nerdctl Docker-like CLI for containerd

CONCEPTS

nerdctl is a Docker-compatible CLI that talks straight to containerd. Most docker commands and flags work unchanged; flags that are not implemented yet are rejected.

nerdctl CLI
↓ gRPC
containerd images, namespaces
↓ shim
runc OCI runtime
↓ starts
Container CNI network

Containers and images live in a containerd namespace (default: default). Kubernetes uses k8s.io, so pass --namespace k8s.io to see its containers.

RUN

nerdctl run *<image>*
Create and start a container

nerdctl run -d *<image>*
Run in the background

nerdctl run -it *<image>* **sh**
Interactive shell

nerdctl run --rm *<image>*
Delete the container on exit

nerdctl run --name *<name>* *<image>*
Give the container a name

nerdctl run -p *<host>*:*<ctr>* *<image>*
Publish a port

nerdctl run -v *<name>*:*<path>* *<image>*
Mount a named volume

CONTAINERS

nerdctl ps
List running containers

nerdctl ps -a
List all, including stopped

nerdctl stop *<container>*
Stop gracefully

CONTAINERS (cont.)

nerdctl rm *<container>*
Remove a stopped container

INSIDE A CONTAINER

nerdctl exec -it *<container>* **sh**
Open a shell in a running container

nerdctl logs *<container>*
Show output

nerdctl logs -f *<container>*
Follow output live

IMAGES

nerdctl pull *<image>*
Download an image

nerdctl images
List local images

nerdctl build -t *<name>* **.**
Build from a Dockerfile here

VOLUMES AND NETWORKS

nerdctl volume create *<name>*
Create a named volume

nerdctl network create *<name>*
Create a bridge network

COMPOSE

nerdctl compose up -d
Create and start the stack

nerdctl compose down
Stop and remove containers and networks

nerdctl compose logs -f *<service>*
Follow service logs

nerdctl compose exec *<service>* **sh**
Shell in a service

NAMESPACES AND DAEMON

nerdctl --namespace *<ns>* *<cmd>*
Run against a containerd namespace

nerdctl system prune
Remove stopped containers and dangling data