Experiment: To understand Docker Architecture and Container Life Cycle, install Docker and execute docker commands to manage images and interact with containers.

Windows | Docker Docs
https://docs.docker.com/desktop/setup/install/windows-install/

Docker installer.exe
installation will be started
add shortcut to desktop
all libraries will be unpacked
PS C:\Users\tejah> docker context ls
NAME   DESCRIPTION   DOCKER
ENDPOINT   ERROR
default   Current DOCKER_HOST based configuration   npipe:////./pipe/docker_engine
desktop-linux *   Docker
Desktop   npipe:////./pipe/dockerDesktopLinuxEngine
PS C:\Users\tejah> docker context use desktop-linux
desktop-linux
Current context is now "desktop-linux"
PS C:\Users\tejah> docker ps
CONTAINER ID IMAGE   COMMAND   CREATED STATUS   PORTS   NAMES

PS C:\Users\tejah> docker --version   # Show Docker version
Docker version 28.4.0, build d8eb465
PS C:\Users\tejah> docker info   # Show system-wide info
Client:
 Version: 28.4.0
 Context: desktop-linux

PS C:\Users\tejah> docker pull nginx   # Download an image from Docker Hub

PS C:\Users\tejah> docker images   # List images
REPOSITORY   TAG   IMAGE ID   CREATED   SIZE
nginx   latest   d5f28ef21aab 4 weeks ago 279MB
hello-world   latest   54e66cc1dd1f 5 weeks ago 20.3kB
PS C:\Users\tejah> docker rmi nginx   # Remove the nginx image
Untagged: nginx:latest
Deleted: sha256:d5f28ef21aabddd098f3dbc21fe5b7a7d7a184720bc07da0b6c9b9820e97f25e

PS C:\Users\tejah> docker pull nginx
Using default tag: latest
latest: Pulling from library/nginx
6c50e4e0c439: Pull complete
cb497a329a81: Pull complete
899c83fc198b: Pull complete
f1c4d397f477: Pull complete
d107e437f729: Pull complete
a785b80f5a67: Pull complete
f72106e86507: Pull complete
Digest: sha256:d5f28ef21aabddd098f3dbc21fe5b7a7d7a184720bc07da0b6c9b9820e97f25e
Status: Downloaded newer image for nginx:latest
docker.io/library/nginx:latest

PS C:\Users\tejah> docker run hello-world   # Quick test container

Hello from Docker!

PS C:\Users\tejah> docker run -it alpine sh   # Run Alpine Linux with interactive shell
Unable to find image 'alpine:latest' locally
latest: Pulling from library/alpine
9824c27679d3: Pull complete
Digest: sha256:4bcff63911fcb4448bd4fdacec207030997caf25e9bea4045fa6c8c44de311d1
Status: Downloaded newer image for alpine:latest

PS C:\Users\tejah> docker run hello-world   # Quick test container

Hello from Docker!
This message shows that your installation appears to be working correctly.

To generate this message, Docker took the following steps:
 1. The Docker client contacted the Docker daemon.
 2. The Docker daemon pulled the "hello-world" image from the Docker Hub.
    (amd64)
 3. The Docker daemon created a new container from that image which runs the
    executable that produces the output you are currently reading.
 4. The Docker daemon streamed that output to the Docker client, which sent it
    to your terminal.

To try something more ambitious, you can run an Ubuntu container with:
 $ docker run -it ubuntu bash

Share images, automate workflows, and more with a free Docker ID:
 https://hub.docker.com/

For more examples and ideas, visit:
 https://docs.docker.com/get-started/
 Inside the container (Alpine shell / #)
PS C:\Users\tejah> docker run -it alpine sh   # Run Alpine Linux with interactive shell
/ # uname -a   # Kernel info
Linux 2287deff6524 6.6.87.2-microsoft-standard-WSL2 #1 SMP PREEMPT_DYNAMIC
Thu Jun 5 18:30:46 UTC 2025 x86_64 Linux
/ # cat /etc/os-release # Alpine version
NAME="Alpine Linux"
ID=alpine
VERSION_ID=3.22.1
PRETTY_NAME="Alpine Linux v3.22"
HOME_URL="https://alpinelinux.org/"
BUG_REPORT_URL="https://gitlab.alpinelinux.org/alpine/aports/-/issues"
/ # pwd   # Current directory
/
/ # ls -l   # List files
total 56
drwxr-xr-x   2 root   root   4096 Jul 15 10:42 bin
drwxr-xr-x   5 root   root   360 Sep 17 06:06 dev

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drwxr-xr-x    1 root    root        4096 Sep 17 06:06 etc
drwxr-xr-x    2 root    root        4096 Jul 15 10:42 home
drwxr-xr-x    6 root    root        4096 Jul 15 10:42 lib
drwxr-xr-x    5 root    root        4096 Jul 15 10:42 media
drwxr-xr-x    2 root    root        4096 Jul 15 10:42 mnt
drwxr-xr-x    2 root    root        4096 Jul 15 10:42 opt
dr-xr-xr-x  194 root    root           0 Sep 17 06:06 proc
drwx------    1 root    root        4096 Sep 17 06:07 root
drwxr-xr-x    3 root    root        4096 Jul 15 10:42 run
drwxr-xr-x    2 root    root        4096 Jul 15 10:42 sbin
drwxr-xr-x    2 root    root        4096 Jul 15 10:42 srv
dr-xr-xr-x   13 root    root           0 Sep 17 06:06 sys
drwxrwxrwt    2 root    root        4096 Jul 15 10:42 tmp
drwxr-xr-x    7 root    root        4096 Jul 15 10:42 usr
drwxr-xr-x   11 root    root        4096 Jul 15 10:42 var
/ #
```

Get-History- To get all the commands which used