# Podman Daemonless containers

## CONCEPTS

The CLI mirrors docker: alias docker=podman works for most commands. No daemon runs; each container is a child process, and it is rootless by default.

**Containerfile** recipe
↓ `podman build`
**Image** template; push to a registry
↓ `podman run`
**Container** running instance

Short image names are resolved through registries.conf; use full names like docker.io/library/nginx to be explicit.

A pod groups containers that share one network namespace, like a Kubernetes pod; they reach each other on localhost.

## RUN

**`podman run`** *`<image> <cmd>`*
Run a command in a new container

**`podman run -d --name`** *`<name> <image>`*
Run in background with a name

**`podman run -it`** *`<image>`* **`sh`**
Interactive shell

**`podman run --rm`** *`<image>`*
Remove container on exit

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

**`podman run -v`** *`<src>:<dst>`***`:Z`** *`<image>`*
Bind mount a path

**`podman run -e`** *`<KEY>=<val> <image>`*
Set an environment variable

**`podman run --pod`** *`<pod> <image>`*
Join an existing pod

**`podman run --userns=keep-id`** *`<image>`*
Map your UID into the container

## CONTAINERS

**`podman ps`**
List running containers

**`podman ps -a`**
List all containers

**`podman start`** *`<name>`*
Start a stopped container

**`podman stop`** *`<name>`*
Stop a container

**`podman restart`** *`<name>`*
Restart a container

**`podman rm`** *`<name>`*
Remove a container

**`podman rm -f`** *`<name>`*
Force-remove, even if running

**`podman logs -f`** *`<name>`*
Follow container logs

**`podman exec -it`** *`<name> <cmd>`*
Run a command in a container

## IMAGES

**`podman images`**
List local images

**`podman pull`** *`<image>`*
Download an image

**`podman build -t`** *`<tag>`* **`.`**
Build from a Containerfile

**`podman rmi`** *`<image>`*
Remove an image

## PODS

**`podman pod create --name`** *`<pod>`* **`-p`** *`<h>:<c>`*
Create a pod with a port

## VOLUMES & NETWORKS

**`podman volume create`** *`<name>`*
Create a named volume

## SYSTEMD & QUADLET

**`systemctl --user daemon-reload`**
Regenerate units from Quadlet files

**`systemctl --user start`** *`<name>`***`.service`**
Start a Quadlet service