

CSS430

Linux Containers (LXC)

and



Special Lecture

Instructor: Stephen G. Dame

e-mail: sdame@uw.edu

What are Linux Containers

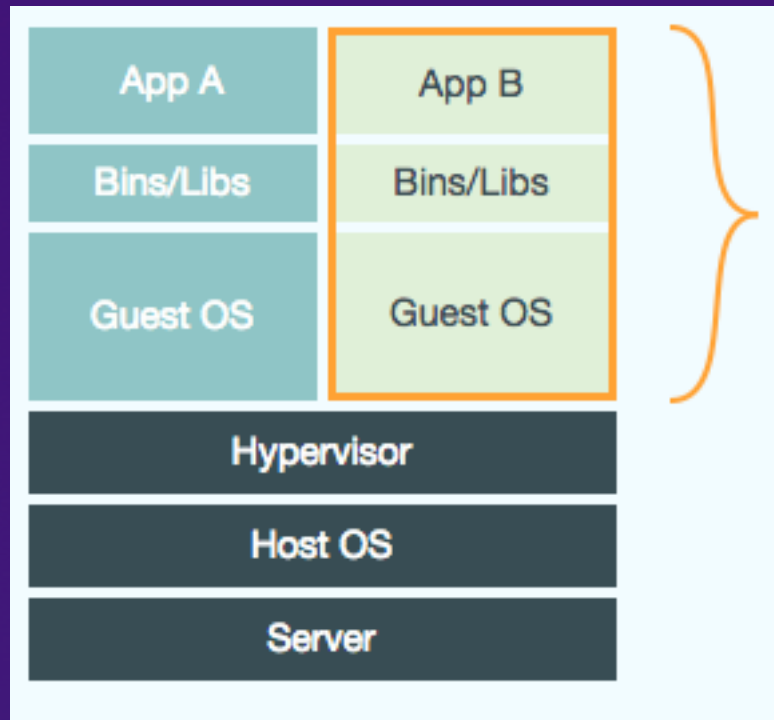
LinuxX Containers (LXC)?

Operating system–level
virtualization method for running
multiple isolated Linux systems
(*containers*) on a single “bare-
metal” OS host.

Linux kernel comprises *cggroups* for resource isolation (CPU, memory, block I/O, network, etc.) that does not require starting any virtual machines.

Cgroups also provide namespace isolation to completely isolate an applications' view of the operating environment, including process trees, network, user ids and mounted file systems.

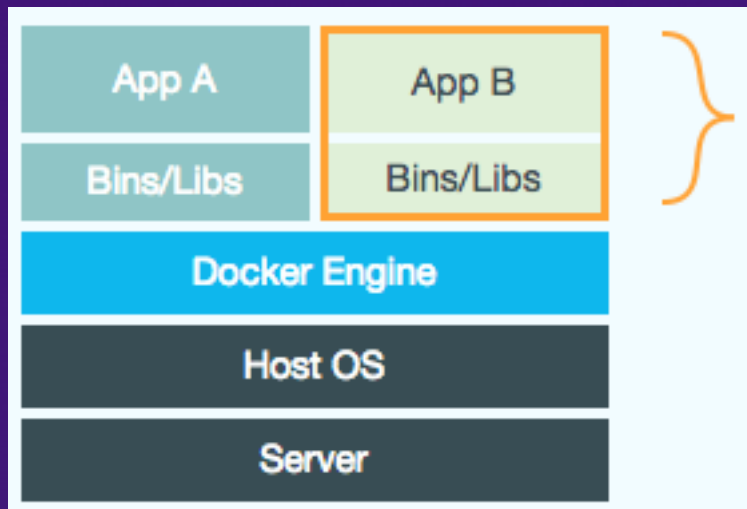
What is Docker?



Virtual Machine(s):

- Entire Guest OS
- 10s of MB
- 10s of GB

What is Docker?



docker

- Isolated process in userspace
- Shares the kernel with other processes
- Also enjoys resource isolation ...
- but... more portable and efficient
- ... and fast!

To cement some of the things you learned today consider the following:

1. What is the fundamental difference between VMs and Containers?
2. What is the concept of “images” that you can download and why are they so hot?
3. Why are a few use cases you can think of for Docker Containers?

What is Docker?

Video	Description	Time
http://youtu.be/DOXBVrIW78	Solomon Hykes (CTO-Docker)	10:30 - ~25:00
http://youtu.be/M91a4nJvVPY	Ken Cochran -	0:00 - ~26:00
http://youtu.be/ddhU3NMrhX4	Flux7 – Aater Suleman (3 hours to Docker)	
http://youtu.be/bYiXrQWxIVg	Ben Golub (CEO – Docker)	16:15 – 21:43
http://youtu.be/ZcEEnCMAMvo	Brian Stevens – RedHat	
http://youtu.be/iYwPyjPhXXE	James Turnbull – VP Docker	3:25 – ~24:00