

# SHUO ZHAO

# INTRODICTION TO DOCKER

#### **Dependency hell**

Dependency hell is a colloquial term for the frustration of some software users who have installed software packages which have dependencies on specific versions of other software packages.

--- wikipedia

### **Dependency hell**

User DB

postgresql + pgv8 + v8

Static website

nginx 1.5 + modsecurity + openssl + bootstrap 2

Queue

Analytics DB

Redis + redis-sentinel

hadoop + hive + thrift + OpenJDK

Background workers

Python 3.0 + celery + pyredis + libcurl + ffmpeg + libopencv + nodejs + phantomjs

Web frontend

Ruby + Rails + sass + Unicorn

API endpoint

Python 2.7 + Flask + pyredis + celery + psycopg + postgresql-client



 $Development\,VM$ 



QA server

Public Cloud



**Production Cluster** 



Disaster recovery

**Production Servers** 

Customer Data Center



Contributor's laptop



# **Dependency hell**

	Develop ment VM	QA Server	Single Prod Server	Onsite Cluster	Public Cloud	Contribu tor's laptop	Custome r Servers
Queue	?	?	?	?	?	?	?
Analytics DB	?	?	?	?	?	?	?
User DB	?	?	?	?	?	?	?
Background workers	?	?	?	?	?	?	?
Web frontend	?	?	?	?	?	?	?
Static website	?	?	?	?	?	?	?















## Dependency hell: Delivery System





## Dependency hell: Delivery System

111	?	?	?	?	?	?	?
	?	?	?	?	?	?	?
0	?	?	?	?	?	?	?
	?	?	?	?	?	?	?
The state of the s	?	?	?	?	?	?	?
	?	?	?	?	?	?	?
				No.			

#### **Container!**

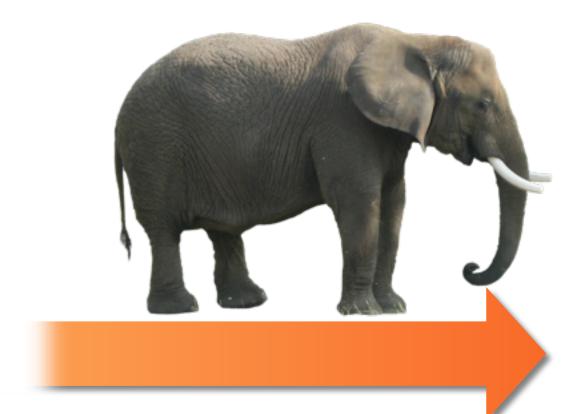


standard, consistent way of shipping just about anything.

