

PHPBARCELONA
CONFERENCE 2011



MAYFLOWER

One-Click Deployment with Jenkins

Florian Anderiasch | October 28, 2011



Who am I?

Developer
Ex-Admin
DevOp?

„I rant a lot“

@anderiasch
stay in touch!



Who are you?

Developers?

Admins?

Continuous Integration?

How often
do you
release?

6-12 months?

1-6 months?

2-4 weeks?

1 - 14 days?

1-24 hours?

Less than 15 minutes?

15 minutes!



Why One-Click Deployment?

Everything is
moving faster.

React faster to user feedback



Faster ROI Time to market





Developers are lazy.

Basic requirements

Agile software development

Scrum or Kanban

Test Driven Development

Continuous Integration

Integrating the fresh
parts of code into
the application

at least daily

Continuous Inspection

A white, rabbit-like robot with two long, upright ears. It has a simple face with two black oval eyes and a black mouth with a small tongue sticking out. The mouth and a small dot on its chest are glowing with a pink light. The text "instant feedback" is printed in black on its chest.

**instant
feedback**

Refactoring

Continuous Deployment

Reproducible results

There are
practices
you want
to avoid

Having your SVN
repo in your
webserver's docroot.

Using SSH and vi and
your root account on
the live server.

Who's still doing this? :-)



What do we need?

**First of all:
centralized
build server**

There are plenty:

CruiseControl/phpUC

Bamboo

buildbot

tests are running
all the time



Jenkins



TESTING

I FIND YOUR LACK OF TESTS DISTURBING.

A long, covered walkway with a metal frame and glass roof, leading towards a modern building. The walkway is paved with light-colored tiles and has a brick wall on the left side. The metal frame consists of vertical columns and horizontal beams, with a complex truss structure for the roof. The background shows a modern building with large glass windows and a clear sky.

Advantages

Information
available
at one
single point



find errors

and
fix them
quickly



Metrics

Dashboards



0
DAYS
REMAINING

Admin Activity

10 November - 17:00

Mayflower Administration kommentierte ADMIN-1035 (** PROBLEM alert - vaillantgroup-development-new.biz/Check Updates is CRITICAL **) mit
[Created via e-mail, from: system AT mayflower DOT dyndns DOT org]

**** Nagios 3.0.3 ****

Notification Type: PROBLEM

Service: Check Updates
Host: vaillantgroup-development-new.biz
Address: 85.214.103.150
State: CRITICAL

Date/Time: Wed Nov 10 17:13:34 CET 2010

Additional Info:

Updates CRITICAL: 6 security update(s), 45 package update(s)

Mayflower Administration kommentierte ADMIN-1106 (** PROBLEM alert - vaillantgroup-development-new-host.biz/Raid Status is CRITICAL **) mit
[Created via e-mail, from: system AT mayflower DOT dyndns DOT org]

**** Nagios 3.0.3 ****

Notification Type: PROBLEM

Service: Raid Status
Host: vaillantgroup-development-new-host.biz
Address: 85.214.154.71
State: CRITICAL

Date/Time: Wed Nov 10 17:07:24 CET 2010

Additional Info:

CRITICAL - Checked 2 arrays, 1 have FAILED

On the fly



Complete ● In progress ● Not started ●

Awareness



Awareness!

