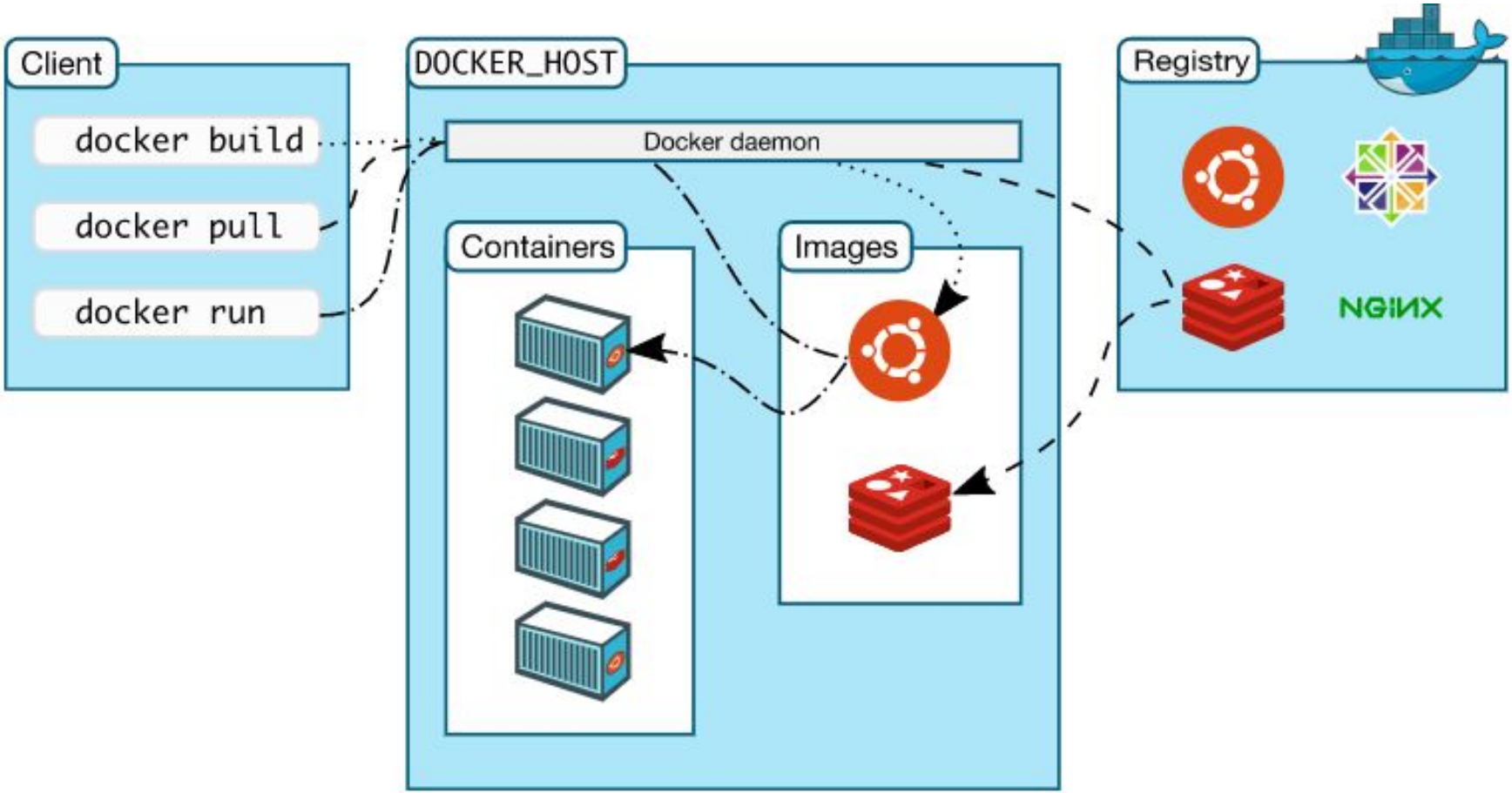
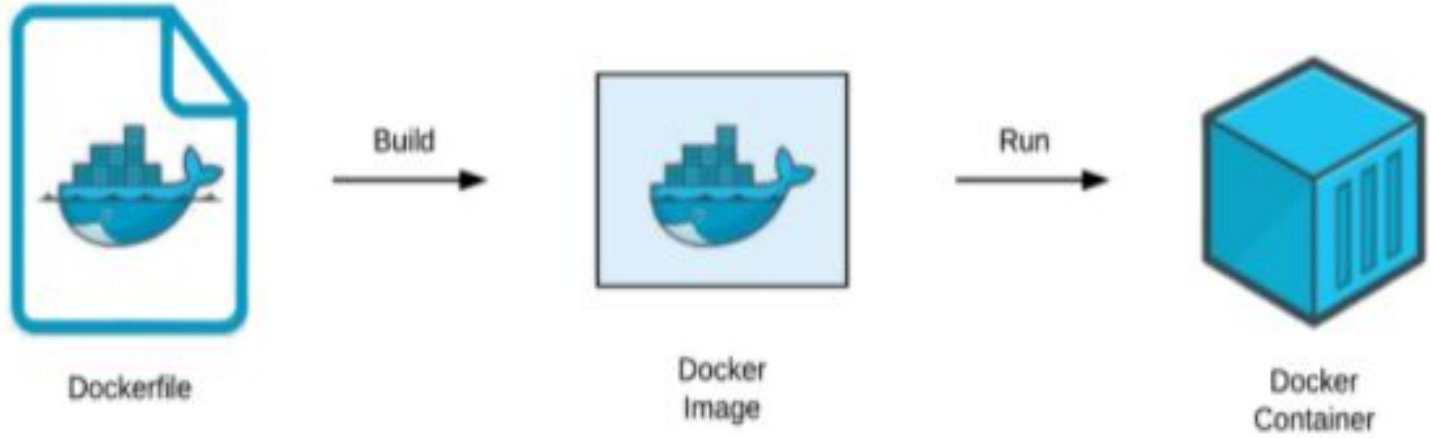
Docker

