crane Registry swiss knife

CONCEPTS

crane talks straight to registries with no daemon: copy keeps the digest and moves only missing layers, so it beats pull, tag and push.

Registry tags, manifests, blobs
↓ pull / export
crane no daemon, no root
↓ push / append
Local tarball or OCI layout directory

Registry commands read and write remote images; only pull, push and export touch local files

Image reference forms

Form	Meaning
`<repo>:<tag>`	Tag: can move
`<repo>@sha256:<hex>`	Digest: immutable
`<registry>/<repo>`	Host-qualified; bare names mean Docker Hub
`-`	Stdin or stdout in export

Global flags such as --platform and --insecure apply to every command. Without --platform, commands act on all platforms of an index.

INSPECT

crane ls *<repo>*
List tags in a repository

crane digest *<image>*
Print the image digest

crane manifest *<image>*
Print the manifest (or index)

crane config *<image>*
Print the image config JSON

crane catalog *<registry>*
List repositories in a registry

crane ls --omit-digest-tags *<repo>*
Hide sha256-... tags

crane digest --full-ref *<image>*
Print repo@digest

crane blob *<repo>*@sha256:*<hex>*
Print a layer or config blob

crane manifest --platform *<os/arch>* *<image>*
Manifest of one platform

INSPECT (cont.)

crane validate --remote *<image>*
Check an image is well-formed

COPY & TAG

crane copy *<src>* *<dst>*
Copy an image, keeping its digest

crane copy --all-tags *<src-repo>* *<dst-repo>*
Copy every tag of a repo

crane copy --no-clobber *<src>* *<dst>*
Skip tags that already exist

crane tag *<image>* *<new-tag>*
Add a tag without re-uploading

crane delete *<image>*
Delete an image reference

crane copy --platform *<os/arch>* *<src>* *<dst>*
Copy a single platform

PULL, PUSH & EXPORT

crane pull *<image>* *<file.tar>*
Save an image as a tarball

crane pull --format oci *<image>* *<dir>*
Save as an OCI layout directory

crane push *<file.tar>* *<image>*
Push a tarball to a registry

crane push *<oci-dir>* *<image>*
Push an OCI layout directory

crane export *<image>* *<file.tar>*
Write filesystem to a tarball

crane export *<image>* **- | tar -tf -**
Stream the filesystem to tar

MODIFY IMAGES

crane append -b *<base>* **-f** *<layer.tar>* **-t** *<image>*
Add a layer on a base and push

crane mutate *<image>* **-t** *<new-tag>* **--entrypoint** *<cmd>*
Change the entrypoint

crane mutate *<image>* **-t** *<new-tag>* **-l** *<key>*=*<value>*
Add a label

MODIFY IMAGES (cont.)

crane mutate *<image>* **-t** *<new-tag>* **-e** *<KEY>*=*<value>*
Add an environment variable

crane flatten *<image>* **-t** *<new-tag>*
Squash all layers into one

crane rebase *<image>* **--old_base** *<old>* **--new_base** *<new>* **-t** *<tag>*
Move an image onto a new base

AUTH & TLS

crane auth login *<registry>* **-u** *<user>* **-p** *<password>*
Log in and store credentials

crane auth login *<registry>* **-u** *<user>* **--password-stdin**
Read the password from stdin

crane auth logout *<registry>*
Remove stored credentials

crane --insecure *<command>* *<ref>*
Allow plain HTTP without TLS

crane --verbose *<command>* *<ref>*
Debug logs for failing requests

crane --platform *<os/arch[/variant]>* *<command>* *<ref>*
Pick a platform

RECIPES

Retag a CI image as latest

```
crane auth login
registry.example.com -u ci --
password-stdin <<< "$TOKEN"
crane tag registry.example.com/
app:$SHA latest
crane digest
registry.example.com/app:latest
```

Mirror a repo to another registry

```
crane copy --all-tags \
  docker.io/library/alpine \
  registry.example.com/mirror/
alpine
```

Layer a file onto a base image

```
tar -cf app.tar app/
crane append -b alpine -f app.tar
\
  -t registry.example.com/app:v1
```

Inspect an image without Docker

```
crane manifest alpine | jq .
crane config alpine | jq .config
crane export alpine - | tar -tf -
| head
```