crictl CRI container debugging

CONCEPTS

crictl talks to the node's CRI runtime directly, so it sees kubelet-managed pods that docker or nerdctl do not list. Run it on the node, usually as root.

crictl CRI client
↓ gRPC socket
Runtime containerd / CRI-O
↓ runs
Pod sandbox shared network
↓ holds
Containers app + sidecars

Without an endpoint crictl probes several default sockets and is slow; set one in /etc/crictl.yaml.

CONNECT

crictl --runtime-endpoint *<socket>* **ps**
Use a specific runtime socket

crictl config --set runtime-endpoint=*<socket>*
Store the endpoint in the config

crictl config --list
Show client config values

crictl --timeout *<seconds>* **ps**
Raise the connection timeout

crictl --debug ps
Print debug output

CONTAINER_RUNTIME_ENDPOINT
Env var for the runtime socket

sudo -E crictl ps
Keep env vars under sudo

crictl version
Client and runtime versions

PODS

crictl pods
List pod sandboxes

crictl pods --name *<name>*
Filter pods by name

crictl pods --label *<key>=<value>*
Filter pods by label

crictl pods --namespace *<ns>*
Filter pods by namespace

PODS (cont.)

crictl pods --state Ready
Only ready pods

crictl pods -q
Print only pod IDs

crictl inspectp *<pod>*
Pod sandbox details

crictl stopp *<pod>*
Stop a pod sandbox

crictl rmp *<pod>*
Remove a stopped pod

CONTAINERS

crictl ps
List running containers

crictl ps -a
Include exited containers

crictl ps --name *<name>*
Filter containers by name

crictl ps --pod *<pod>*
Containers of one pod

crictl ps --state exited
Filter by state

crictl ps -q
Print only container IDs

crictl inspect *<container>*
Container details as JSON

crictl stop *<container>*
Stop a container

crictl rm *<container>*
Remove a container

LOGS AND EXEC

crictl logs *<container>*
Show container logs

crictl logs -f *<container>*
Follow the log

crictl logs --tail=*<n>* *<container>*
Last N lines

crictl logs --since=*<duration>* *<container>*
Logs from the last period

crictl logs --timestamps *<container>*
Prefix lines with time

crictl exec -it *<container>* **sh**
Interactive shell

LOGS AND EXEC (cont.)

crictl exec *<container>* *<cmd>*
Run one command

IMAGES

crictl images
List images

crictl images *<repo>*
Filter by repository

crictl images --digests
Show image digests

crictl images -q
Print only image IDs

crictl pull *<image>*
Pull an image

crictl rmi *<image>*
Remove an image

crictl rmi --prune
Remove unused images

crictl inspecti *<image>*
Image details

NODE AND METRICS

crictl info
Runtime status and config

crictl stats
Container CPU and memory

crictl stats -a
Include stopped containers

crictl ps -o json
Machine-readable output

crictl help *<command>*
Help for one subcommand

RECIPES

Configure containerd once

```
sudo tee /etc/crictl.yaml <<'EOF'
runtime-endpoint: unix:///run/containerd/containerd.sock
image-endpoint: unix:///run/containerd/containerd.sock
timeout: 10
EOF
sudo crictl info
```

Debug a crashing pod on the node

```
crictl pods --name <pod>
crictl ps -a --pod <pod-id>
crictl logs --tail=50 <container-id>
crictl inspect <container-id>
```