-test namespace; give it a few minutes and a cluster with outbound access.

HUBBLE

`cilium` **`hubble enable`**
Deploy Hubble and Relay

`cilium` **`hubble port-forward`**
Forward Relay to localhost:4245

`hubble status`
Check Relay and flow counts

`hubble observe`
Stream recent flows

`hubble observe -P`
Auto port-forward Relay first

`hubble observe --pod` *`<name>`*
Flows for one pod

`hubble observe --verdict DROPPED`
Only dropped traffic

HUBBLE (cont.)

`hubble observe --protocol http`
Only L7 HTTP flows

`cilium` **`hubble ui`**
Open the Hubble UI

`hubble help observe`
List every filter flag

CLUSTER MESH

`cilium` **`install --set cluster.name=`***`<name>`* **`--set cluster.id=`***`<n>`*
Give each cluster a unique name and ID

`cilium` **`clustermesh enable --context`** *`<ctx>`*
Deploy the mesh API server

`cilium` **`clustermesh status --wait`**
Wait for the mesh to be ready

`cilium` **`clustermesh connect --destination-context`** *`<ctx>`*
Connect two clusters

> Cluster names and IDs must be unique, and pod CIDRs must not overlap.

RECIPES

Fresh cluster, verified

```
cilium install --version <ver>
cilium status --wait
cilium connectivity test
```

Find why traffic is dropped

```
cilium hubble enable
cilium hubble port-forward &
hubble observe --pod <name> --
verdict DROPPED
```

Join two clusters

```
cilium clustermesh enable --
context $C1
cilium clustermesh enable --
context $C2
cilium clustermesh connect --
context $C1 --destination-context
$C2
cilium clustermesh status --
context $C1 --wait
```

Safe upgrade

```
cilium upgrade --version <ver> --
dry-run | kubectl diff -f -
cilium upgrade --version <ver>
cilium status --wait
```