How many knows about: Vagrant, Puppet, Chef, ansible

Cargo Transport Pre-1960

Source: Docker

Multiplicity of Goods

Do I worry about how goods interact (e.g. coffee beans next to spices)

A standard container that is loaded with virtually any goods, and stays sealed until it reaches final delivery.

...in between, can be loaded and unloaded, stacked, transported efficiently over long distances, and transferred from one mode of transport to another

Multiplicity of methods for transporting/storing

Can I transport quickly and smoothly (e.g. from boat to train to truck)

Docker is a shipping container system for code

Static website   User DB   Web frontend   Queue   Analytics DB

Multiplicity of Stacks

Do services and apps interact appropriately?

An engine that enables any payload to be encapsulated as a lightweight, portable, self-sufficient container…

…that can be manipulated using standard operations and run consistently on virtually any hardware platform

Multiplicity of hardware environments

Can I migrate smoothly and quickly

Development VM   QA server   Customer Data Center   Public Cloud   Production Cluster   Contributor's laptop

- Developer makes sure its code runs as it expected
- DevOps be sure, it is in the correct place and meets its requirements

So what is in it for us?

- Content & Hardware agnostic
- Automation
- Highly efficient
- Separation of duties
- Build once, run anywhere
- Fast deployment, testing, debugging
- Cost efficient
- Perfect for microservice and integrations (API)
- Open source
- Simplify DevOps
- Version control capabilities

What are the risks?

- The containers share the same kernel and are therefore less isolated than real VMs. A bug in the kernel affects every container.

