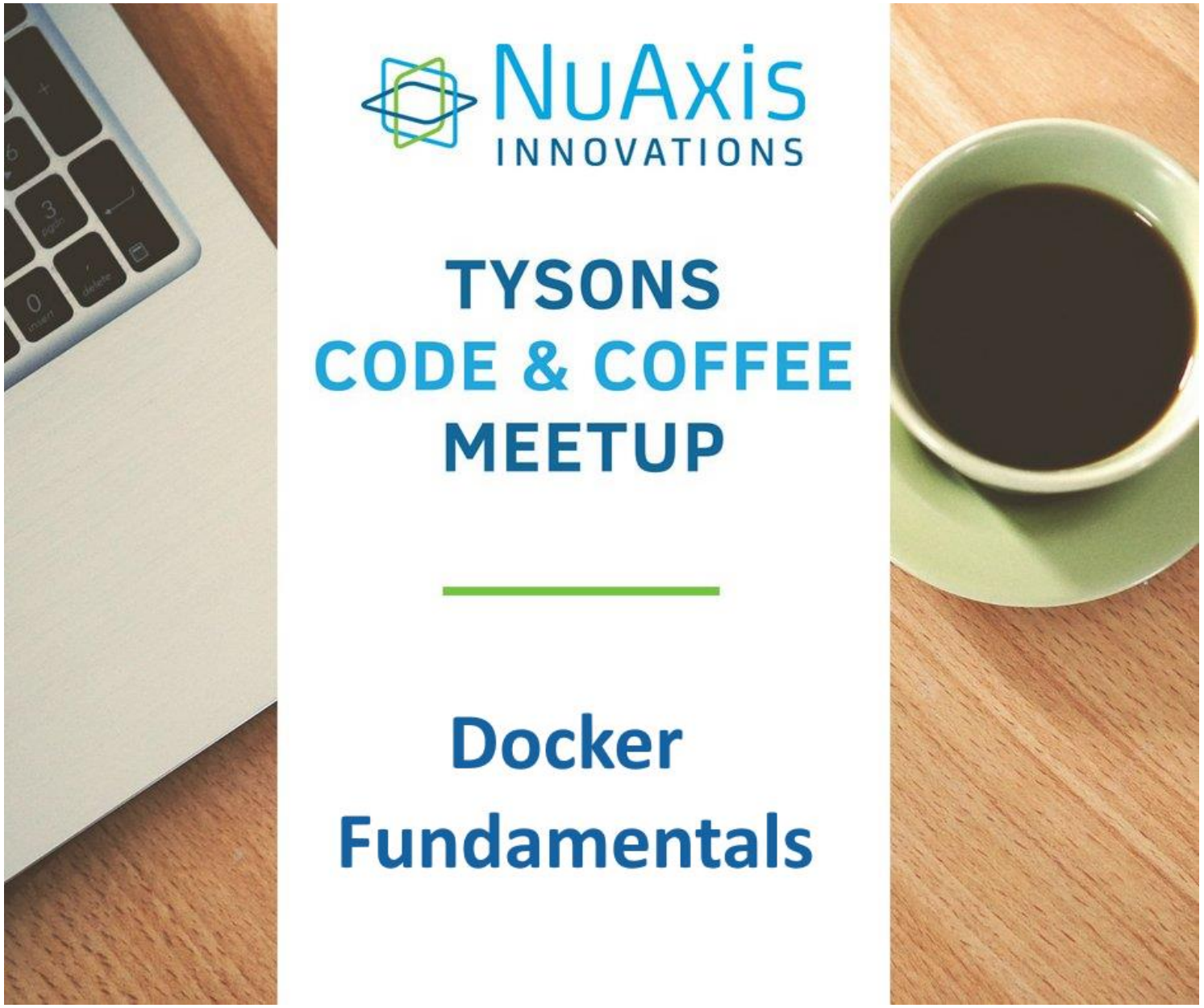

NuAxis
INNOVATIONS
TYSONS
CODE & COFFEE
MEETUP
Docker
Fundamentals

Welcome

Who Am I?

