EXPERIMENT 2

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Aim : Working with Docker – Basic Commands

1. Finding a Redis Image on Docker Hub:

Pulling redis image on local machine to use it offline
~ docker pull redis
this command will pull the redis image from docker hub.

```
┌[boora@parrot]-[~]
└─ $docker pull redis
Using default tag: latest
latest: Pulling from library/redis
a2318d6c47ec: Pull complete
ed7fd66f27f2: Pull complete
410a3d5b3155: Pull complete
9312cf3f6b3e: Pull complete
c39877ab23d0: Pull complete
01394ffc7248: Pull complete
4f4fb700ef54: Pull complete
5a03cb6163ab: Pull complete
Digest: sha256:eadf354977d428e347d93046bb1a5569d701e8deb68f090215534a99dbcb23b9
Status: Downloaded newer image for redis:latest
docker.io/library/redis:latest
┌[boora@parrot]-[~]
└─ $docker images | grep redis
redis                          latest    590b81f2fea1   6 weeks ago    117MB
```

We can check what all images are pull from docker hub ~
docker images
this command helps to see all the images downloaded on to
the local machine.

```
[boora@parrot]-[~]
  $docker images
REPOSITORY                      TAG       IMAGE ID        CREATED         SIZE
portainer/portainer-ce          latest    744a24a2496a    2 weeks ago     301MB
booraraman/easy-drive-rentals   v1.1      0a3ed4d239af    2 weeks ago     1.18GB
easy-drive-rentals              v1.1      0a3ed4d239af    2 weeks ago     1.18GB
node                            latest    675eb396b32b    2 weeks ago     1.11GB
redis                           latest    590b81f2fea1    6 weeks ago     117MB
booraraman/easy-drive-rentals   1         1c3b2171cf4e    2 months ago    1.18GB
booraraman/lms                  latest    8b3185d589e9    7 months ago    1.14GB
```

As redis image has been pulled from the docker hub
we can use it.

2. Running the docker container having the redis image:
   To run redis we will use the command

   ~docker run redis

   As It Shows Ready To Accept Connection That Means
   That the redis container is working fine.


```
┌──[boora@parrot]─[~]
└──$docker run redis
1:C 10 Sep 2024 04:37:34.483 * o000o000o000o Redis is starting o000o000o000o
1:C 10 Sep 2024 04:37:34.483 * Redis version=7.4.0, bits=64, commit=00000000, modified=0, pid=1, just started
1:C 10 Sep 2024 04:37:34.483 # Warning: no config file specified, using the default config. In order to specify a config file use redis-server /path/to/redis.conf
1:M 10 Sep 2024 04:37:34.484 * monotonic clock: POSIX clock_gettime
1:M 10 Sep 2024 04:37:34.484 * Running mode=standalone, port=6379.
1:M 10 Sep 2024 04:37:34.484 * Server initialized
1:M 10 Sep 2024 04:37:34.484 * Ready to accept connections tcp
1:M 10 Sep 2024 04:40:27.611 # Possible SECURITY ATTACK detected. It looks like somebody is sending POST or Host: commands to Redis. This is likely due to an attacker attempting to use Cross
 Protocol Scripting to compromise your Redis instance. Connection from 127.0.0.1:60094 aborted.
```

3. Docker ps and Docker ps -a
These commands show the list of docker containers on our local machine

On running ~docker ps and ~docker ps -a the output is :

```
[boora@parrot]-[~]
    $docker ps
CONTAINER ID   IMAGE                       COMMAND        CREATED      STATUS          PORTS                                                              NAMES
ef686c157bad   portainer/portainer-ce     "/portainer"   9 days ago   Up 57 minutes   8000/tcp, 9443/tcp, 0.0.0.0:9000->9000/tcp, :::9000->9000/tcp      portainerGui
[boora@parrot]-[~]
    $docker ps -a
CONTAINER ID   IMAGE                       COMMAND                CREATED       STATUS                    PORTS                                                          NAMES
a49dd3d9f901   redis                       "docker-entrypoint.s…"  8 minutes ago   Exited (0) 26 seconds ago                                                               loving_burnell
a289ad90d91d   portainer/portainer-ce     "/portainer"           9 days ago    Exited (2) 9 days ago                                                                   practical_goldsti
ne
ef686c157bad   portainer/portainer-ce     "/portainer"           9 days ago    Up 57 minutes             8000/tcp, 9443/tcp, 0.0.0.0:9000->9000/tcp, :::9000->9000/tcp   portainerGui
```

~docker ps just shows the current running containers on the local machine
whereas
~docker ps -a shows the list of all running and stopped containers on the local machine

4. Creating Docker volume
~docker volume create testVol1

```
[boora@parrot]-[~]
    $docker volume create testVol1
testVol1
[boora@parrot]-[~]
    $docker volume ls
DRIVER       VOLUME NAME
local        1f8bd1a79f69a8cb12382b1cc8bae5b518887cea921c665da56d07a74b68d511
local        4a8756890939b2572b596bda56721f1d9d8d58d6cc77a086da16eec115a279a9
local        76f4c458c8472c5a119617a5c6467d8c6a2773e4181d183ca473deab9126534b
local        93bc8ce7fccba961c6fabae0d0254cda42acb738da7c567d4c719345ddf9e750
local        3989b5779698f7e4881ceb3fbd3b2590a90e6d517473530b0280b6853e495eec
local        portainer_data
local        testVol
local        testVol1
```

Running the redis container with the new volume:
~docker run -d —name redis-container1 -v testVol1:/data redis

```
[boora@parrot]-[~]
    $docker run -d --name redis-contatiner1 -v testVol1:/data redis
a894057a3460dc3f84434748121a55112a71bf841f0b48651678cfd8212ad64d
[boora@parrot]-[~]
    $docker ps
CONTAINER ID   IMAGE                       COMMAND                CREATED       STATUS            PORTS                                                          NAMES
a894057a3460   redis                       "docker-entrypoint.s…"  5 seconds ago   Up 4 seconds      6379/tcp                                                       redis-contatiner1
ef686c157bad   portainer/portainer-ce     "/portainer"           9 days ago    Up About an hour   8000/tcp, 9443/tcp, 0.0.0.0:9000->9000/tcp, :::9000->9000/tcp   portainerGui
```

this creates another container