

ADRIÁN CALLEJO

A BIT OF CONTEXT...

UNDERSTANDING DOCKER

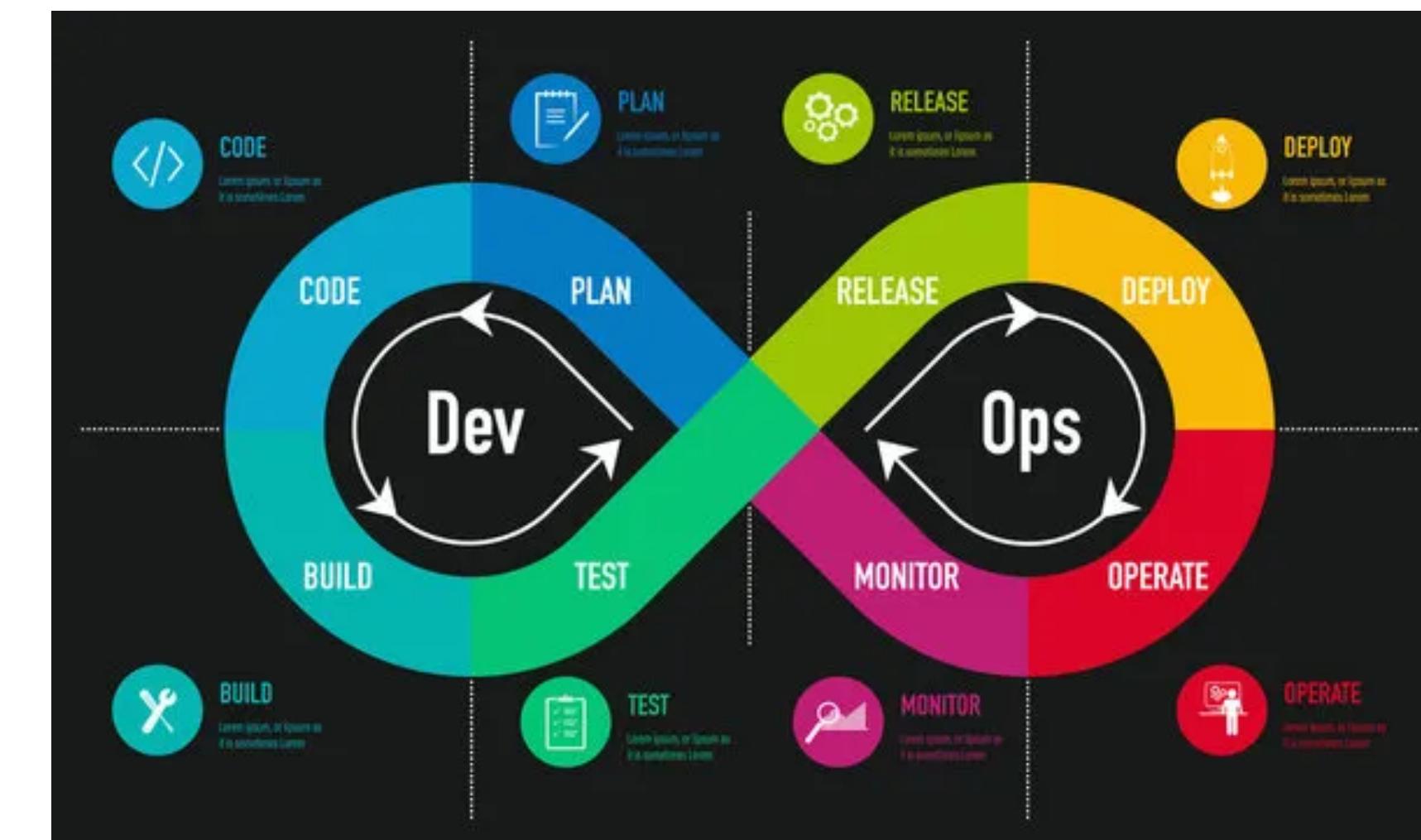
Why? Because it should work in all machines

EPITECH HUB PROJECT

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DEV-OPS...

