



# Docker

## Docker Container Commands:

- `docker run <options> <image>` : Run a container from an image.
  - `d` : Run in detached mode (in the background).
  - `it` : Start an interactive session.
  - `-name <name>` : Assign a name to the container.
- `docker ps` : List running containers.
  - `a` : List all containers (including stopped ones).
- `docker start/stop/restart <container>` : Start, stop, or restart a container.
- `docker exec -it <container> <command>` : Run a command in a running container.

## Docker Image Commands:

- `docker pull <image>` : Download an image from a repository.
- `docker images` : List locally available images.
- `docker build <options> -t <tag> <path>` : Build an image from a Dockerfile.
  - `t` : Assign a tag to the image.

## Docker Registry and Repository Commands:

- `docker login` : Log in to a Docker registry (e.g., Docker Hub).
- `docker push <image>` : Push an image to a registry.
- `docker pull <registry>/<image>` : Pull an image from a specific registry.

## Docker Network Commands:

- `docker network create <network>` : Create a user-defined bridge network.
- `docker network ls` : List Docker networks.
- `docker network connect/disconnect <network> <container>` : Connect or disconnect a container to/from a network.

## Docker Volume Commands:

- `docker volume create <volume>` : Create a named volume.
- `docker volume ls` : List Docker volumes.
- `docker volume rm <volume>` : Remove a volume.
- `docker run -v <volume>:<container-path>` : Mount a volume in a container.

## Docker Compose Commands:

- `docker-compose up` : Start services defined in a Compose file.
- `docker-compose down` : Stop and remove containers defined in a Compose file.
- `docker-compose build` : Build images as defined in a Compose file.

## Docker Swarm Commands (for orchestration):

- `docker swarm init` : Initialize a swarm.
- `docker swarm join <token>` : Join a node to a swarm.
- `docker service <options>` : Manage services in a swarm.
  - `docker service create` : Create a new service.
  - `docker service ls` : List services.
  - `docker service scale \<service>=\<replicas>` : Scale a service.

- `docker service update \<service> \<options>` : Update a service.

## Docker System Commands:

- `docker info` : Display system-wide information.
- `docker system df` : Show disk usage for Docker.
- `docker system prune` : Remove unused data (containers, networks, etc.)