THE DEVELOPER'S CONFERENCE

Hands On for (web) developers: Docker vs Vagrant

Trilha – Web

Florianopólis, 13/04/2015

Gustavo Maestri & Ingo Gerhard Jauch

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About the speakers

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About the speakers

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Who are we?

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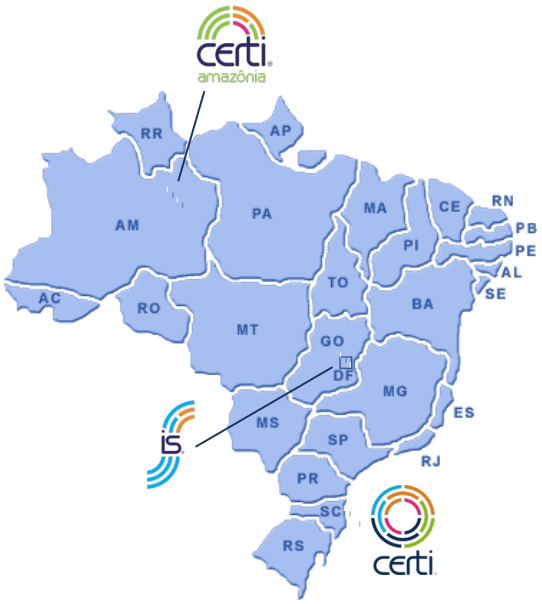
Fundação CERTI

- Private Research Institution for Technology and Innovation
- More than 30 years in business
- Several centers
- CCD – Centro de Convergência Digital
- TV Digital, embedded, web & mobile
- Multidisciplinary teams
- Applying state of the art methodologies and technologies
  - Agile, Nodejs, CouchDB, Rapid Software Testing, AngularJS, WebRTC



Introduction

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Today here who never heard of Vagrant or Docker ???

So get ready, it will be a journey of no return!

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As a developer, you like to choose
YOUR development environment,
and produce your code in peace

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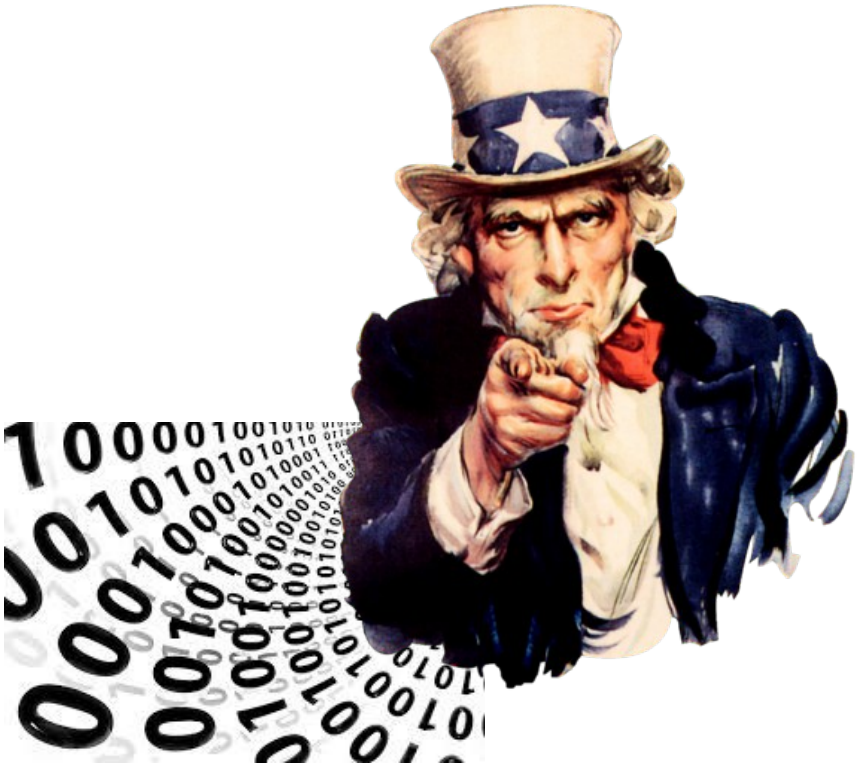
But a lot of people want to get their hands on it...



The designers...

