podman

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What is Podman?

- Podman is a tool for managing pods and containers

- The CLI is based on Docker
  - Defacto standard CLI for managing containers
  - Allows for an easier transition of users *and* tools

- Developed at *github.com/containers/libpod*
  - *github.com/containers/image* for image management
  - *github.com/containers/storage* for local storage (overlay, btrfs, vfs, etc.)
  - *github.com/containers/buildah* for building images (O)

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Podman - optimized image pulling

```
$ podman pull nginx:latest
Trying to pull docker.io/library/nginx:latest...Getting image source signatures
Copying blob 780053e98559 done
Copying blob c4277fc40ec2 [==>--------------------------------] 1.7MiB / 21.2MiB
Copying blob fc7181108d40 [==>--------------------------------] 1.7MiB / 21.4MiB
```

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Podman - CLI compatibility

```
$ podman run fedora:latest ls -l
total 52
lrwxrwxrwx.   1 root    root        7 Feb 11 13:47 bin -> usr/bin
dr-xr-xr-x.   2 root    root     4096 Feb 11 13:47 boot
drwxr-xr-x.   5 root    root      340 Jun 15 16:43 dev
drwxr-xr-x.   3 root    root     4096 Jun  9 07:48 etc
drwxr-xr-x.   2 root    root     4096 Feb 11 13:47 home
lrwxrwxrwx.   1 root    root        7 Feb 11 13:47 lib -> usr/lib
...
```

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Easy transition with **alias docker=podman**

- Some commands are docker-only (e.g., swarm, container-update)

- Some commands are podman-only

    - Podman supports health checks (running containers != healthy container)

    - Podman supports pods on the CLI (e.g., podman-pod-create)

    - Podman supports K8s yaml via podman-play-kube

        - Local K8s development without a cluster

        - Easy transition from and to K8s

    - Podman supports mounting the container rootfs via podman-mount

    - podman-image-tree for printing layer hierarchy, and more

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Podman ABC

- Supports rootless containers since day 1
- It is not running as a daemon
  - Traditional fork-exec model
  - Improved security (reduced attack vector, adheres to security model, audit logging)
  - Covers additional use cases
- Remote client for Linux, Windows and Mac OS
  - Implemented via VARLINK.org
  - Varlink API can also be used for third-party applications (C, Go, Python, Java, Rust, bash)
  - Used in COCKPIT-PROJECT.org to manage containers in the browser
- Focus on OCI standards and open development
- Shares components with sibling projects (CRI-O, Buildah, Skopeo)

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Podman Resources

- Upstream development and community
  - github.com/containers/libpod
  - #podman of Freenode
  - podman@lists.podman.io
  - podman.io
- Demos
  - github.com/containers/demos
- Available on *most* Linux distributions
  - Red Hat Enterprise Linux, Fedora
  - openSUSE, Manjaro, Gentoo
  - Archlinux, Ubuntu, Debian (soon)

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