DevOps is like teamwork between software developers and operations teams. It's about using tools and practices to make sure that building, testing, and deploying software happens smoothly and quickly, so that teams can deliver better software faster.



DOCKER, WHAT?

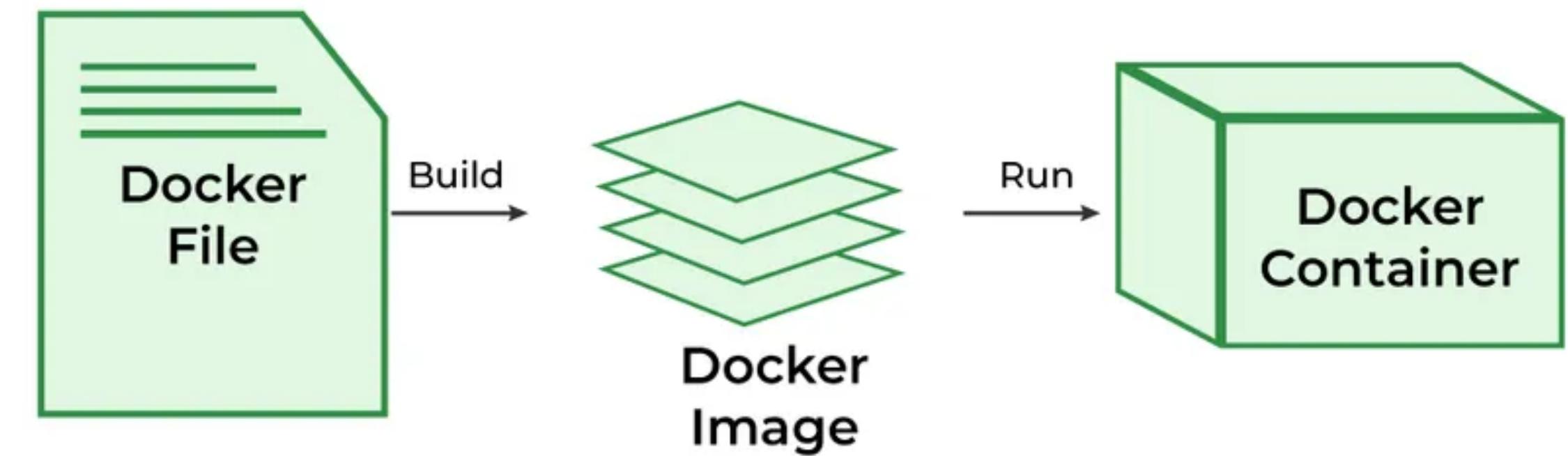
Docker is like a virtual container for software. It lets you package up all the parts your program needs to run, like code, libraries, and settings, into a neat little package.

This package can then run on any computer that has Docker installed, making it easier to deploy and manage software across different environments.