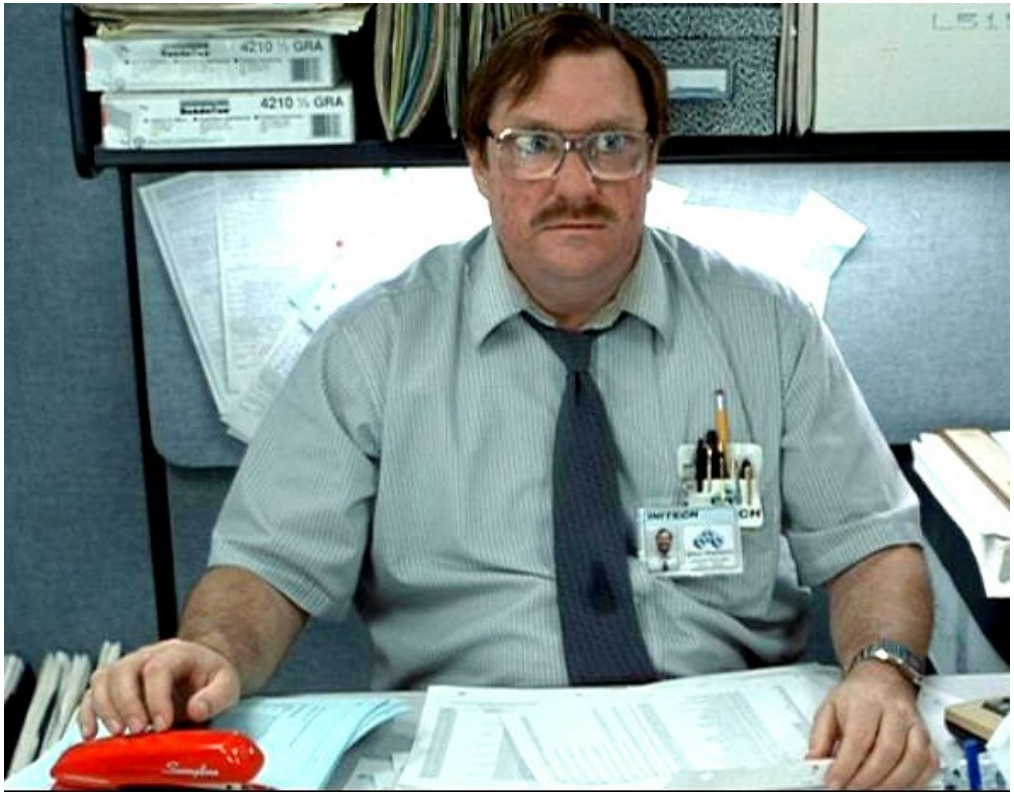
will fiddle in the code,
to add something in the front end...

on a Mac

The testers…

will want to squeeze
it until they find a bug ...

in Windows



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And the customer ...

has no idea what he wants...

but he wants it yesterday!

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And you will waste your time configuring the development environment

And when it's time to ship to production ??

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To share a little of our experience in using both we have created this hands on.

Docker vs Vagrant

Docker vs Vagrant

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At a first glance it looks something like this .....

Docker vs Vagrant

But it turns out... it is more like this

Docker vs Vagrant

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- Docker is a tool that helps you to ship your software
- Vagrant is a VM management tool
- Both tools can serve as "infrastructure as code"

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Spotlight: Vagrant

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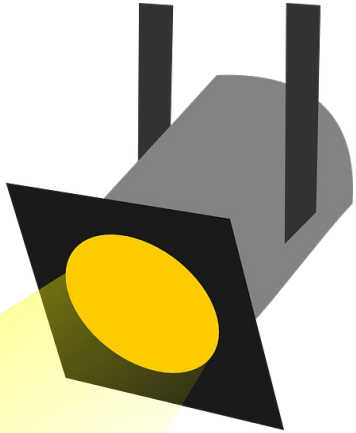

- Started in 2010 by Mitchell Hashimoto
- Creates, sets-up and manages VMs
- Since version 1.1 it works with various visualization providers
- Since version 1.6 it supports Docker Container natively
- Current version is 1.7.2
- No more "works on my machine"

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Why we use Vagrant

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Because we deal with lots of different projects with different software stacks...

- Equalize the development environment
- Speed up the integration of new team members
- Transparent to the developer, who can continue to use their preferred environment
- But the best thing: It's really easy to use!

