

Two Modules on Images

Images Masterclass

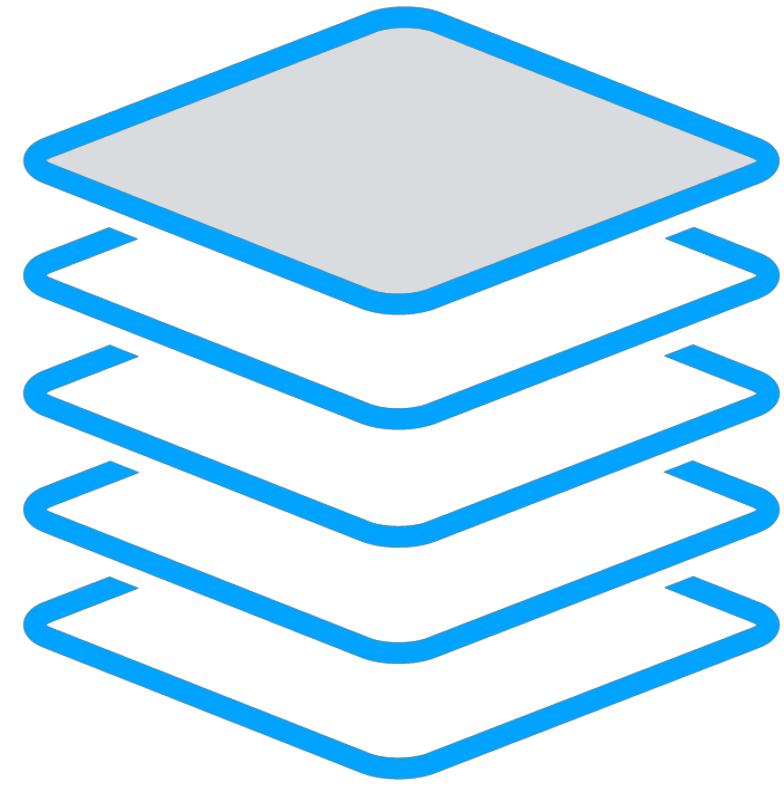
Building New Images



Up Next:

Images: Big Picture





Image

Container image

Docker image

OCI image



All mean the same thing



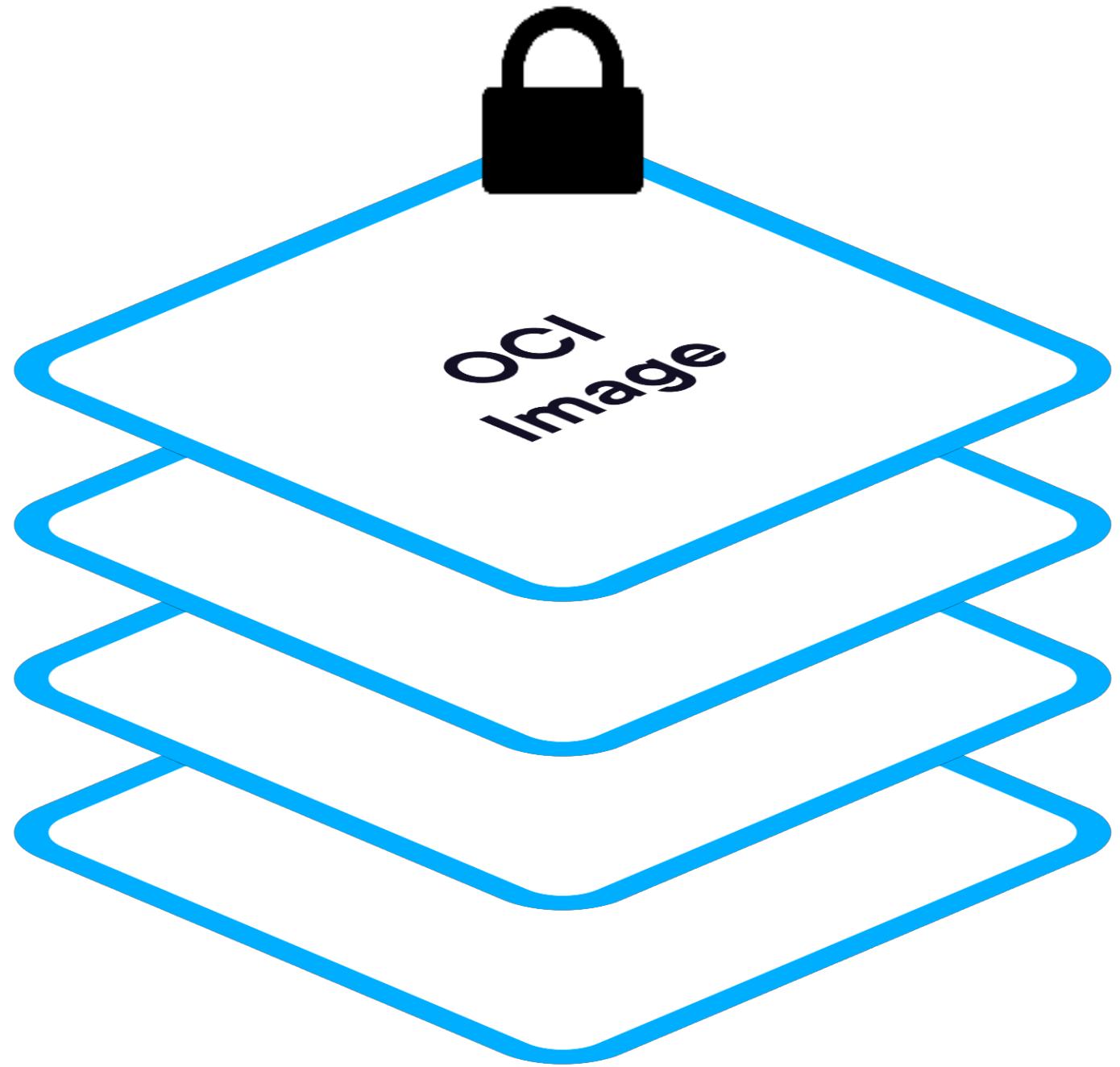
Base OS

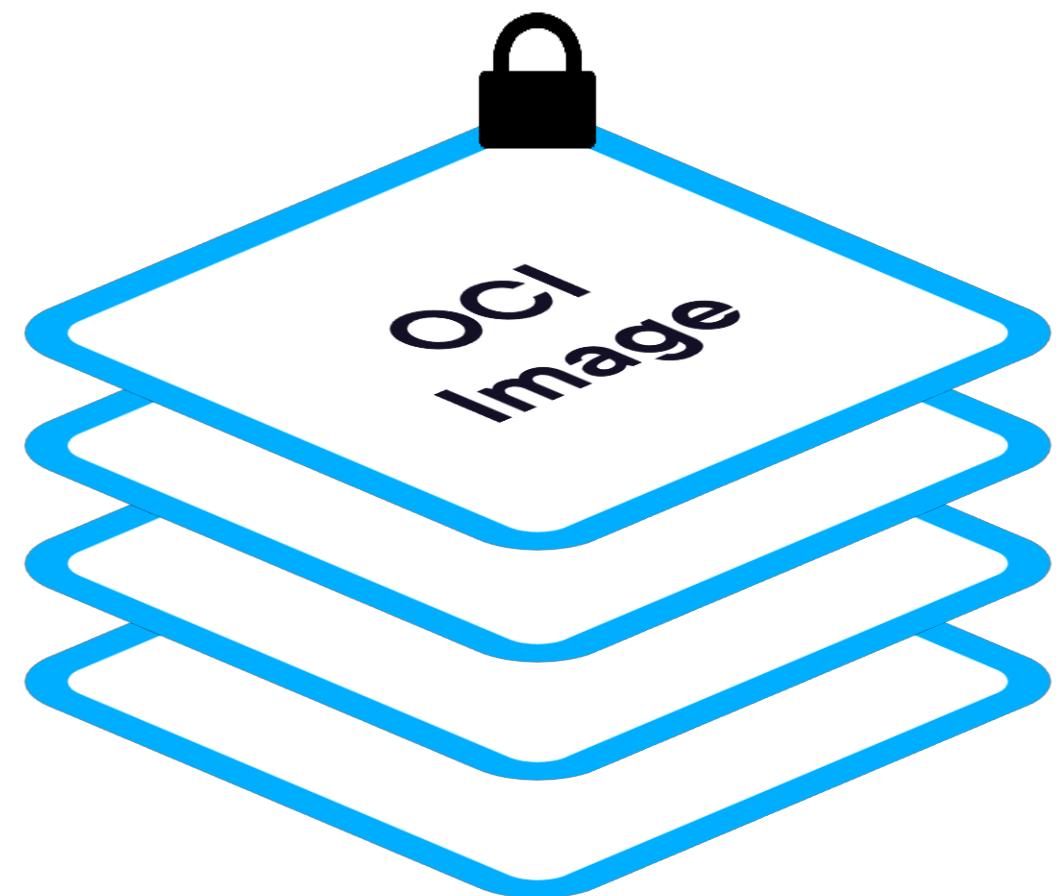
App

Dependencies

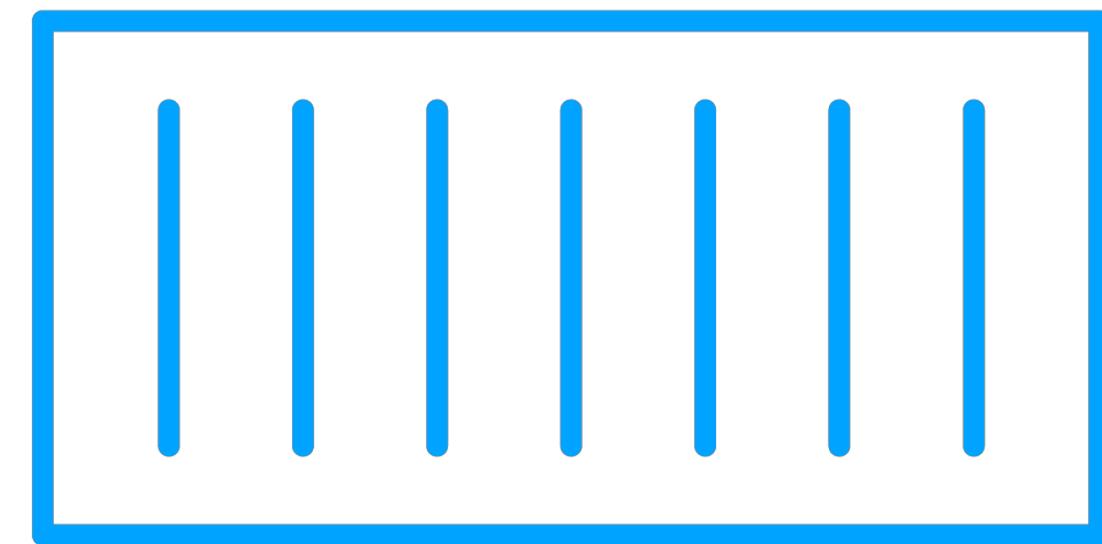
Config





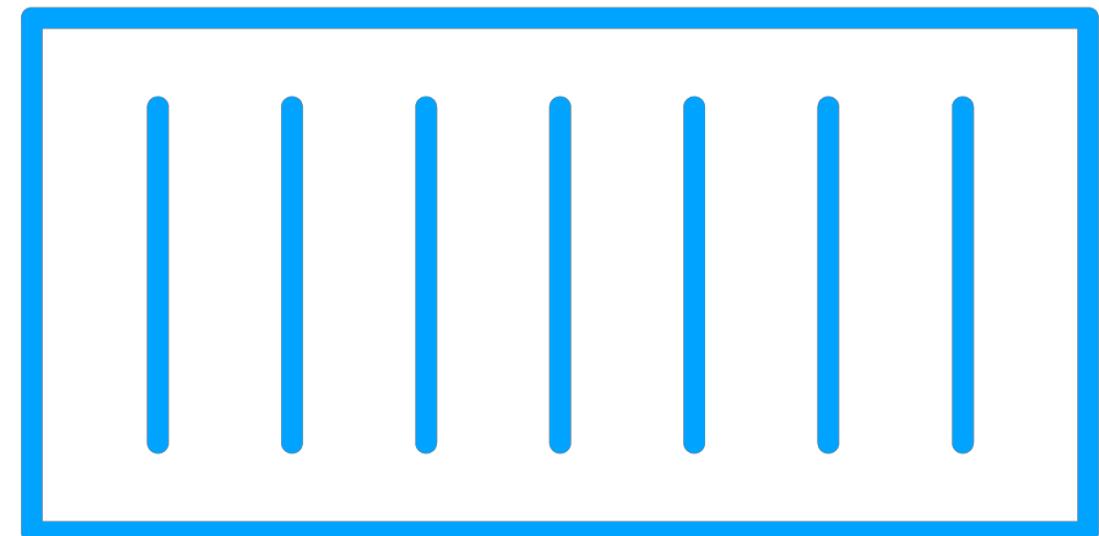
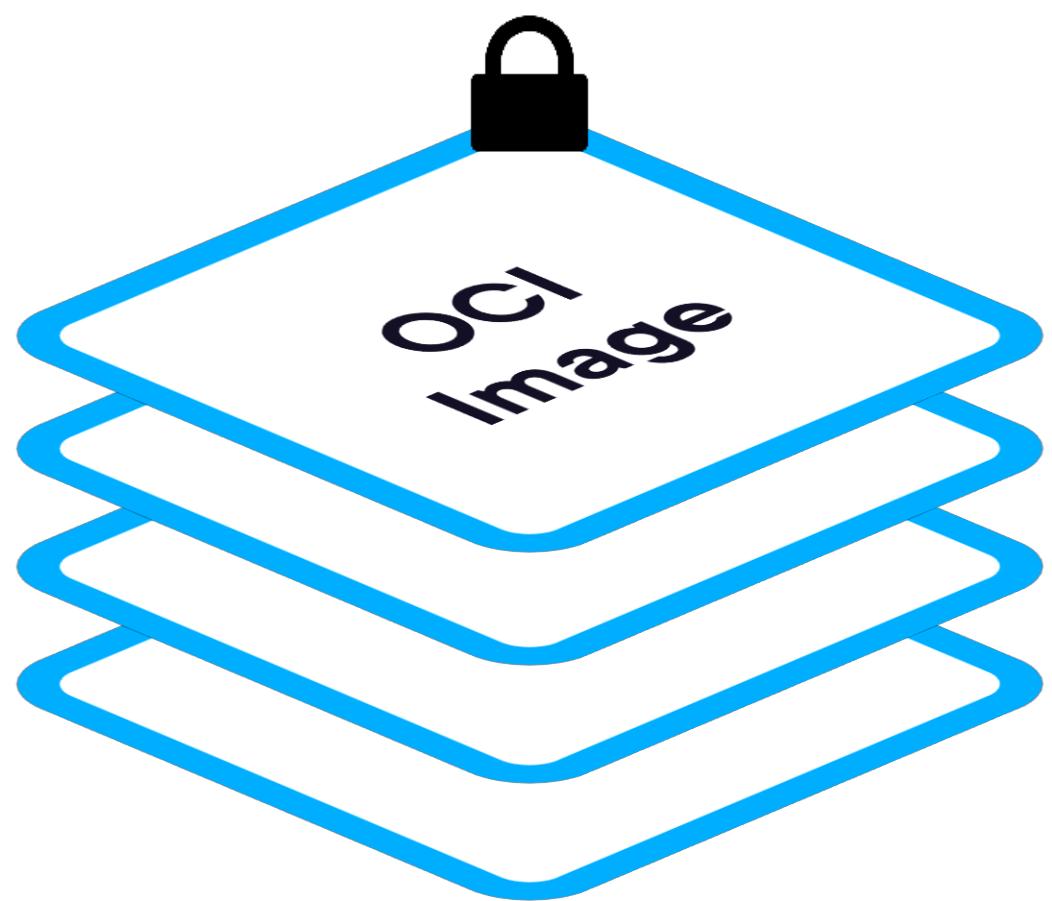


