Lesson 03 Demo 02

Creating a Docker Volume and Mounting It to a Container

Objective: To create a Docker volume and mount it to a container for enhanced data management and containerized application deployment

Tools required: Ubuntu

Prerequisites: None

Steps to be followed:

1. Create and mount a Docker volume to a container

Step 1: Create and mount a Docker volume to a container

1.1 Create a new Docker volume using the following command:
sudo docker volume create myvolume

```
labsuser@ip-172-31-15-33:~$ sudo docker volume create myvolume
myvolume
labsuser@ip-172-31-15-33:~$
```

1.2 Run the following command to list all the volumes that exist on a Docker host:
sudo docker volume ls

```
labsuser@ip-172-31-15-33:~$ sudo docker volume create myvolume
myvolume
labsuser@ip-172-31-15-33:~$ sudo docker volume ls
DRIVER    VOLUME NAME
local     myvolume
labsuser@ip-172-31-15-33:~$
```

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1.3 Run the following command to check the volume configuration:
sudo docker volume inspect myvolume

```
labsuser@ip-172-31-15-33:~$ sudo docker volume create myvolume
myvolume
labsuser@ip-172-31-15-33:~$ sudo docker volume ls
DRIVER    VOLUME NAME
local     myvolume
labsuser@ip-172-31-15-33:~$ sudo docker volume inspect myvolume
[
    {
        "CreatedAt": "2024-03-22T06:17:45Z",
        "Driver": "local",
        "Labels": null,
        "Mountpoint": "/var/lib/docker/volumes/myvolume/_data",
        "Name": "myvolume",
        "Options": null,
        "Scope": "local"
    }
]
labsuser@ip-172-31-15-33:~$
```

1.4 Run the following command to start a container with volume using **-v** flag:
sudo docker run –d --name cont01 -v myvolume:/app nginx

```
labsuser@ip-172-31-15-33:~$ sudo docker run -d --name cont01 -v myvolume:/app nginx
Unable to find image 'nginx:latest' locally
latest: Pulling from library/nginx
8a1e25ce7c4f: Pull complete
e78b137be355: Pull complete
39fc875bd2b2: Pull complete
035788421403: Pull complete
87c3fb37cbf2: Pull complete
c5cdd1ce752d: Pull complete
33952c599532: Pull complete
Digest: sha256:6db391d1c0cfb30588ba0bf72ea999404f2764febf0f1f196acd5867ac7efa7e
Status: Downloaded newer image for nginx:latest
fb3fcac0c6f58d1164b84c63fa3328bc955df2361337692b758423b7e0072a86
labsuser@ip-172-31-15-33:~$
```

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1.5 Run the following command and check under the mounts section to verify the volume attached to the container:
sudo docker inspect cont01

```
Status: Downloaded newer image for nginx:latest
fb3fcac0c6f58d1164b84c63fa3328bc955df2361337692b758423b7e0072a86
labsuser@ip-172-31-15-33:~$ sudo docker inspect cont01
[
    {
        "Id": "fb3fcac0c6f58d1164b84c63fa3328bc955df2361337692b758423b7e0072a86",
        "Created": "2024-03-22T06:25:48.720169536Z",
        "Path": "/docker-entrypoint.sh",
        "Args": [
            "nginx",
            "-g",
            "daemon off;"
        ],
        "State": {
            "Status": "running",
            "Running": true,
            "Paused": false,
            "Restarting": false,
```

```
            "Binds": [
                "myvolume:/app"
            ],
            "ContainerIDFile": "",
            "LogConfig": {
                "Type": "json-file",
                "Config": {}
            },
            "NetworkMode": "default",
            "PortBindings": {},
            "RestartPolicy": {
                "Name": "no",
                "MaximumRetryCount": 0
            },
            "AutoRemove": false,
            "VolumeDriver": "",
            "VolumesFrom": null,
            "ConsoleSize": [
```

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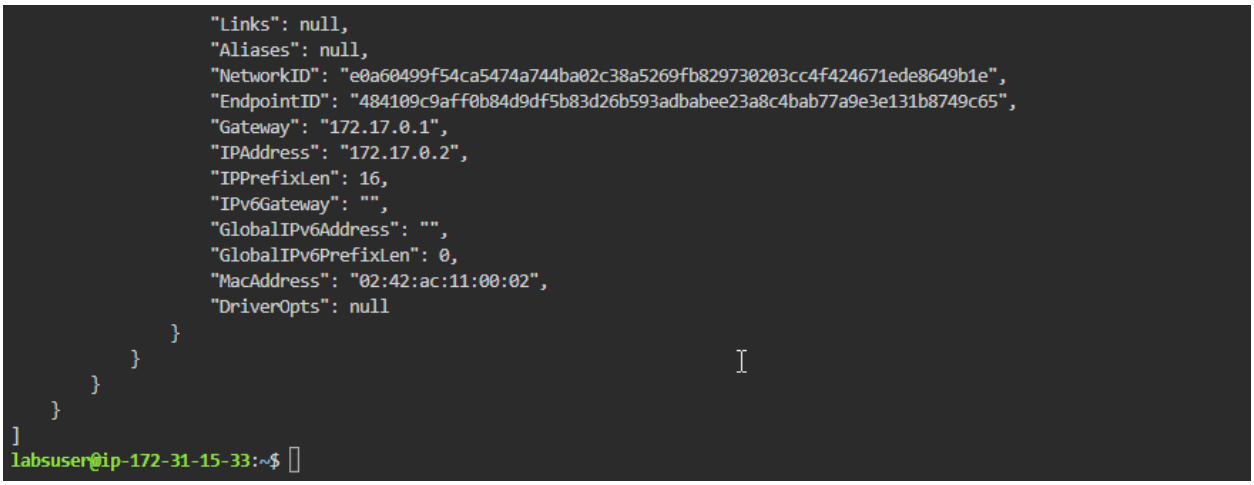

By following these steps, you have successfully created a Docker volume and mounted it to a container, enabling enhanced data management and containerized application deployment.