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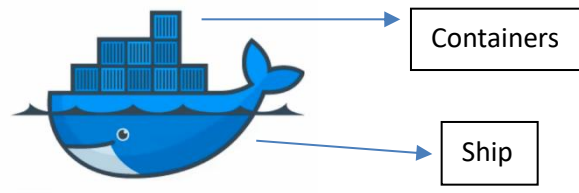
DOCKER HANDS-ON

Containers

Ship

Basic Docker commands

1. Check the containers
   docker container ls

2. Docker help
   docker   --help

3. Checking the docker images
   docker image ls

4. Docker networks
   docker network ls

Creating Container

1. Create container for ubuntu image to check os version
   docker container run ubuntu cat   /etc/os-release

```
[root@saibigdata ~]# docker container run ubuntu cat /etc/os-release
Unable to find image 'ubuntu:latest' locally
latest: Pulling from library/ubuntu
b237fe92c417: Pull complete
Digest: sha256:ec050c32e4a6085b423d36ecd025c0d3ff00c38ab93a3d71a460ff1c44fa6d77
Status: Downloaded newer image for ubuntu:latest
PRETTY_NAME="Ubuntu 22.04.3 LTS"
NAME="Ubuntu"
VERSION_ID="22.04"
VERSION="22.04.3 LTS (Jammy Jellyfish)"
VERSION_CODENAME=jammy
ID=ubuntu
ID_LIKE=debian
HOME_URL="https://www.ubuntu.com/"
SUPPORT_URL="https://help.ubuntu.com/"
BUG_REPORT_URL="https://bugs.launchpad.net/ubuntu/"
PRIVACY_POLICY_URL="https://www.ubuntu.com/legal/terms-and-policies/privacy-policy"
UBUNTU_CODENAME=jammy
```

docker image ls

```
[root@saibigdata ~]# docker image ls
REPOSITORY    TAG        IMAGE ID       CREATED        SIZE
ubuntu        latest     01f29b872827   3 weeks ago    77.8MB
```

Next time same command will fetch from local

2. Run the container for 60 seconds
   docker container run ubuntu sleep 60
   It will run in foreground, leave it and open another terminal to check

   docker container ls

```
[root@saibigdata ~]# docker container ls
CONTAINER ID    IMAGE      COMMAND       CREATED         STATUS         PORTS
 NAMES
3d5b23cf846f    ubuntu     "sleep 60"    26 seconds ago  Up 24 seconds
```

3. Running container in background
   docker container run -d ubuntu sleep 30
   -d means detach.

4. Create and run a container in background and also in interactive tty terminal
   docker container run -it ubuntu /bin/bash
   -it means interactive tty
    cat   /etc/os-release

```
[root@saibigdata ~]# docker container run -it ubuntu /bin/bash
root@58fac343c6da:/# cat /etc/os-release
PRETTY_NAME="Ubuntu 22.04.3 LTS"
NAME="Ubuntu"
VERSION_ID="22.04"
VERSION="22.04.3 LTS (Jammy Jellyfish)"
VERSION_CODENAME=jammy
ID=ubuntu
ID_LIKE=debian
HOME_URL="https://www.ubuntu.com/"
SUPPORT_URL="https://help.ubuntu.com/"
BUG_REPORT_URL="https://bugs.launchpad.net/ubuntu/"
PRIVACY_POLICY_URL="https://www.ubuntu.com/legal/terms-and-policies/privacy-policy"
UBUNTU_CODENAME=jammy_
```

exit : to close
ctrl PQ: exit without closing

5. Check running and stopped containers
docker container ls -a

```
[root@saibigdata ~]# docker container ls -a
CONTAINER ID    IMAGE    COMMAND              CREATED         STATUS                    PORTS
58fac343c6da    ubuntu   "/bin/bash"          3 minutes ago   Exited (0) 50 seconds ago
3d5b23cf846f    ubuntu   "sleep 60"           7 minutes ago   Exited (0) 6 minutes ago
9359d89da377    ubuntu   "cat /etc/os-release"  10 minutes ago  Exited (0) 10 minutes ago
```

6. Removing the container
docker container rm 58fac343c6da

Note: we can remove multiple containers at a time by providing multiple containers ids with space or first 2 digit number of the container.

7. To stop running container
docker   container stop <id>

8. Remove all the containers with single command
docker container ls   -aq   [Will show ids of all the containers]

```
[root@saibigdata ~]# docker container ls -aq
3d5b23cf846f
9359d89da377
```

docker container rm $(docker container ls -aq)

```
[root@saibigdata ~]# docker container rm $(docker container ls -aq)
3d5b23cf846f
9359d89da377
[root@saibigdata ~]# docker container ls -a
CONTAINER ID    IMAGE    COMMAND    CREATED    STATUS    PORTS    NAMES
```

9. How to get complete details of a running container
docker container run -d nginx

docker container ls

```
[root@saibigdata ~]# docker container run -d nginx
Unable to find image 'nginx:latest' locally
latest: Pulling from library/nginx
52d2b7f179e3: Pull complete
fd9f026c6310: Pull complete
055fa98b4363: Pull complete
96576293dd29: Pull complete
a7c4092be904: Pull complete
e3b6889c8954: Pull complete
da761d9a302b: Pull complete
Digest: sha256:104c7c5c54f2685f0f46f3be607ce60da7085da3eaa5ad22d3d9f01594295e9c
Status: Downloaded newer image for nginx:latest
137a29974cb6bcb216a0683acd4239748093c4bf03bacebd62c059d7de426128
[root@saibigdata ~]# docker container ls
CONTAINER ID    IMAGE    COMMAND              CREATED         STATUS         PORTS    NAMES
137a29974cb6    nginx    "/docker-entrypoint.…"  12 seconds ago  Up 11 seconds  80/tcp   priceless_hypatia
```

docker container inspect 137a29974cb6

```
          oo/tcp : nott
      },
      "SandboxKey": "/var/run/docker/netns/5dd5f17a98e9",
      "SecondaryIPAddresses": null,
      "SecondaryIPv6Addresses": null,
      "EndpointID": "9774a35bac04c6c80176784573a0e1fd1d8544d802c968cb5a0615c5f8e8def7",
      "Gateway": "172.17.0.1",
      "GlobalIPv6Address": "",
      "GlobalIPv6PrefixLen": 0,
      "IPAddress": "172.17.0.2",
      "IPPrefixLen": 16,
      "IPv6Gateway": "",
      "MacAddress": "02:42:ac:11:00:02",
      "Networks": {
          "bridge": {
              "IPAMConfig": null,
              "Links": null,
              "Aliases": null,
              "NetworkID": "09d5b9f0b2193eb9c1f989c0c2f1dc027e27c4169c1f6a7baaae68b8e17c838d",
              "EndpointID": "9774a35bac04c6c80176784573a0e1fd1d8544d802c968cb5a0615c5f8e8def7",
              "Gateway": "172.17.0.1",
              "IPAddress": "172.17.0.2",
              "IPPrefixLen": 16,
              "IPv6Gateway": "",
              "GlobalIPv6Address": "",
              "GlobalIPv6PrefixLen": 0,
              "MacAddress": "02:42:ac:11:00:02",
              "DriverOpts": null
```

10.   How to attach a Container

Bringing the container from background to foreground

docker container run -d nginx

docker container ls

docker container attach <id>

----

docker container run -d -it ubuntu

docker container attach <id>

**** Happy Learning ****