Build time



Runtime





Build time

Runtime

~

~

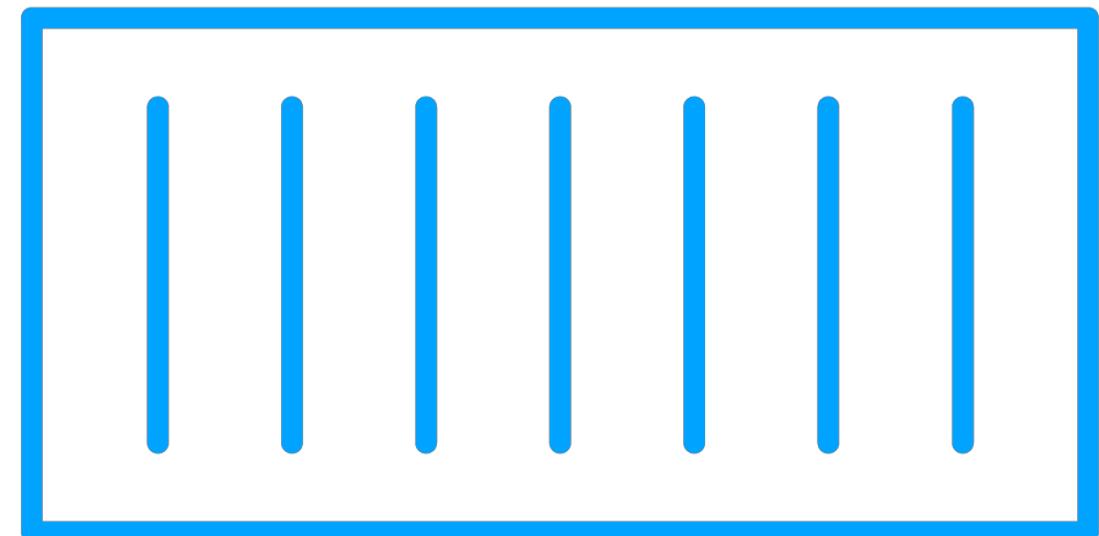
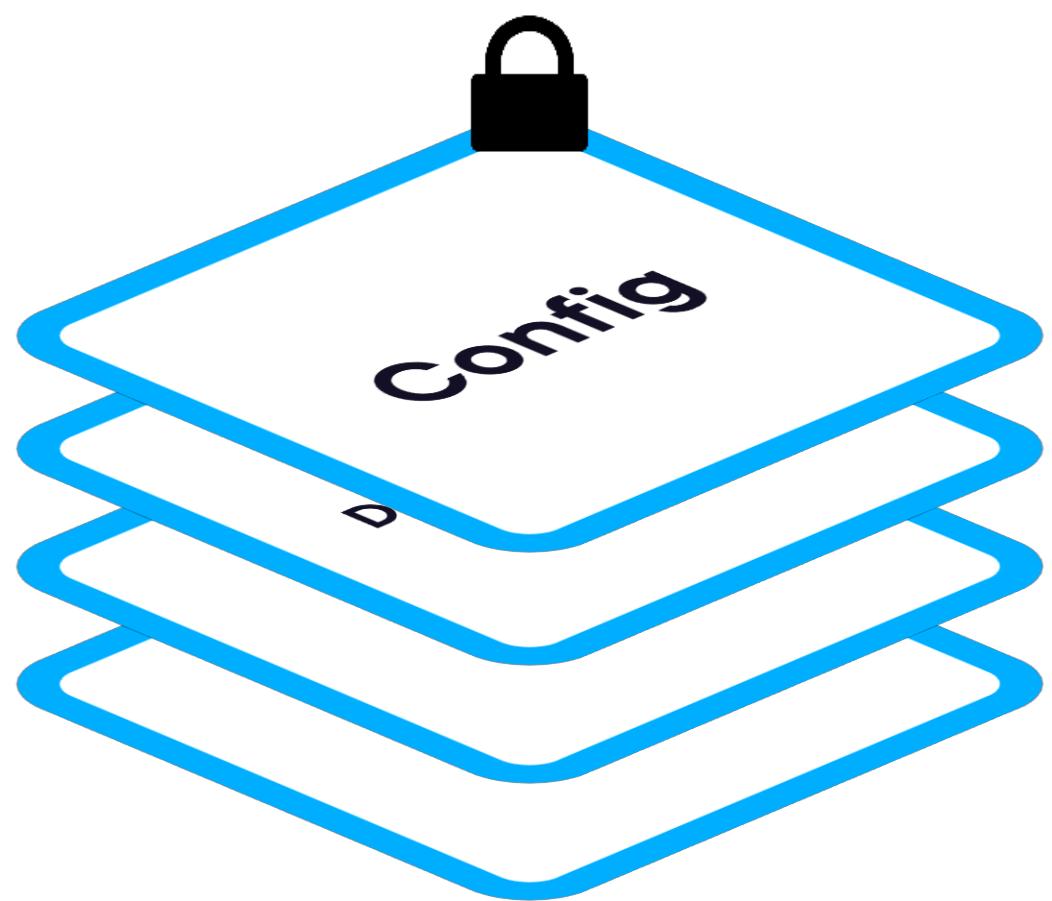
Class

