Docker’ized Microservices

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Agenda

- Microservices
  - What are Microservices?
  - Why Microservices?
  - Microservices, the Silver Bullet?
- Dockerizing Microservices
  - @ Development
  - @ Continuous Delivery
What are Microservices?

“In short, the microservice architectural style is an approach to developing a single application as a suite of small services, each running in its own process and communicating with lightweight mechanisms, often an HTTP resource API.“

-James Lewis & Martin Fowler

Source: http://martinfowler.com/articles/microservices.html#CharacteristicsOfAMicroserviceArchitecture
The Monolith

Like  Buy

0101
0101
1010
1110
1001

$
Splitting up the Monolith
Why Microservices?
Scalability!
Fault-tolerance!
Polyglot Development

Use the right tool for the job!
Are Microservices the Silver Bullet?
Are you serious?

Microservices Architecture = Distributed System
Overhead!
Microservices & Docker
The Dockerfile

```plaintext
FROM dockerfile/java:oracle-java7
ADD build/libs/product-service.jar /service/product-service.jar
WORKDIR /service
EXPOSE 9001
EXPOSE 7979
CMD java -jar /service/product-service.jar
```

```bash
$ sudo docker build -t product-service .
$ sudo docker run -d --name=product-service -p 9001:9001 --link="eureka-master:eureka-master" product-service
```
@ Development

$ docker build -t sun-service .
$ docker run … sun-service

$ docker build -t like-service .
$ docker run … like-service

$ docker build -t product-service .
$ docker run … product-service

$ docker build -t pay-service .
$ docker run … pay-service

$ docker build -t arrow-service .
$ docker run … arrow-service
Orchestration tools

VAGRANT
Vagrant.configure("2") do |config|
  config.vm.define "productservice" do |ms|
    ms.vm.provider "docker" do |d|
      d.build_dir = "./product-service/
      d.ports = ["9001:9001","7979:7979"]
      d.link "eureka-master:eureka-master"
      d.has_ssh = false
    end
  end

  config.vm.define "productpriceservice" do |ms|
    ms.vm.provider "docker" do |d|
      d.build_dir = "./product-price-service/
      d.link "eureka-master:eureka-master"
      d.has_ssh = false
    end
  end

  # Other Microservices
end
@ Development

$ vagrant up --provider=docker
@ Continuous Delivery

VCS

Commit stage → Acceptance test stage → ... → Release stage

Artifact Repository

VCS
Thank you for listening!

Contact

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- Docker Logo http://commons.wikimedia.org/wiki/File:Docker_%28container_engine%29_logo.png
- Ruby Logo https://commons.wikimedia.org/wiki/File:Ruby_logo.svg
- Mysql Logo https://en.wikipedia.org/wiki/MySQL#mediaviewer/File:MySQL.svg
- Vagrant https://commons.wikimedia.org/wiki/File:Vagrant.png#mediaviewer/File:Vagrant.png
- Rambo Tux http://it-runde.de/838/kleine-tux-gallerie-avatare
Recommendations