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Spotlight: Docker

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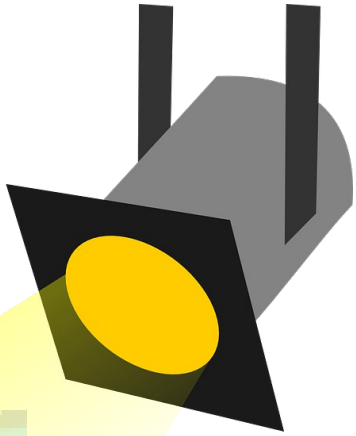

- Solomon Hykes started as Docker an internal project of dotCloud
- Docker was made open source in March 2013
- Docker simplifies the software deployment process using containers
- It allows you to run the same application without any changes in your laptop, data centers or in the cloud

Spotlight: Docker

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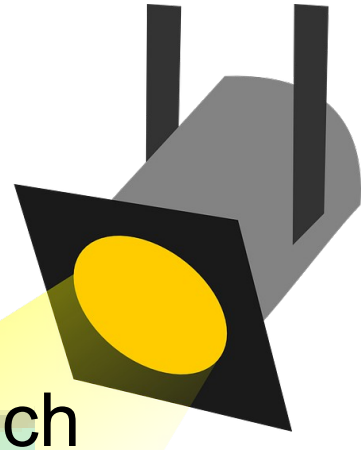

- Unlike a traditional VM Docker does not include a separate full Operating System (VE - Virtual Environment)
- Containers share the same kernel, but each container can have restrictions on the usage of resources such as CPU, RAM or I / O
- Docker containers provide "Sandboxing"

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Why we use Docker

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- Helps us with continuous integration and continuous delivery
- Same environment in development and production
- Reuse of infrastructure
- We are also DevOps

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Under the hood

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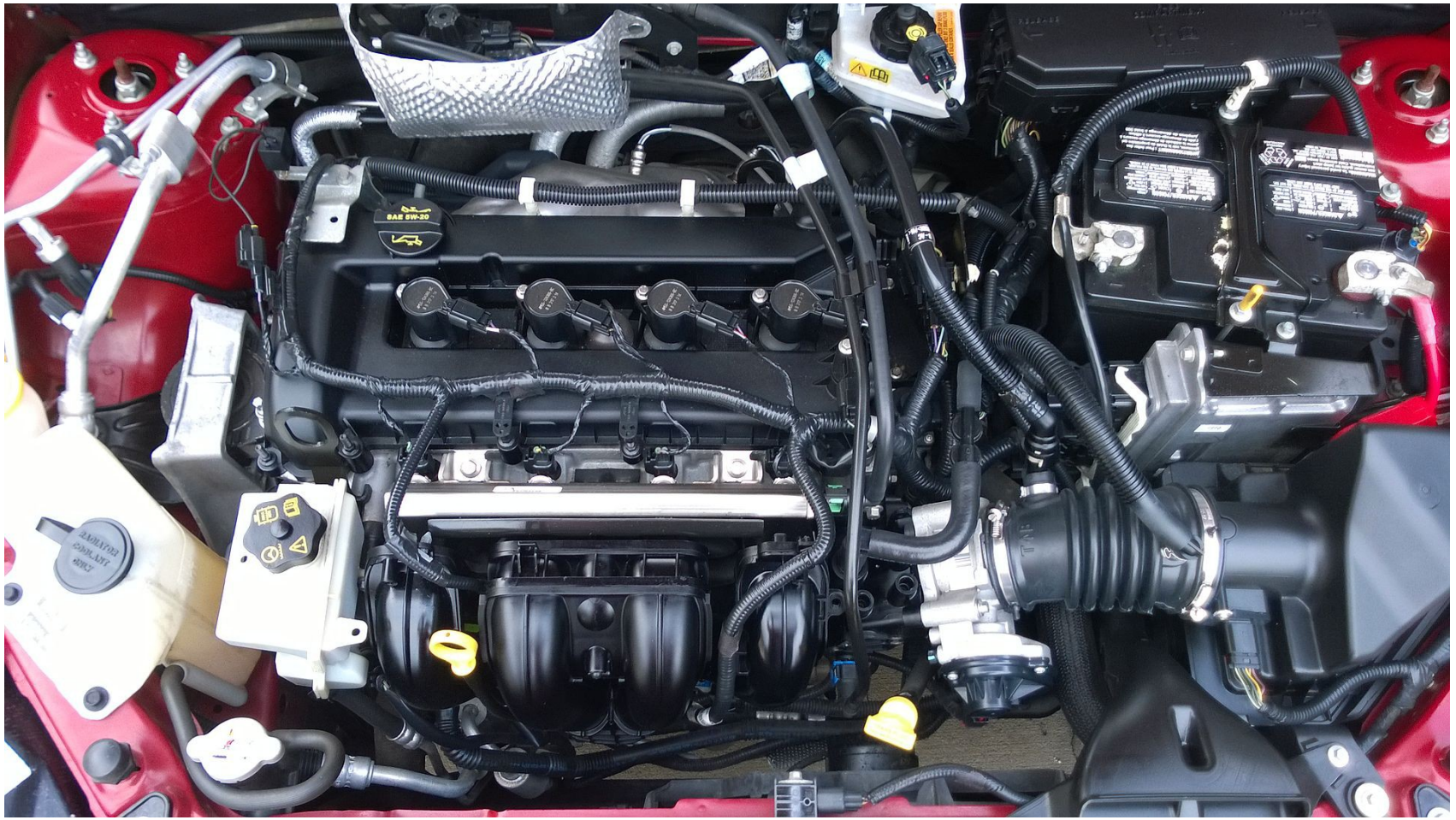

