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Cloud Infrastructure

OCI Registry Service
Level 200

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Safe Harbor Statement

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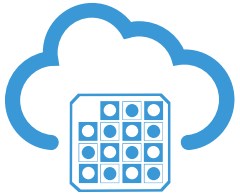
Objectives

After completing this lesson, you should be able to:

- Describe the OCI Registry Service
- Managing OCI Registry Service

Introducing Oracle Cloud Infrastructure Registry - OCIR



What is It?

- A high availability Docker v2 container registry service
- Stores Docker Images in Private Repositories
- Runs as a fully managed service on Oracle Cloud Infrastructure

What Problems Does it Solve?

- Without a registry it is hard for Development teams to maintain a consistent set of Docker images for their containerized applications
- Without a managed registry it is hard to enforce access rights and security policies for images
- It is too hard to find the right images and have them available in the region of deployment

Key Benefits

- Full integration with Container Engine for Kubernetes (OKE)
- Registries are private by default, but can be made public by an admin
- Co-located regionally with Container Engine for low latency Docker image deploys
- Leverages OCI for high performance, low latency and high availability

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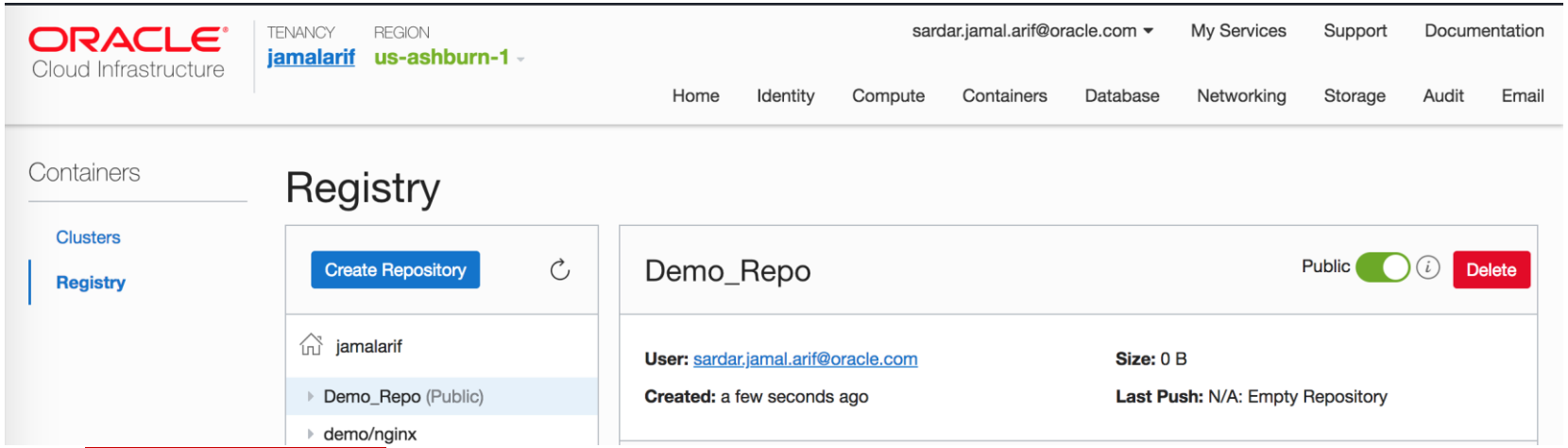
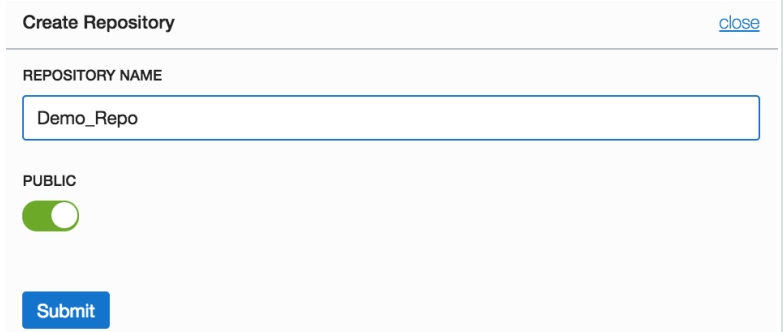
Pre-requisites for OCIR

- To use registry service, user is either a part of the admin group or part of a group to which a policy grants the appropriate permissions
  - `allow group acme-viewers to inspect repos in tenancy` – Ability to see a list of all repositories in Oracle Cloud Infrastructure Registry belonging to the tenancy
  - `allow group acme-managers to manage repos in tenancy` – Ability to perform any operation on any repository in Oracle Cloud Infrastructure Registry that belongs to the tenancy (Pull an image, push an image, create/delete repos etc.)
  - **Note:** repos are tenancy-level resources, policies controlling access to them need to go into the root compartment (i.e., the tenancy).
- User needs to have an OCI username and auth token before being able to push/pull an image.

