



Module 04: Docker Architecture

Docker Workshop



Agenda

- ✦ Docker Components Overview
- ✦ The Docker Engine (Deamon)
- ✦ Docker Images
- ✦ Docker Containers
- ✦ Docker Registries
- ✦ Lab 02: Understanding the Docker components

Docker Components Overview

(Shipping Yard)



(Manifests)

SHIPPING MANIFEST

Date Entered : 01/11/2010 Store : 000 Manifest Number : 2

User ID : [REDACTED]

Route : T21 Driver Name : BRAC

Truck ID : [REDACTED] Number of Stops : 4

Schedule Date of Departure : 01/11/2010 Schedule Time of Departure : 0800

Actual Date of Departure : 01/10/2010 Actual Time of Departure : 1400

Date of Return : 01/11/2010 Free of Return : 1400

Storage Out : 100000 Storage In : 100100

Driver Comments : Refuel at company depot

Delivery Totals

Customer Name	Parcel #	Boxes	Crate	Pallet	Drum	Truck	Bag	Cut	Volume	Wgt	Storage Use
TEST ACCOUNT	900100	0	0	0	0	0	0	0	0	0	0
INTEGRATED MATERIALS, L.P.	900100	0	0	0	0	0	0	0	0	0	0
INTEGRATED MATERIALS, L.P.	900100	0	0	10	0	0	0	0	0	0	0
INTEGRATED MATERIALS, L.P.	900100	0	0	0	0	0	0	0	0	0	0
INTEGRATED MATERIALS, L.P.	900100	0	0	0	0	0	0	0	0	0	0
INTEGRATED MATERIALS, L.P.	900100	0	0	0	0	0	0	0	0	0	0
INTEGRATED MATERIALS, L.P.	900210	0	0	0	0	0	0	0	0	0	0
INTEGRATED MATERIALS, L.P.	900210	1	0	1	1	1	1	1	1	1	1
INTEGRATED MATERIALS, L.P.	900210	0	0	0	0	0	0	0	0	0	0
INTEGRATED MATERIALS, L.P.	900210	0	0	0	0	0	0	0	0	0	0
DEC 6/10/00 SE	900210	0	0	0	0	0	0	0	0	0	0
DEC 6/10/00 SE	900210	0	0	0	0	0	0	0	0	0	0
ACCOUNT	900210	1	0	1	1	1	1	1	1	1	1
Totals		11	0	20	10	10	10	10	10	10	10

(Shipping Containers)



- ✦ **Shipping Yard:** The infrastructure that's needed to import and export goods
- ✦ **Manifests:** List of the container content plus instructions on how to build it
- ✦ **Containers:** A package with all the goods ready to be imported/exported

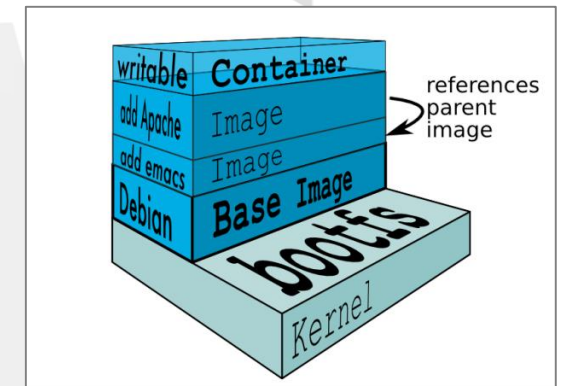
The Docker Engine (Deamon)

- ✦ It's our Docker program that we install on each Docker host to provide us with a Docker environment and access to all Docker services.
- ✦ Contains the application infrastructure and runtime dependencies (Standardized).
- ✦ Run in the same way in your laptop, datacenter or in the cloud.



Docker Images

- ✦ Are read only templates used to create containers
- ✦ Images are comprised of multiple layers
- ✦ The first image is called the "Base Image"
- ✦ Intermediate layers increases reusability, decrease disk usage, and speed up the build
- ✦ The higher layers win where there are conflicts

[illegible]

Docker Containers

- ⚡ We can think of them as running instances of an image.
- ⚡ Containers are created from images. Inside a container, it has all the binaries and dependencies needed to run the application.
- ⚡ Under the hood containers are Linux processes running in the Docker host



Docker Registries

- ✦ Is a stateless, highly scalable server side application that stores and lets you distribute Docker images.
- ✦ A docker registry contains multiple repositories (can be private or public)
- ✦ You can pull/push images from repositories
- ✦ Docker Hub is the default Docker Registry



Questions



Demo 02: Understanding the Docker Components

Demo



<https://gitlab.com/sela-docker-workshop/demo-02>