

Application Containerization

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What are containers?

Docker

AWS Containers

Google Containers

Containers at Scale

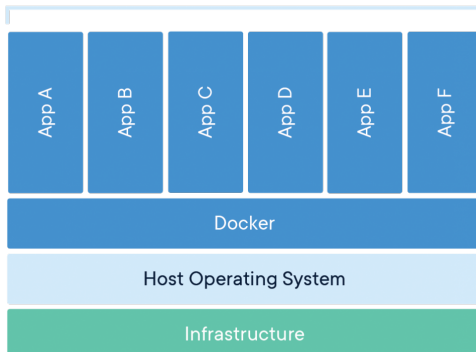
Errata



A Standard Unit of Software

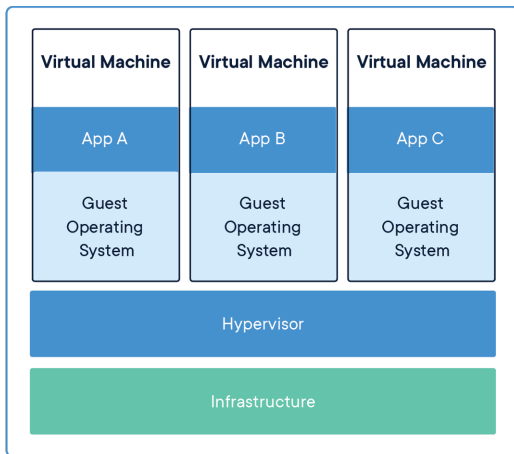
Similar to physical containers, software containers are the most basic unit of an application including its code and dependencies in order to isolate each application.

Containerized Applications



Containers vs Virtual Machine

The main difference between a container and a virtual machine is that containers are aimed at application constructs whereas virtual machines are aimed at hardware constructs.

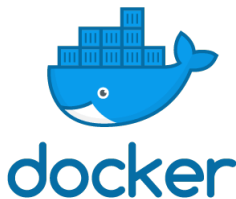


Containers vs VMs (Continued)

- Size: Containers are much smaller (tens of megabytes) so you could have 2-3 times more containers than VMs.
- OS: Containers share the OS in a read-only mode whereas VMs literally contain the whole OS.
- Time: Startup for containers are much faster (milliseconds) due them being so lightweight.
- Isolation: While VMs are fully isolated from one another, containers only have a process-level isolation which could lead to security issues.



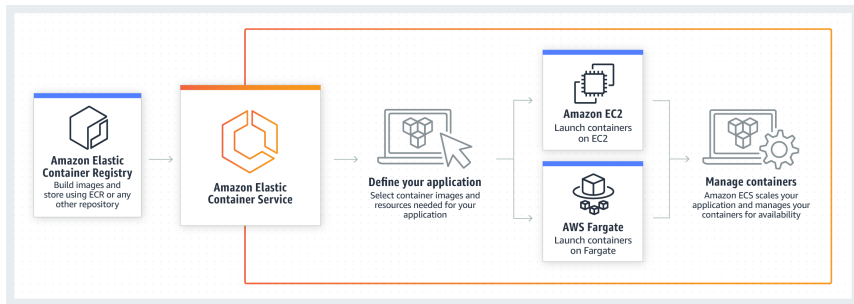
Docker Containers



Docker is the most popular containerization platform in the industry today. It has solutions for local development environments for testings all the way to large-scale containerization platforms for enterprise.

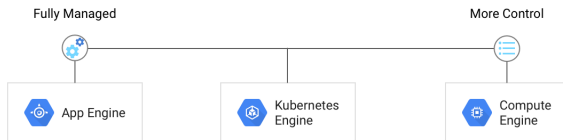


Container creation on AWS



Container creation on Google Cloud Engine

- Create Kubernetes project
- Google Cloud or local shell selection
- Configure gcloud and compute zone
- Create a cluster
- Add authentication
- Deploy application to cluster (creating then exposing to a port)



Cluster Managers

- [Kubernetes](#) - can run on both AWS and Google Cloud
- [Google Cloud Engine](#)
- [AWS Elastic Container Service](#)
- Docker Swarm



Questions?