Faheem Memon

Solutions Architect @ BoxBoat Technologies

Use Docker and Kubernetes almost everyday

https://twitter.com/faheem

Before we get started

- Join Slack
  - http://www.dctechslack.com/
  - #tysons-code-coffee

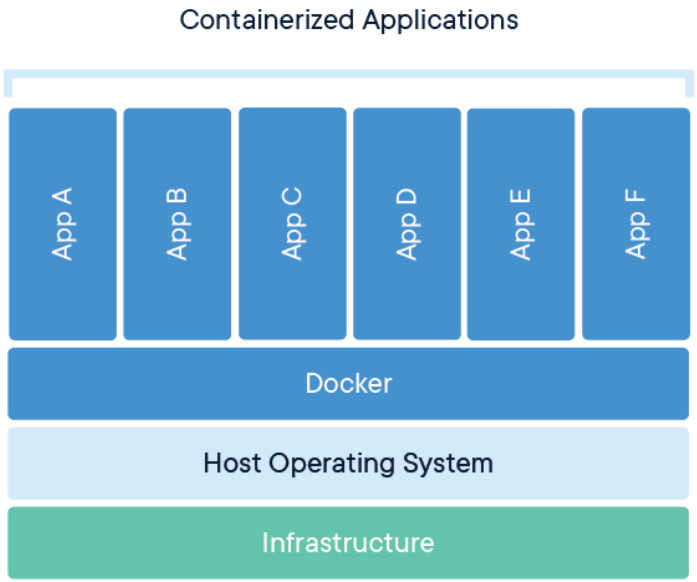
- Clone GitHub Repo
  - https://github.com/memonfaheem/tysons-code-coffee-docker-fundamentals

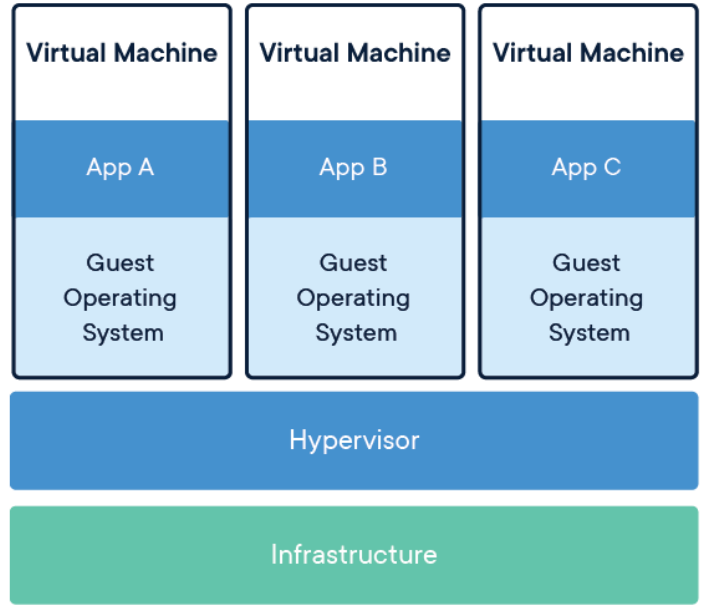
Contents

- Introduction to Containers and Docker
- Docker Desktop
- Running containers
- Build your own container