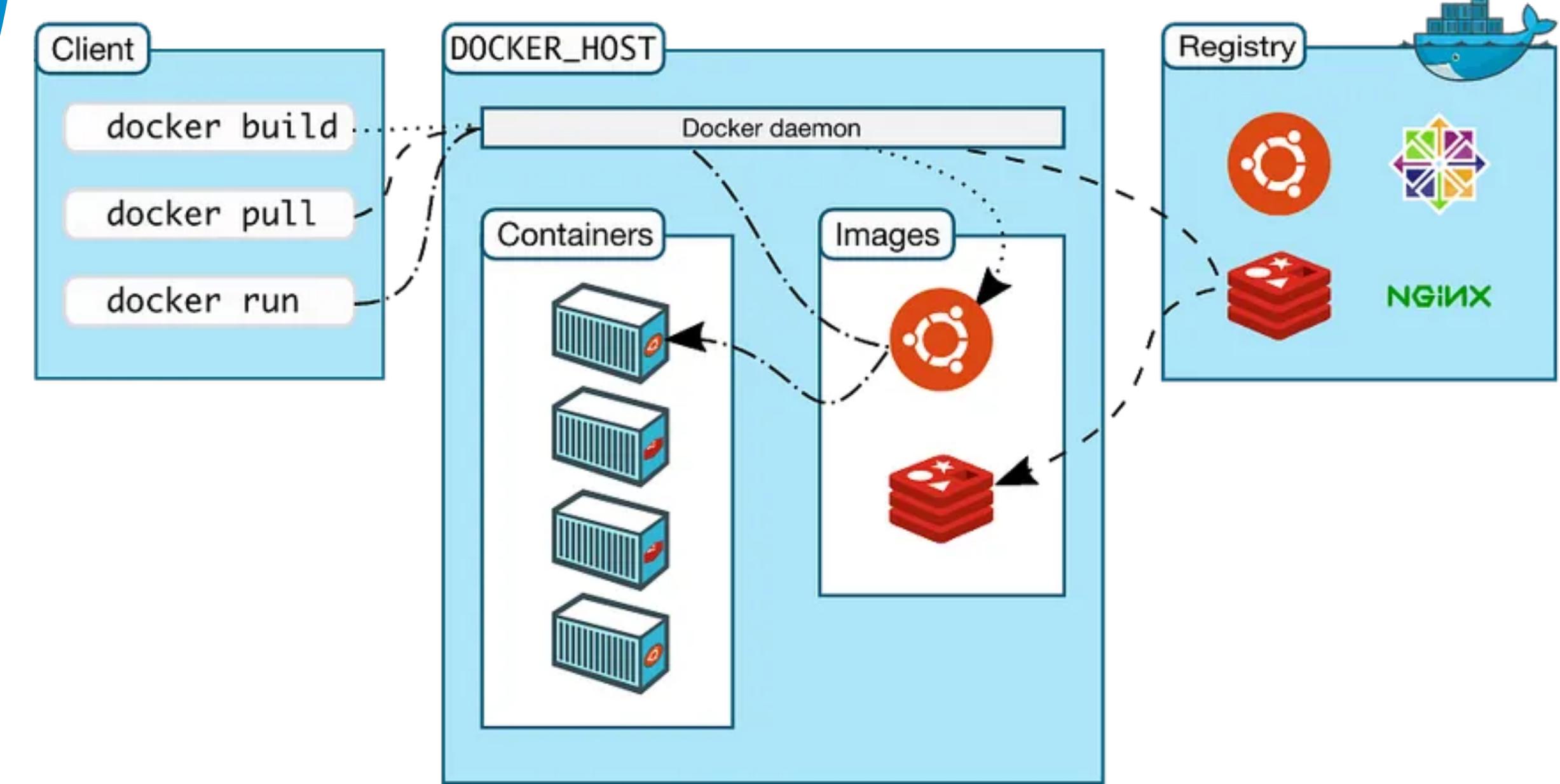
It basically solve the issue regarding:
“I don’t know why it does work to you,
it works on my machine”

This solves the issue and make your application
accessible to everyone disregarding any of
their PC configuration

DOCKER BASICS



DOCKER BASICS



DOCKERFILE

A Dockerfile is a text file that contains instructions for building a Docker image. It specifies things like the base image to use, commands to run, and files to include.

FROM => base image

RUN => command to run upon image build

CMD => command to run after container creation

FROM [ubuntu:latest](#)

```
3  RUN apt-get update && \
4      apt-get install -y sl
5
6  CMD ["sl"]
7
8
9
10
11
12
13
14
```

syntax=docker/dockerfile:1

FROM [python:3.8-slim-buster](#)

WORKDIR /app

COPY requirements.txt requirements.txt

RUN pip3 install -r requirements.txt

COPY ..

