

You can store that in a container registry?!

Siva Manivannan
Full Stack Engineer

github.com/foursigma

linkedin.com/in/sivamanivannan

sivabalan.manivannan@gmail.com

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- Container Registry
- ORAS (OCI Registry AS Storage)
- Demo 🙏 🍀

Yes, you can store things in
registries unrelated to containers
images!

Vulnerability Scans

Notarizations

SBOMs
(software bill of materials)

Binaries / Packages
(Ex. WASM, Homebrew)

AI Model Weights

Helm Charts

K8s manifests

Policy Files
(OPA)

Container Registry

HTTP API
Metadata
Blob Store

Registry: a service that handles the required APIs defined by the OCI (*Open Container Initiative*) Distribution specification

Blob: the binary form of content that is stored by a registry, addressable by a **digest**

Digest: a unique identifier created from a cryptographic hash (ex. SHA256) of a Blob's content.

Clients

* Source: [OCI Distribution-Spec](#)

ID	Method	Endpoints	Success	Failure
end-1	GET	/v2/	200	404/401
end-2	GET / HEAD	/v2/<name>/blobs/<digest>	200	404
end-3	GET/ HEAD	/v2/<name>/manifests/<reference>	200	404
end-4a	POST	/v2/<name>/blobs/uploads/	202	404
end-4b	POST	/v2/<name>/blobs/uploads/?digest=<digest>	201/202	404/400
end-5	PATCH	/v2/<name>/blobs/uploads/<reference>	202	404/416
end-6	PUT	/v2/<name>/blobs/uploads/<reference>?digest=<digest>	201	404/400
end-7	PUT	/v2/<name>/manifests/<reference>	201	404
end-8a	GET	/v2/<name>/tags/list	200	404
end-8b	GET	/v2/<name>/tags/list?n=<integer>&last=<tagname>	200	404
end-9	DELETE	/v2/<name>/manifests/<reference>	202	404/400/405
end-10	DELETE	/v2/<name>/blobs/<digest>	202	404/405
end-11	POST	/v2/<name>/blobs/uploads/?mount=<digest>&from=<other_n	201	404
end-12a	GET	/v2/<name>/referrer/<digest>	200	404/400
end-12b	GET	/v2/<name>/referrer/<digest>?artifactType=<artifactType>	200	404/400
end-13	GET	/v2/<name>/blobs/uploads/<reference>	204	404

* Source: [OCI Distribution-Spec](#)

Endpoint

Namespace

Artifact

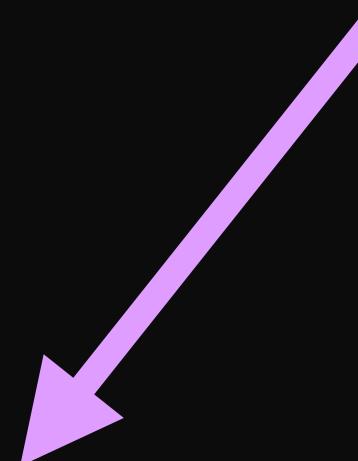
my.registry.com/acme/production/myapp:latest

Endpoint

Namespace

Artifact

my.registry.com/acme/production/myapp:latest



Manifest

JSON document - A manifest may reference other manifests and blobs in a repository

* Source: [OCI Distribution-Spec](#)

```
{  
  "schemaVersion": 2,  
  "config": {  
    "mediaType": "application/vnd.oci.image.config.v1+json",  
    "size": 7023,  
    "digest": "sha256:b5b2b2c507a0944348e0303114d8d93aaaa081732b86451d9bce1f432a537bc7"  
  },  
  "layers": [  
    {  
      "mediaType": "application/vnd.oci.image.layer.v1.tar+gzip",  
      "size": 32654,  
      "digest": "sha256:9834876dcfb05cb167a5c24953eba58c4ac89b1adf57f28f2f9d09af107ee8f0"  
    },  
    {  
      "mediaType": "application/vnd.oci.image.layer.v1.tar+gzip",  
      "size": 16724,  
      "digest": "sha256:3c3a4604a545cdc127456d94e421cd355bca5b528f4a9c1905b15da2eb4a4c6b"  
    },  
    {  
      "mediaType": "application/vnd.oci.image.layer.v1.tar+gzip",  
      "size": 73109,  
      "digest": "sha256:ec4b8955958665577945c89419d1af06b5f7636b4ac3da7f12184802ad867736"  
    }  
  ],  
  "annotations": {  
    "com.example.key1": "value1", ←  
    "com.example.key2": "value2"  
  }  
}
```



pineapple.jpg

Scott Webb Photography, London, Canada on [Unsplash](#)



landscape.jpg

Photo by Michal Kmet' on [Unsplash](#)