OCIR Repositories

- Repositories can be private or public.
- Any user with internet access and knowledge of the appropriate URL can pull images from a public repository in Oracle Cloud Infrastructure Registry.
- To Create a Repository via Console
  - Containers → Registry → Create Repository
    - Repository Name
    - Public or Private





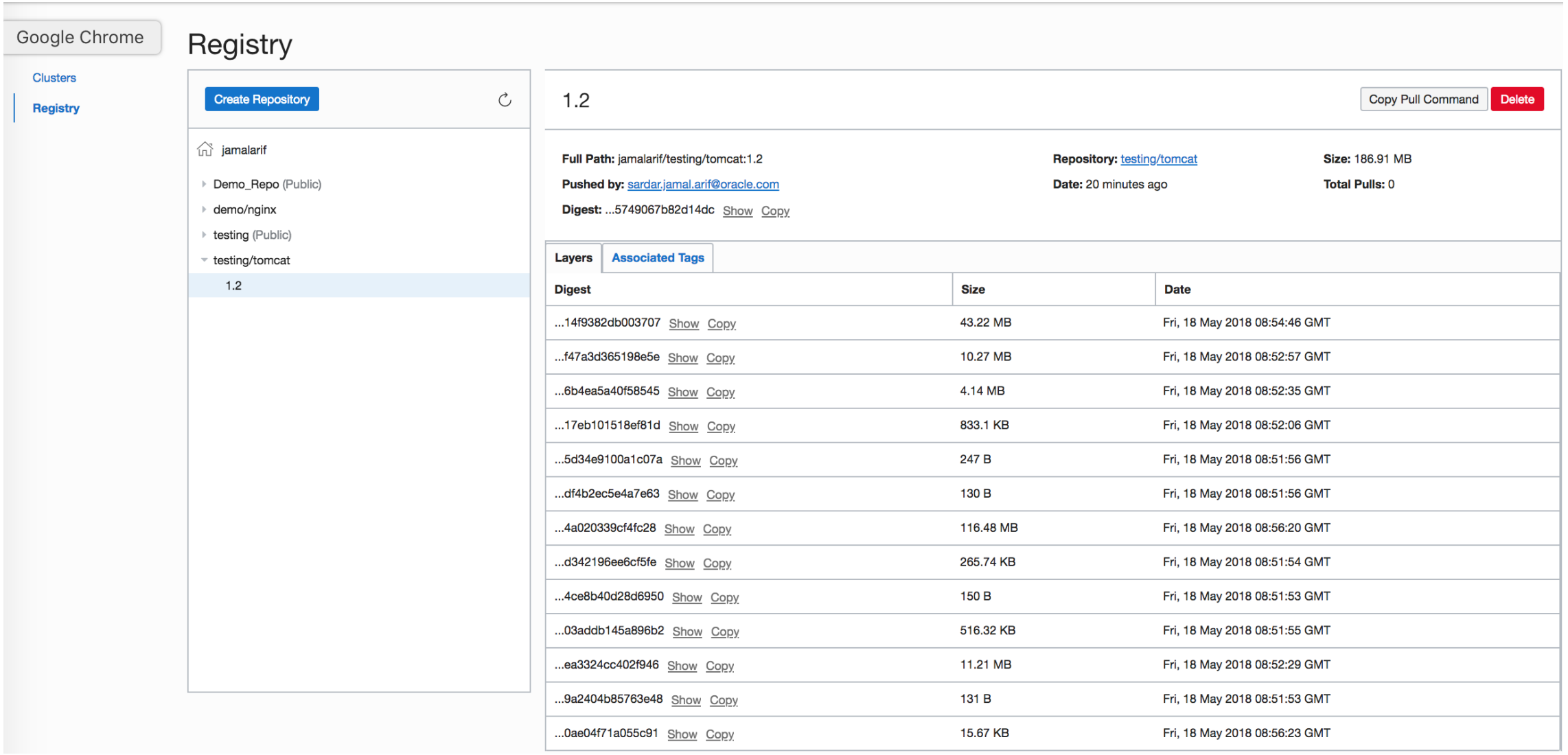
Push/Pull images from OCIR

- You use Docker CLI to push/pull images to repos in OCI
- Create a Auth Token for User and copy it
- Login into OCIR
  - `docker login <region-code>.ocir.io`
    - `<tenancy_name>/<username>`
    - `Auth-token`

Region Code	Region Name
phx	Phoenix
iad	Ashburn
fra	Frankfurt
lhr	London

- Find images in your local repository to be pushed to OCIR and tag it appropriately in the format
  - `<region-code>.ocir.io/<tenancy-name>/<repos-name>/<image-name>:<tag>`
  - `docker tag 9f1191b287da iad.ocir.io/jamalarif/testing/tomcat:1.2`
- Push your tagged image to OCIR
  - `docker push iad.ocir.io/jamalarif/testing/tomcat`
- Similarly images can be pulled using docker pull
  - `docker pull <region-code>.ocir.io/<tenancy-name>/<repos-name>/<image-name>:<tag>`
  - `docker pull iad.ocir.io/jamalarif/testing/tomcat:1.2`

OCIR Image Layers



Pulling images from Registry for Kubernetes Deployments

In order to pull images that reside in Oracle Cloud Infrastructure Registry

- Create a Docker registry secret, containing the Oracle Cloud Infrastructure credentials to use when pulling the image.
- Specify the image to pull from Oracle Cloud Infrastructure Registry, including the repository location and the Docker registry secret to use, in the application's manifest file.

  - `kubectl create secret docker-registry <secret-name> --docker-server=<region-code>.ocir.io --docker-username='<tenancy-name>/<oci-username>' --docker-password='<oci-auth-token>' --docker-email='<email-address>'`

Summary

- Describe the OCI Registry Service
- Managing OCI Registry Service

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