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Work-flow

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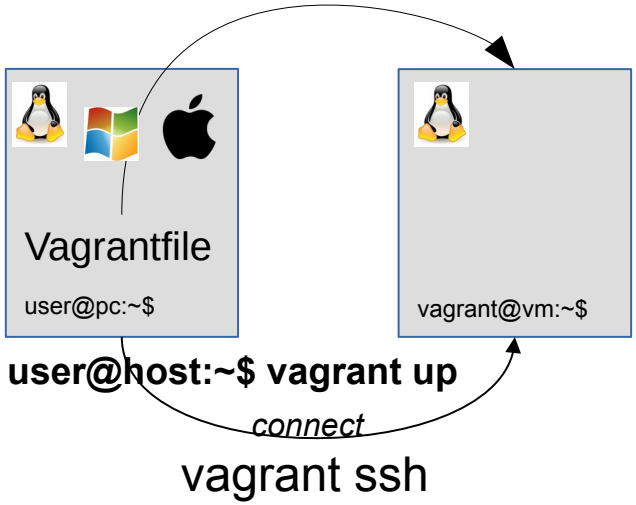
Host **Vagrant**



1) Create Vagrantfile
2) vagrant up
3) vagrant ssh

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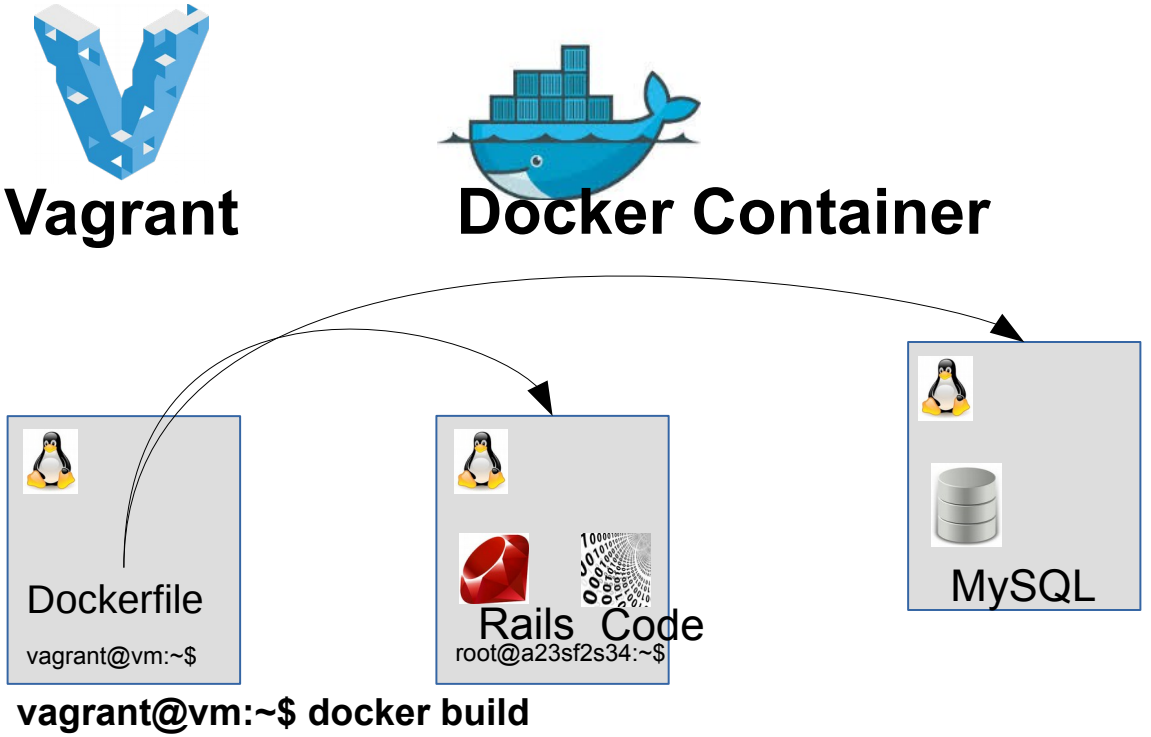
Work-flow