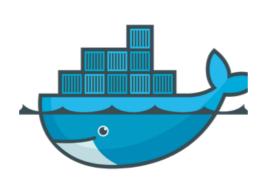
# **CONTAINER!**







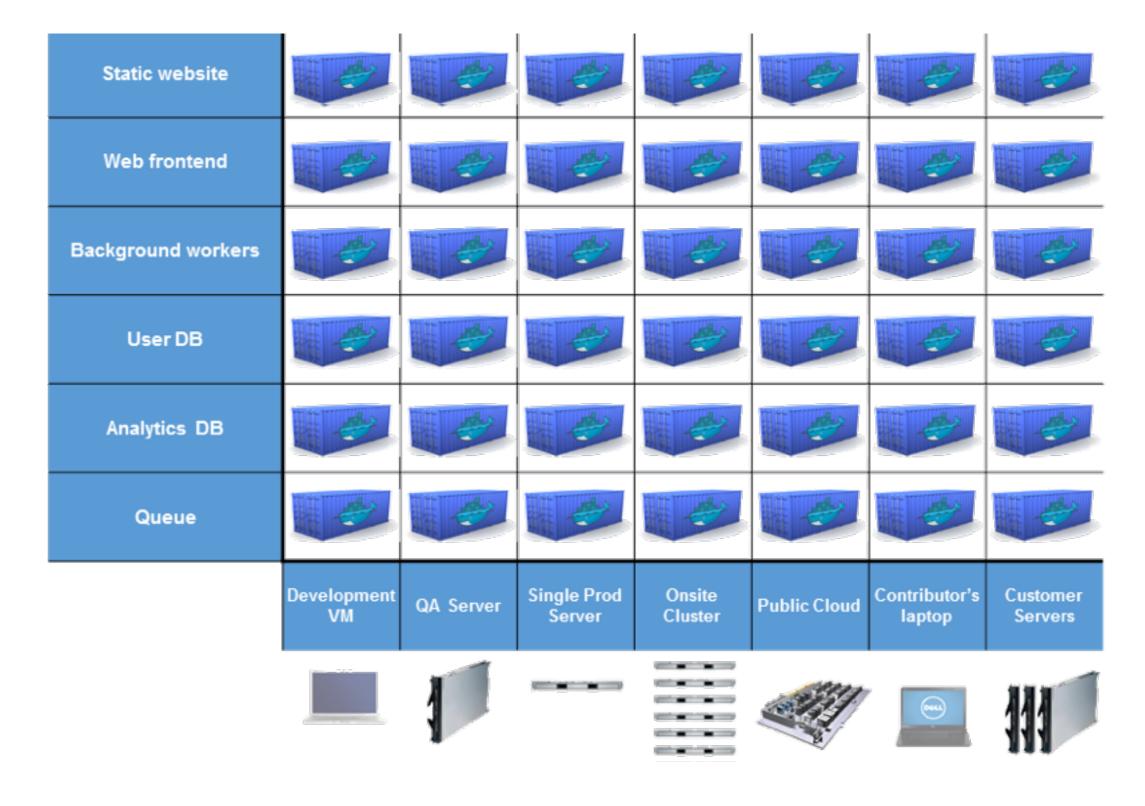
# **CONTAINER!**







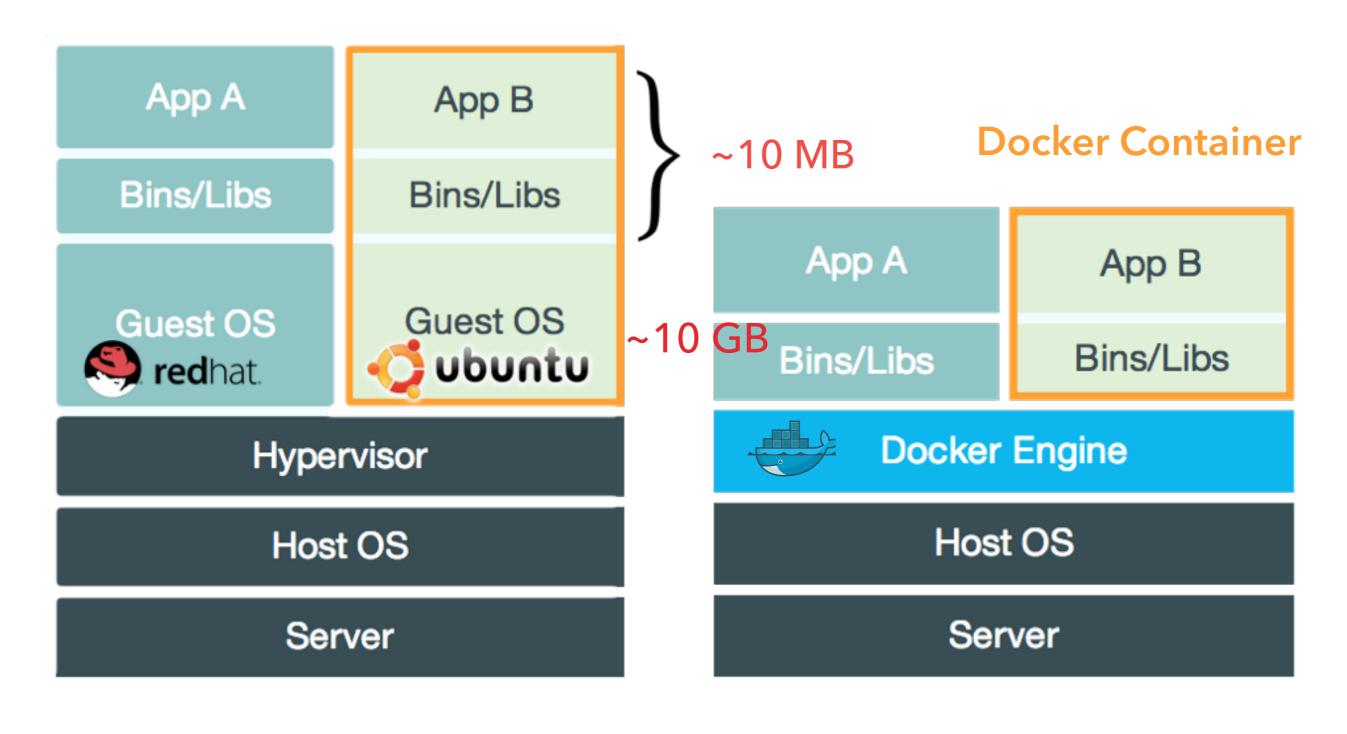