What is a Container

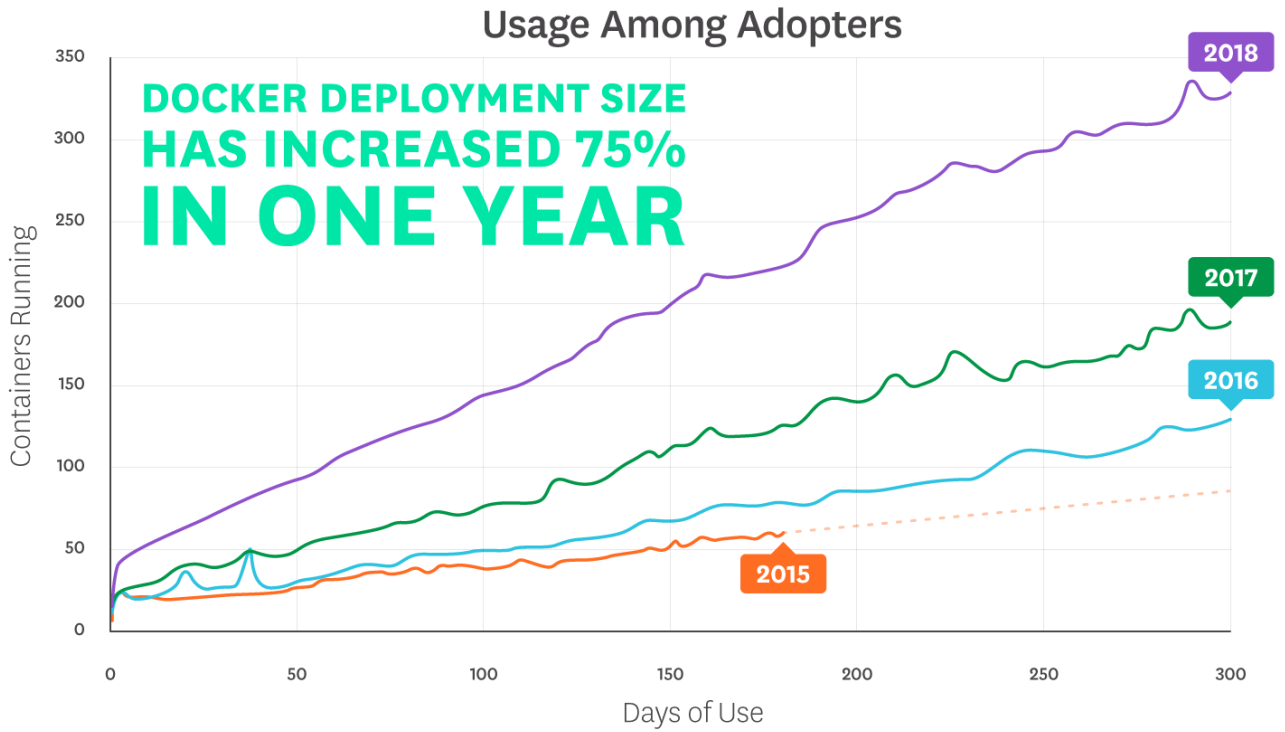
- A light-weight virtual machine
- A process with:
  - Shared Kernel
  - Isolation
  - File System
  - Network
- Docker provides the engine
- Previously
  - FreeBSD Jails
  - Solaris Zones





Why Containers

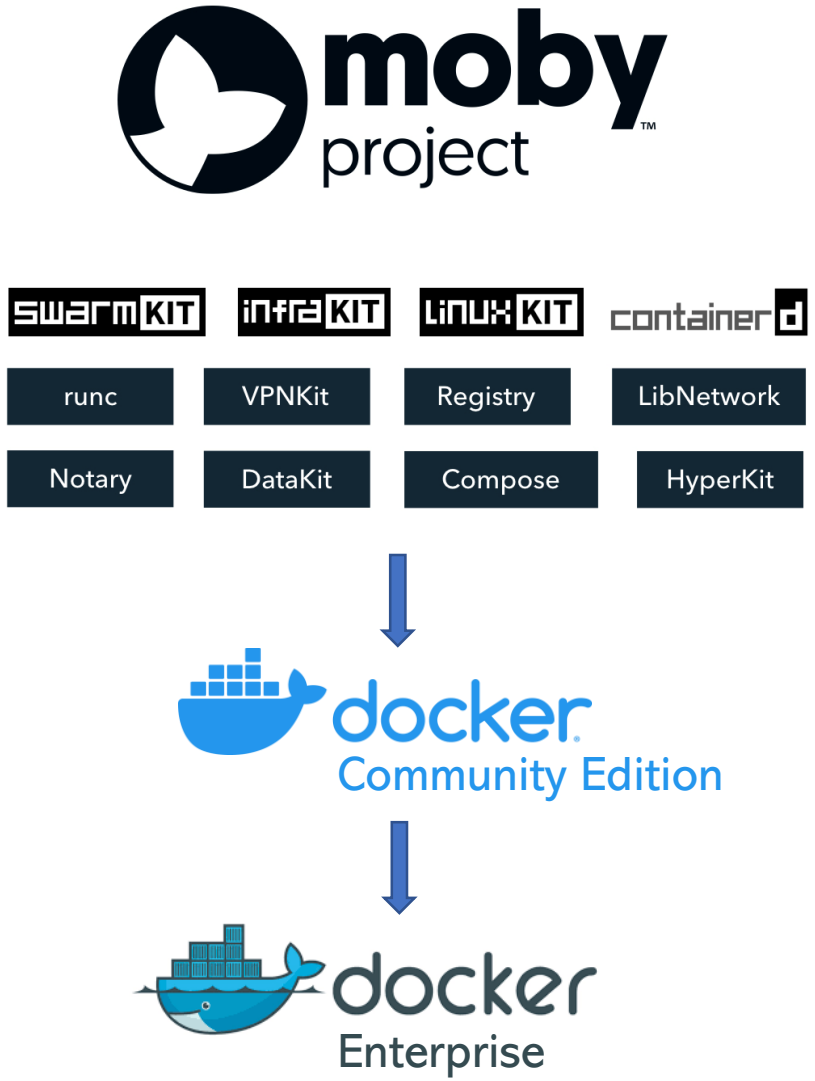
- Higher density per node
- Build once, use every where
- Cloud ready and vendor agnostic
- Dev and Ops friendly
- Faster and efficient



