crane Registry swiss knife

START HERE

`crane ls <repo>`
List a repo's tags

`crane pull <image> <file.tar>`
Save to a tarball

`crane digest <image>`
Resolve a tag to a digest

`crane push <file.tar> <image>`
Upload a tarball

`crane manifest <image>`
Print the manifest

`crane export <image> -`
Filesystem as a tar stream

`crane copy <src> <dst>`
Registry to registry

`crane auth login <registry>`
Store credentials

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

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.

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)
For a multi-arch image this is the index listing every platform; add --platform to get one image's manifest.

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

`crane catalog <registry>`
List repositories in a registry
Many hosted registries disable or restrict the catalog endpoint.

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

`crane ls --full-ref <repo>`
Print full references, not bare tags

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

`crane digest --tarball <file.tar> <image>`
Digest of an image in a tarball

`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

`crane validate --fast --remote <image>`
Validate without digesting layers

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 copy --jobs <n> --all-tags <src-repo> <dst-repo>`
Limit concurrent copies

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

`crane delete <image>`
Delete an image reference
Needs a registry that allows deletes; deleting a digest removes every tag pointing at it.

`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 pull --format legacy <image> <file.tar>`
Docker legacy tarball format

`crane pull --cache_path <dir> <image> <file.tar>`
Cache layers between pulls

`crane pull --annotate-ref --format oci <image> <dir>`
Keep source ref as annotation

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

PULL, PUSH & EXPORT (cont.)

`crane push <oci-dir> <image>`
Push an OCI layout directory
A directory is read as an OCI layout, anything else as a docker-style tarball.

`crane push --index <dir> <image>`
Push several images as one index

`crane push --image-refs <file> <path> <image>`
Write pushed references to a file

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

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

`crane export - <file.tar>`
Read the image from stdin

MODIFY IMAGES

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

`crane append -f <layer.tar> -o <file.tar>`
Save the result locally instead

`crane append --oci-empty-base -f <layer.tar> -t <image>`
Empty base with OCI media types

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

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

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

`crane mutate <image> -t <new-tag> --cmd <args>`
Set a new CMD

`crane mutate <image> -t <new-tag> -u <user> -w <dir>`
Set user and working directory

`crane mutate <image> -a <key>=<value>`
Add a manifest annotation

`crane flatten <image> -t <new-tag>`
Squash all layers into one
Without -t the result is pushed by digest to the original repository.

MODIFY IMAGES (cont.)

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

`crane index append -m <manifest> -t <index>`
Add a manifest to an index

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
Prefer this over -p, which leaves the password in shell history.

`crane auth logout <registry>`
Remove stored credentials

`crane auth token <repo>`
Print a registry bearer token

`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
```