# **LIFE SAVER**



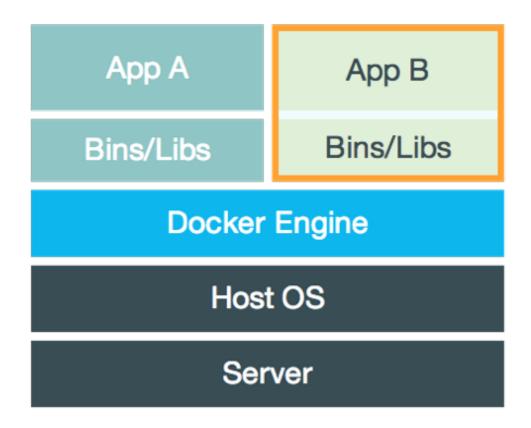
# WHAT IS DOCKER

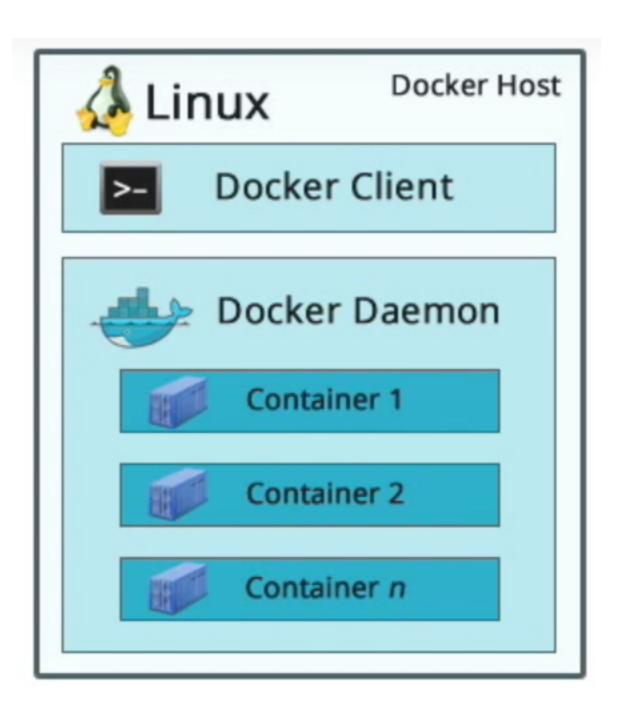
an open source project to pack, ship and run any application as a lightweight container.