Object

VM template

Running VM





Build time

Runtime

~

Class

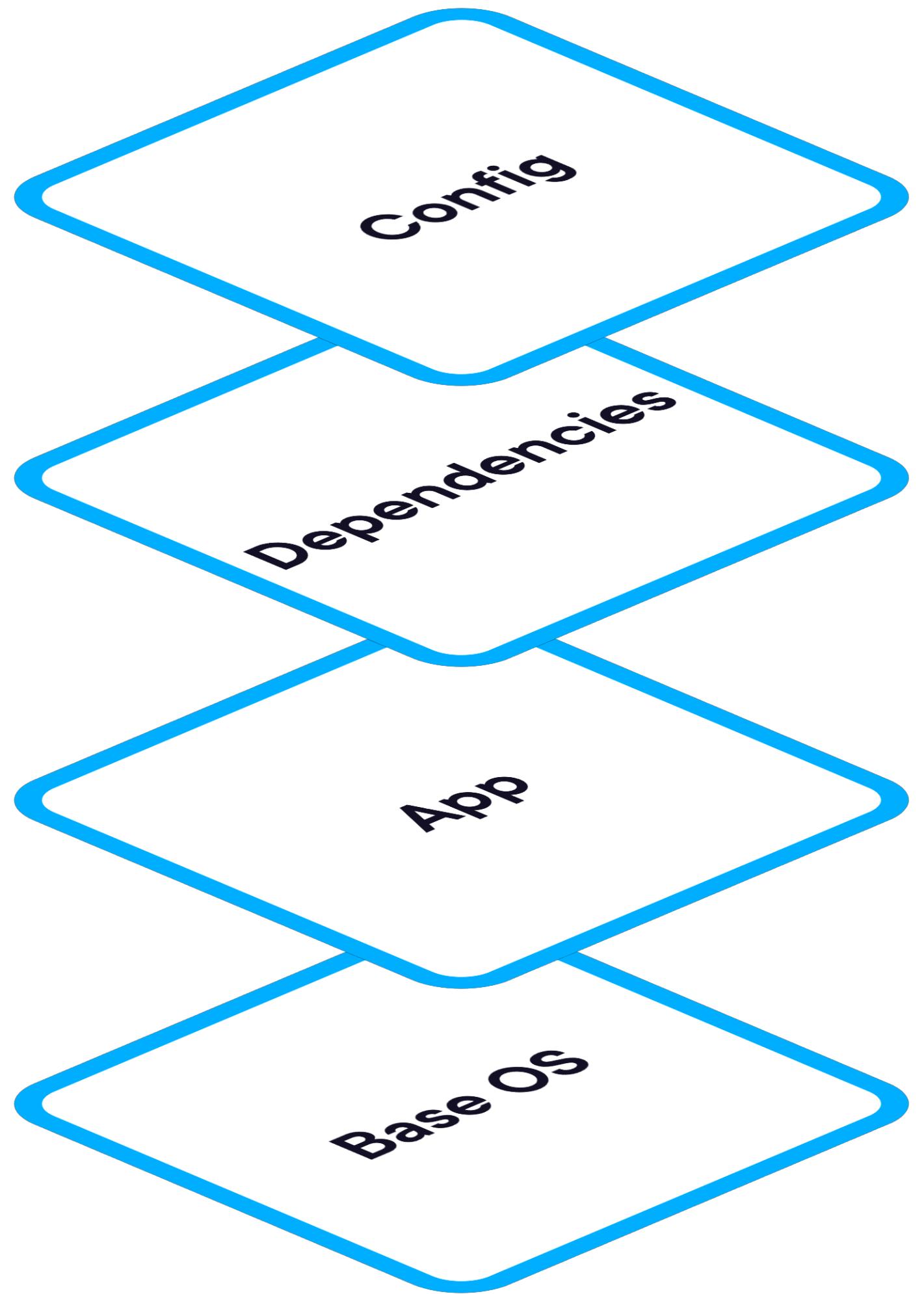
VM template

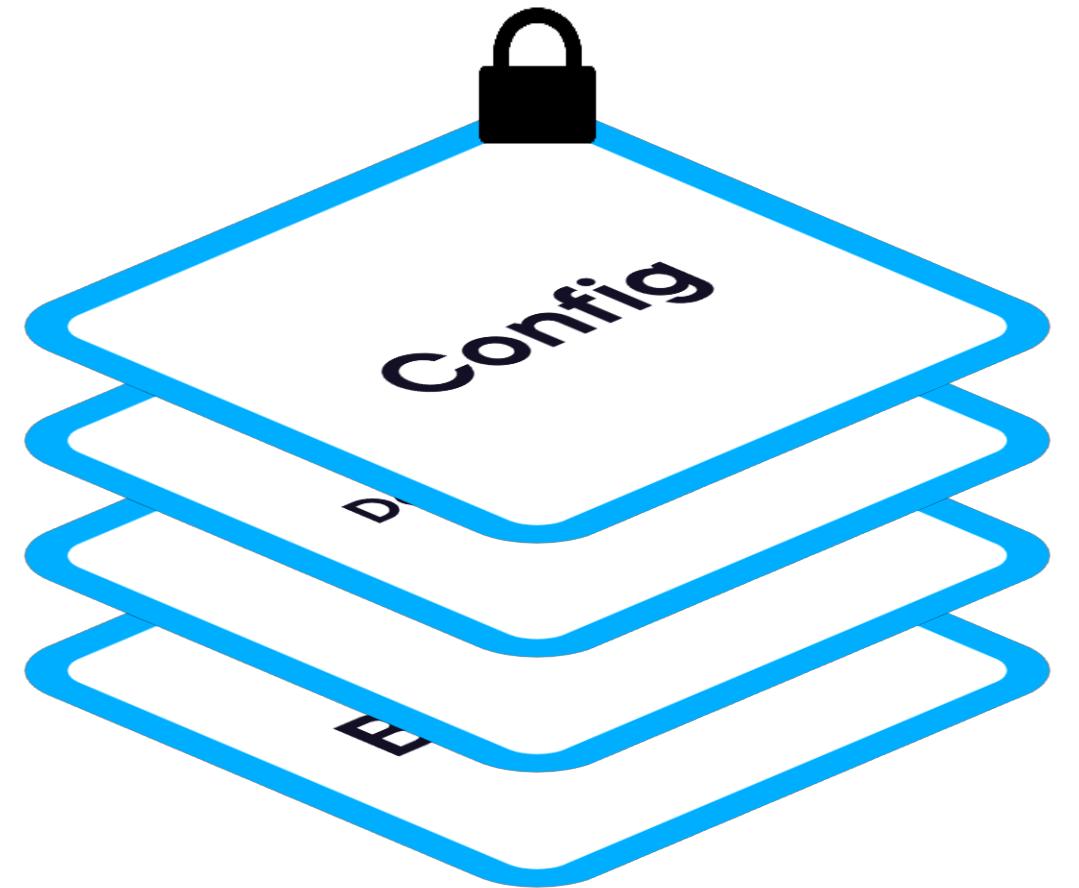
~

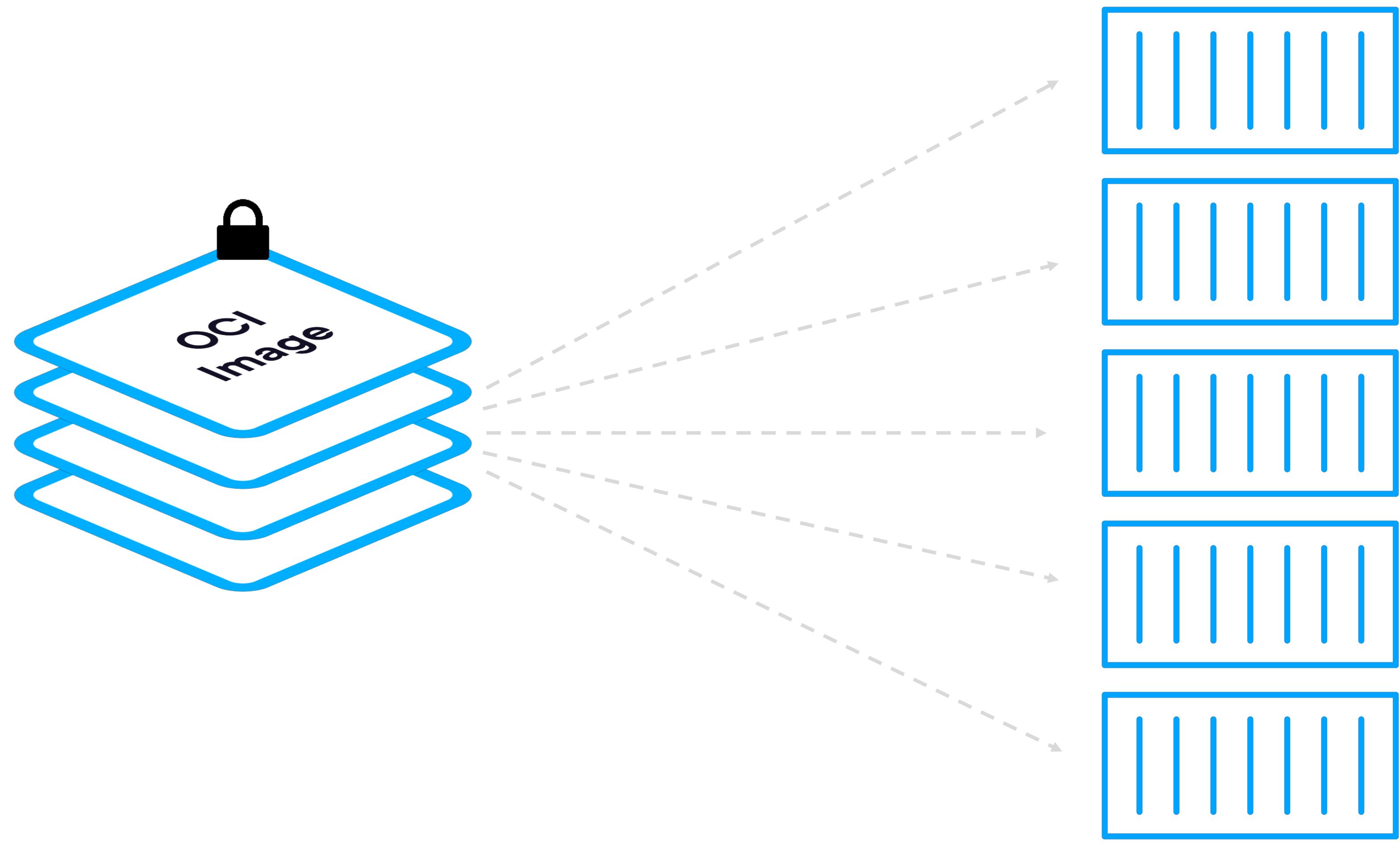
Object

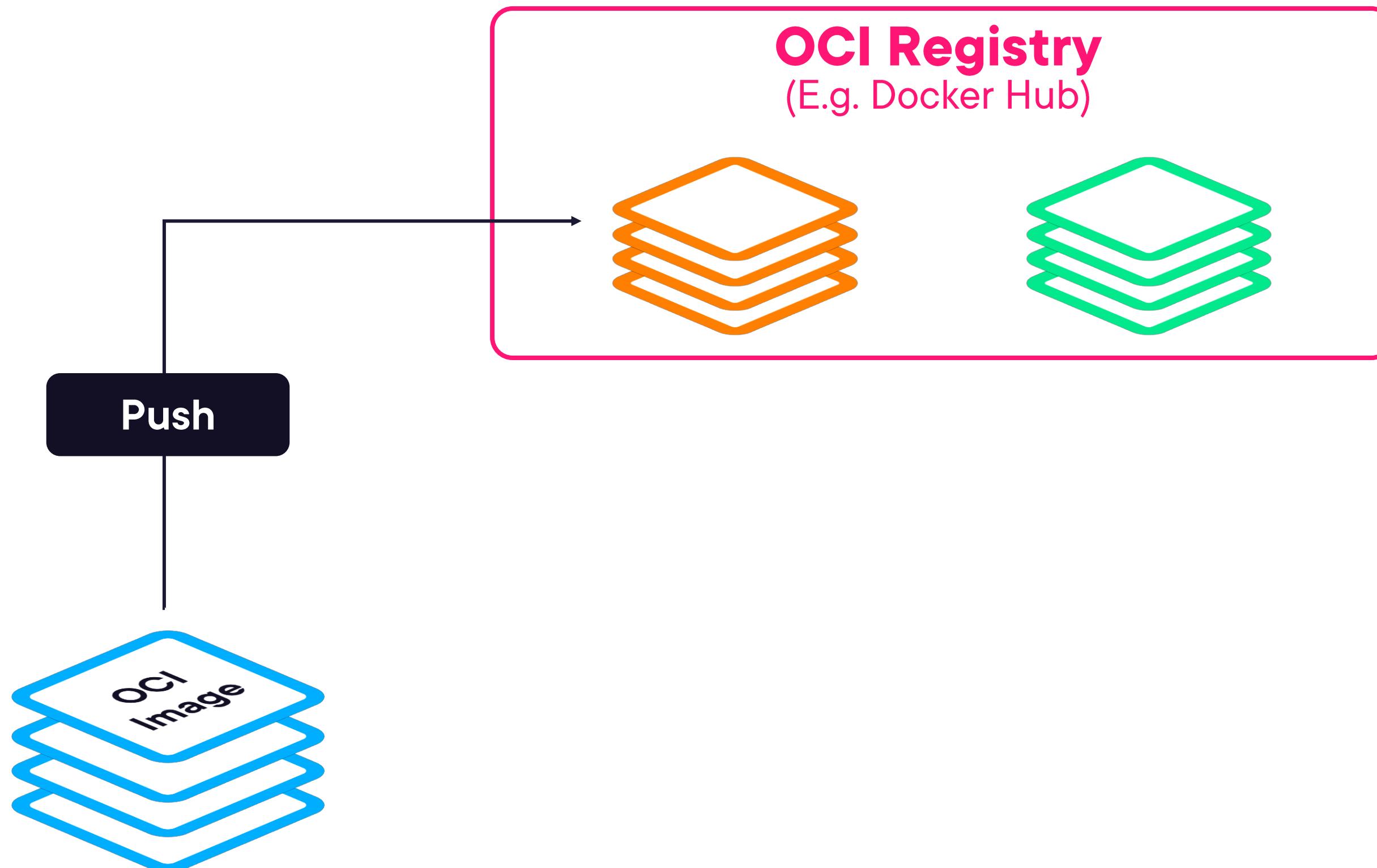
Running VM

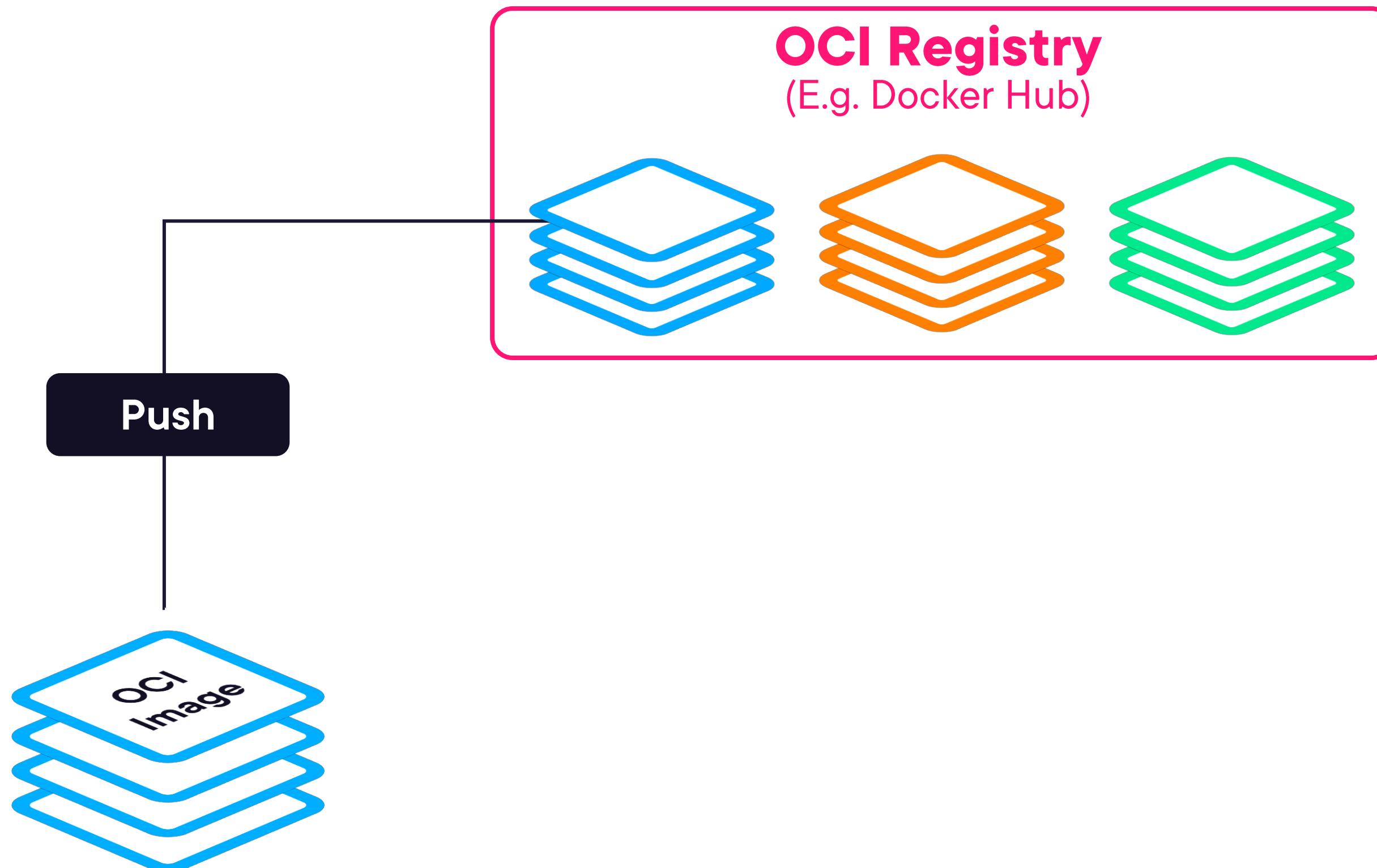


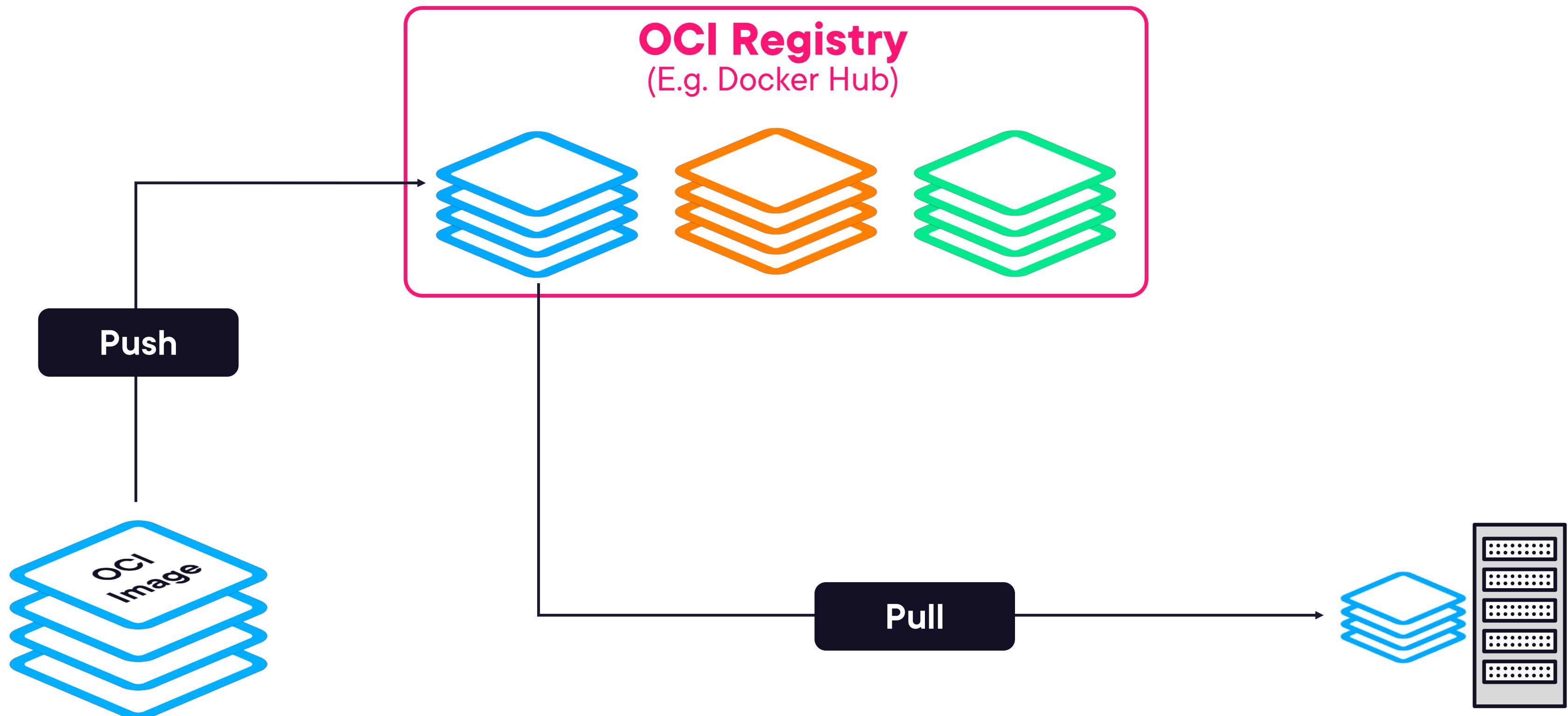