- **Docker** is a tool designed to make it easier to create, deploy, and run applications by using containers.
- Containers allow a developer to package up an application with all of the parts it needs, such as libraries and other dependencies, and deploy it as one package


Client
docker build
docker pull
docker run
DOCKER_HOST
Docker daemon
Containers
Images
Registry
NGINX

Docker Flow



Docker File:

A Dockerfile is a simple text file with instructions on how to build your images.

Docker Image:

The file system and configuration(read-only) application which is used to create containers.

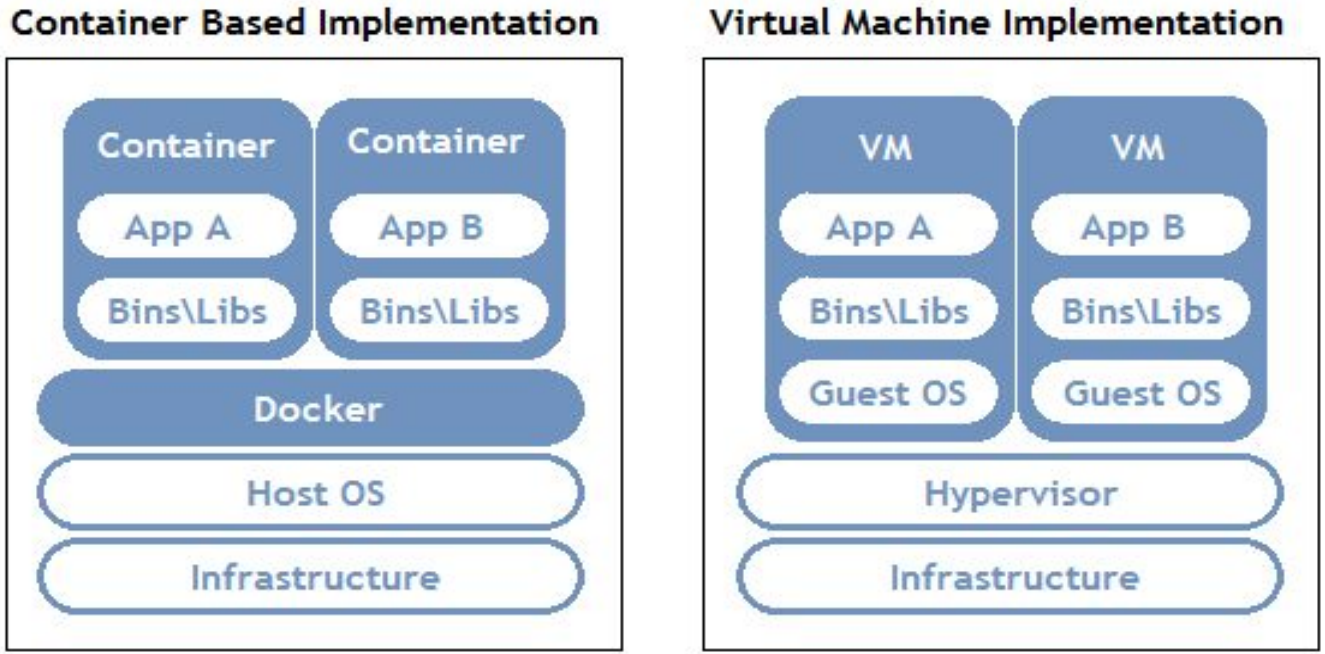
Container:

