

Docker

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Docker in 30-ish Seconds

- Lightweight, portable, self-contained applications
- No hypervisor, no instruction translation
- Run the same container everywhere - develop on a laptop, test on a VM, prod in the cloud
- Built on top of Linux Containers and AUFS
- Runs on a modern (3.8+) Linux Kernel (Ubuntu 13)
- Targeting EL6 in Q4 2013

Why “Docker”?

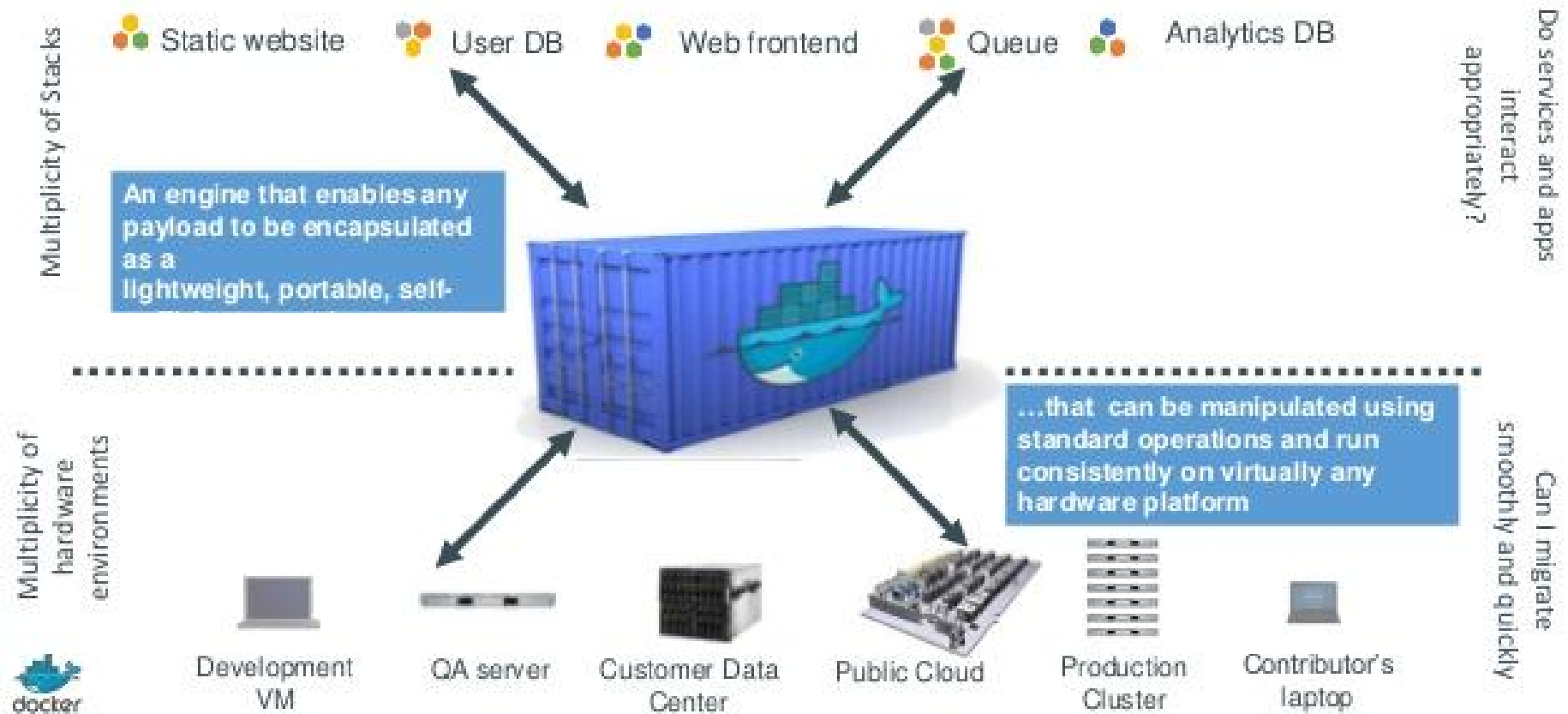


Before the 1960s, cargo transport was a mess.

Everything was shipped separately and had to be unpacked and repacked many times before it arrived at its final destination.

The solution: put things into a standardized container than stacks onto trucks, trains, and ships, and keep it sealed and intact until it gets there.