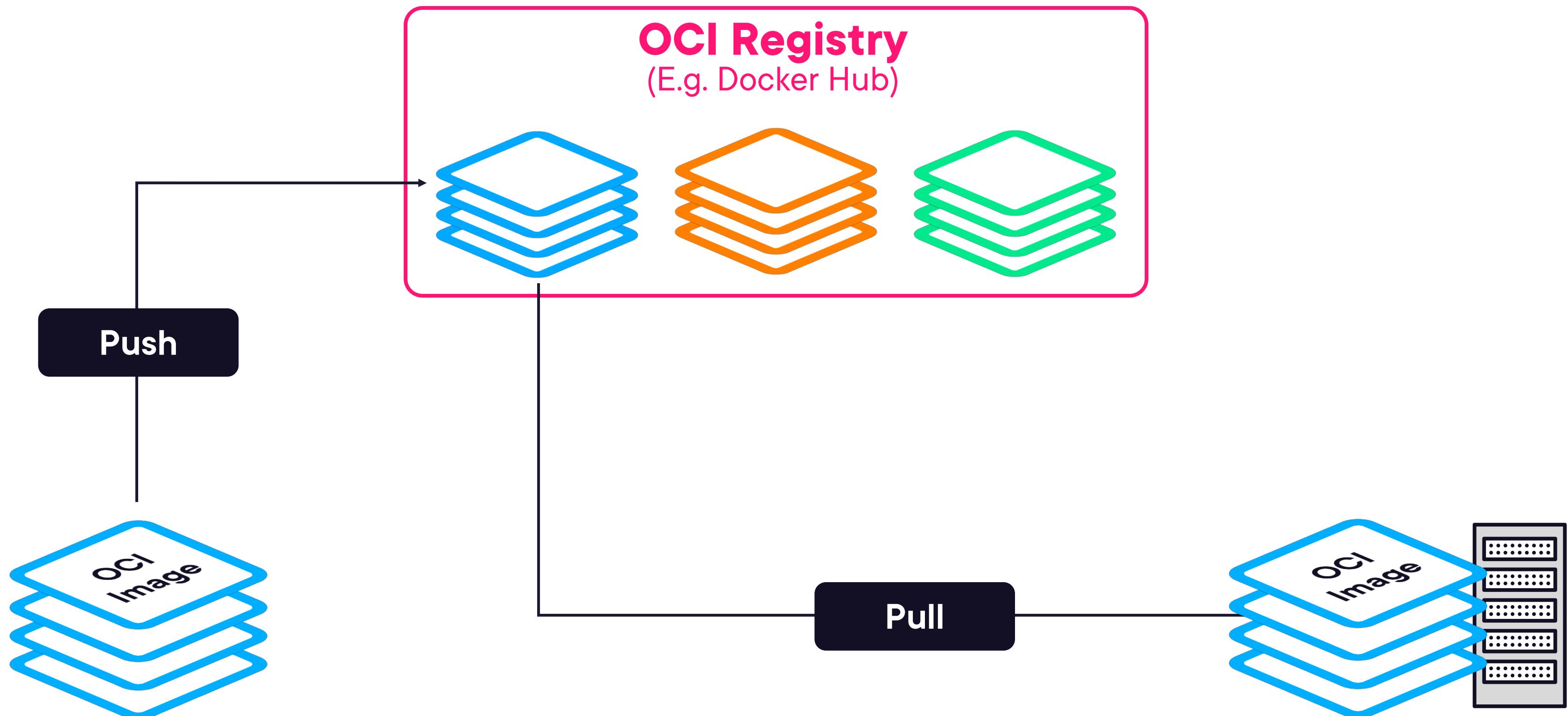


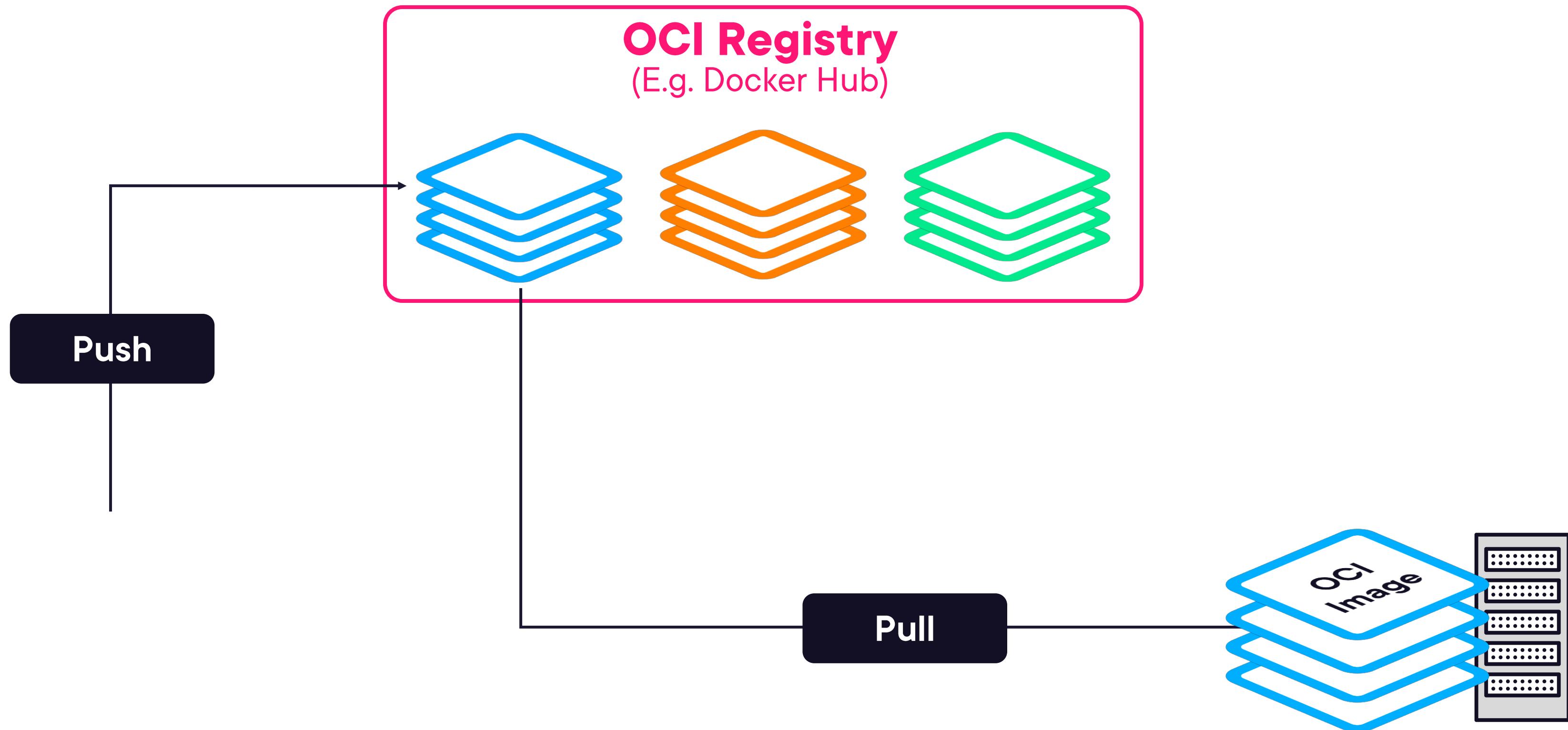


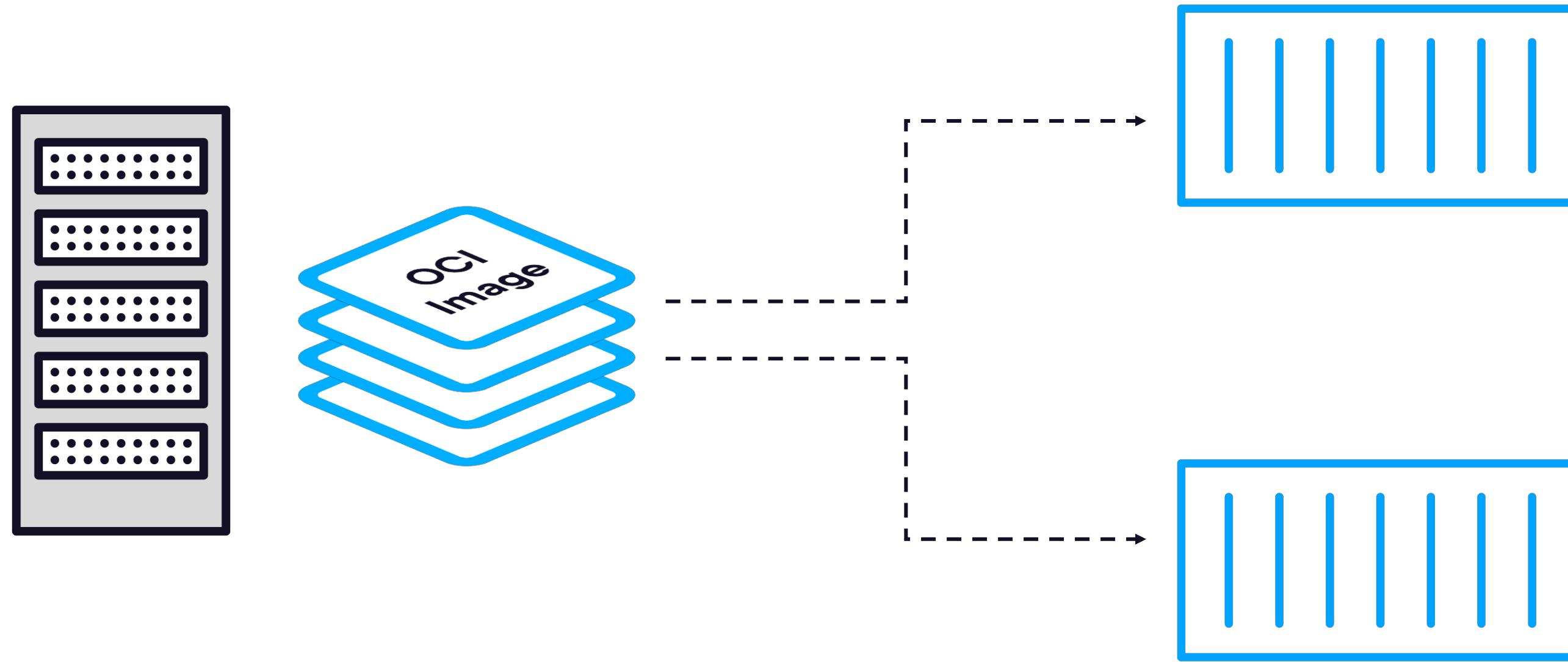


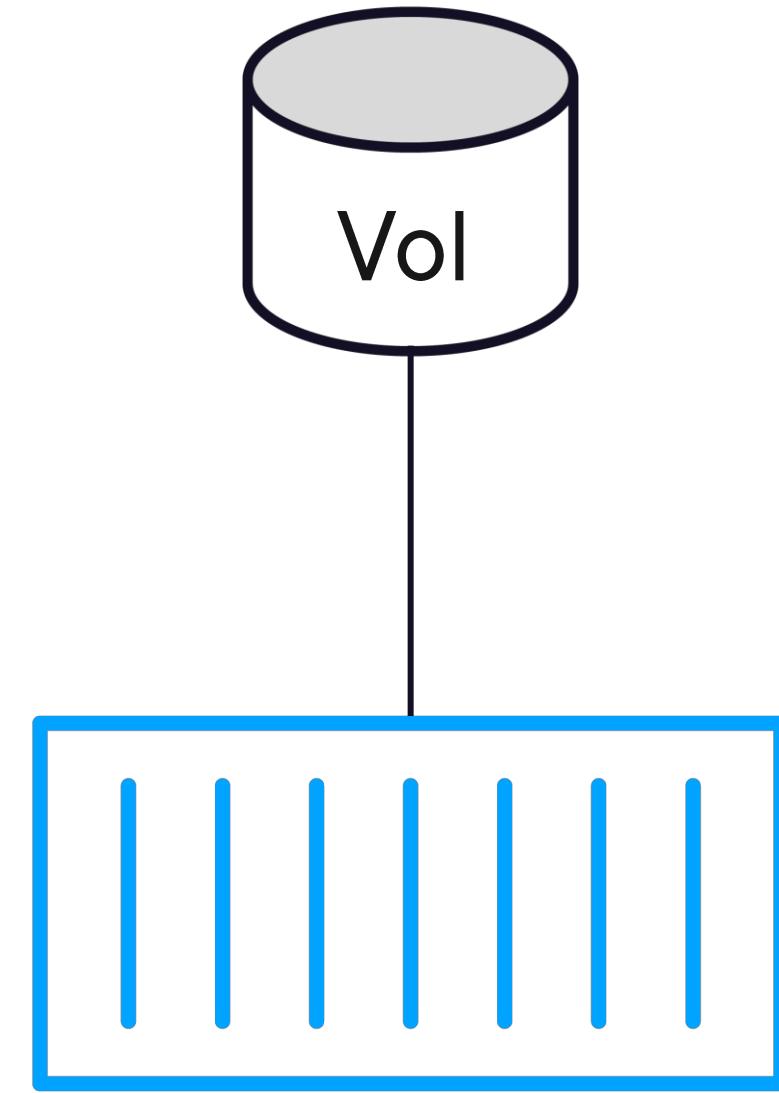
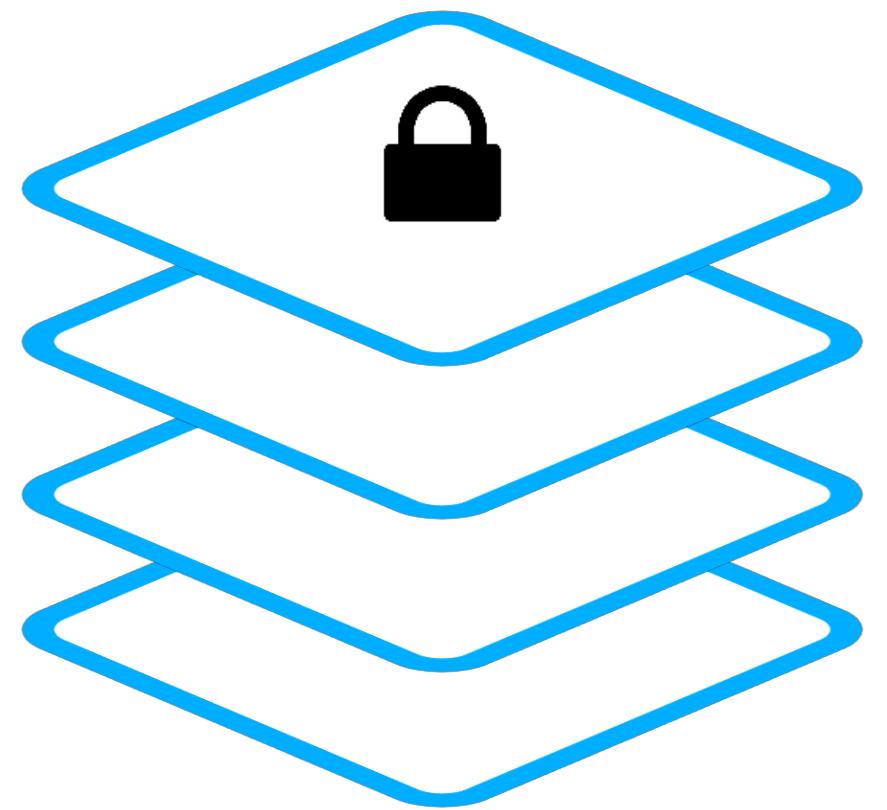














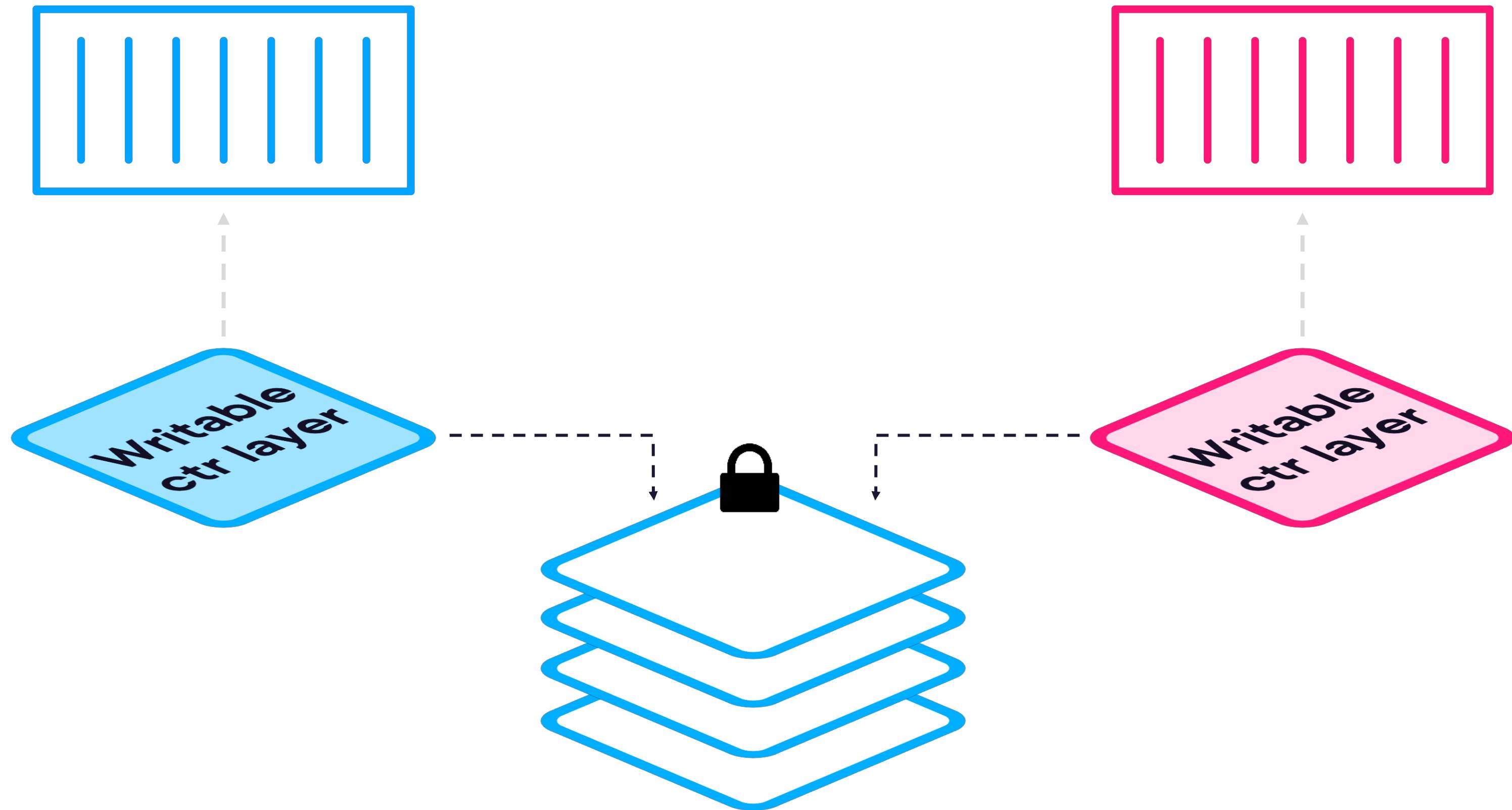
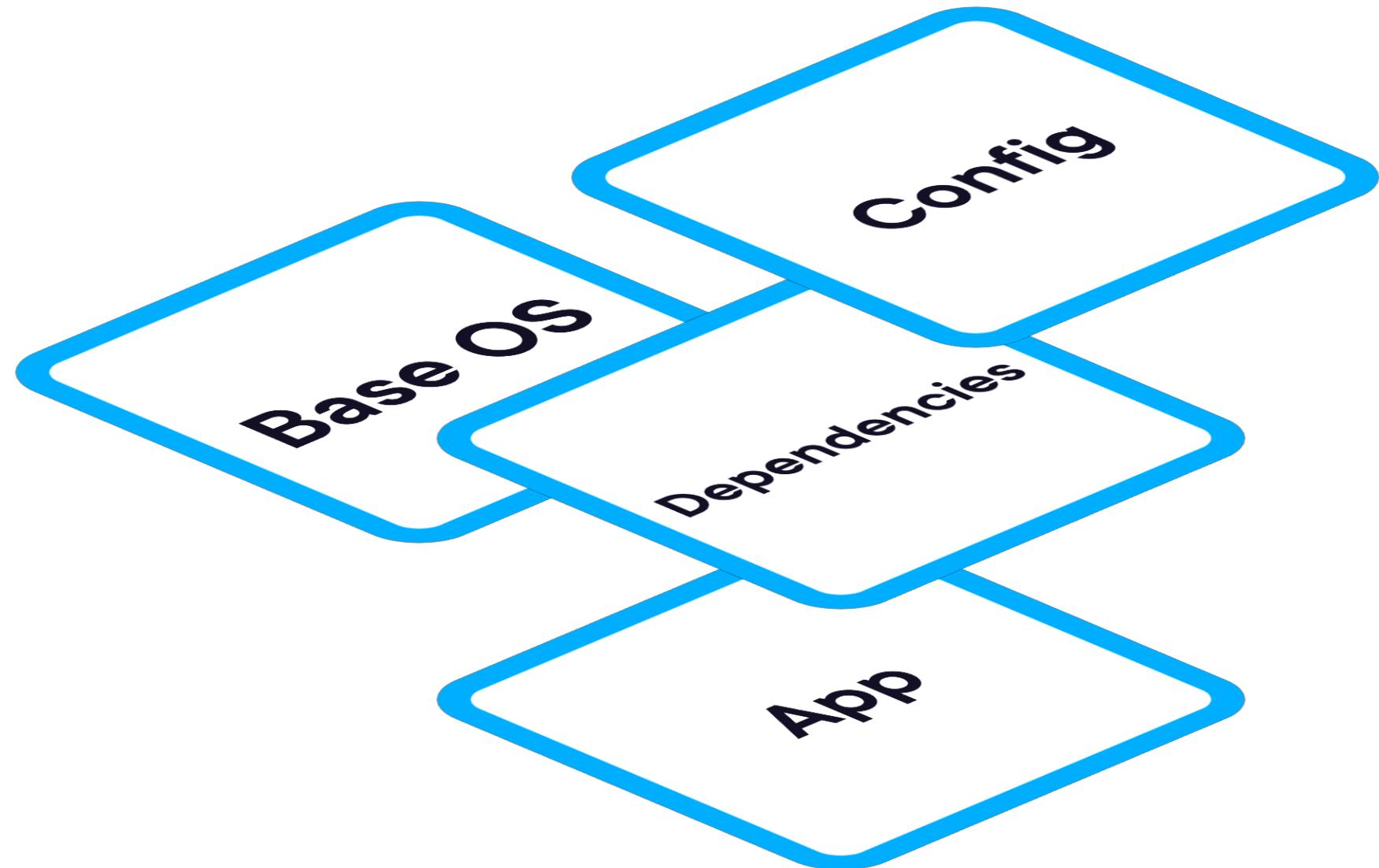
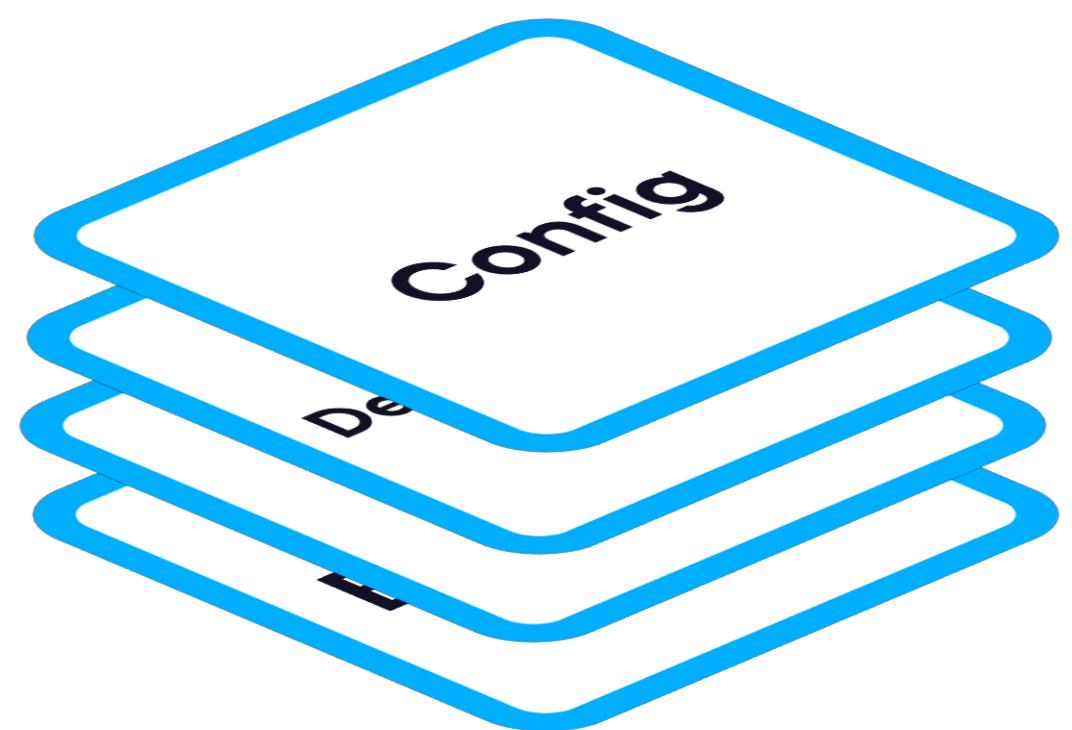
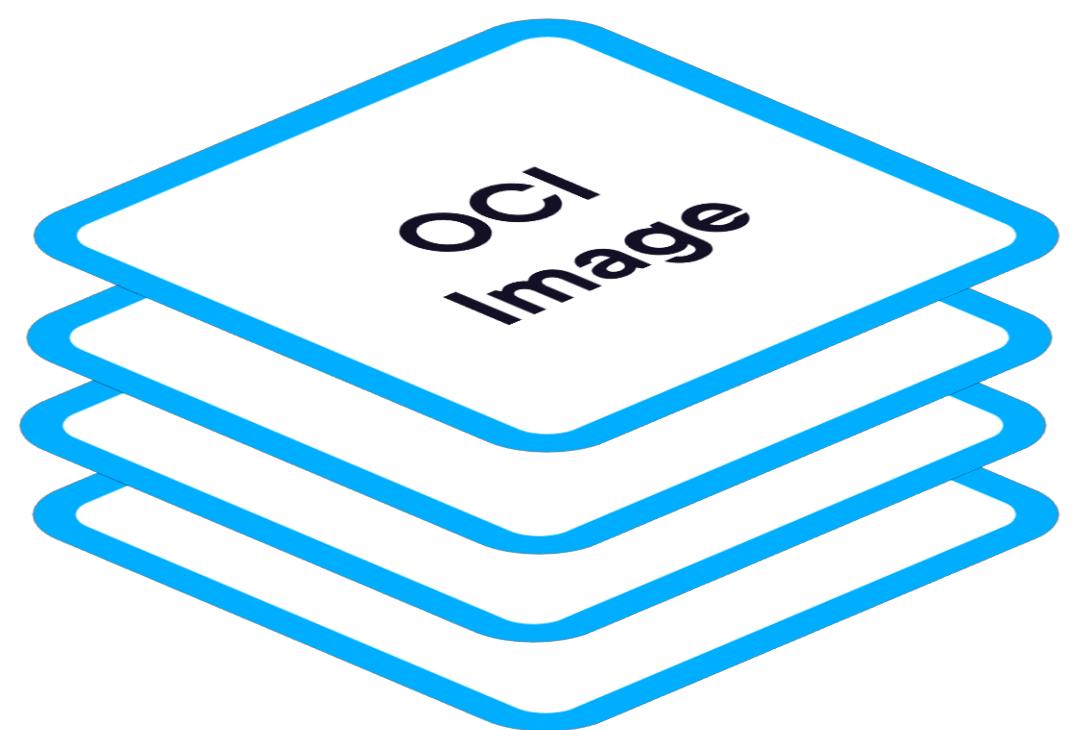


