

Exercise 2

Searching and Pulling Images from Registry Servers

Q1.

Learn about your podman version and podman host machine.
Also check the default registries connected to your podman.

Q2.

You are to search and pull a certain image according the the parameters given below:

Name of Image: mariadb
Registry Server: docker
Username: circleci
Version: 10.2.41-ram

Inspect the image to know about the maintainer and the defined environment variables.

Q3.

You are to search and pull a certain image according the the parameters given below:

Name of Image: alpine
Registry Server: quay.io
Username: jitesoft
Version: latest

Inspect the image to know about the maintainer and the defined environment variables.

Q4.

Change the default registries to only “docker.io” and “registry.redhat.io”

Q5.

List some OS Based Images and some Daemon based Images by going through some registry servers.

Solutions

Q1.

```
[root@localhost ~]# podman version
Client:      Podman Engine
Version:     4.2.0
API Version: 4.2.0
Go Version:  go1.18.4
Built:       Mon Aug 22 18:07:10 2022
OS/Arch:     linux/amd64
[root@localhost ~]#
```

```
[root@localhost ~]# podman info
host:
  arch: amd64
  buildahVersion: 1.27.0
  cgroupControllers:
  - cpuset
  - cpu
  - io
  - memory
  - hugetlb
  - pids
  - rdma
  - misc
  cgroupManager: systemd
  cgroupVersion: v2
  common:
    package: common-2.1.4-1.el9.x86_64
    path: /usr/bin/common
    version: 'common version 2.1.4, commit: 56561007b6a59ea175ee9a67384639721499e160'
  cpuUtilization:
    idlePercent: 95
    systemPercent: 3.53
    userPercent: 1.47
  cpus: 2
  distribution:
    distribution: 'rhel'
    version: '9.1'
  eventLogger: journald
  hostname: localhost.localdomain
```

```
registries:
  search:
  - registry.access.redhat.com
  - registry.redhat.io
  - docker.io
```

Q2.

```
[root@localhost ~]# podman search docker.io/circleci/mariadb
NAME                                DESCRIPTION
docker.io/circleci/mariadb         CircleCI images for MariaDB
```

```
[root@localhost ~]# podman pull docker.io/circleci/mariadb:10.2.41-ram
Trying to pull docker.io/circleci/mariadb:10.2.41-ram...
Getting image source signatures
Copying blob 3f3694ff0bb5 done
Copying blob 060731bdf4df done
Copying blob 68e7bb398b9f done
Copying blob 07efdb86cae7 done
Copying blob 3f687d67df15 done
Copying blob 323b153f8d8f done
Copying blob be50f6f15fc5 done
Copying blob 9383528fad00 done
Copying blob 4e0d9644a75b done
Copying blob 7580b88fa9d3 done
Copying blob 258aa25b26de done
Copying blob 0c4552ac2679 done
Copying blob 9f313bc10720 done
Copying config a7080ddf34 done
Writing manifest to image destination
Storing signatures
a7080ddf345d4db1585639f3856067f946c1cdbdf7120c525610dd2a38cd686c
[root@localhost ~]#
```

```
[root@localhost ~]# podman inspect docker.io/circleci/mariadb:10.2.41-ram
[
  {
    "Id": "a7080ddf345d4db1585639f3856067f946c1cdbdf7120c525610dd2a38cd686c",
    "Digest": "sha256:0b6b5c5089be966a34ed9f605b4bf35651140a50e16686336eb5ae51b7db3f28",
    "RepoTags": [
      "docker.io/circleci/mariadb:10.2.41-ram"
    ],
    "RepoDigests": [
      "docker.io/circleci/mariadb@sha256:0b6b5c5089be966a34ed9f605b4bf35651140a50e16686336eb5ae51b7db3f28"
    ],
    "Parent": "",
    "Comment": "",
    "Created": "2022-02-22T15:46:26.453101866Z",
    "Config": {
      "ExposedPorts": {
        "3306/tcp": {}
      },
      "Env": [
        "PATH=/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin",
        "GOSU_VERSION=1.14",
        "MARIADB_MAJOR=10.2",
        "MARIADB_VERSION=1:10.2.41+maria~bionic",
        "MYSQL_ALLOW_EMPTY_PASSWORD=true",
        "MYSQL_DATABASE=circle_test",
        "MYSQL_HOST=127.0.0.1",
        "MYSQL_ROOT_HOST=%",
        "MYSQL_USER=root"
      ],
      "Entrypoint": [
        "docker-entrypoint.sh"
      ]
    }
  ]
]
```

Q3.

```
[root@localhost ~]# podman search quay.io/jitesoft/alpine
NAME                                     DESCRIPTION
quay.io/libpod/alpine                  This image is used for testing purposes only...
quay.io/almmworks/alpine-curl
quay.io/cilium/alpine-curl
quay.io/vqcomms/alpine-tools
quay.io/openshifttest/base-alpine
quay.io/nvlab/alpine
quay.io/giantswarm/alpine
quay.io/bedrock/alpine
quay.io/doughbtv/alpine
quay.io/apptible/alpine               .
#
# NOTE: RISK OF USING UNQUALIFIED IMAGE NAMES
# We recommend always using fully qualified image names including the registry
# server (full dns name), namespace, image name, and tag
# (e.g., registry.redhat.io/ubi8/ubi:latest). Pulling by digest (i.e.,
# quay.io/repository/name@digest) further eliminates the ambiguity of tags.
# When using short names, there is always an inherent risk that the image being
# pulled could be spoofed. For example, a user wants to pull an image named
# `foobar` from a registry and expects it to come from myregistry.com. If
# myregistry.com is not first in the search list, an attacker could place a
# different `foobar` image at a registry earlier in the search list. The user
# would accidentally pull and run the attacker's image and code rather than the
# intended content. We recommend only adding registries which are completely
# trusted (i.e., registries which don't allow unknown or anonymous users to
# create accounts with arbitrary names). This will prevent an image from being
# spoofed, squatted or otherwise made insecure. If it is necessary to use one
# of these registries, it should be added at the end of the list.
#
# # An array of host[:port] registries to try when pulling an unqualified image, in order.
unqualified-search-registries = ["registry.access.redhat.com", "docker.io"]
# [[registry]]
# # The "prefix" field is used to choose the relevant [[registry]] TOML table;
# # (only) the TOML table with the longest match for the input image name
# # (taking into account namespace/repo/tag/digest separators) is used.
# #
# # The prefix can also be of the form: *.example.com for wildcard subdomain
# # matching.
# #
```

Q5.

OS Based Images like:

- Red Hat ubi (Universal Base Images)
- RHEL Images
- CentOS Images
- Ubuntu Images
- etc.

Daemon Based Images like:

- Nginx Image
- Httpd Image
- Haproxy Image
- MySQL Images
- etc.