

WildFly Swarm

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Agenda

Microservices

WildFly Swarm and Microservices

Microservices

Communication is terrible, Jeff Bezos



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Microservices

„Two Pizza Rule”



Well defined responsibility

Technology adjusted to the needs

Independent scaling

It's easier to replace a service



Faster changes

You must be
this tall to use
microservices



Martin Fowler

<https://martinfowler.com/bliki/MicroservicePrerequisites.html>

Splitting the system, aka defining service boundaries.

Almost all the successful microservice stories have started with a monolith that got too big and was broken up
Almost all the cases where I've heard of a system that was built as a microservice system from scratch, it has ended up in serious trouble.
Martin Fowler

Configuring service dependencies

More deployments

Logging

Monitoring

More configuration for CI, etc

Microservices baseline (M. Fowler):

Rapid provisioning

Basic Monitoring

Rapid application deployment

Swarm

Java EE API

WildFly constituents split into *fractions*

Pick what you need and package in an uber-jar
with your app

Configure in ~~Java~~ or yaml file



Demo, part 1

Beyond Java EE

Logstash

Hystrix

Zipkin

Consul

Swagger

Ribbon

Jolokia

Flyway

Keycloak

OpenShift

Teiid

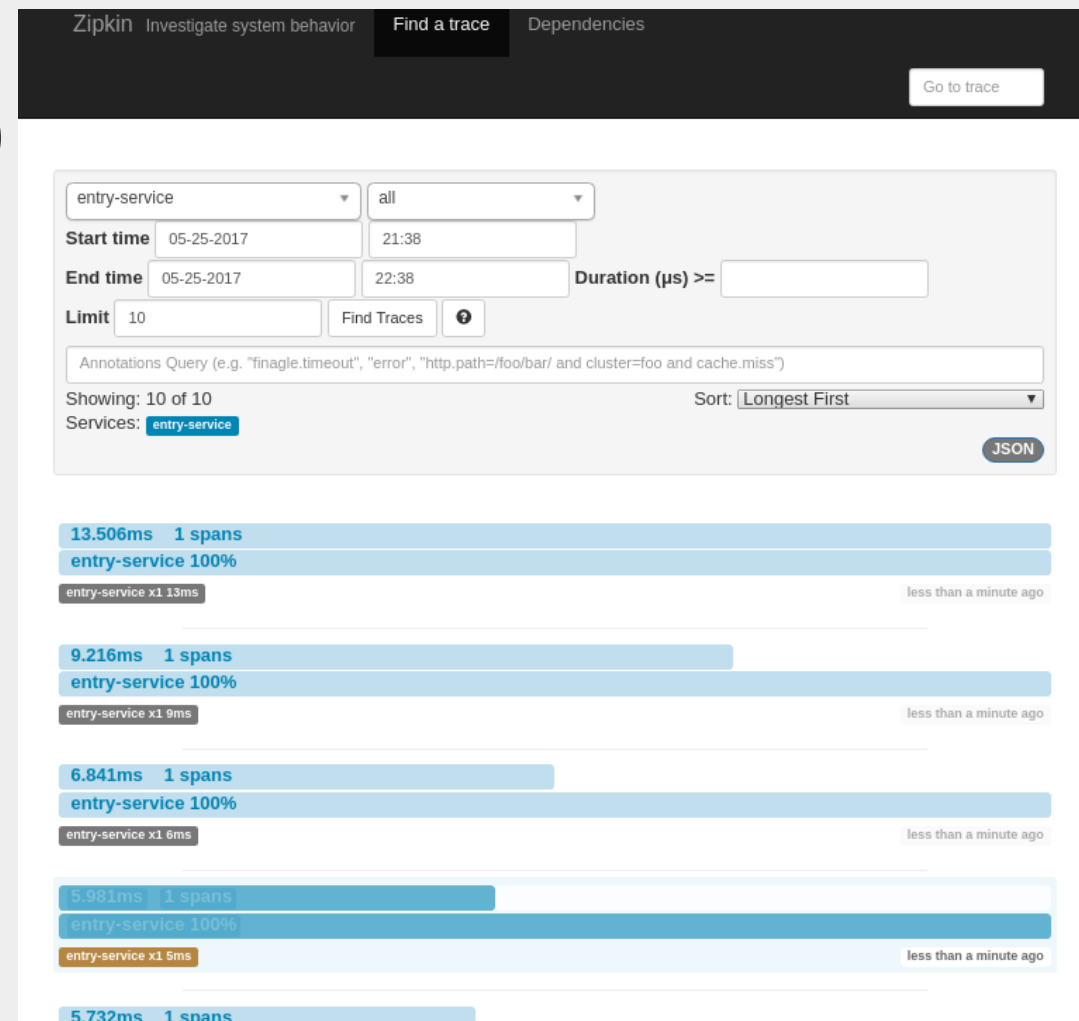
Infinispan

Keycloak/sso

- Authentication server
- Oauth and more
- Single Sign On

Zipkin

- Distributed tracing
- Optional analysis (requires a Spark job)



Consul

- Service discovery & configuration

The screenshot displays the Consul web interface. At the top, there is a navigation bar with tabs for SERVICES, NODES, KEY/VALUE, ACL, and DC1 (selected). Below the navigation bar, the left sidebar shows a list of services: 'consul' (1 passing) and 'entries' (2 passing). The 'entries' service is highlighted. The main content area shows the details for the 'entries' service, including tags (entries-rest, http) and nodes. The nodes section shows a single node 't450s' with IP '127.0.0.1' and status '2 passing'. Below the node, there are two health checks: 'Serf Health Status' (serfHealth) and 'Service 'entries' check' (service:entries:0:0:0:0:0:0:0:8080), both with a status of 'passing'.

Filter by name: any status EXPAND

consul 1 passing

entries 2 passing

entries

TAGS

entries-rest, http

NODES

t450s 127.0.0.1 2 passing

Serf Health Status serfHealth passing

Service 'entries' check service:entries:0:0:0:0:0:0:0:8080 passing

OpenShift

- Container platform based on Kubernetes (docker)
- Supported and developed by Red Hat
- For local development, use *minishift*
<https://www.openshift.org/minishift/>

Demo, part 2

Transition enablers

Move your code outside Java EE container right away

Reuse your standalone.xml!

Required fractions can be autodetected, no need to know them before you start

RHOAR: Red Hat OpenShift Application Runtimes

- A number of lightweight application „runtimes“:
 - WildFly Swarm
 - Vert.x
 - Spring Boot
 - Node.js
- Catalogue of OpenShift-enabled *boosters*

Reading, etc

- <https://wildfly-swarm.gitbooks.io/wildfly-swarm-users-guide/>
- <https://github.com/wildfly-swarm/wildfly-swarm-examples>
- <https://github.com/wildfly-swarm-openshiftio-boosters/>
- <http://wildfly-swarm.io/generator/>
- „Building Microservices“, Sam Newman
- „Enterprise Java Microservices“ [MEAP], Ken Finnigan

Questions?

#wildfly-swarm on Freenode