## Dockers 101 – Series 4 of N – Using docker-setting up a redis container

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## • Requirement:

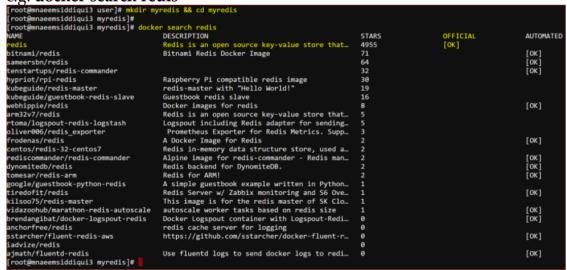
Lets imagine that as a DevOps, you have been asked to create a container to run redis, and try
different docker commands to run redis in foreground, background, with specific port binding, with
dynamic port binding, persisting data and logs from container to a volume on host

## o Strategy:

- search the name of image on docker hub
- o run the redis container in background as its a database and will take time to setup
- o run redis in background
- o run redis with specific port
- o run redis with dynamic port
- run redis with volume persistance

## Solution:

- Login to your Host machine(in my case a CentOS 7 machine)
- Make a directory "TicTackToe" and go to the directory **mkdir myredis && cd myredis**
- How to
  - search for an image docker search <image-name>
  - e.g. docker search redis



- o run an image
  - o in interactive mode docker run -it <image-name>
    - o docker run -it redis
    - switch "-it" is for interactive mode
  - in background mode docker run -d <image-name>
    - o docker run -d redis
    - switch "-d" is for background mode
- o check if container is running docker container ls or docker ps -a

- check logs of a container docker logs <container-id>
  - o docker logs a15268c9c0be # show full log
  - o docker logs –tail 10 a15268c9c0be # show last 10 lines
  - o docker logs -f a15268c9c0be # show continuous logs as it generates
- To stop a container docker container stop a15268c9c0be
- To start a container docker container start a15268c9c0be
- To kill a container docker container kill a15268c9c0be

- to execute redis with a specific port with host container port forwarding( not a good practice because we are hard setting the port)
  - o docker run -d -name redisHostStaticPort -p 6379:6379 redis:latest
- to execute redis with a dynamic host port with host container port forwarding( not a good practice because we are hard setting the port)
  - o docker run -d –name redisHostDynamicPort001 -p 6380 redis:latest
  - But now you don't know which host port was assigned
  - so use command docker port redisHostDynamicPort001 6380
    - the host port assigned was 32770
  - Now you can run another instance too
    - o docker run -d –name redisHostDynamicPort002 -p 6381 redis:latest
    - docker port redisHostDynamicPort002 6381
      - now another port was assigned 32551
  - Now you can see that you are running two instances of redis. See snapshot below.

- Now to persist the data each time the redis restart we have to define the volumes
  - volumes help you persist the dats from container to the host
  - we can use switch -v <host-dir>:<container-dir>
  - e.g. docker run -d -name redisHostDynamicPort003 -p 6389 -v "\$PWD/data":/data redis:latest
  - \$PWD is to get present working directory
  - \$PWD/data means the data folder in current directory of host
  - o /data means the /data folder of redis container where logs will be stored
  - -v "\$PWD/data":/data means defining an attaching a volume forwarding from container folder /data to the host folder data

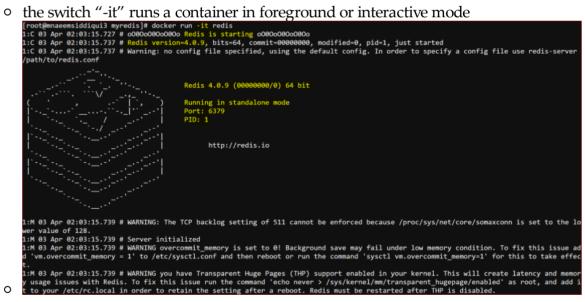
```
[root@mnaeemsiddiqui3 myredis]# docker run -d --name redisHostDynamicPort003 -p 6389 -v "$PWD/data":/data redis:latest
ae2953eaf99e5be285fecf0ee1171bf2e5e57887f264f3f87cf983193453a9a9
[root@mnaeemsiddiqui3 myredis]# docker port redisDynamicPort003 6389
Error: No such container: redisDynamicPort003
[root@mnaeemsiddiqui3 myredis]# docker port redisHostDynamicPort003 6389
0.0.0.832772
[root@mnaeemsiddiqui3 myredis]# ls ~/data
ls: cannot access /root/data: No such file or directory
[root@mnaeemsiddiqui3 myredis]# ls data
[root@mnaeemsiddiqui3 myredis]# ls
[root@mnaeemsiddiqui3 myredis]# ls

[root@mnaeemsiddiqui3 myredis]# ls
```

- o check or inspect a container
  - o it provides the meta data about the container
  - o docker inspect < containerid-or-name>
  - e.g. docker inspect redis
  - docker inspect –format "{{RepoTags}}" redis # searches lines in the inspect JSON

```
root@mnaeemsiddiqui3 myredis]# docker inspect redis
    {
           "Id": "sha256:c5355f8853e4174a55144edfec23ac37f5bb2200ed838dab53c13c7cc835ab15",
           "RepoTags": [
    "redis:latest"
            'RepoDigests": [
                 "redis@sha256:6b9f935e89af002225c0dcdadf1fd74245b4cc1e3e91222f7e4769c236cf80d4"
          ],
"Parent": ""
____. "
           "Comment": "",
          "Comment": "",
"Created": "2018-03-27T18:41:37.940089144Z",
"Container": "0322bcdf04089e2212263bd7eec14d010076fbd6d98a5a74ac936bd0c5263c45",
"ContainerConfig": {
    "Hostname": "0322bcdf0408",
    "Domainname": "",
    "User": "",
    "User": "",
    "Attractorial": folia:
                 "AttachStdin": false,
                 "AttachStdout": false,
                 "AttachStderr": false,
"ExposedPorts": {
    "6379/tcp": {}
                 ;;
"Tty": false,
"OpenStdin": false,
"StdinOnce": false,
                       "PATH=/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin",
                       "GOSU_VERSION=1.10",
"REDIS_VERSION=4.0.9",
"REDIS_DOWNLOAD_URL=http://download.redis.io/releases/redis-4.0.9.tar.gz",
```

- Running redis in foreground:
  - docker run -it redis



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