- Limited tools

- Cannot replace VMs 100% as not every system is suitable to run in docker

Let's learn about terms

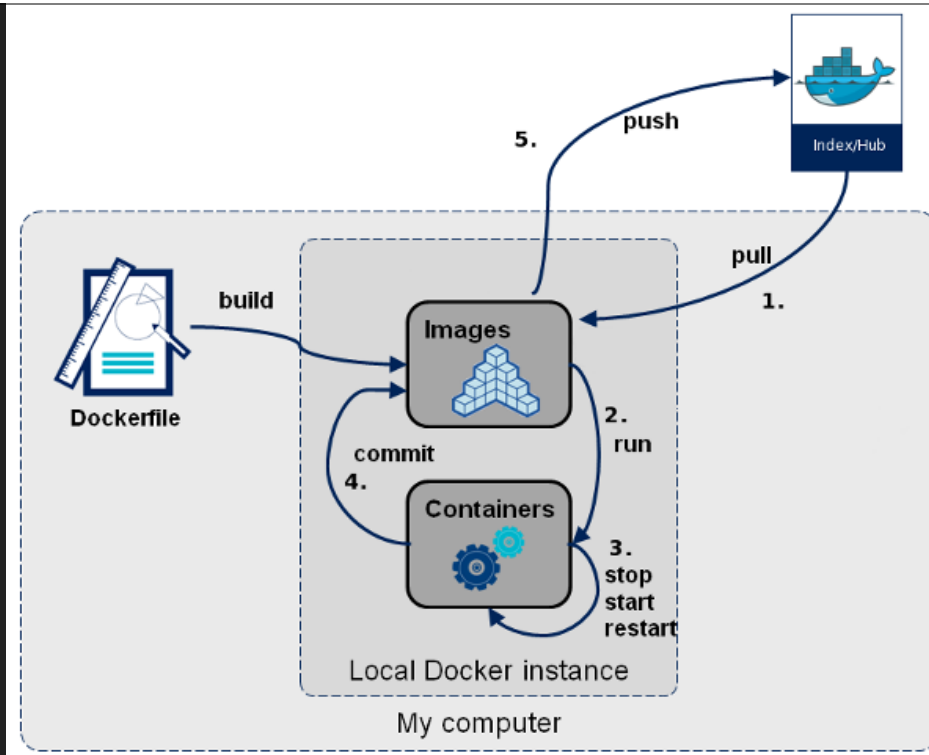- Dockerfile

- Image

- Container

- Docker Hub

Dockerfile

Docker can build images automatically by reading the instructions from a Dockerfile. A Dockerfile is a text document that contains all the commands a user could call on the command line to assemble an image.
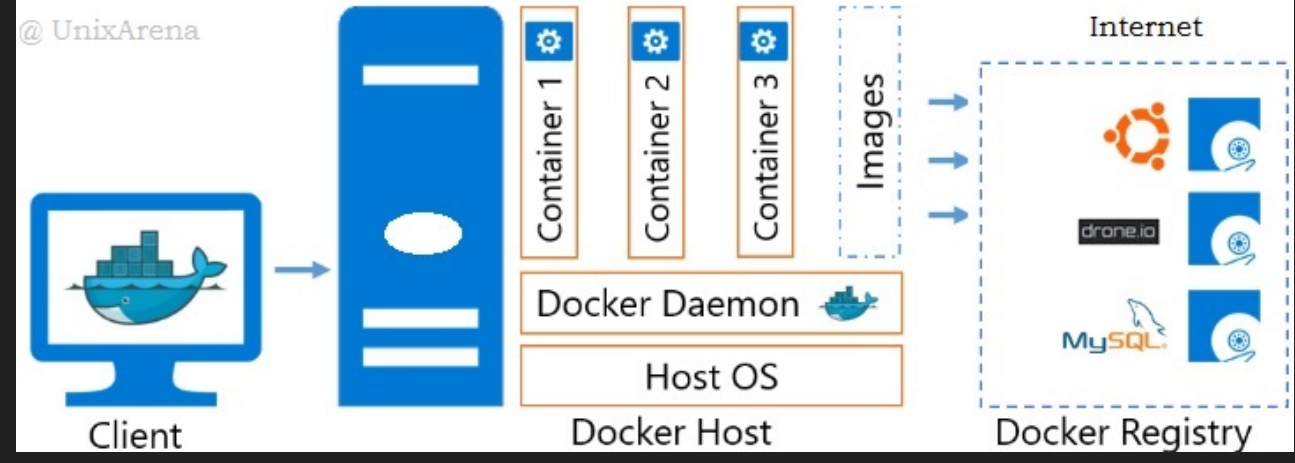
Docker Image vs Docker Container

An image is an inert, immutable, file that's essentially a snapshot of a container. Images are created with the build command, and they'll produce a container when started with run.

Docker hub

Docker Hub is a cloud-based registry service which allows you to link to code repositories, build your images and test them, stores manually pushed images. It provides a centralized resource for container image discovery, distribution and change management, user and team collaboration, and workflow automation throughout the development pipeline.

Like npm

Let's make something

- Installing docker

- Installing docker captain

- Clone repo: https://github.com/dijam/docker-example

https://github.com/dijam/docker-example
Docker installation: https://docs.docker.com/docker-for-mac/install/
Docker Captain: https://getcaptain.co

