Lab Experiment – 9

NAME -Divyaansh Jain

ROLL NO – R171218040

SAP ID – 500067134

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Submitted To:

Dr. Hitesh Kumar Sir

Docker Metadata and Labels

- To add a label on a container user option -l while launching container. For example, **docker run -l user=12345 -d redis**.

```
$ docker run -l user=12345 -d redis
5b2746faf41bb50ff777dd3bd1f3ad6866af20a0c275918504ab01ad06ecee41
$ echo 'user=123461' >> labels && echo 'role=cache' >> labels
$ docker run --label-file=labels -d redis
a0ae60ba5b7aed2b156c49e5ae148a048825e40a41daf52ec1b5aa9d3f125ed7
$
```

- We can also add labels from external file. For this, using the --**label-file** option to provide file containing labels.

```
$
$ echo 'user=123461' >> labels && echo 'role=cache' >> labels
$ docker run --label-file=labels -d redis
82a2bf60268f38b4881a20749b15dbbb185a2ae0f14d295ff6c561337e9b9c6d
$
$ docker ps
CONTAINER ID       IMAGE          COMMAND               CREATED          STATUS          PORTS
           NAMES
82a2bf60268f          redis          "docker-entrypoint.s…"  15 seconds ago   Up 14 seconds   6379/tc
p          wonderful_tereshkova
d8ef05b3924e          redis          "docker-entrypoint.s…"  2 minutes ago    Up 2 minutes    6379/tc
p          relaxed_hamilton
e06767208df1          redis          "docker-entrypoint.s…"  16 minutes ago   Up 16 minutes   6379/tc
p          rd
$
```

- To see all the labels on a running container, use command **docker inspect**. But docker inspect will show other information as well.

```
$ docker inspect rd
[
    {
        "Id": "fd0db9e06777f4b1e65540794f667717648813da5bffdff650b9300fe076697d",
        "Created": "2021-04-30T06:08:26.296748147Z",
        "Path": "docker-entrypoint.sh",
        "Args": [
            "redis-server"
        ],
        "State": {
            "Status": "running",
            "Running": true,
            "Paused": false,
            "Restarting": false,
            "OOMKilled": false,
            "Dead": false,
            "Pid": 1009,
            "ExitCode": 0,
            "Error": "",
            "StartedAt": "2021-04-30T06:08:27.591876853Z",
            "FinishedAt": "0001-01-01T00:00:00Z"
        },
        "Image": "sha256:4760dc956b2ddc9ac1c508936e39b63a22c6f0640ef58c1b10ff73f04e253ffe",
        "ResolvConfPath": "/var/lib/docker/containers/fd0db9e06777f4b1e65540794f667717648813da5bffdff650b9300fe0
76697d/resolv.conf",
        "HostnamePath": "/var/lib/docker/containers/fd0db9e06777f4b1e65540794f667717648813da5bffdff650b9300fe076
697d/hostname",
        "HostsPath": "/var/lib/docker/containers/fd0db9e06777f4b1e65540794f667717648813da5bffdff650b9300fe076697
d/hosts",
        "LogPath": "/var/lib/docker/containers/fd0db9e06777f4b1e65540794f667717648813da5bffdff650b9300fe076697d/
fd0db9e06777f4b1e65540794f667717648813da5bffdff650b9300fe076697d-json.log",
        "Name": "/rd",
```

- We can also see labels on images. For this command is **docker inspect -f "{{json .ContainerConfig.Labels }}" katacoda-label-example**.

```
$ docker inspect -f "{{json .Config.Labels }}" rd
{"com.katacoda.created":"automatically","com.katacoda.private-msg":"magic","user":"scrapbook"}
$ docker inspect -f "{{json .ContainerConfig.Labels }}" katacoda-label-example
{"com.katacoda.build-date":"2015-07-01T10:47:29Z","com.katacoda.course":"Docker","com.katacoda.private-msg":"HelloWorld"
,"com.katacoda.version":"0.0.5","vendor":"Katacoda"}
$
```

- The command **docker ps** allows you to specify a filter based on a label name and value. For example, the query below will return all the containers which have a **user** label key with the value **katacoda**.

```
$
$ docker ps --filter "label=user=scrapbook"
CONTAINER ID        IMAGE               COMMAND             CREATED         STATUS          PORTS
          NAMES
e06767208df1        redis               "docker-entrypoint.s…"  24 minutes ago  Up 24 minutes   6379/tc
p           rd
$
```

- The same filter approach can be applied to images **based on the labels** used when the image was built.

```
$
$ docker images --filter "label=vendor=Katacoda"
REPOSITORY               TAG                 IMAGE ID            CREATED         SIZE
katacoda-label-example   latest              52080a3a72b4        25 minutes ago  84.1MB
$
```