Containers are running instances of Docker images **with top writable layer**. Containers run the actual applications. A container includes an application and all of its dependencies. When the container is deleted, the writable layer is also

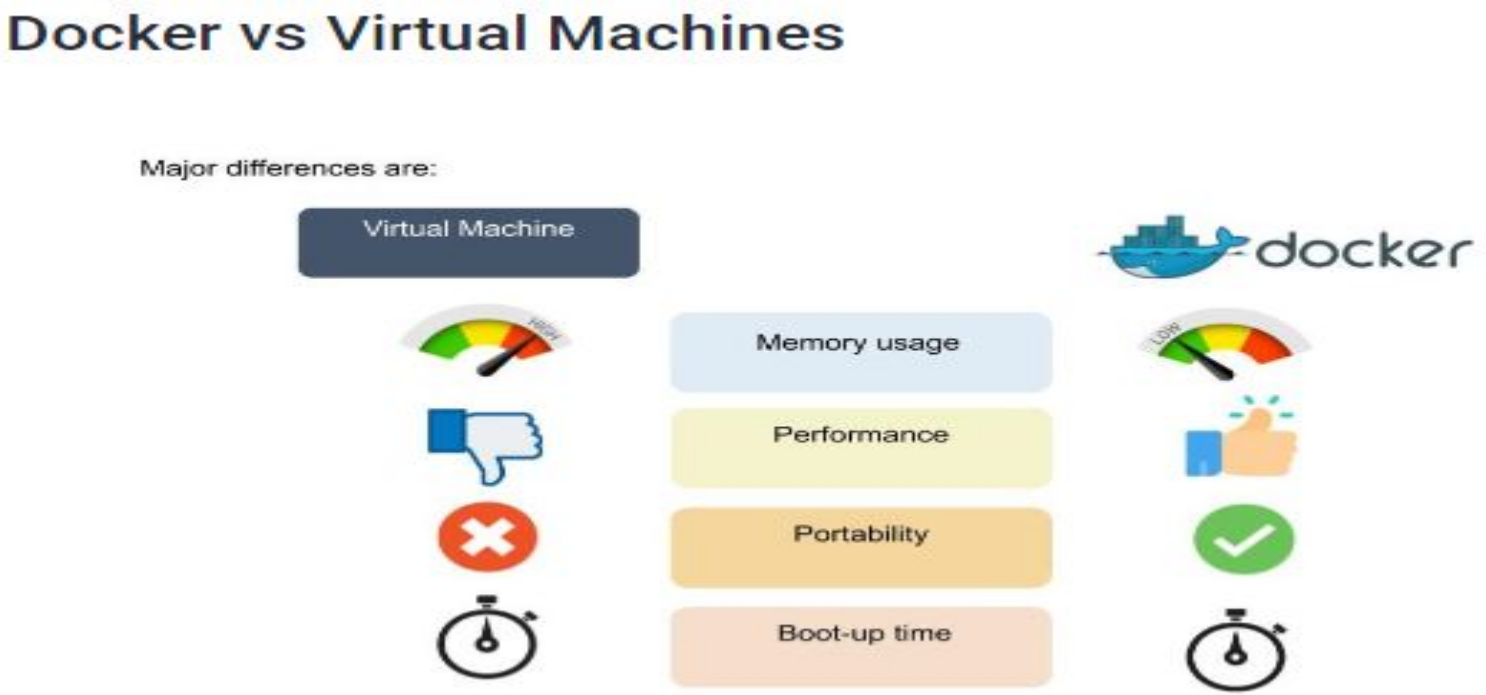
Docker Hub

Docker Hub repositories allow you share container images with your team, customers, or the **Docker** community at large. **Docker** images are pushed to **Docker Hub** through the **docker** push command. A single **Docker Hub repository** can hold many **Docker** images

Docker Vs VM


Container Based Implementation
Container
App A
Bins\Libs
Container
App B
Bins\Libs
Docker
Host OS
Infrastructure
Virtual Machine Implementation
VM
App A
Bins\Libs
Guest OS
VM
App B
Bins\Libs
Guest OS
Hypervisor
Infrastructure

Differences



docker –version ---list your version
docker pull --pull your image from docker hub
docker run --run your container from docker image
docker ps -- list your containers
docker ps -a --list your stopped containers
docker exec --will login your containers
docker stop ---stop with grace period
docker kill ---stop without grace period
docker commit --commit your images to docker hub
docker login → simply save your credentials
docker push --push your images to docker hub
docker images ---> List your images
docker rm ---> Remove container
docker rmi -->remove your image
docker build → To build a image from the docker file