Image Internals

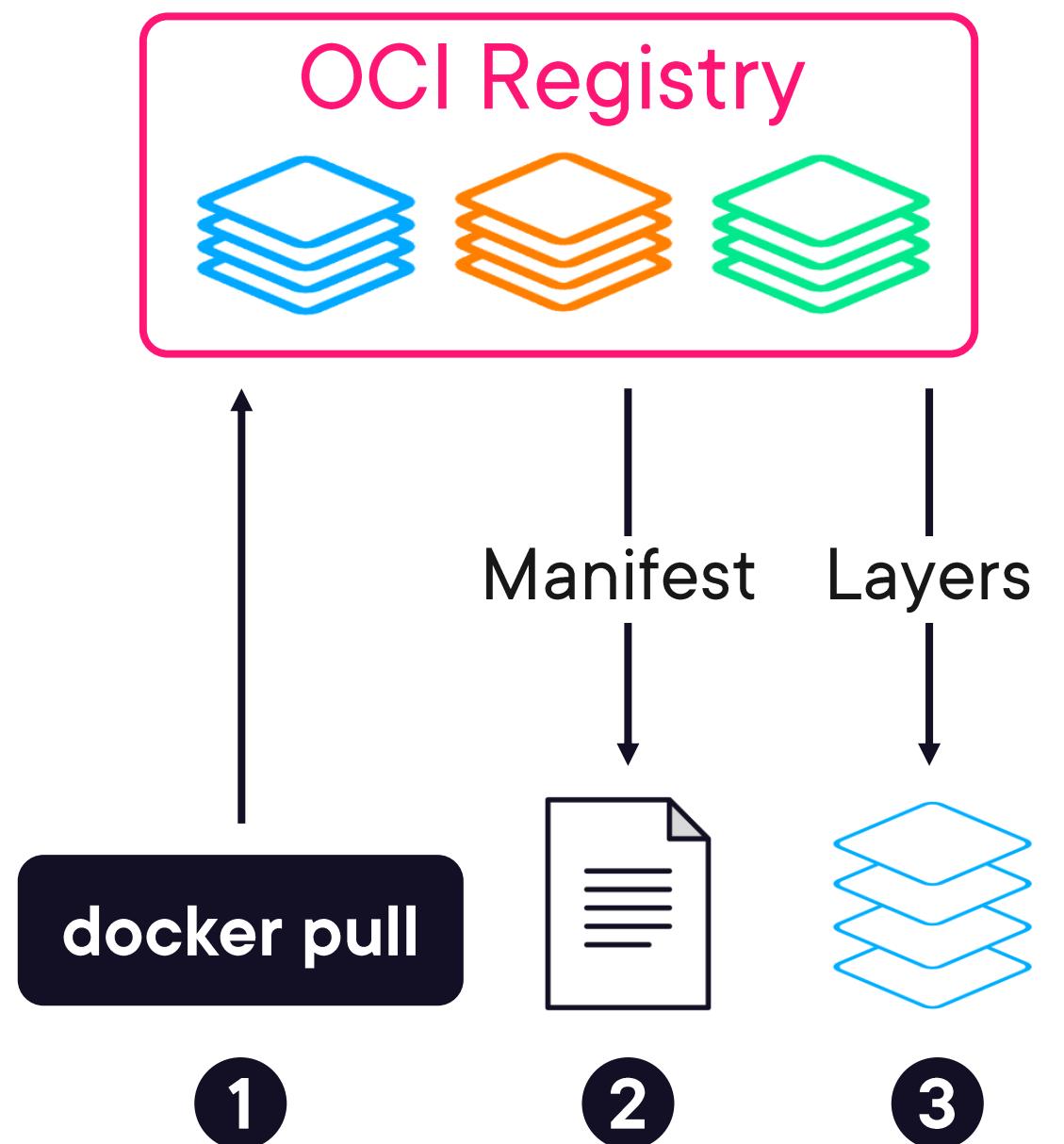












Fat Manifest

digest: sha256:cc59a7f

arch: arm

os: linux

digest: sha256:6e30a30

arch: amd64

os: linux

digest: sha256:9f9a8dd

arch: s390x

os: linux

Manifest

platform: {

arch: amd64,

os: linux

...

layers:

digest: sha256:648e...

...

digest: sha256:3b63...

...

digest: sha256:af4c...

...

sha256:af4cd59cb295cd

sha256:3b637010cd4d70

sha256:648e0aadf75ac2

...