3) Create Dockerfile
4) Docker build

Work-flow

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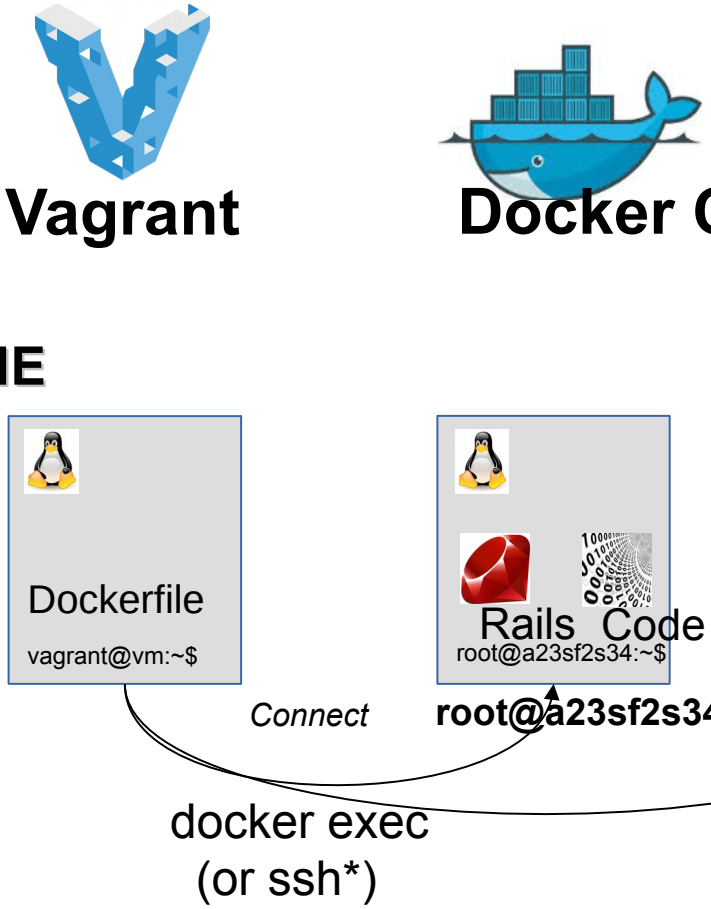
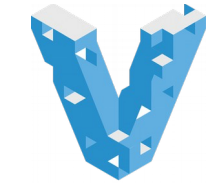
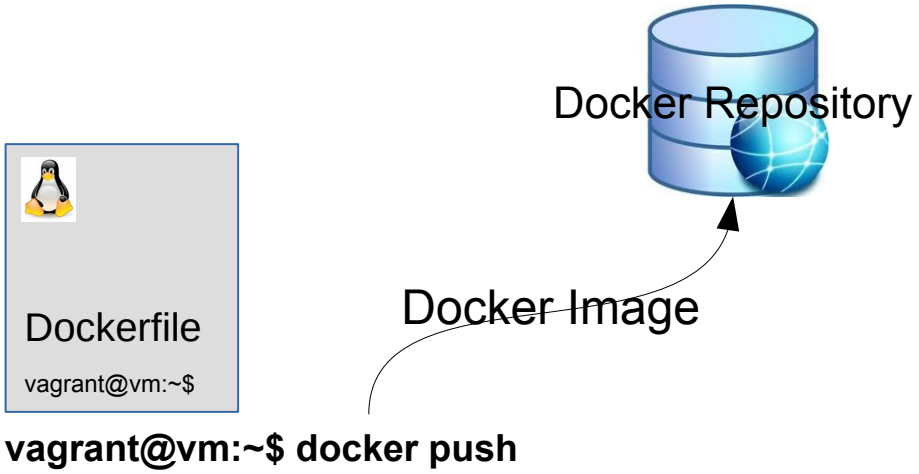
5) docker run /
   docker exec /
   ssh
6) **GET THE JOB DONE**
   e.g.
   - run unit tests
   - start server
   - check logs