EXPOSE 5000

CMD ["python3", "-m" , "flask", "run", "--host=0.0.0.0"]

IMAGES

Docker images are like blueprints for containers. They contain all the necessary files and configurations needed to create a container. You can build your own images or use pre-built ones from Docker Hub, a repository of Docker images.

Make sure your images are on docker hub, if they are not feel free to push one!

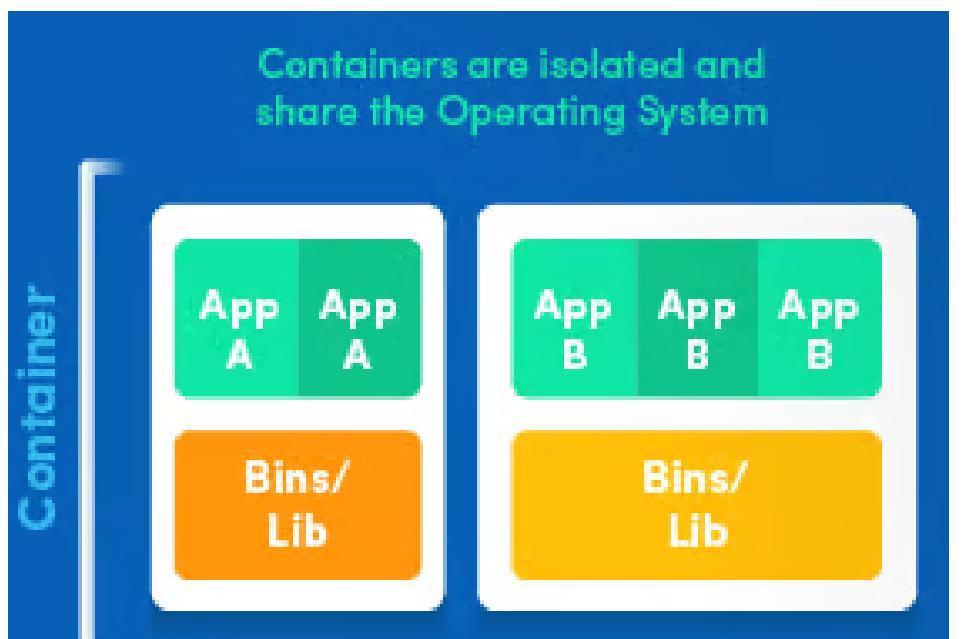


I DON'T KNOW
WHAT A
"DOCKER" IS

AND AT THIS POINT,
I'M TOO AFRAID TO ASK

CONTAINERS

Docker uses containers to package up software and its dependencies into a single unit. Containers are lightweight, portable, and can run consistently across different environments.