#### **Virtual Machine**

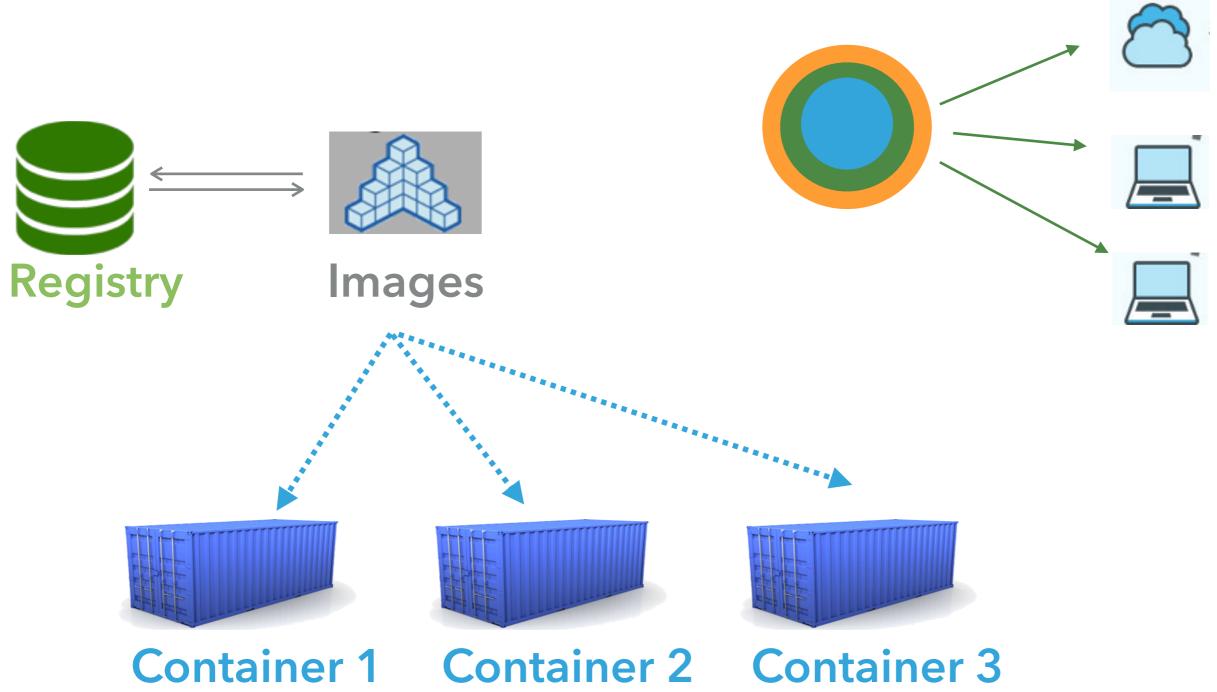


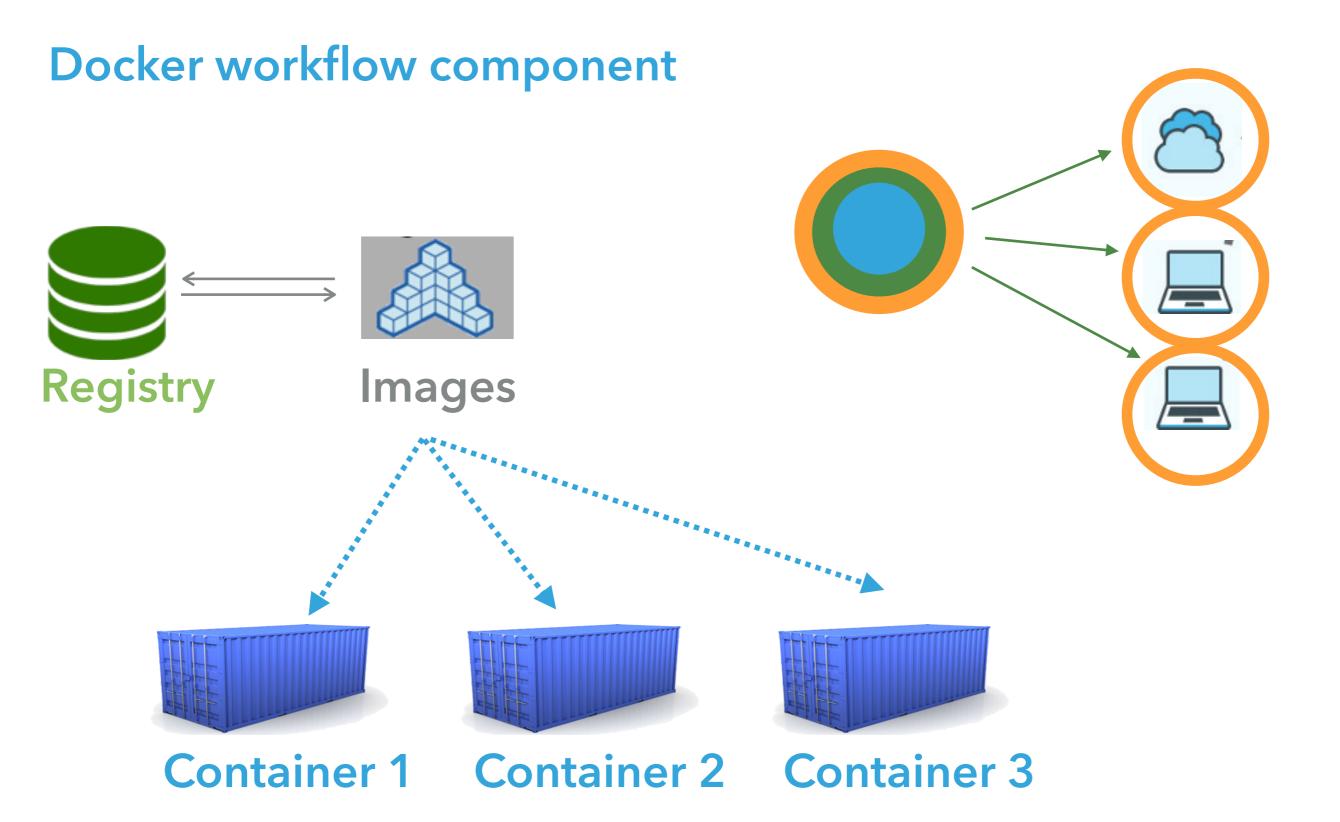
### **DOCKER CORE COMPONENT**





# Docker workflow component





#### **DOCKER**

Faster: CPU instructions are executed natively

Lightweight: Containers share operating system and some libraries

Portable: As portable as virtual machine

# **THANK YOU!**