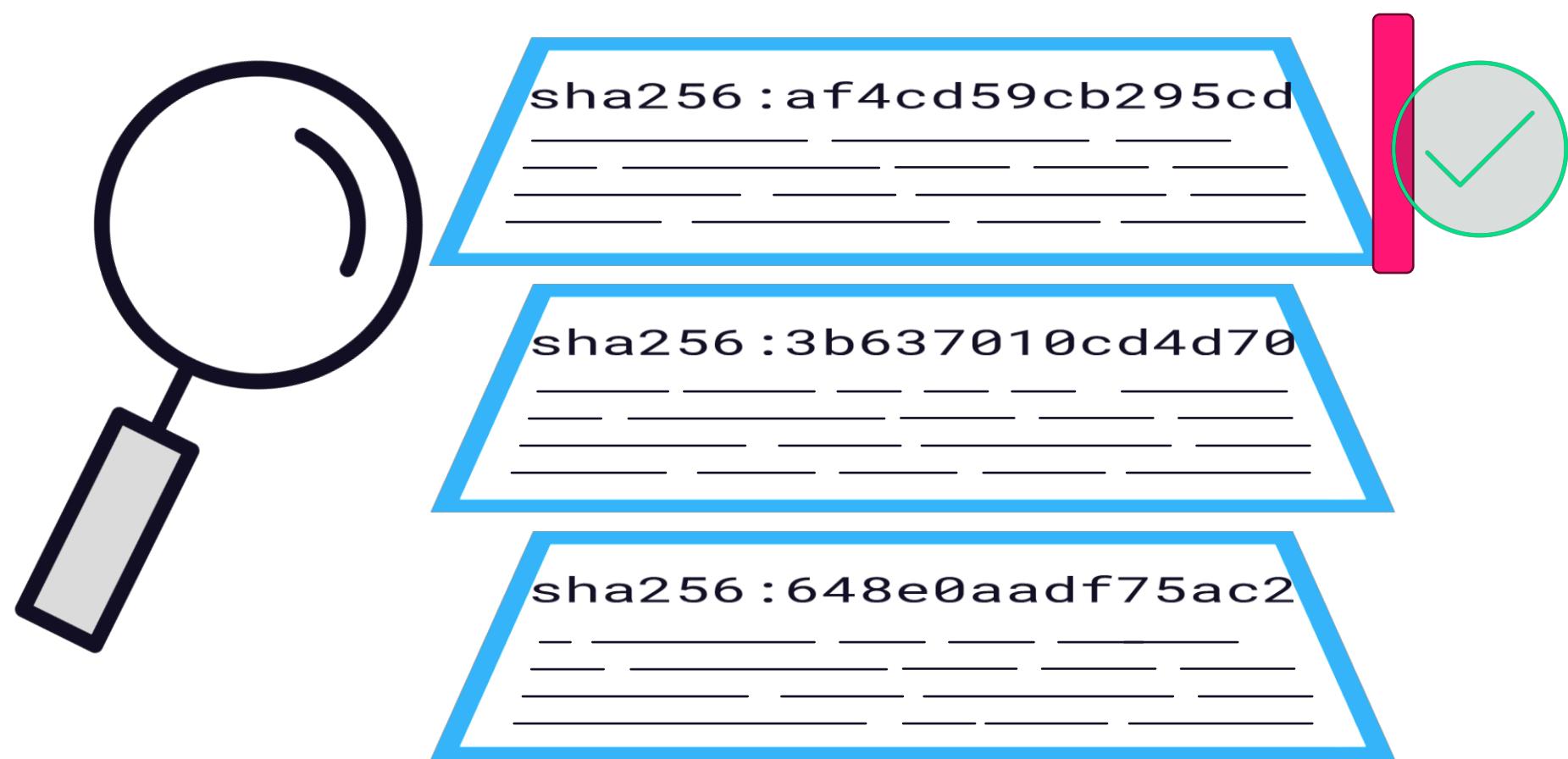
sha256 : af4cd59cb295cd

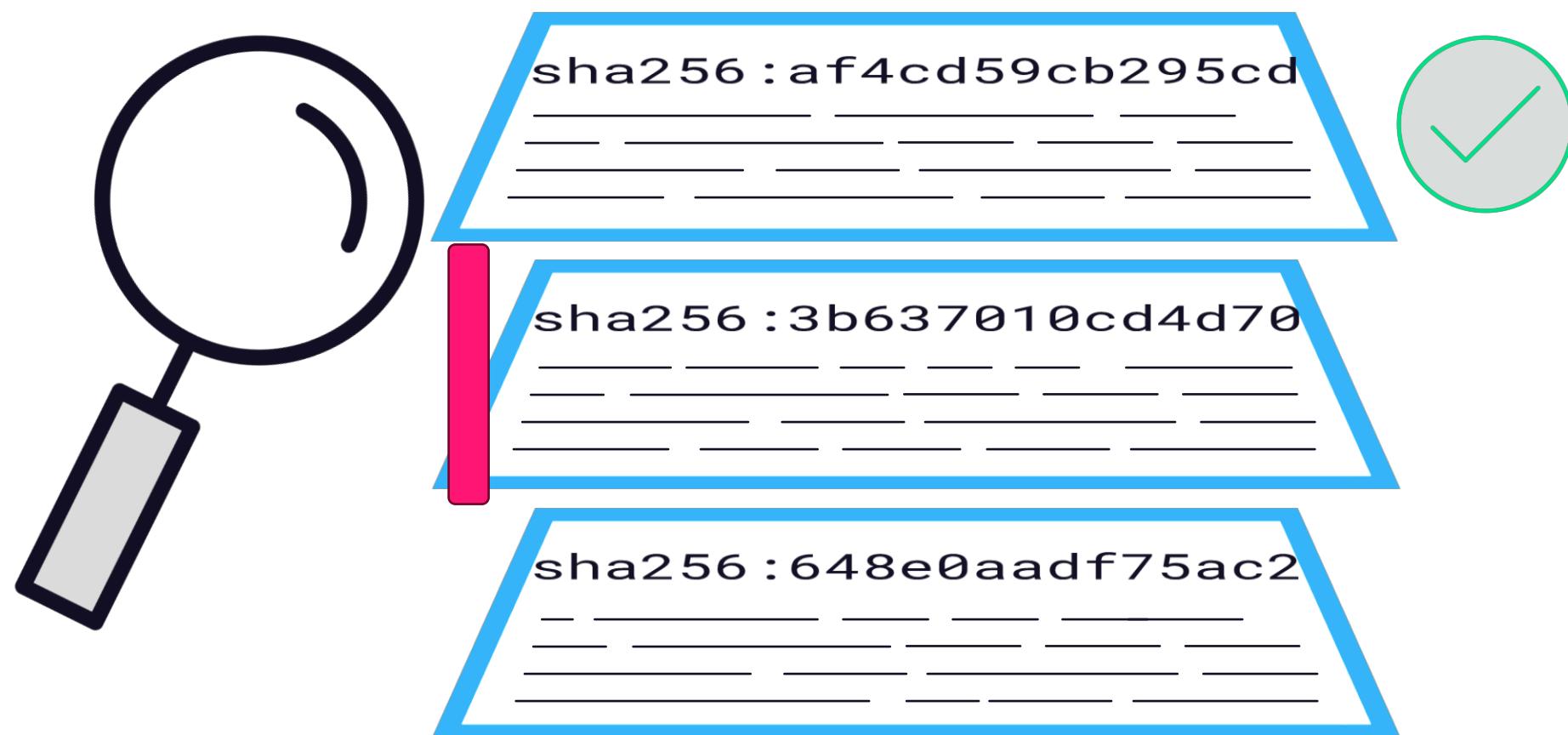
sha256 : 3b637010cd4d70

sha256 : 648e0aadf75ac2

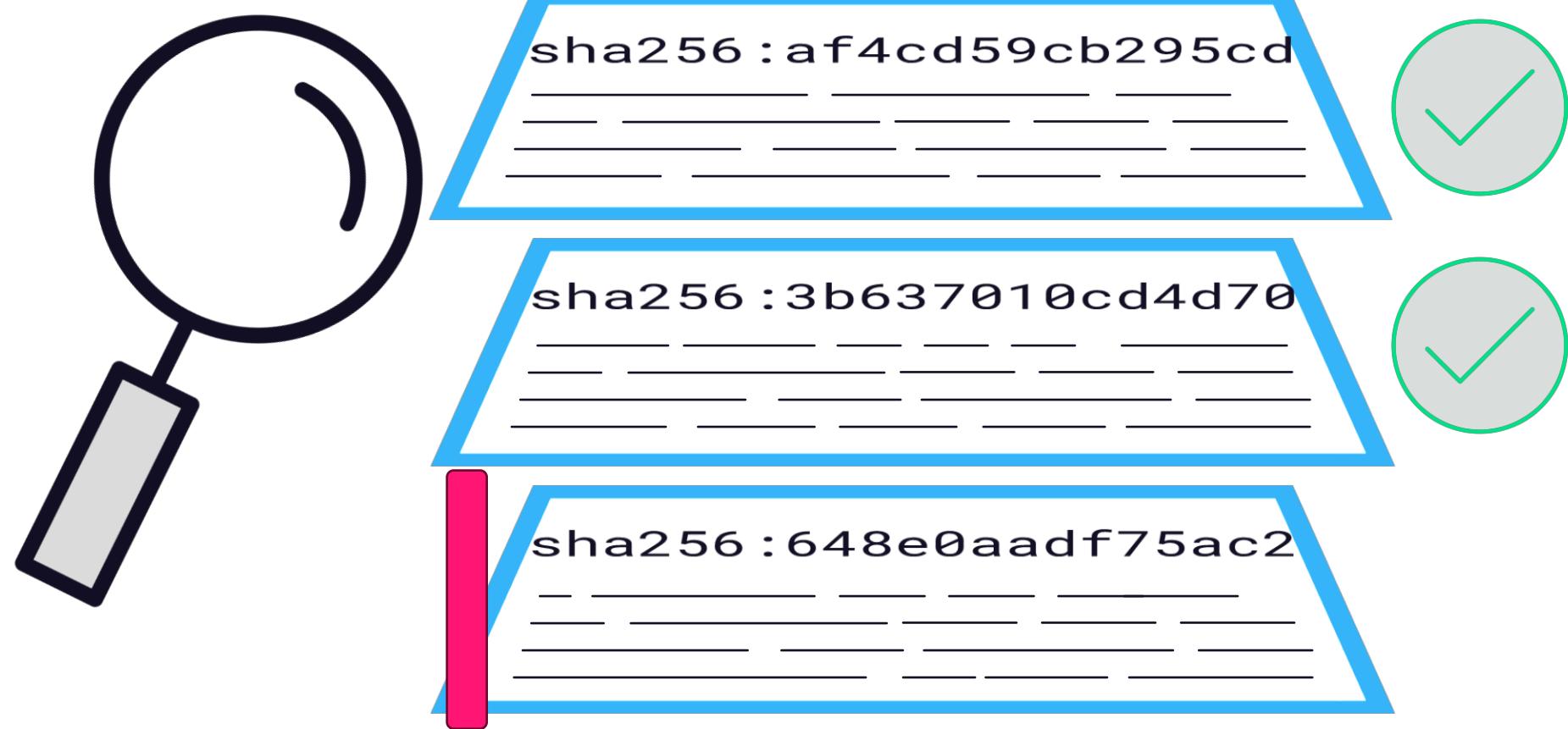






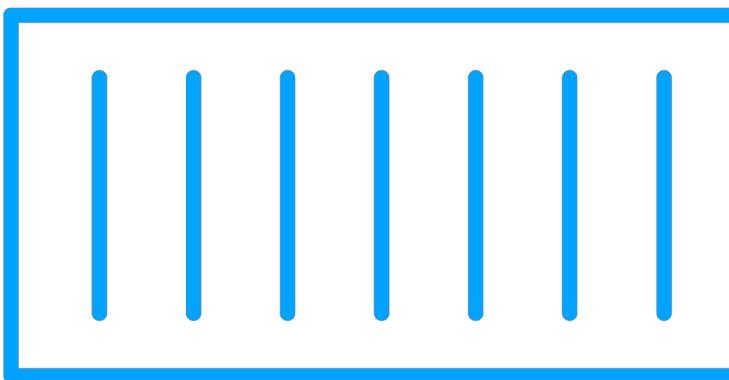


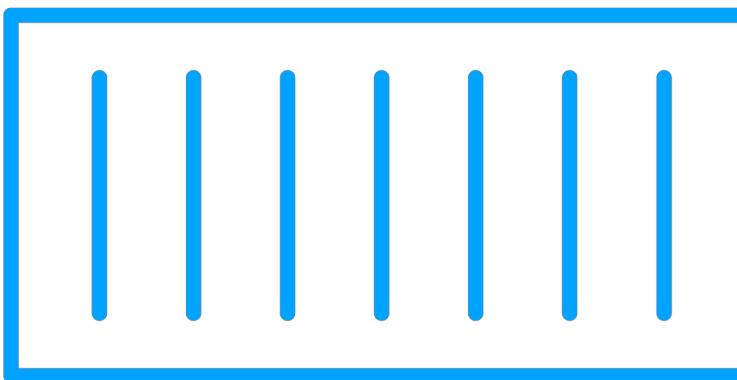


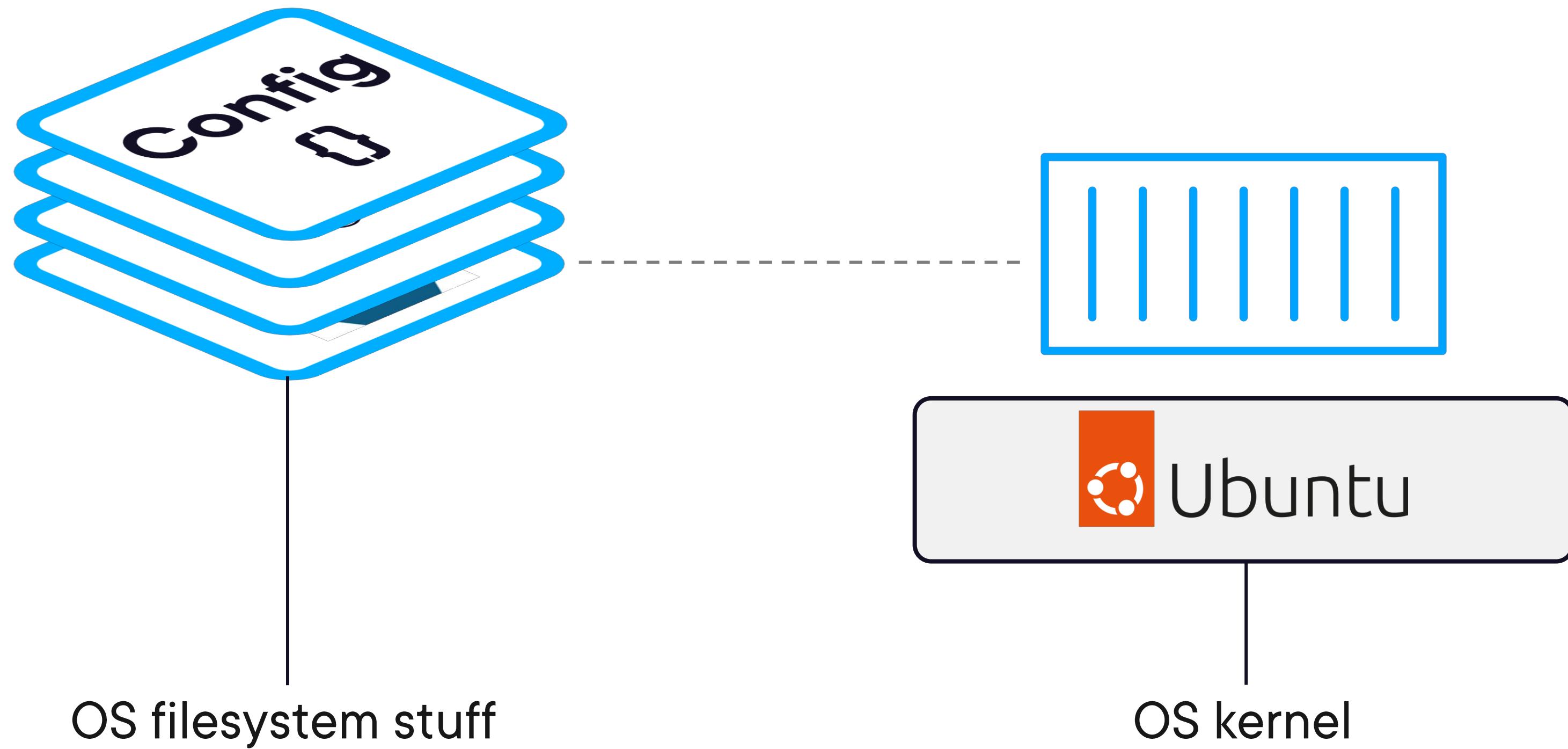


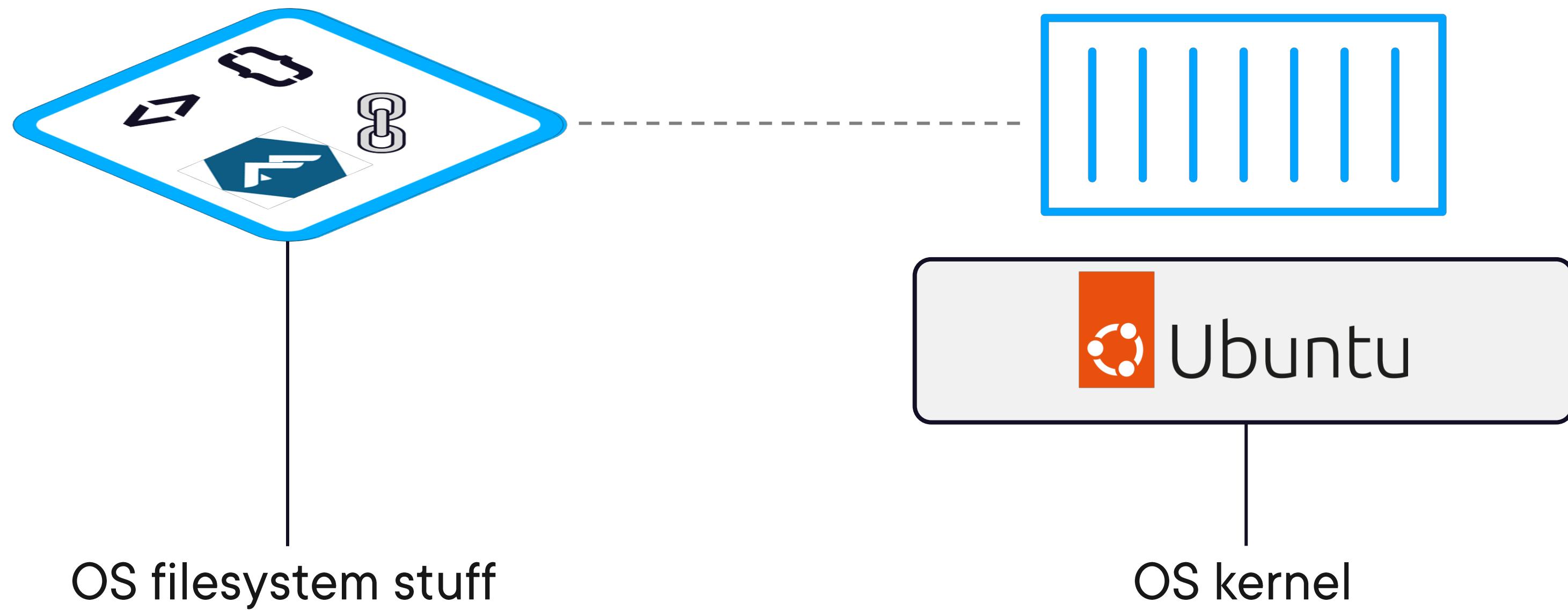












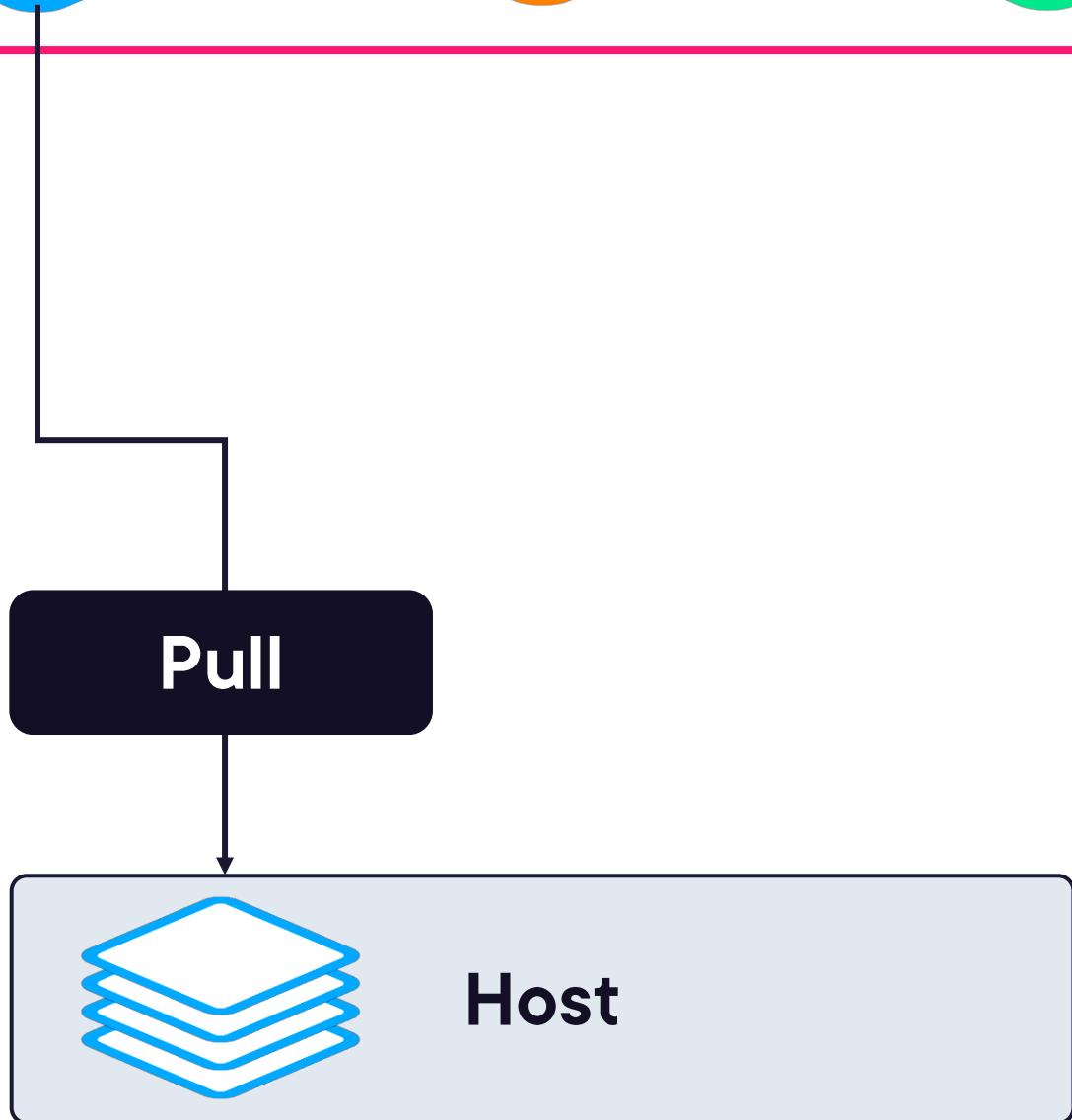
Up Next:

