





docker

What is Docker Swarm Mode?

Introduction to Docker Swarm Mode

What is Docker Swarm Mode?

- Docker gives us a standard which allows us to run containers anywhere
- Similar to how Java can run anywhere
- Docker can run on many different operating systems and platforms
 - Linux / Windows
 - Amazon, Azure, Google Cloud, Rackspace, Cloudfoundry

Changes in the Landscape

- With containerized deployments now:
 - Containers are distributed across many nodes.
 - A node can be a VM or a physical machine
 - Containers need to be deployed and managed
 - How to scale?
 - How can containers talk to other containers?

Other Problems

- How to manage deployments with zero downtime?
- How to control where containers get started?
- How to trust containers?
- How to manage secrets like user names and passwords?
- Cloud scale - shared storage, virtual networks

Docker Swarm Mode

- Docker's built solution for Container Orchestration
- Released August 2016 with Docker version 1.12 as SwarmKit
- Different from previous Swarm Classic (pre v 1.12)
 - This flavor of Docker Swarm is not covered in this course
- Enhanced in January 2017 with version 1.13
 - Added Stacks and Secrets

Docker Swarm Mode

- Docker Swarm Mode is not enabled by default
- Once enabled (`docker swarm init`), the following commands will be available
 - `docker swarm`
 - `docker node`
 - `docker service`
 - `docker stack`
 - `docker secret`

Container Orchestration



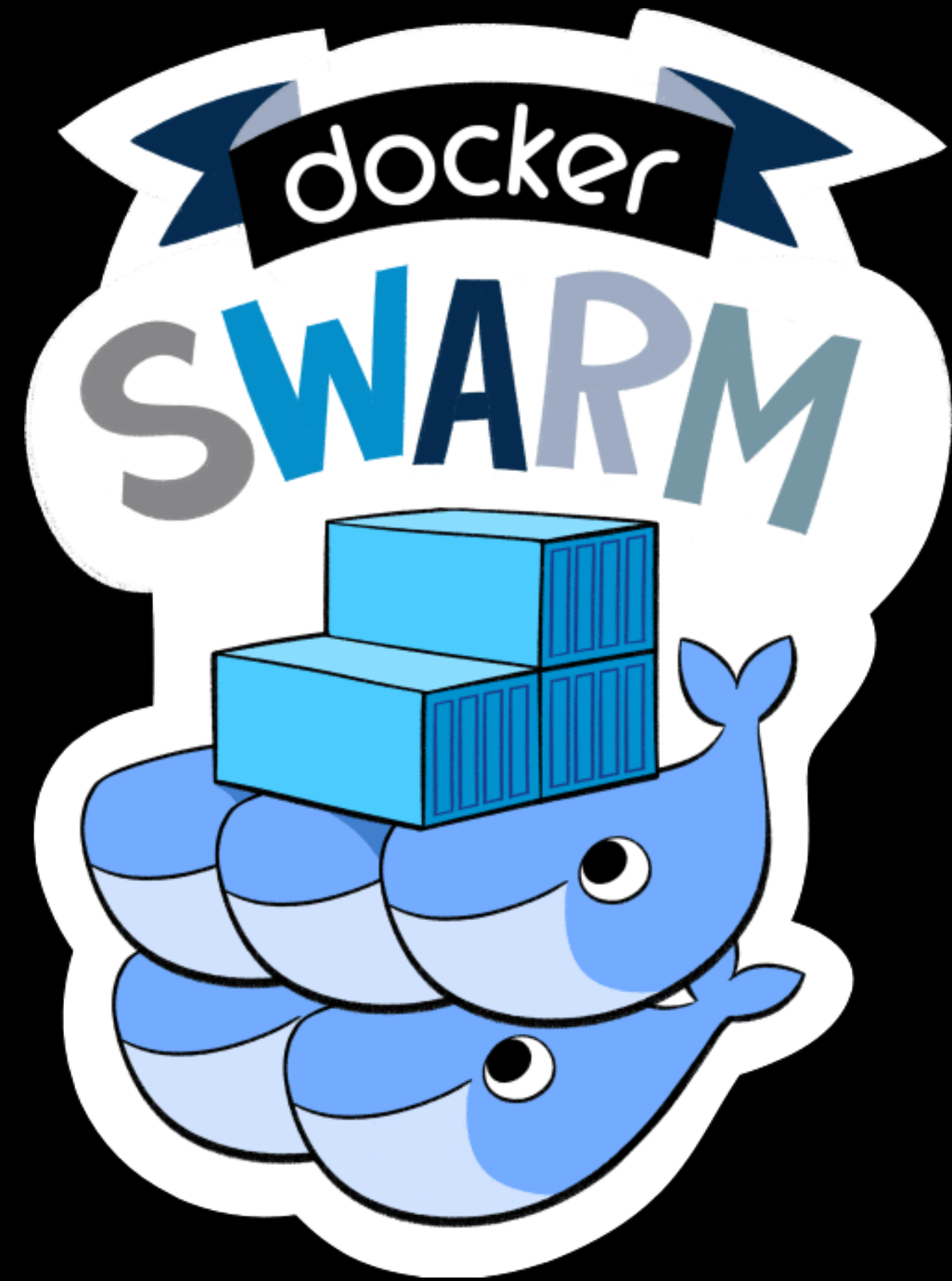
WARNING

Container Orchestration

- Container Orchestration is a big BUZZ word in the industry
- Right now, there's a lot of marketing hype
- There's also a number of competing and overlapping products
- 'Container Orchestration' is a very confusing landscape

Docker Swarm Mode

- Backed by Docker
- Relatively new to the market
- However, is maturing



Kubernetes

- Released by Google
- Used by Google every day to manage millions of containers
- Mature and feature rich
- Overkill for smaller businesses



Openshift

- ‘Wrapper’ around Kubernetes
- Licensed by RedHat, popular with large enterprises
- Brings enterprise class features to Kubernetes



Openshift Origin

- Open Source version of Openshift
- Community Supported



Apache Mesos

- Open Source Container Orchestration backed by Apache
- Abstracts the datacenter



Mesosphere

- Commercially Supported version of Apache Mesos
- A popular option with large enterprises