segmentio/{repo}

git push

trigger
build

circle**ci**

trigger
docker push

docker

Docker Hub

cluster

docker pull

instance

ecs-agent   app

docker pull

instance

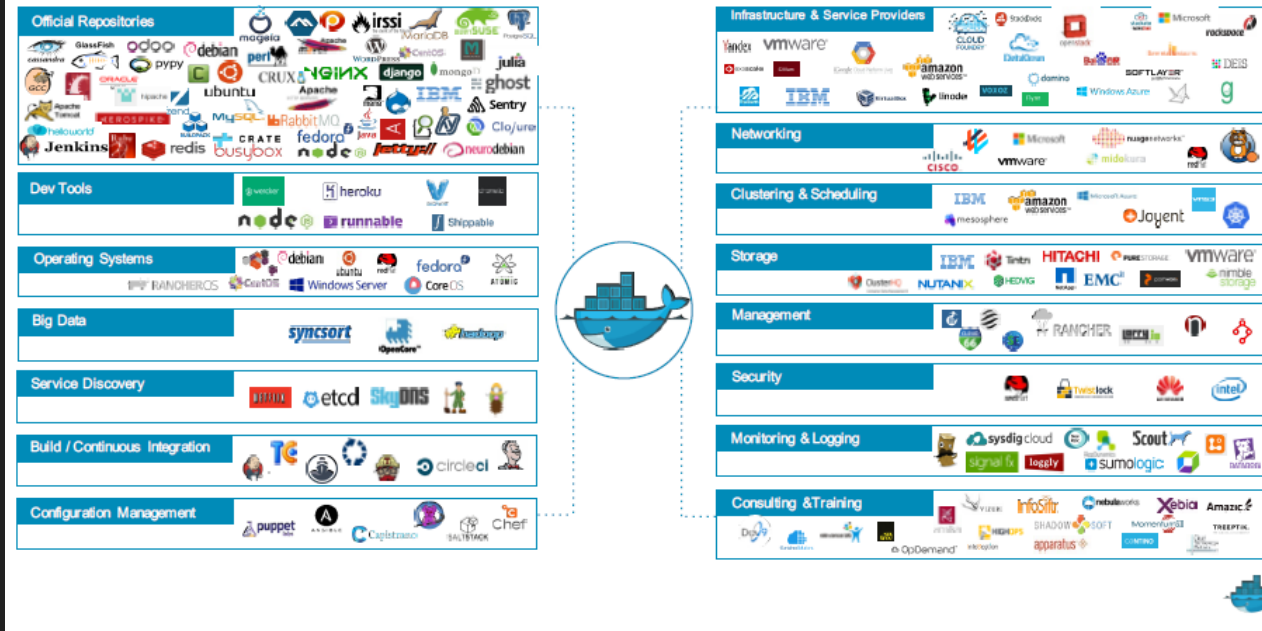ecs-agent   blog

/deploy app 1.3.2

S

update task

ECS

update
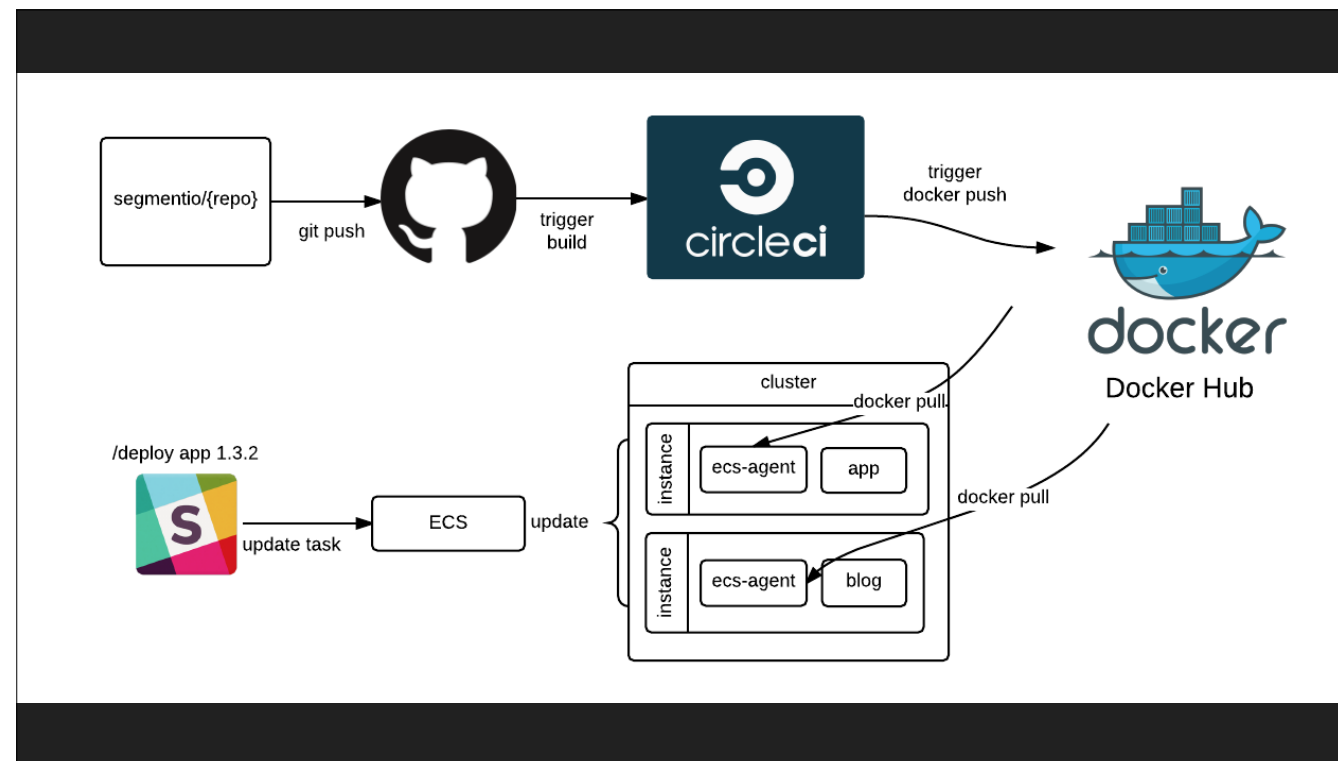
The Docker ecosystem

Empty slide

95.3% copy-paste