Docker Volume

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A Docker volume is a way to store data outside the container, so that even if the container stops or gets deleted, your data stays safe.

Why do we use Docker Volumes:

- To save databases files (e.g. MySQL, MongoDB)
- To store user upload, logs or app-data
- To share data between multiple containers.
- To keep data even after container is deleted.

Create Docker Volume:

```
C:\Users\ATUL KUMAR>docker volume create --help

Usage:  docker volume create [OPTIONS] [VOLUME]

Create a volume

Options:
  -d, --driver string   Specify volume driver name (default "local")
      --label list      Set metadata for a volume
  -o, --opt map         Set driver specific options (default map[])

C:\Users\ATUL KUMAR>docker volume create pendrive
pendrive

C:\Users\ATUL KUMAR>docker volumes ls
docker: 'volumes' is not a docker command.
See 'docker --help'

C:\Users\ATUL KUMAR>docker volume ls
DRIVER    VOLUME NAME
local     0a09100b43b60803154f8a3b21d1c7228dea579372fa7a59e4cfff1428a57f65
local     47d810507ca0975bd15b3c0a063f512f60346eee6adc8dd5795893120e49bfa2
local     80f2891068fef9536b3c539dfb6e658a2e874844accce0da7f2c17b48ac11188
local     cb5a26e33fd67769d72b52dae234c68203b240a79f7fb8c5d950e6297949969e
local     eb6f40520a2a71589ad3ea3ccd26d3640b7e9ab1887bf95865dea25c32a89de4
local     ec80dd41a90a5245dd1584f2e6cc82c910318a669117dba55b79d2273bfeffad
local     pendrive
```

We can run a container in detach mode running on particular image where volume is mounted on /home directory.

```
C:\Users\ATUL KUMAR>docker run -d --name container-1 --volume pendrive:/home nginx
05c8c1dda5693a8500c5f874e0e2cc07dc2487842a5900e4b610f2e5833c11f0
```

What files and folders created in /home directory will be mounted to the volume names pendrive in our case.

```
C:\Users\ATUL KUMAR>docker exec -it container-1 bash
root@05c8c1dda569:/# cd /home
root@05c8c1dda569:/home# ls
root@05c8c1dda569:/home# touch main.txt
root@05c8c1dda569:/home# touch file.txt
root@05c8c1dda569:/home# ls
file.txt  main.txt
```

Now suppose our Container get deleted or Stops our data will be lost with the container.

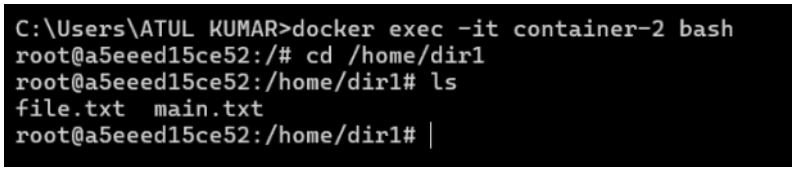
```
C:\Users\ATUL KUMAR>docker ps -a
CONTAINER ID   IMAGE     COMMAND                  CREATED         STATUS         PORTS     NAMES
05c8c1dda569   nginx     "/docker-entrypoint.…"   7 minutes ago   Up 7 minutes   80/tcp    container-1

C:\Users\ATUL KUMAR>docker rm -f 05c8c1dda569
05c8c1dda569
```

But Using volume our data is safe and we can mount it to the different container to any specific path.

```
C:\Users\ATUL KUMAR>docker run -d --name container-2 --volume pendrive:/home/dir1 nginx
a5eeed15ce52ad4b3e00d69149ff5de5477679a7ddcdc321048d6ed3e6a81f3e
```

This proves that the data stored within container-1 /home path will be stored to container-2 at /home/dir1 path


C:\Users\ATUL KUMAR>docker exec -it container-2 bash
root@a5eeed15ce52:/# cd /home/dir1
root@a5eeed15ce52:/home/dir1# ls
file.txt main.txt
root@a5eeed15ce52:/home/dir1#