Docker in Cloud



Docker In My Machine

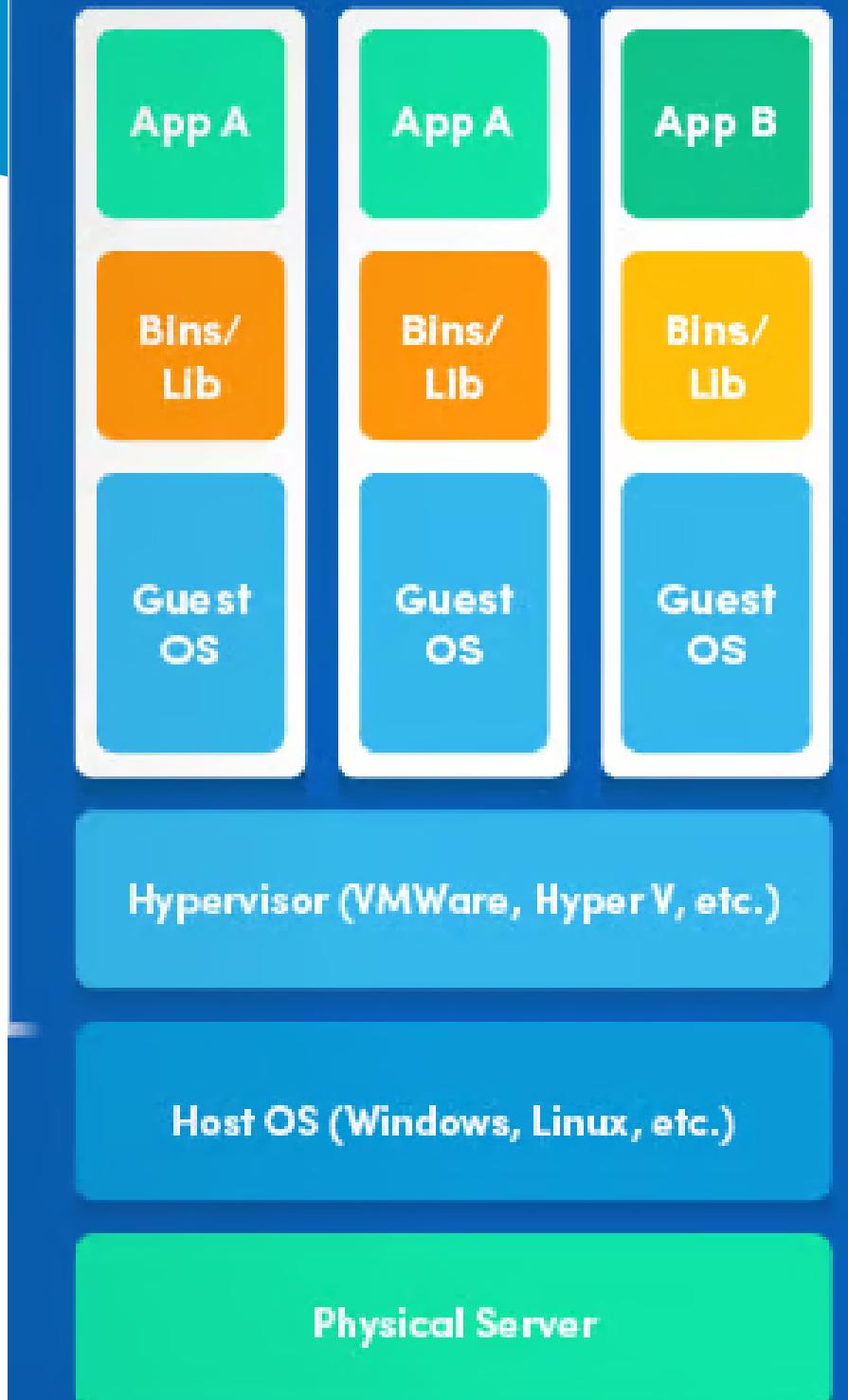


CONTAINERS VS VM

A container is the abstraction at application level that pack the code and its dependencies together.

A Virtual Machine is an abstraction of the hardware level that turns one server on multiple servers.

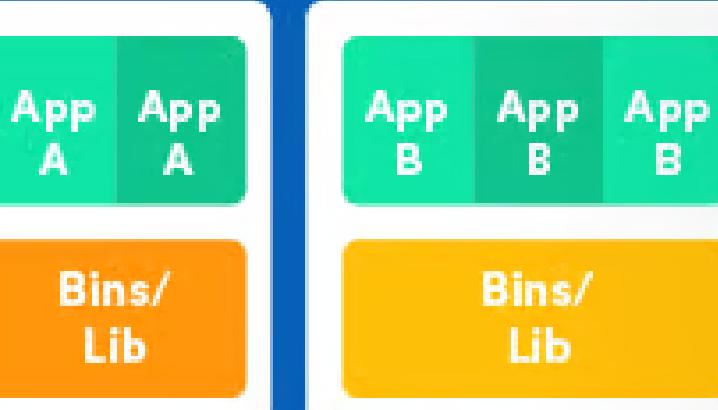
A clear example of this is having ubuntu as VM in windows



