Docker 4 (Volume creation, mount and re-use)

1. sudo apt-get update
   sudo apt-get install ca-certificates curl
   sudo install -m 0755 -d /etc/apt/keyrings
   sudo curl -fsSL https://download.docker.com/linux/ubuntu/gpg -o /etc/apt/keyrings/docker.asc
   sudo chmod a+r /etc/apt/keyrings/docker.asc

   echo
   "deb [arch=$(dpkg --print-architecture) signed-
   by=/etc/apt/keyrings/docker.asc] https://download.docker.com/linux/ubuntu
   (. /etc/os-release && echo "VERSION_CODENAME") stable" |
   sudo tee /etc/apt/sources.list.d/docker.list > /dev/null
   sudo apt-get update

   (This command installs docker in your local machine)
2. sudo docker run -it --name container3 -v myvolume:/home/data ubuntu

   output :

   Unable to find image 'ubuntu:latest' locally
   latest: Pulling from library/ubuntu
   ff65ddf9395b: Already exists
   Digest: sha256:99c35190e22d294cdace2783ac55effc69d32896daaa265f0bbedbcde4fbe3e5
   Status: Downloaded newer image for ubuntu:latest
   root@1c7392f3128a:/#

   (This command is used to create container with ubuntu image in interactive terminal mode, along with it volume creation for docker in our local machine ("/var/lib/docker/myvolume") and attachment to the container's specific file path)

Lets see briefly about this command,

- Firstly, This command is an usual docker container creation command where an add-on feature of volume creation and mounting is added to it
- In this command **"-v myvolume:/home/data ubuntu"**, This part of the command explains that a directory called **"myvolume"** which will be acting as the external volume for docker will be created in the outer machine in this **"var/lib/docker/volume"** location
- At this same time a file path of "/home/data" is created inside the container where our external created volume will be mounted in it

3. sudo docker cp file3 container3:/home/data

   output :

Successfully copied 1.54kB to container3:/home/data

(In this command "file3" this part specifies the file to be copied from the source or outer machine.. source can be a **relative file path**, then "container3" this part specifies the name of the container, ":/home/data" this part specifies the destination file path inside the container where the file should be pasted.. destination should be of **absolute file path)

[Tip: Press Ctrl+P followed by Ctrl+Q to exit from the container with leaving it in its running state]

Now, Lets reuse the same volume to different container

4. Let's create a new container using the previously created volume mounted in it,

   i) sudo docker run -it --name container5 -v myvolume:/home/infos ubuntu

   output :

   root@caebcd4d7703:/#

   ii) root@caebcd4d7703:/# cd /home/infos
   ls

   output :

   file3.txt

[From this we understand that one volume can be reused with multiple containers, it stores the files of multiple containers and it also shows all of its stored files in its currently mounted container]