Guided Exercise: Container Image Registries

Interact with container images in multiple container registries.

Outcomes

You should be able to:

- Log in to container image registries.
- Move container images between registries.
- Test Quay images.

As the `student` user on the `workstation` machine, use the `lab` command to prepare your system for this exercise.

```
[student@workstation ~]$ lab start images-basics
```

Instructions

In this exercise, your team must ensure that the internal `Dev` and `Test` pipelines use the same `Python` container image as the one that is in Red Hat OpenShift Container Platform (RHOCP).

To do so, copy the Python image from the RHOCP registry to the internal registry:

- Source: `default-route-openshift-image-registry.apps.ocp4.example.com/default/python:3.9-ubi8`
- Destination: `registry.ocp4.example.com:8443/developer/python:3.9-ubi8`

1. Log in to the container image registries.

   Log in to RHOCP as the `admin` user.

   ```
   [student@workstation ~]$ oc login -u admin -p redhatocp \
       https://api.ocp4.example.com:6443
   Login successful.
   ...output omitted...
   ```

   > **NOTE**
   >
   > RHOCP and the `oc` command are explored later in the course.

   Log in to the RHOCP registry with Podman.

   ```
   [student@workstation ~]$ podman login -u $(oc whoami) -p $(oc whoami -t) \
     default-route-openshift-image-registry.apps.ocp4.example.com
   Login Succeeded!
   ```

   Log in to the `registry.ocp4.example.com:8443` registry with Podman.

   ```
   [student@workstation ~]$ podman login -u developer -p developer \
     registry.ocp4.example.com:8443
   Login Succeeded!
   ```

2. Use `skopeo` to copy the `default-route-openshift-image-registry.apps.ocp4.example.com/default/python:3.9-ubi8` image to the `registry.ocp4.example.com:8443` registry.

   ```
   [student@workstation ~]$ \
     RHOCP_REGISTRY="default-route-openshift-image-registry.apps.ocp4.example.com"
   [student@workstation ~]$ skopeo copy --dest-tls-verify=false \
     docker://${RHOCP_REGISTRY}/default/python:3.9-ubi8 \
     docker://registry.ocp4.example.com:8443/developer/python:3.9-ubi8
   Getting image source signatures
   ...output omitted...
   ```

3. Make the image public in the internal registry.

   In a web browser, navigate to `https://registry.ocp4.example.com:8443` and log in with the user `developer` and password `developer`.

   Type `developer` in the **Filter Repositories** field, then click the **developer/python** repository.

Click the **Settings** icon at the bottom of the page. Scroll to the **Repository Visibility** settings and click **Make Public**. Then, click **OK**.

4. Test the image as an unauthenticated user.

   In a terminal, log out from all container image registeries.

```
[student@workstation ~]$ podman logout --all
Removed login credentials for all registries
```

   Pull the `registry.ocp4.example.com:8443/developer/python:3.9-ubi8` image.

```
[student@workstation ~]$ podman pull \
  registry.ocp4.example.com:8443/developer/python:3.9-ubi8
Trying to pull registry.ocp4.example.com:8443/developer/python:3.9-ubi8...
...output omitted...
e972...ac821
```

   Start a container that uses the image.

```
[student@workstation ~]$ podman run --rm \
  registry.ocp4.example.com:8443/developer/python:3.9-ubi8 python3 --version
Python 3.9.13
```

Finish

On the `workstation` machine, use the `lab` command to complete this exercise. This is important to ensure that resources from previous exercises do not impact upcoming exercises.

```
[student@workstation ~]$ lab finish images-basics
```