Virtual Machine

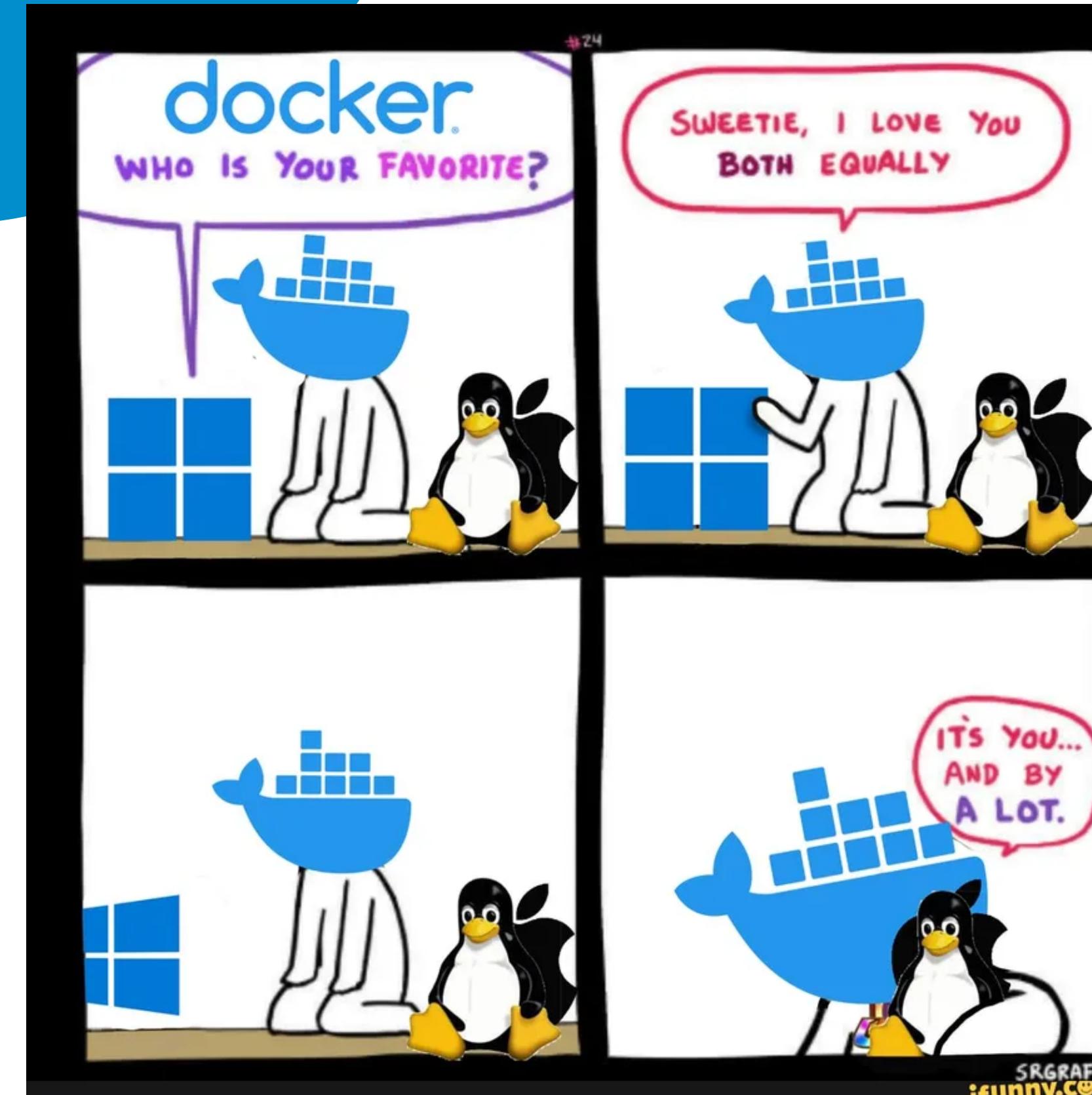
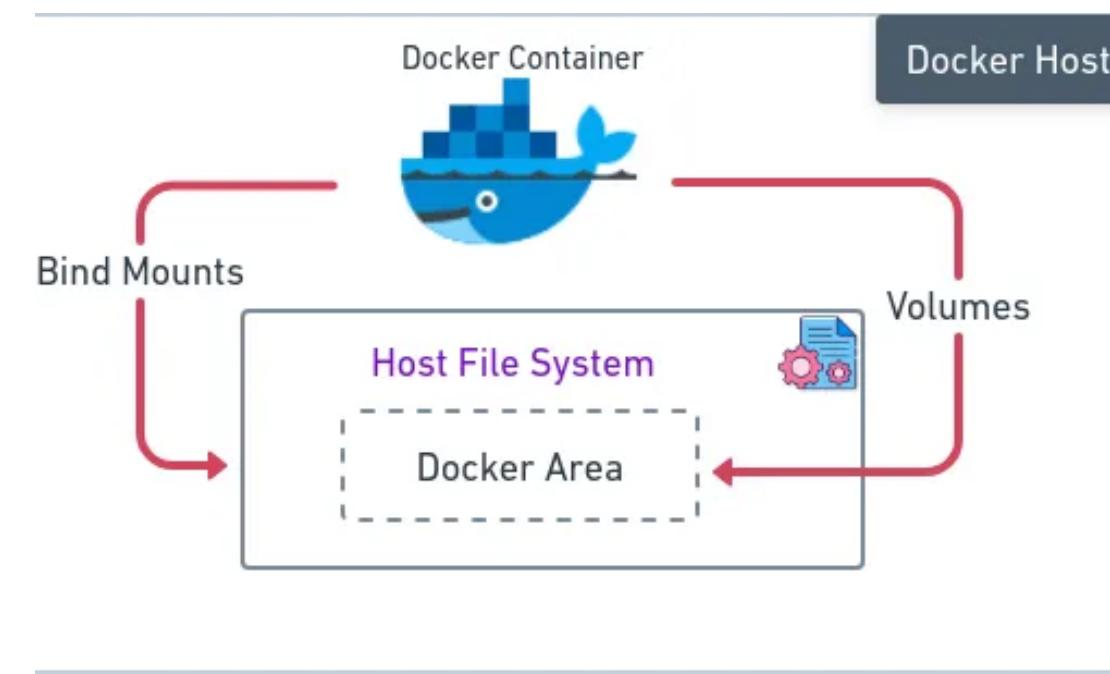
Container

