Docker and Pharo

@ZWEIĐENKER
We are...

Pierre Chanson

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• Founded in 2009 (10 Year party next year!)

• 13 people in Cologne (Germany) and Ho Chi Minh City (Vietnam)

• iPhone, Android, Web, Backend. Pharo!

• You might know the german Call A Bike or Flinkster Car Sharing.
This presentation

- Server infrastructure
- Application deployment, Monitoring
- Workflow: following one commit step-by-step
The project

- Big project: mobility service for Airbus
- Need for scale: +10k users in a few hours timeframe
- Need not to be killed by complexity
Micro services

API

message queue

Pharos bikes

Pharos cars

Pharos trains

Pharos buses
Regular day of coding at the office…
Regular day of coding at the office…

true become: false

self flag: #bob
Regular day of coding at the office…

true become: false

self flag: #bob

Gotta show this to my boss!
Regular day of coding at the office…

true become: false

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Gotta show this to my boss!

How ???
Git commit

Git push

Pull request

Review…

“Good job” merge
Wassup? (every 10 mins)

Alright, pull
run tests

docker …
What is Docker?

• Think about it as a Smalltalk image, but for Linux

• Docker Image is build from a description (Dockerfile)

• Then we can run it (once or multiple times)
Wassup? (every 10 mins)

Alright, pull
run tests
docker-compose build
docker-compose push
Ansible: Orchestration

- We need to start lots of stuff (Pharo, Webserver, MessageQueue, Database…)

- Ansible is a way to script typical unix admin things

- Both used to setup the Linux machines and to start Docker
ansible-playbook -i myInventory myYml.yml

(there is nothing worse than yaml!)
Docker: Swarm

• We want to run on multiple machines

• Swarm allows to run “services” which scale to multiple docker containers

• Manages Distribution, restart...
Monitoring

- Lots of machines (virtual and real)
- Lot of different software (database, web, message queue, lots Pharo images)
- How do we look at it?
Monitoring

• Grafana
  • Dashboard
  • Alarms: Get Notifications via Mail and in Slack
• Docker images provide data via REST API
  • Pharo GC, Zinc Requests
And that x 3

• We have 3 Swarms:
  • Alpha (development)
  • Beta (testing)
  • Production

• And you can run the whole setup on your laptop, too!

+100 Pharo images overall in our cluster
Much more...

Pharo Library for Docker Swarm (work in progress)
Much more...

- Lots of in-house libs
  - Visualise Docker Swarm with Roassal (first work)
  - Docker Health Check from Pharo
  - Server for and Pharo app for Fuel Stack Traces
- DockerEngine + OpenAPI

Tell us what you want to see at the Show Us Your Project!