Experiment-6

Aim- Docker Link

- Run a container, here named db, using the docker run command and check whether the container is up and running using "docker ps".

```
[root@localhost ~]# docker run -dit --name db training/postgres
Unable to find image 'training/postgres:latest' locally
latest: Pulling from training/postgres
a3ed95caeb02: Pull complete
6e71c809542e: Pull complete
2978d9af87ba: Pull complete
e1bca35b062f: Pull complete
500b6decf741: Pull complete
74b14ef2151f: Pull complete
7afd5ed3826e: Pull complete
3c69bb244f5e: Pull complete
d86f9ec5aedf: Pull complete
010fabf20157: Pull complete
Digest: sha256:a945dc6dcfbc8d009c3d972931608344b76c2870ce796da00a827bd50791907e
Status: Downloaded newer image for training/postgres:latest
e186be2be04f7ea28dce94781e005d362bb7b63953927fb3edb7c7502f8734e6
[root@localhost ~]# docker ps
CONTAINER ID   IMAGE              COMMAND                CREATED          STATUS           PORTS                     NAMES
e186be2be04f   training/postgres  "su postgres -c '/us…" 12 seconds ago   Up 4 seconds     5432/tcp                  db
5bdcc404e58a   joomla             "/entrypoint.sh apac…" 10 months ago    Up 7 minutes     0.0.0.0:8081->80/tcp      compose-ws_joomla_1
7dd33ad391c8   mysql:5.7          "docker-entrypoint.s…" 10 months ago    Up 7 minutes     3306/tcp, 33060/tcp       compose-ws_webos_1
```

- Run another container, here named web, using the docker run command. Here we used the option --link to link it with the db container which is already running as mentioned in the previous step. Again, check the whether the container is up and running.

```
[root@localhost ~]# docker run -it -d --name web --link db:mydb  training/webapp
Unable to find image 'training/webapp:latest' locally
latest: Pulling from training/webapp
e190868d63f8: Pull complete
909cd34c6fd7: Pull complete
0b9bfabab7c1: Pull complete
a3ed95caeb02: Pull complete
10bbbc0fc0ff: Pull complete
fca59b508e9f: Pull complete
e7ae2541b15b: Pull complete
9dd97ef58ce9: Pull complete
a4c1b0cb7af7: Pull complete
Digest: sha256:06e9c1983bd6d5db5fba376ccd63bfa529e8d02f23d5079b8f74a616308fb11d
Status: Downloaded newer image for training/webapp:latest
7d5c2ab4cc1541d925f85f58ed988c8068fc2f41ea20ed4caaa39c81a1a118e4
[root@localhost ~]# docker ps
CONTAINER ID   IMAGE              COMMAND                CREATED          STATUS           PORTS                     NAMES
7d5c2ab4cc15   training/webapp    "python app.py"        2 minutes ago    Up 2 minutes     5000/tcp                  web
e186be2be04f   training/postgres  "su postgres -c '/us…" About an hour ago Up About an hour 5432/tcp                  db
5bdcc404e58a   joomla             "/entrypoint.sh apac…" 10 months ago    Up 2 hours       0.0.0.0:8081->80/tcp      compose-ws_joomla_1
7dd33ad391c8   mysql:5.7          "docker-entrypoint.s…" 10 months ago    Up 2 hours       3306/tcp, 33060/tcp       compose-ws_webos_1
```

- Use the command "docker exec" to open the bash terminal of the container named web. From this container ping the container, named db, which is linked using the name mydb with the web container.

```
[root@localhost ~]# docker exec -it web bash
root@7d5c2ab4cc15:/opt/webapp# ping mydb
PING mydb (172.17.0.2) 56(84) bytes of data.
64 bytes from mydb (172.17.0.2): icmp_seq=1 ttl=64 time=0.094 ms
64 bytes from mydb (172.17.0.2): icmp_seq=2 ttl=64 time=0.070 ms
64 bytes from mydb (172.17.0.2): icmp_seq=3 ttl=64 time=0.057 ms
64 bytes from mydb (172.17.0.2): icmp_seq=4 ttl=64 time=0.096 ms
64 bytes from mydb (172.17.0.2): icmp_seq=5 ttl=64 time=0.052 ms
64 bytes from mydb (172.17.0.2): icmp_seq=6 ttl=64 time=0.062 ms
^C
--- mydb ping statistics ---
6 packets transmitted, 6 received, 0% packet loss, time 5099ms
rtt min/avg/max/mdev = 0.052/0.071/0.096/0.020 ms
```

- Now run another container without linking it to any of the previous containers and check all the containers with the command 'docker ps'. Open the bash terminal of the container again with which we ran the ping command once and try pinging the newly created container, the ping command will fail because the container isn't linked with the other container.

```
$ docker run -it -d --name web2 training/webapp
7f7821969c52b73c52732c6f2c8d56cf6095fed4c548a3293f0f80a51e352a44
$ docker ps
CONTAINER ID       IMAGE               COMMAND                CREATED          STATUS           PORTS          NAMES
7f7821969c52       training/webapp     "python app.py"        14 seconds ago   Up 12 seconds    5000/tcp       web2
aaa49f53d300       training/webapp     "python app.py"        3 minutes ago    Up 3 minutes     5000/tcp       web
f715a29eb873       training/postgres   "su postgres -c '/us…" 4 minutes ago    Up 4 minutes     5432/tcp       db
$ docker exec -it web2 bash
root@7f7821969c52:/opt/webapp# ping db
ping: unknown host db
root@7f7821969c52:/opt/webapp# 
```