Registries

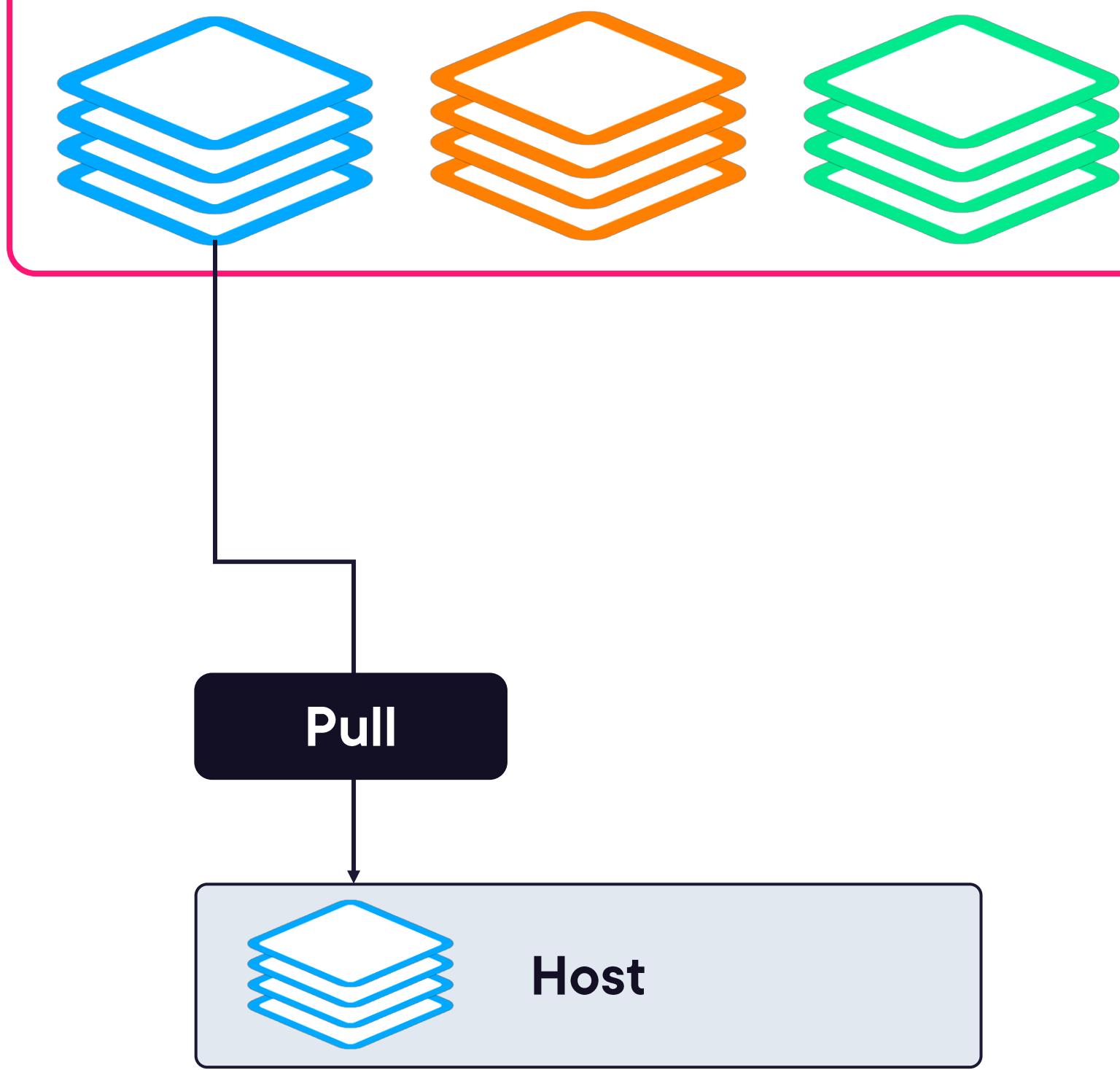


OCI Registry

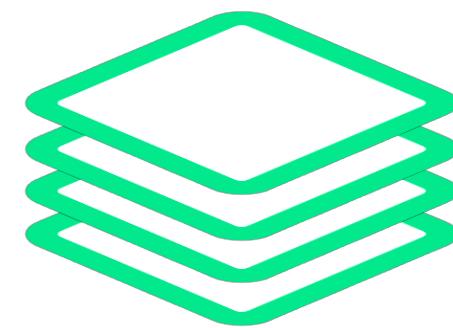
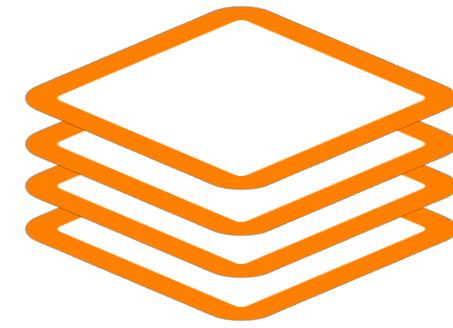
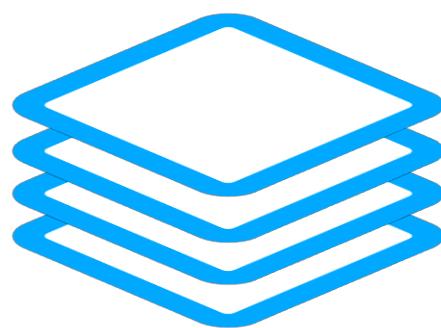
(E.g. Docker Hub)



OCI Registry

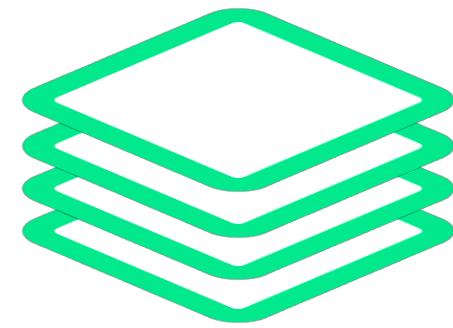
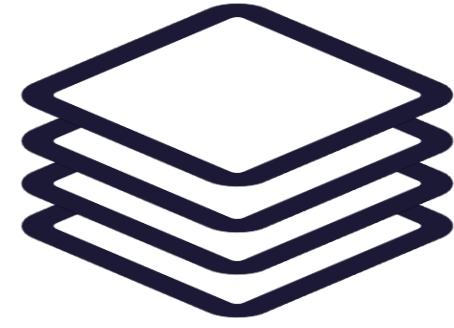
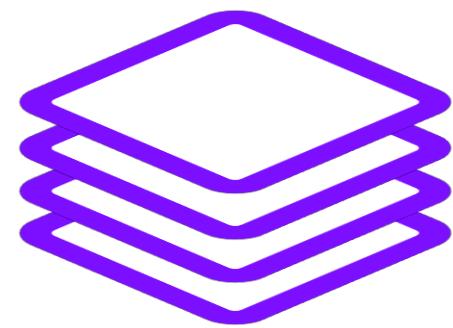


OCI Registry



Public

OCI Registry

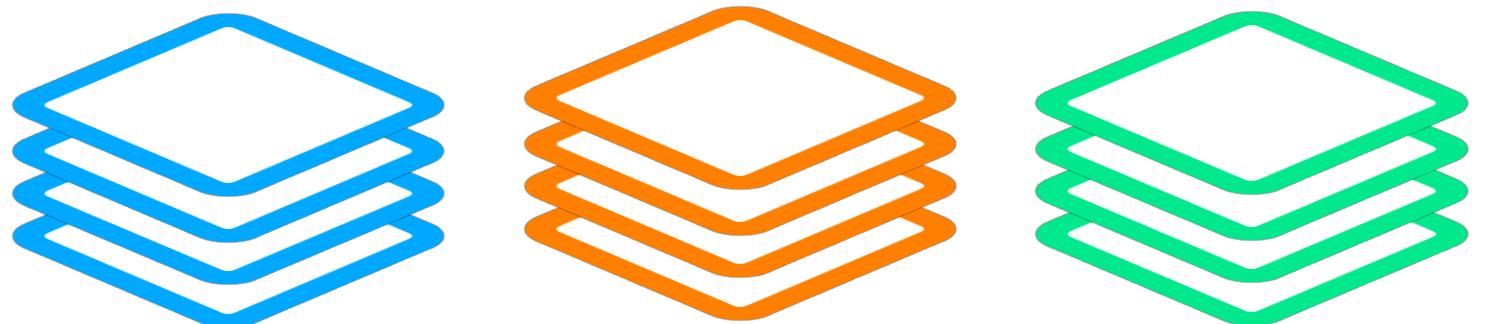


Private

Host

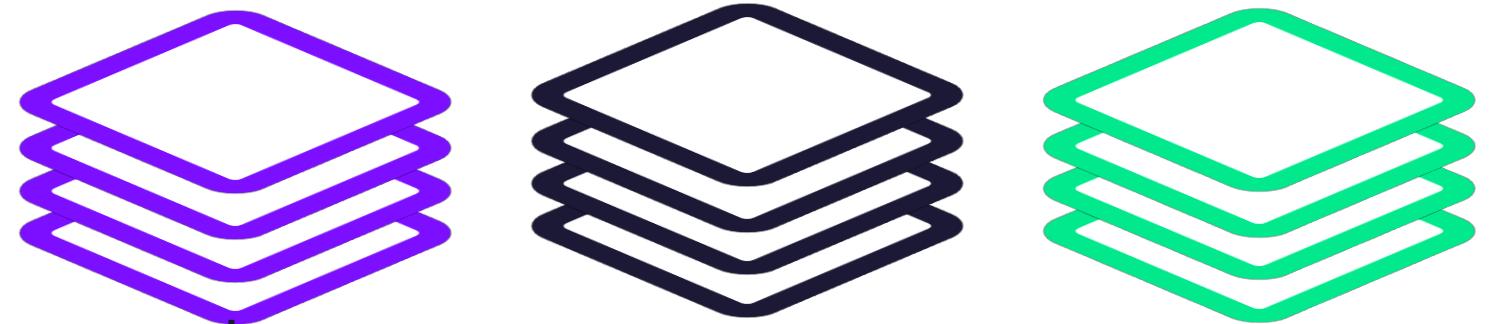


OCI Registry



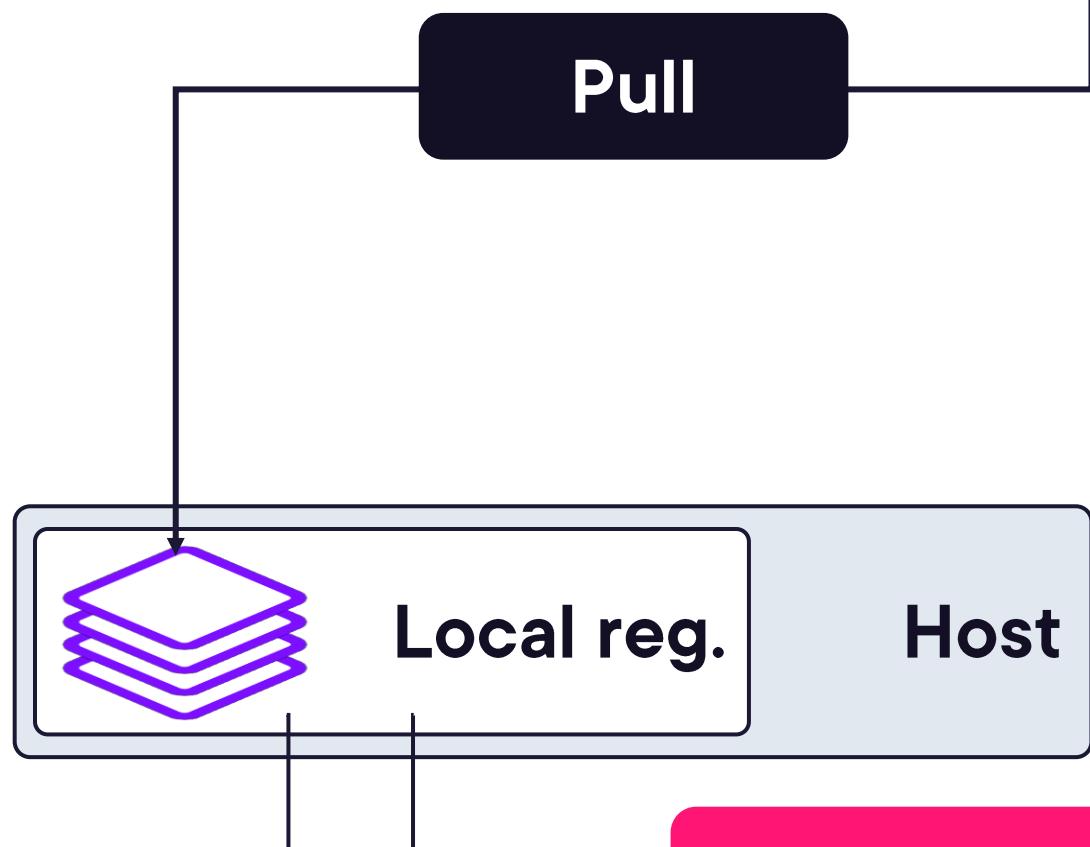
Public

OCI Registry



Private

Pull



/var/lib/docker

C:\Programdata\docker\windowsfilter

Two Types of Repositories

Official

Should be safe

Unofficial

Be careful



Official Repos

OCI Registry

<registry URL>



Official Repos

OCI Registry

Redis

Mongo

<registry URL>/<repo name>



Official Repos

OCI Registry

Redis



6.2-rc

6.0.8

6.1.0

Mongo



6-nano

5.0.19

6

<registry URL> / <repo name> / <tag>



Official Repos

```
$ docker pull redis
```



Official Repos

```
$ docker pull redis:latest
```



Official Repos

```
$ docker pull docker.io/redis:latest
```



```
$ docker pull redis:latest
```

Automatically
added by Docker
client if blank

Not special
or magical

Might not be
newest image



Unofficial Repos

\$ docker pull **nigelpoulton/qsk:1.1**

User/org

nigelpoulton

Identifies image as
unofficial



Two Types of Repositories

Official

Curated

Good practices

Fewer vulnerabilities

Unofficial

The wild west

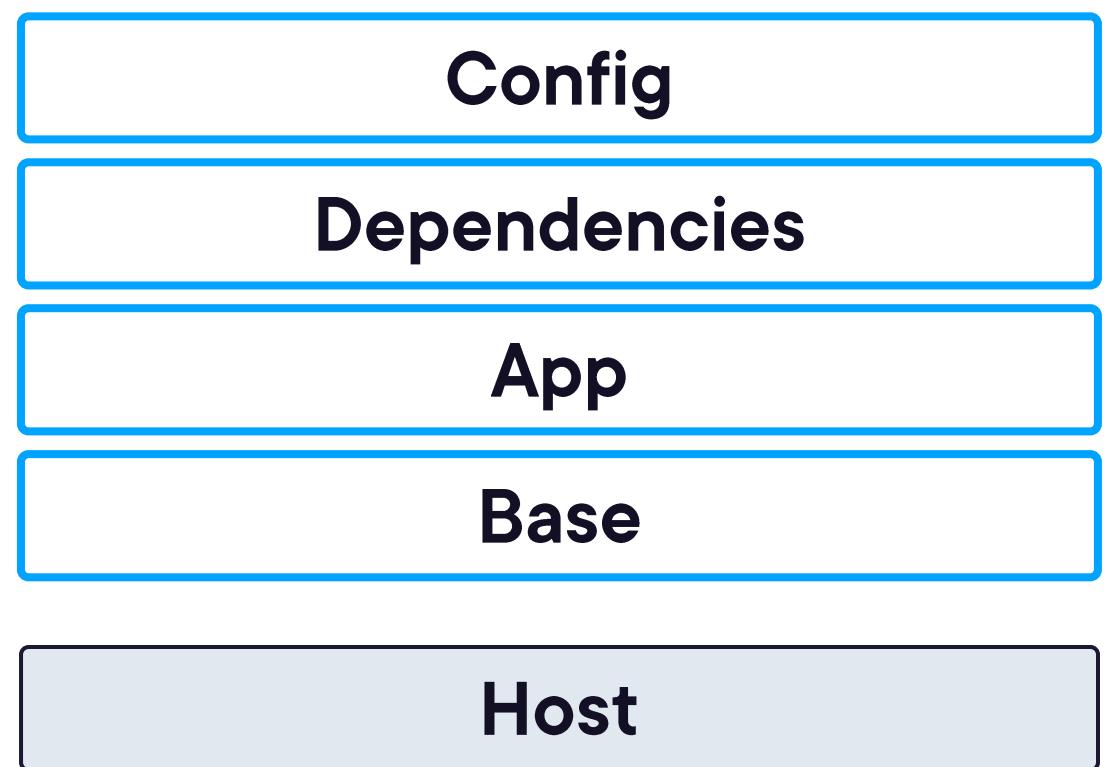
Be very very careful



OCI Registry

Repo





Config
SHA256:b0bdc1a83caf4...

Dependencies
SHA256:b0bdc1a83caf4...

App
SHA256:3caf4babda1a8...

Base
SHA256:aa78dc1c13baf6...

Host



OCI Registry

Repo



Config
SHA256 :b0bdc1a83caf4..