Work-flow





7) docker tag
8) docker push

Work-flow

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Live Demo

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Live Demo Content

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- 01-installation
- 02-vagrant-up
- 03-vagrant-basics
- 04-docker-hello-world-with-vagrant
- 05-dockerizing-an-app
- 06-development-in-docker
- 07-example-deployment

} Simple stuff... it´s like warmup

} Here lies the tricky part...

} DevOps territory, just a veeery simple example

Wrap-up

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- There is no magic, development is complex
- Start with Vagrant
- To use Docker... take time to get ready.

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Wrap-up

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- This is our case…

- To production you still need DevOps

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Questions?

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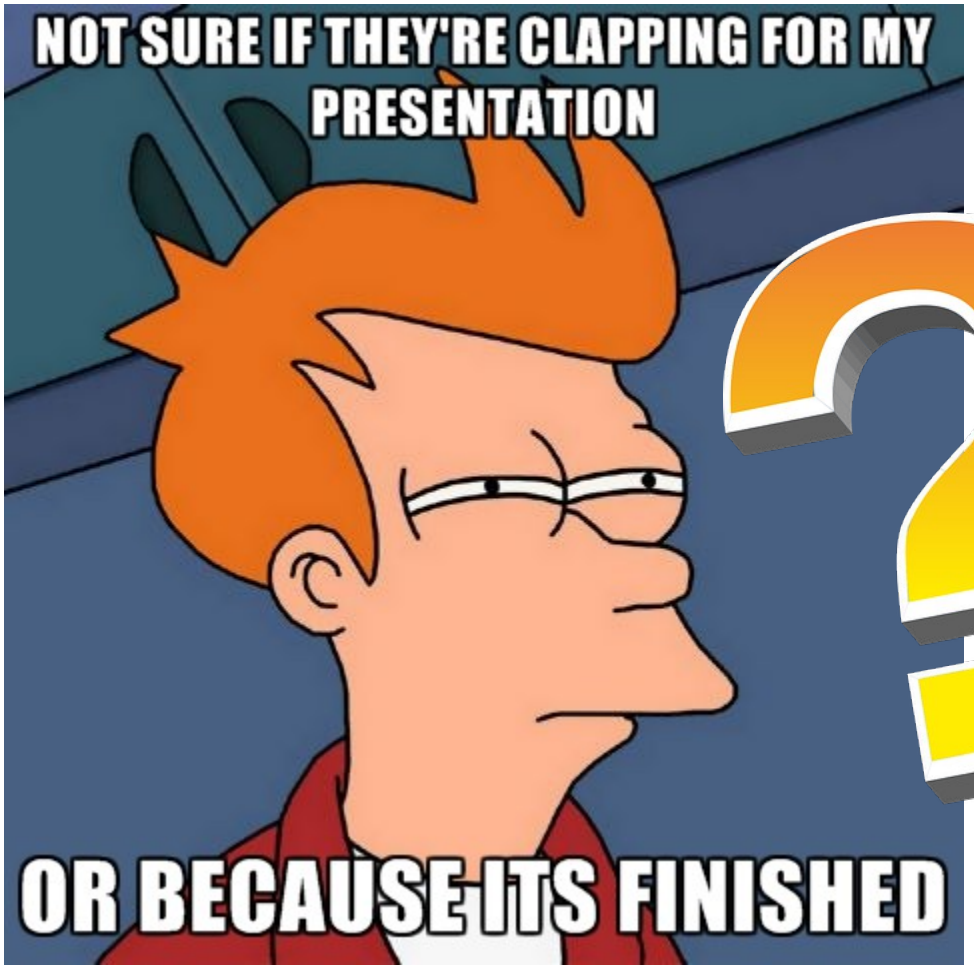