OCI Registry As Storage

```
> brew install oras
```

```
> oras push ttl.sh/siva/photos/pineapple:latest \
    --artifact-type application/vnd.acme.photo.v1 \
    pineapple.jpg:image/jpeg
```

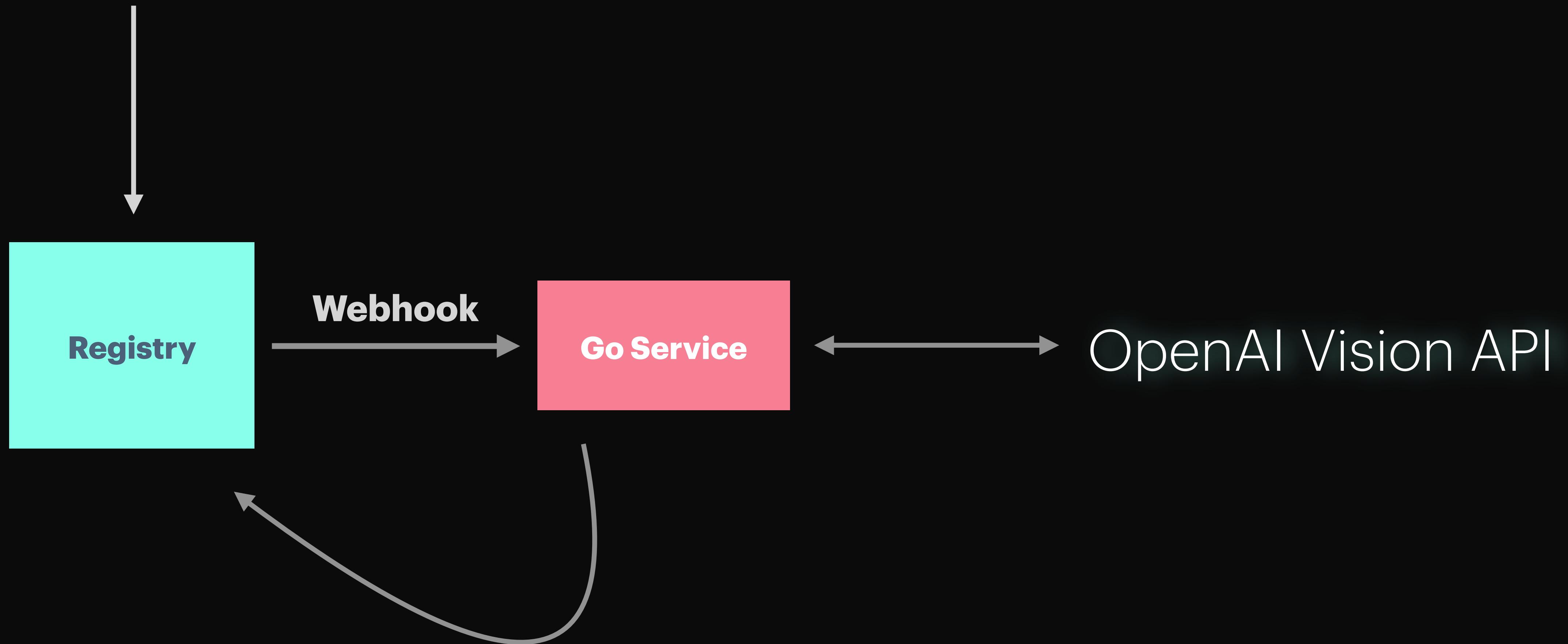
```
> oras pull ttl.sh/siva/photos/pineapple:latest
```

ttl.sh - Free, open-source, anonymous & ephemeral registry

A close-up photograph of a person's hand holding a large pile of colorful, cylindrical sprinkles. The sprinkles are in various colors including pink, yellow, blue, green, and white. The background is blurred, showing more of the same colorful sprinkles.

Sprinkle some AI

```
oras push localhost:8080/siva/photos/pineapple:latest ./pineapple.jpg:image/jpeg  
-annotation "notification.manifest.description=true"
```



Push pictures descriptions back to the registry manifest and associate them with the photo



pineapple.jpg

Scott Webb Photography, London, Canada on [Unsplash](#)



landscape.jpg

Photo by Michal Kmet' on [Unsplash](#)

Thank You!

- **ORAS** Project: <https://oras.land/>
- **Repo**: github.com/FourSigma/oci-photos
- Steve Lasker's KubeCon 2022 - [Distributing Supply Chain Artifacts with OCI & ORAS Artifacts](#)

Let's connect

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