Containers are isolated and share the Operating System



VOLUMES

Docker volumes are used to persist data generated by containers. They allow you to share data between containers and between the host machine and containers.



USEFUL COMMANDS

1. docker ps: Lists all running containers.
2. docker images: Lists all locally available Docker images.
3. docker build: Builds a Docker image from a Dockerfile.
4. docker pull: Fetches a Docker image from a registry, such as Docker Hub.
5. docker run: Creates and runs a container based on a specified image.
6. docker stop: Stops one or more running containers.
7. docker rm: Remove docker entities



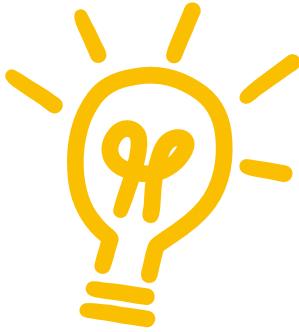
DOCKER HUB

Docker Hub is like a library or a store for Docker images. It's a cloud-based service where you can find, store, and share pre-built Docker images. Think of it as a place where developers and organizations share their ready-to-use containers, making it easier for others to use and deploy software.

<https://hub.docker.com/>

Start Docker™





DID YOU GET EVERYTHING?

If you have any questions this IS the time to ask them.

Now we will do a little activity to check if you got everything right.

Good Luck! You'll need it...

<https://github.com/Adriantxu/DockerForDummies>

