

Docker

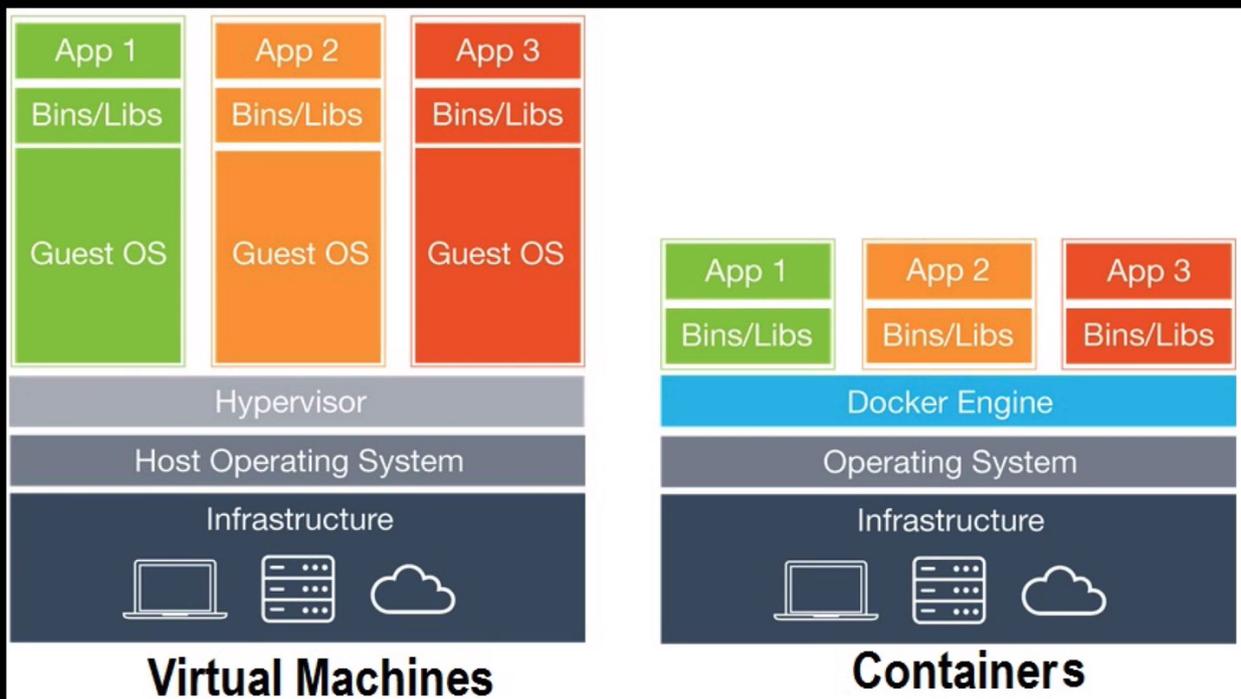
What is Docker?

- Docker is a standard for Linux containers
- A "Container" is an isolated runtime inside of Linux
- A "Container" provides a private machine like space under Linux
- Containers will run under any modern Linux Kernel

Containers can:

- Have their own process space
- Their own network interface
- 'Run' processes as root from inside the container
- Have their own disk space
 - Can also share with Host

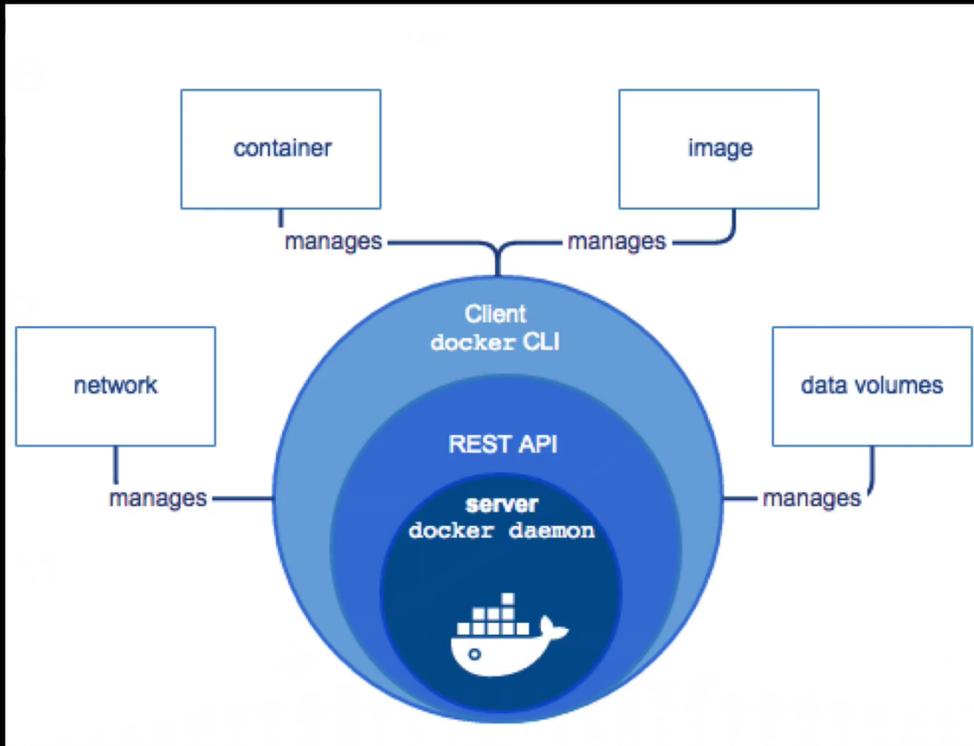
A Container is not a VM!



Docker Terminology

- Docker Image - The representation of a Docker Container.
- Docker Container - The standard runtime of Docker
- Docker Engine - The code which manages Docker stuff

Docker Engine Runtime



Docker Editions

Docker Community Edition

- CaaS (Container as a Service platform subscription)
- Quarterly Releases
- Enterprise Class Support

Docker Enterprise Edition

- Free for developers and operations
- Monthly 'edge' release for devs and quarterly releases for operations

Docker uses the release number of year.month.version.edition (yy.mm.v.ed)

Docker Images

- Images are immutable

- Images are built in layers
 - Each layer is an immutable file, but is a collection of files and directories
 - Layers receive an ID calculated via a SHA 256 hash of the layer contents
 - So if layer contents change *at all*, the SHA 256 hash changes also
 - Running *docker images* gives the first 12 characters of the hash in 'Image ID'
 - The hash values of images are referred to by 'tag' names
 - The format of the full tag name is: [REGISTRYHOST/][USERNAME/]NAME[:TAG]
 - For Registry Host 'registry.hub.docker.com' is inferred
 - For ':TAG' - 'latest' is default and inferred
 - Full tag example: 'registry.hub.docker.com/mongo:latest'
 - Old volumes and containers can pile up and use up disk space, cleanup is important
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