Source: Datadog

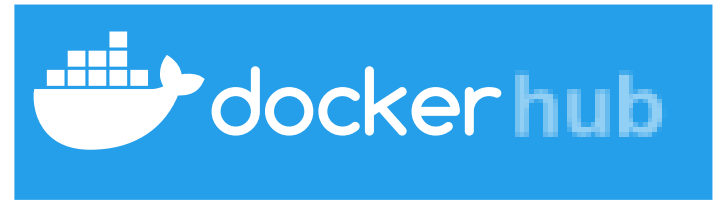
Docker Landscape

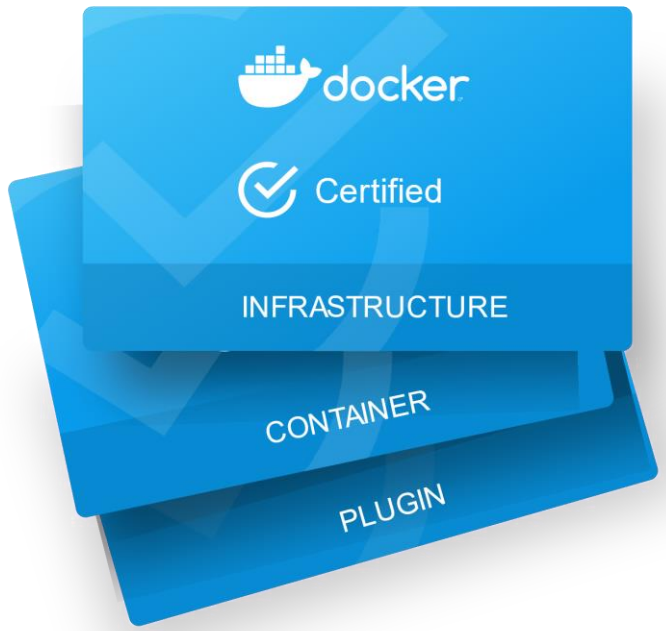
- Moby Project
  - Upstream Project
  - Open Source
  - Community Supported
- Docker CE
  - Down stream
  - Open Source
  - Community Supported
- Docker Enterprise
  - Down Stream
  - Supported by Docker/Mirantis



Docker Hub

- Docker Hub provides a way to share container applications.
- Over 100,000 container images from software vendors, open-source projects, and the community.