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References

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Vagrant download

Virtualbox download

Docker installation

Articles

Docker Misconceptions

Docker Private Repository

A Docker Dev Environment in 24 Hours

Docker at shopify

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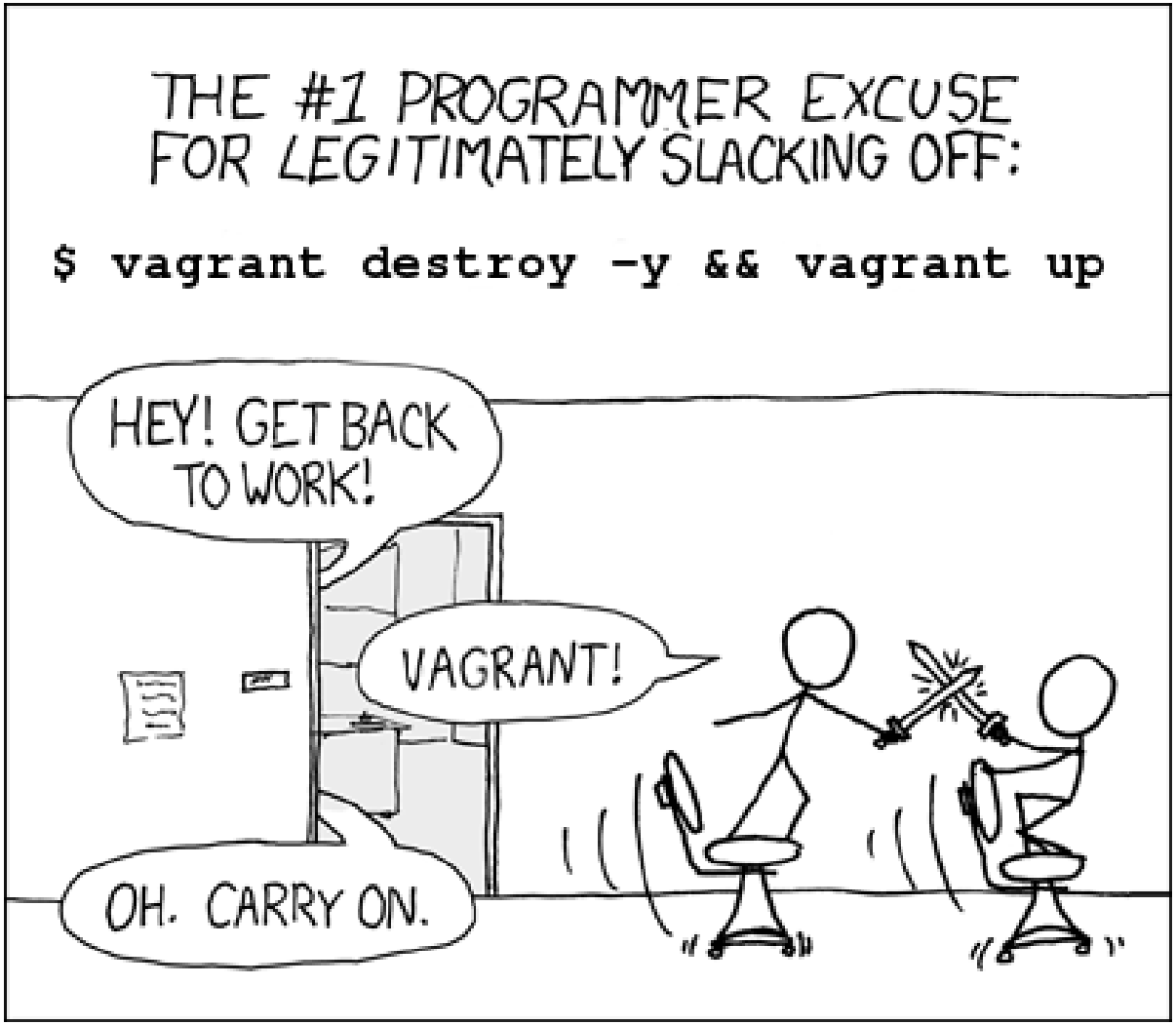
Bonus Round

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