Docker Container Image Lifecycle

1. Container Image를 어떻게 사용하는가?
   $ docker search --help
   $ sudo docker search nginx

   $ sudo docker pull nginx:1.14
   or
   nginx:tagname  <---해당 이미지의 tagname은 docker hub에서 확인할 것

   $ sudo docker image ls
   $ sudo docker inspect nginx:1.14
   $ sudo docker rmi nginx:1.14
   $ sudo docker image ls


2. Container 실행 Lifecycle
   1)Container 생성하기
      $ sudo docker create --name webserver nginx:1.14

   2)Container 실행하기
      $ sudo docker start webserver
      $ sudo docker ps
      $ sudo docker inspect webserver
      $ sudo docker stop webserver
      $ sudo docker rm webserver


   3)Container 생성 및 실행하기
      $ sudo docker run --name webserver -d nginx:1.14
         -run은 pull > create > start

   4)실행중인 Container 목록 확인하기
      $ sudo docker ps

   5)동작중인 Container 중지
      $ docker stop webserver

   6)Container 삭제하기
      $ docker rm webserver


3. 실습하기
   $ sudo docker search nginx
   $ sudo docker pull nginx:1.14
   $ sudo docker images
   $ sudo docker pull mysql
   $ sudo docker pull mysql:8
   8: Pulling from library/mysql
   Status: Downloaded newer image for mysql:8
   docker.io/library/mysql:8
   $ docker images  <--- mysql과 mysql:8이 서로 같은 Image ID..

   $ sudo docker images --help
   $ sudo docker images --no-trunc  <--- Image ID를 Full로 보여줌.

   $ sudo docker ps -a
   $ sudo create --name webserver nginx:1.14  <---기본적으로 background로 실행
   $ sudo docker ps -a
   $ sudo docker start webserver
   $ sudo docker ps -a
   $ sudo inspect webserver  <-- IP Address확인할 것
   $ sudo docker inspect --format '{{.NetworkSettings.IPAddress}}' webserver  <--- IPAddress 만 확인
   $ alias
   $ alias cip="sudo docker inspect --format '{{.NetworkSettings.IPAddress}}' webserver"
   $ alias
   $ cip

```
$ unalias cip

$ curl 172.17.0.2
$ curl 172.17.0.2/aaa.html   --> Not Found
$ sudo docker logs webserver

$ sudo docker logs -f webserver
-별도의 세션에서
$ curl 172.17.0.2
$ curl 172.17.0.2/aaa.html
--> 계속 log가 쌓이는 것 확인할 것

$ sudo docker top webserver  -> 실행중인 Container의 Process 목록 확인

$ sudo docker exec -it webserver /bin/bash
root@689e289e8b6f:/# cd /usr/share/nginx/html
root@689e289e8b6f:/usr/share/nginx/html# echo "Hello, World" > index.html
root@689e289e8b6f:/usr/share/nginx/html# exit
exit
$ curl 172.17.0.2
Hello, World

$ sudo docker stop webserver
$ sudo docker ps -a
$ sudo docker start webserver
$ curl 172.17.0.2
Hello, World
$ sudo docker rm webserver
Error response from daemon: You cannot remove a running container
689e289e8b6f17b81388d5d5d7b605e0daf2d495fd0cf9837a044097473f87f5. Stop the container
before attempting removal or force remove

$ sudo docker rm -f webserver
$ sudo docker ps -a

```