Docker Desktop

- Docker Engine
- Docker CLI
- Docker Compose
- Kubernetes Client

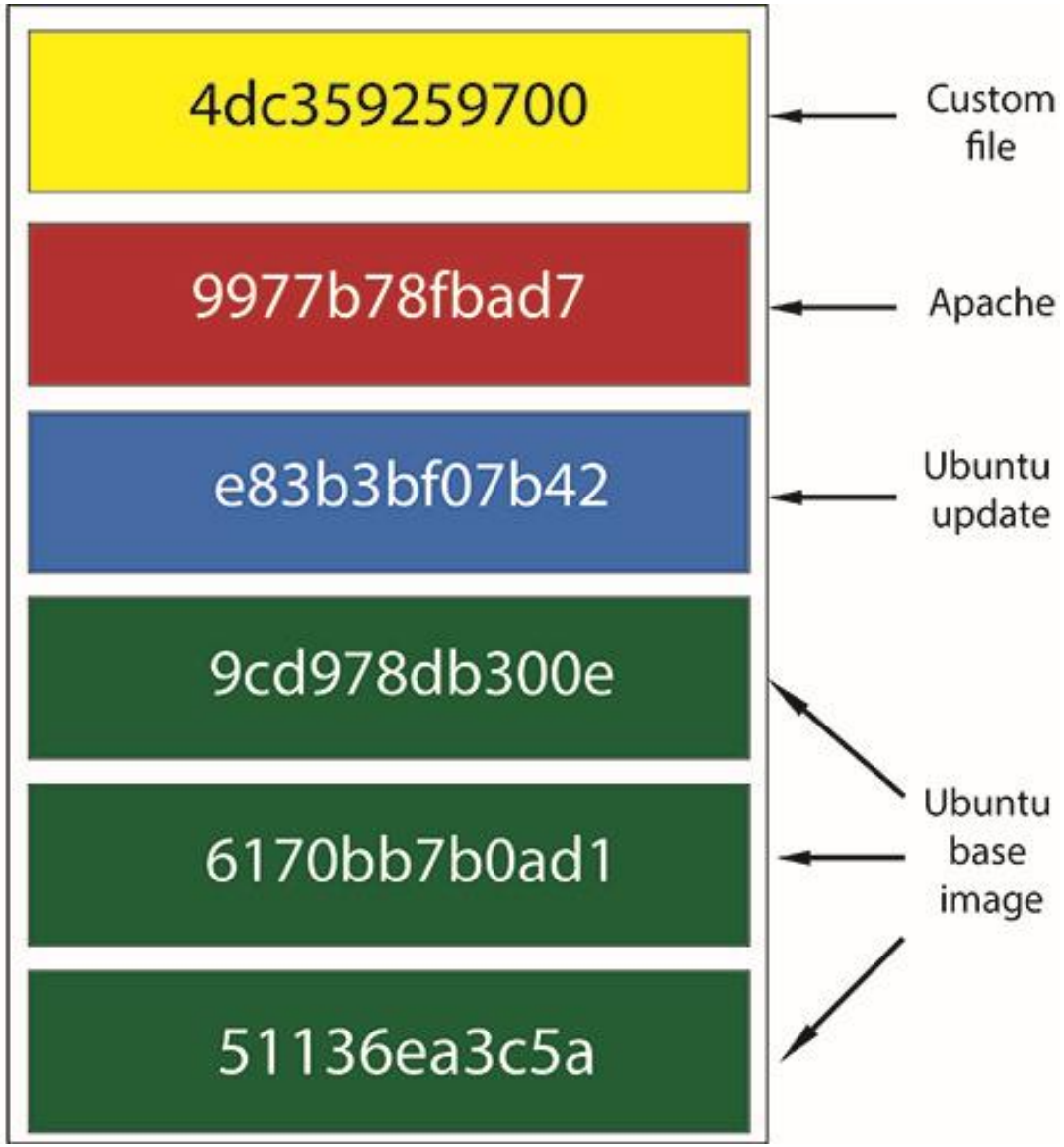
Running Containers

- `docker version`
- `docker run -it centos`
- `docker run -d -p 8080:80 my_image nginx -g 'daemon off;'`
- `docker container ls`
- `docker image ls`
- `docker exec`
- `docker logs`

- https://docs.docker.com/engine/reference/commandline/cli/

Container Image

- Lightweight, standalone, executable package of software
- Layers of files stacked together
- Requires configuration and an engine to run



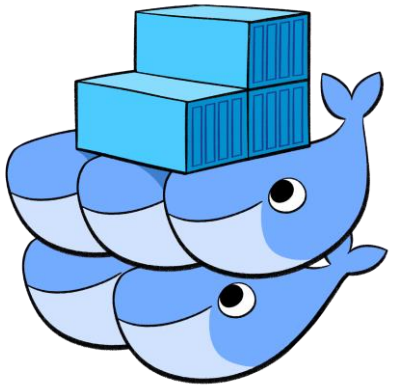
Building your own container

- FROM
- COPY
- RUN
- WORKDIR
- HEALTHCHECK
- CMD

- https://docs.docker.com/engine/reference/builder/

Running Containers in Production

- Orchestration
- Docker Swarm
- Kubernetes
  - Scheduling
  - Self-healing
  - Zero-down time deployment




thank
you