Dependencies
SHA256 :b0bdc1a83caf4..

App
SHA256 :3caf4babda1a8..

Base
SHA256 :aa78dc1c13baf6..

Host

Push



Config
SHA256 :b0bdc1a83caf4...

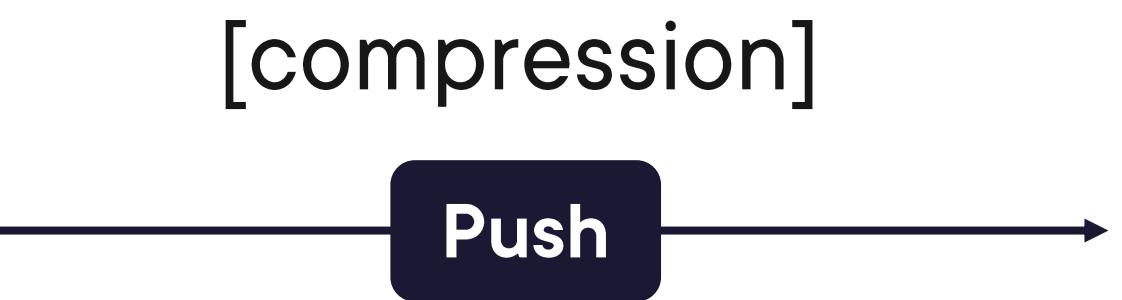
Dependencies
SHA256 :b0bdc1a83caf4...

App
SHA256 :3caf4babda1a8...

Base
SHA256 :aa78dc1c13baf6...

Host

Content hashes



Config
SHA256 :b0bdc1a83caf4...

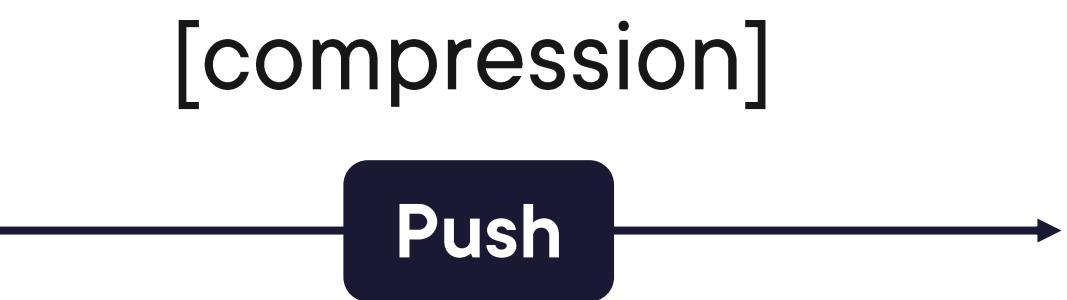
Dependencies
SHA256 :b0bdc1a83caf4...

App
SHA256 :3caf4babda1a8...

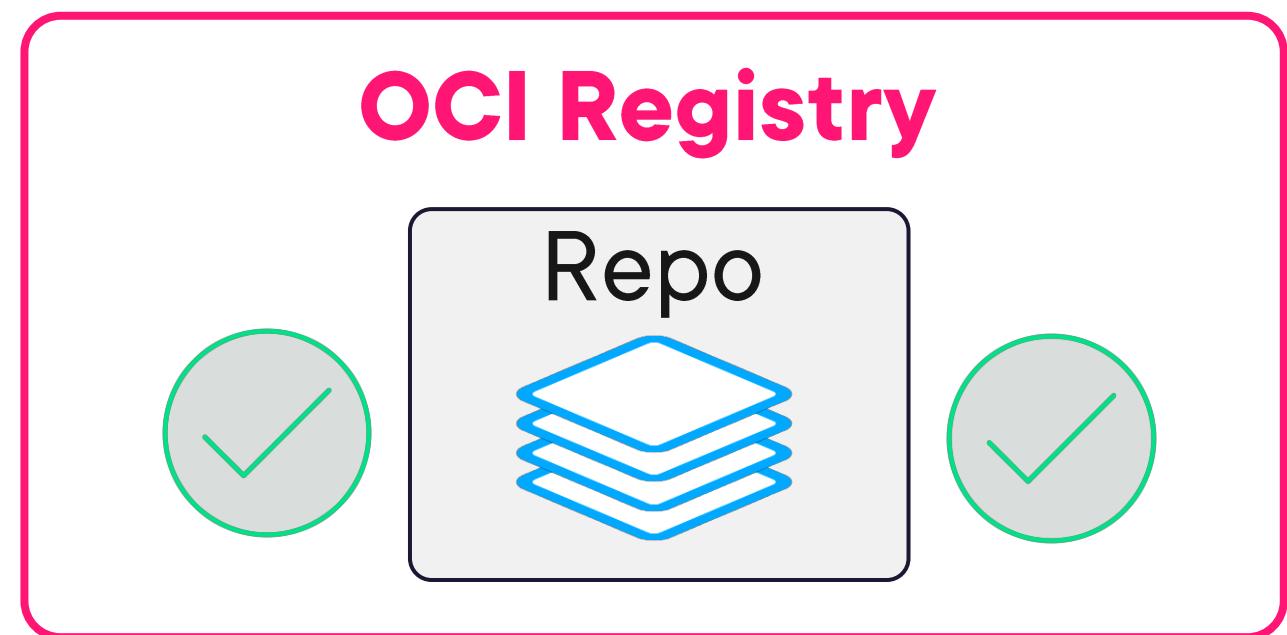
Base
SHA256 :aa78dc1c13baf6...

Host

Content hashes



Distribution hashes



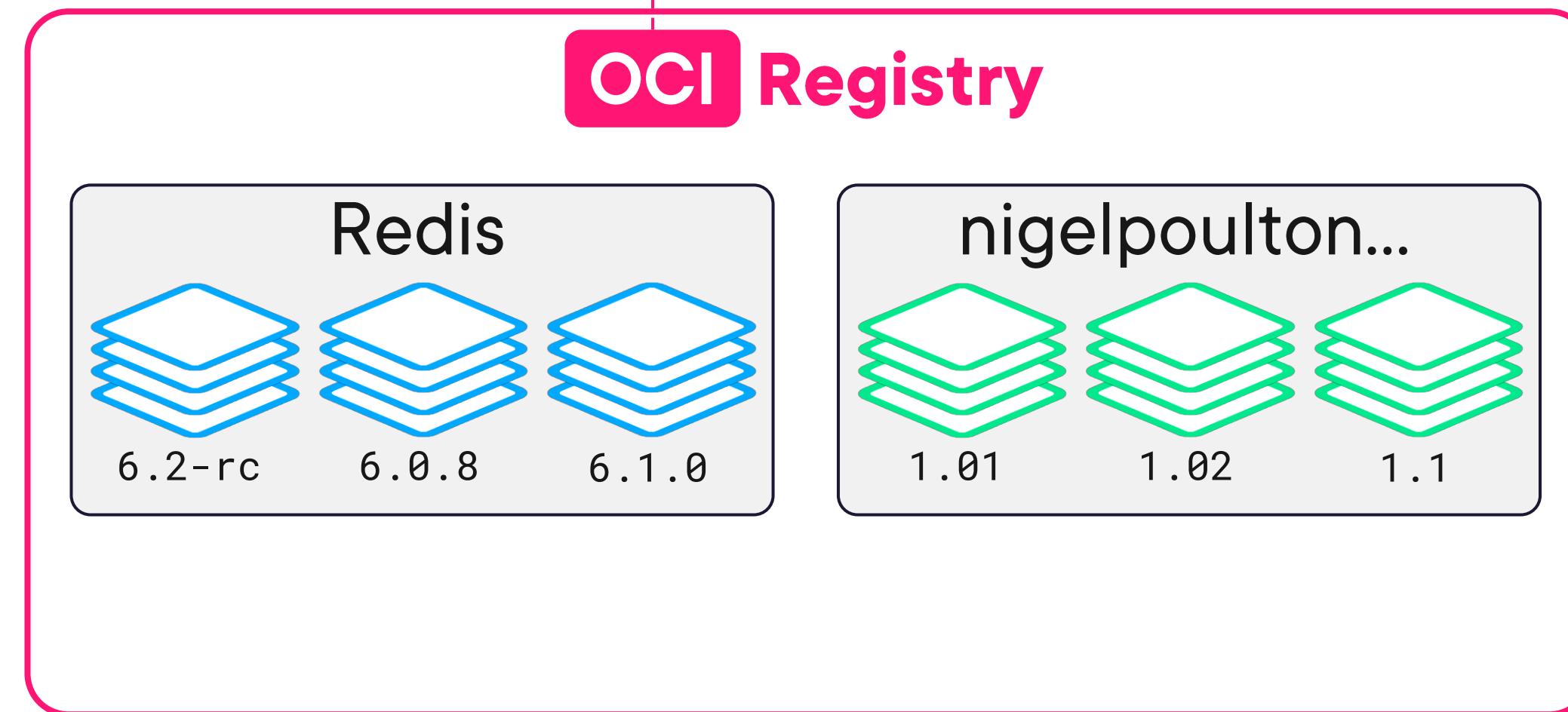
Distribution hashes



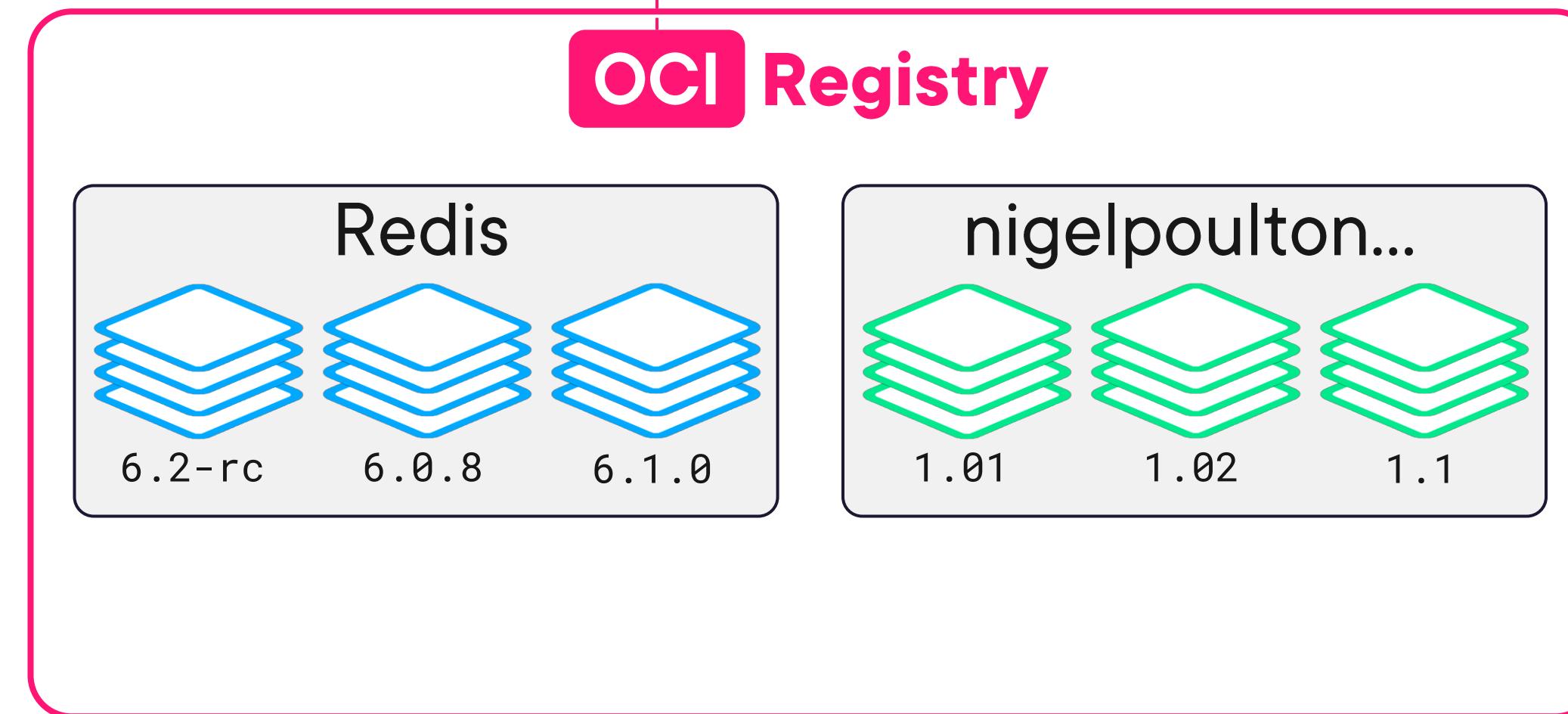
Registry

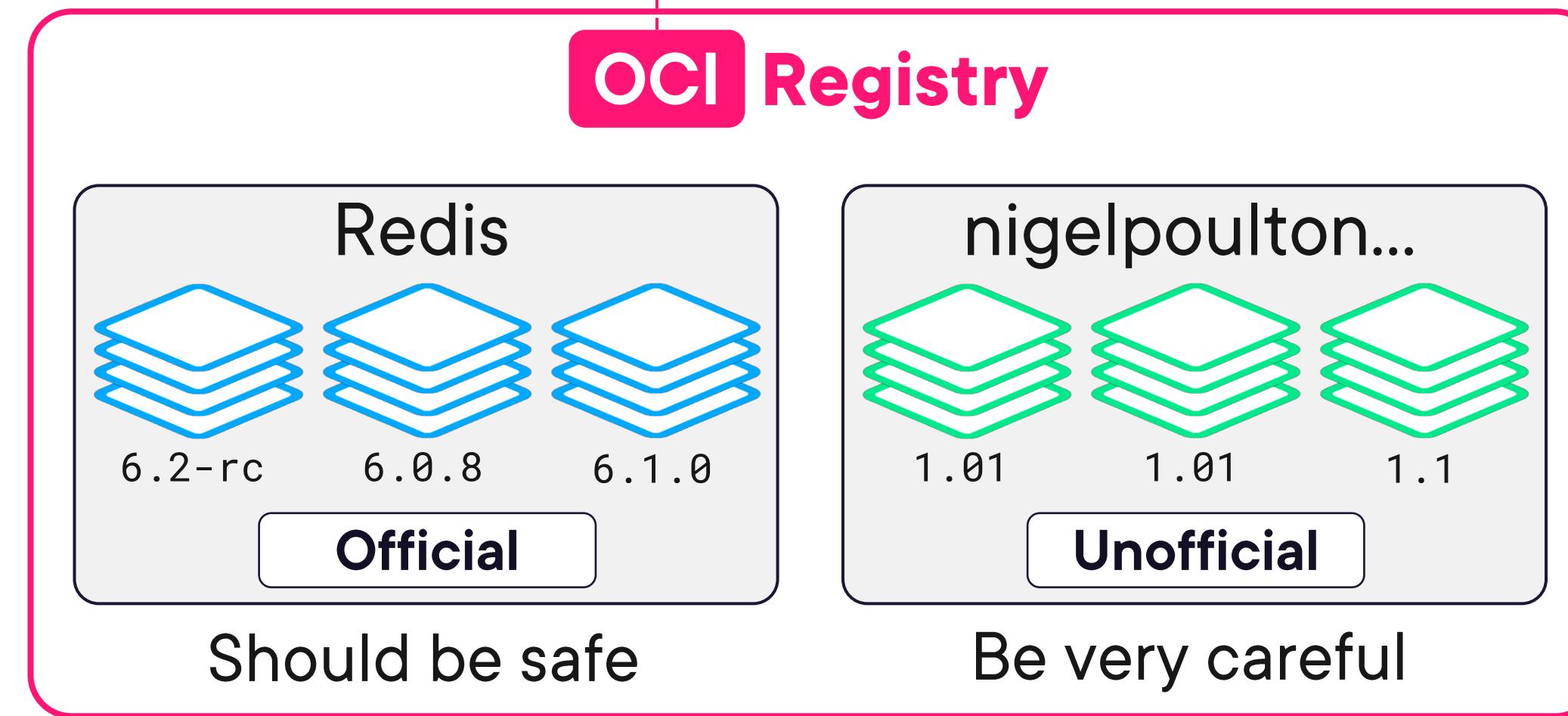


<https://github.com/opencontainers/distribution-spec>



<https://github.com/opencontainers/distribution-spec>





Up Next:

A Few Good Practices



Images: A Few Good Practices

Use Official Images

Keep Images Small

**Build Custom Images From Small
Official Base Images**

Reference Exact Image Tags



docker push

Upload image

docker pull

Download image



docker push

Upload image

docker pull

Download image

docker inspect

Image details



`docker push`

Upload image

`docker pull`

Download image

`docker inspect`

Image details

`docker rmi`

Delete image