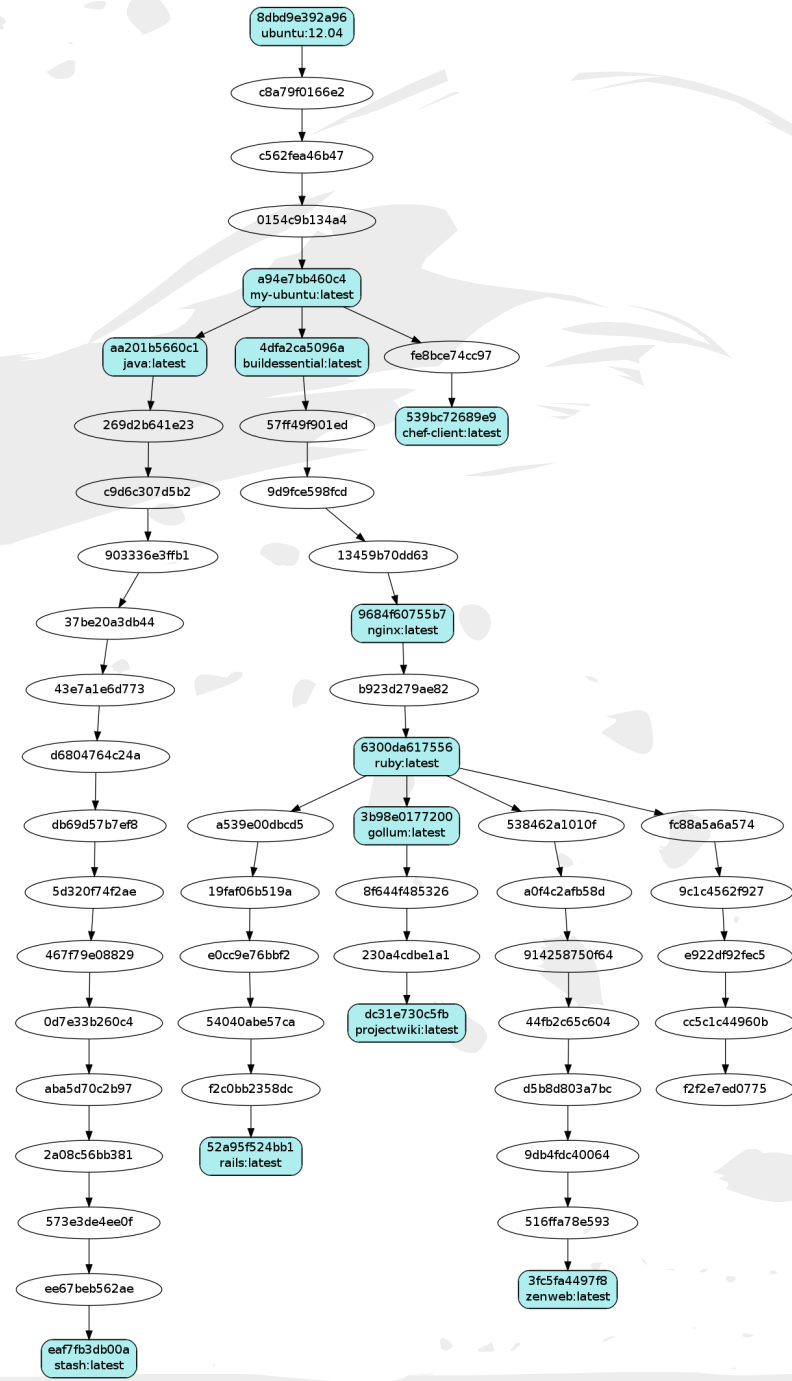
Docker is a shipping container system for code



Building Docker Containers

- Easy to automate and integrate into your CI system
- Content agnostic: if it runs on Linux x64, it will run in a container
- Sealed at build time with all its dependencies: no need for rvm / rbenv / etc.
- Created from layers: only store the differences between a container and its parent

Visualizing Image Hierarchies



Running Docker Containers

- Process isolation
- Network isolation
- Memory Caps (lxc cgroups)
- Relative CPU Weighting
- Ephemeral filesystem, but ...
- Can bind mount from the host into a container or share a virtual FS among several containers

Rapid Iteration

Snapshot a running container to an image:

```
docker commit f4328ca3  
3ac8234d
```

Then start up a new container from that image:

```
docker run -t -i 3ac8234d bash
```

Now go debug a private copy of your live app while the original still runs.

Share Inside or Out

DotCloud operate a public registry where you can push images.

Open-source registry server with optional S3 storage for distributing private images.

Use Cases

- Create your own PaaS (DotCloud, the authors of Docker started as a PaaS)
- Repeatable environments for teaching or testing (like a very lightweight Vagrant)
- Secure Sandboxes

Getting Started

Clone

<https://github.com/jf647/devops-docker-lightningtalk.git>

- Vagrantfile to build a docker host and a private registry host
- Docker builds for
 - chef-client
 - nginx -> Zenweb (static website generator)
 - openjdk -> Atlassian Stash
 - ruby -> gollum -> Version Controlled Wiki
 - ruby -> rails + unicorn

Read More :

<http://www.docker.io>

<https://github.com/dotcloud/docker/>



Thank-you