10/04/03



Landkreis München
bremicker
VERKEHRSTECHNIK
82362 Weilheim i. OB



Continuous Integration in PHP projects

PHPUnit DocBlox

Continuous Inspection in PHP projects

PHP_CodeSniffer

PHP_Depend

PHPMD

phpcpd

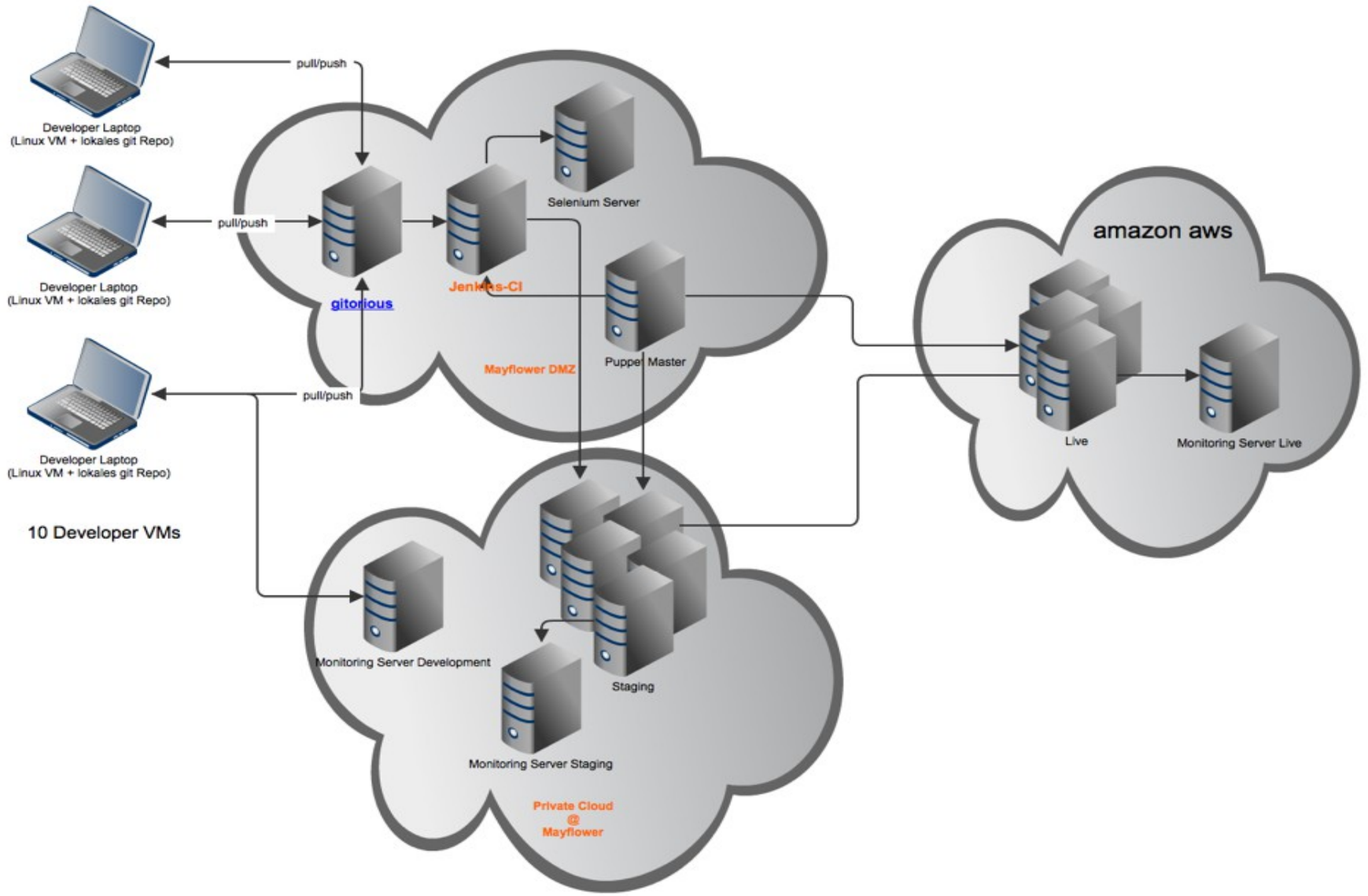
jshint

Infrastructure



amazon
web services™

EUCALYPTUS





One Ubuntu package to
rule them all.



Developer VM Ubuntu 11.04

Jenkins: Dev-VM
Testing: Dev-VM
Ubuntu 11.04

Staging VMs:
Frontend: Ubuntu 11.04
Backend: Ubuntu 10.04 LTS

(bad idea, use one version)

Amazon AWS live:
Frontend: Ubuntu 11.04
Backend: Ubuntu 10.04 LTS

Frontend Nodes

Varnish

nginx

PHP 5.3 with APC

Zend Framework 1.11

Dojo 1.6

Doctrine2.1

Backend Nodes

MySQL Master/Slave

Apache Solr

Gearman/RabbitMQ

memcached

ejabberd

Development workflow

1. developer commits code
2. post commit hook: build
3. checks
4. packaging a .deb
5. (deploy to STAGING)
6. (deploy to LIVE)

```
<project>  
  <property />  
  <target name="build"></target>  
  <target name="clean"></target>  
  <target name="phpunit"></target>  
  <target name="deploy-to-staging"></target>  
</project>
```

```
<target name="phpunit" depends="db-test"  
  description="Run all tests">  
  <exec  
    executable="phpunit"  
    failonerror="true">  
    <arg  
      line="  
--configuration  
${basedir}/tests/phpunit-verbose.xml  
${basedir}/tests/AllTests.php  
" />  
    </exec>  
  </target>
```

„ant build“

ant sync

ant clean

ant db-up

ant parallelTasks

ant phpunit

ant phpcb

ant build-deb

„ant parallelTasks“

ant phpmd
ant phpdoc
ant phpcpd
ant phpcs
ant jslint

„build-deb“

```
git pull  
ant phpunit  
ant clean  
ant compilejs  
ant compilecss
```


