INSTALLATION

❖ DOCKER ENGINE OVERVIEW:

- Docker Engine is an open-source containerization technology for building and containerizing your applications.
- Docker Engine acts as a client-server application with**:**
  - A server with a long-running daemon process **dockerd.**
  - APIs which specify interfaces that programs can use to talk to and instruct the Docker daemon.
  - A command line interface (CLI) client docker.

SUPPORTED PLATFORMS:

- Docker Desktop for Mac (macOS)
- Docker Desktop for Windows
- Linux distributions**:**
  Red Hat, Centos, Fedora, Debian, Ubuntu…etc.
- Cloud Platforms**:** AWS, AZURE, GCP, Digital Ocean…. etc.

➢ OPERATING SYSTEM REQUIREMENTS:

WINDOWS:

- 64-bit Windows 10 or 11
- WSL version 1.1.3.0 or later
- Hyper-V, WSL 2, and Container features enabled in Windows

LINUX:

- 64-bit kernel and CPU support for virtualization
- KVM virtualization support
- QEMU version 5.2 or later
- Systemd init system
- Gnome, KDE, or MATE Desktop environment

MAC:

- Download the Docker installer from the Docker website

➢ INSTALLING DOCKER ENGINE ON LINUX:

INSTALLING ON RED HAT / CENTOS / AMAZON EC2:

- To install Docker Engine, you need a maintained version:
  - **CentOS 8 or 9**
  - **RHEL 8 or 9**
  - **Fedora 34 or 35**

INSTALLING ON UBUNTU:

- To install Docker Engine, you need the **64-bit** version of one of these Ubuntu versions:
  - Ubuntu 20 / 21 / 24

NOTE: https://docs.docker.com/engine/install/ubuntu/

To check docker version: #docker version

➢ INSTALLING DOCKER DESKTOP ON WINDOWS:

- Windows 10 64-bit: Home or Pro 2004 (build 19041) or higher, or Enterprise or Education 1909 or higher.
- Enable the WSL 2 feature on Windows. (Windows Subsystem for Linux, version 2)
- The following hardware prerequisites are required to successfully run WSL 2 on Windows 10:
  - 64-bit processor with Second Level Address Translation (SLAT)
  - 4GB system RAM
  - BIOS-level hardware virtualization support must be enabled in the BIOS settings.
  - Download and install the Linux kernel update package: https://docs.microsoft.com/en-us/windows/wsl/install-win10#step-4---download-the-linux-kernel-update-package

NOTE: Please follow the bellow link for docker installation.

https://docs.docker.com/engine/install/

➢ DOCKER COMMANDS:

COMMAND	DESCRIPTION
docker attach	**:** Attach local standard input, output, & error streams to a running container
docker build	**:** Build an image from a Docker file
docker checkpoint	**:** Manage checkpoints
docker commit	**:** Create a new image from a container's changes
docker config	**:** Manage Docker configs
docker container	**:** Manage containers
docker cp	**:** Copy files/folders b/w a container and the local fs.
docker create	**:** Create a new container
docker deploy	**:** Deploy a new stack or update an existing stack
docker diff	**:** Inspect changes on a container's filesystem
docker events	**:** Get real time events from the server
docker exec	**:** Run a command in a running container
docker export	**:** Export a container's filesystem as a tar archive
docker history	**:** Show the history of an image
docker image	**:** Manage images
docker images	**:** List images
docker import	**:** Import contents from a tar ball to create a fs image
docker info	**:** Display system-wide information
docker inspect	**:** Return low-level information on Docker objects
docker kill	**:** Kill one or more running containers
docker load	**:** Load an image from a tar archive or STDIN
docker login	**:** Log in to a Docker registry
docker logout	**:** Log out from a Docker registry

docker logs : Fetch the logs of a container

docker network : Manage networks

docker node : Manage Swarm nodes

docker pause : Pause all processes within one or more containers

docker plugin : Manage plugins

docker port : List port mappings for the container

docker ps : List containers

docker pull : Pull an image or a repository from a registry

docker push : Push an image or a repository to a registry

docker rename : Rename a container

docker restart : Restart one or more containers

docker rm : Remove one or more containers

docker rmi : Remove one or more images

docker run : Run a command in a new container

docker save : Save one or more images to a tar archive

docker search : Search the Docker Hub for images

docker service : Manage services

docker start : Start one or more stopped containers

docker stats : live stream of container(s) resource usage statistics

docker stop : Stop one or more running containers

docker system : Manage Docker

docker tag : tag TARGET_IMAGE that refers to SOURCE_IMAGE

docker unpause : Unpause all processes within one or more container

docker top : Display the running processes of a container

docker update : Update configuration of one or more containers

docker volume : Manage volumes