„deploy-to-staging“

```
ant deb-sign  
ant db-staging-up  
scp to all hosts
```

„deploy-to-live“

fetch known-good .deb
scp to all hosts
there is no step 3

Disadvantages and problems

Build time
15 min on harddisk
massive disk i/o
4 min on ramdisk

Complex setup

**Jenkins:
Single point of failure!**

Goodies

everyone
can deploy

(including the
product owner)

git bisect start
\$BAD \$GOOD

30min from
bugreport to
deploy

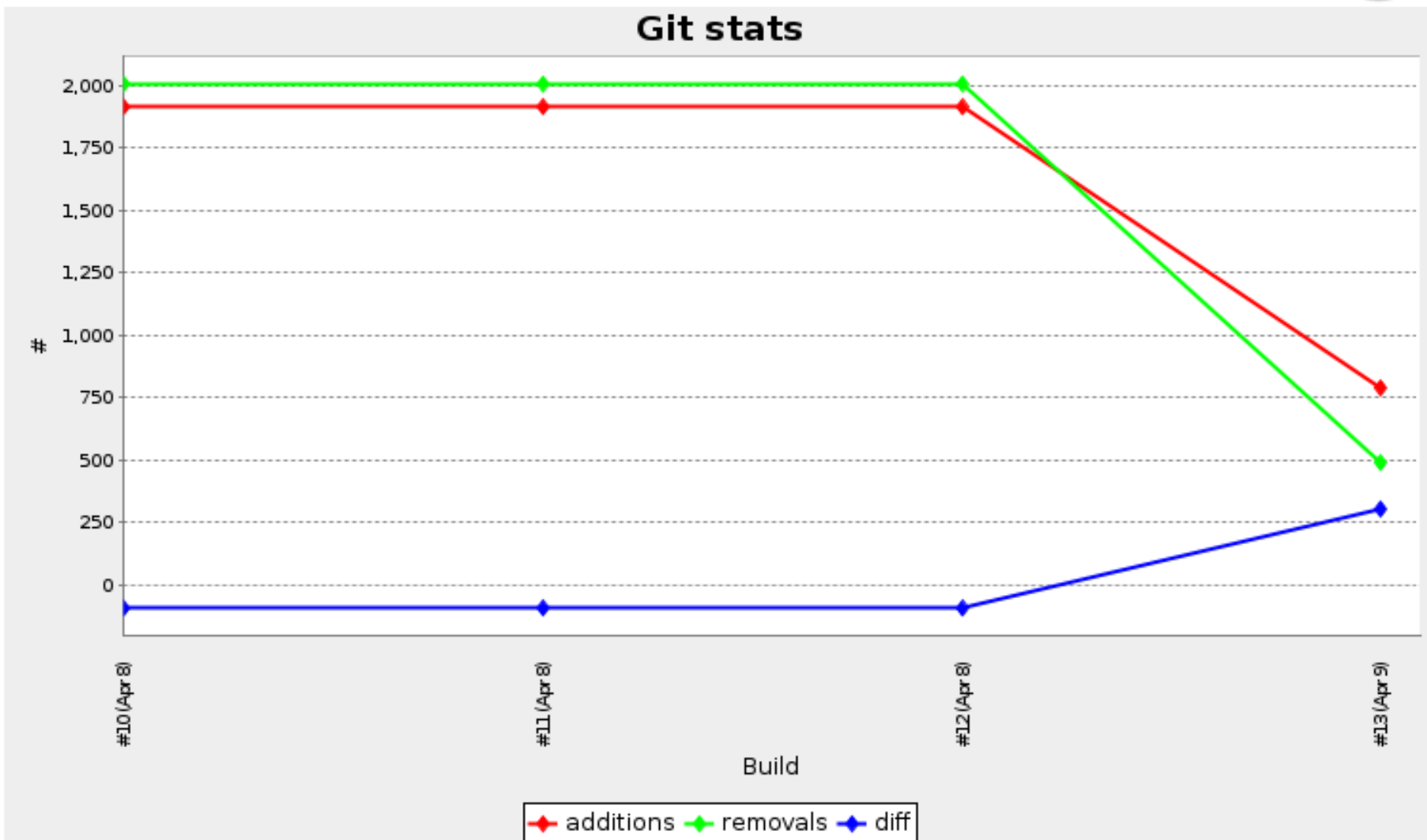
**We can still do
hotfixes in this
environment**

plotting plugin (gitstats)

Git stats

Jump to Plot 1: Git stats

[↑ top](#)



```
echo $(olddir=`pwd`;cd /media/ram/PROJECT;  
  
git log --oneline --after=$(date +%Y-%m-%d  
-d yesterday) --shortstat  
  
| grep --color=none "^ " | sed 's,^ *,, ' | awk  
'NF==7 {p+=$4;m+=$6;diff+=$4;diff-=$6;}  
END {printf("%d %d %d\n", p, m, diff)}';cd  
$olddir;) > gitnum.properties.all  
  
echo YVALUE=$(cat gitnum.properties.all | cut  
-d' ' -f1) >> gitnum.properties.plus
```



Jenkins Plugin: Chuck Norris

Questions?



Thanks for listening!



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Cinder

Connecting CI server and IDE

Fork me on GitHub

Help is welcome

<http://github.com/winks/cinder>

needs XML from
phpuc/hudson/bamboo
and nothing else :)