

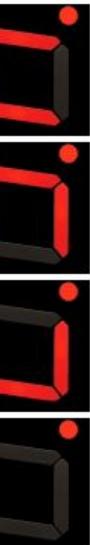


UNIVERSITAT POLITÈCNICA DE CATALUNYA
BARCELONATECH

School of Professional & Executive Development

AGILE IT MANAGEMENT SCRUM, DEVOPS, LEAN IT

prácticas de devops



Carles San Agustín



info@carlessanagustin.com



www.carlessanagustin.com

8.0.8.8.



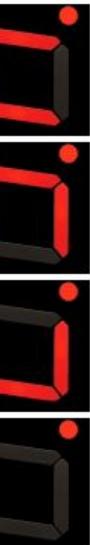
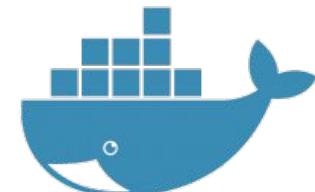
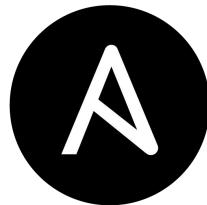
@carlesanagustin

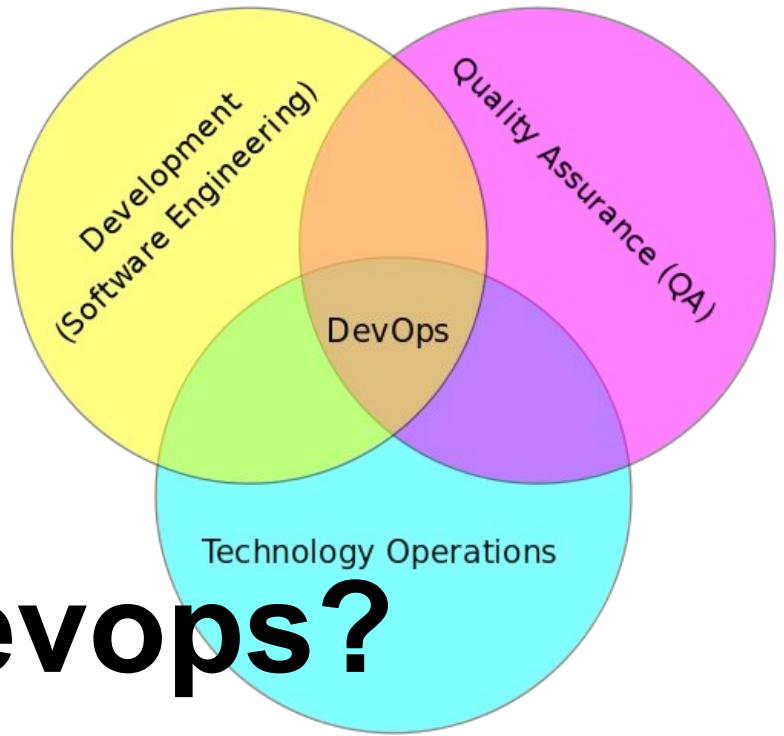


linkedin.carlessanagustin.com

índice: programario

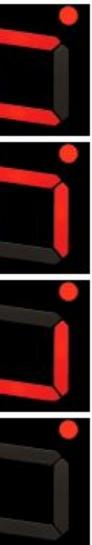
1. [¿qué es devops?](#)
2. [desarrollo](#)
 - [git \(práctica\)](#) + [vagrant \(práctica\)](#)
3. [integración](#)
 - [jenkins \(práctica\)](#)
4. [despliegue](#)
 - [ansible \(práctica\)](#) + [nagios \(práctica\)](#)
5. entornos
 - [docker \(práctica\)](#)



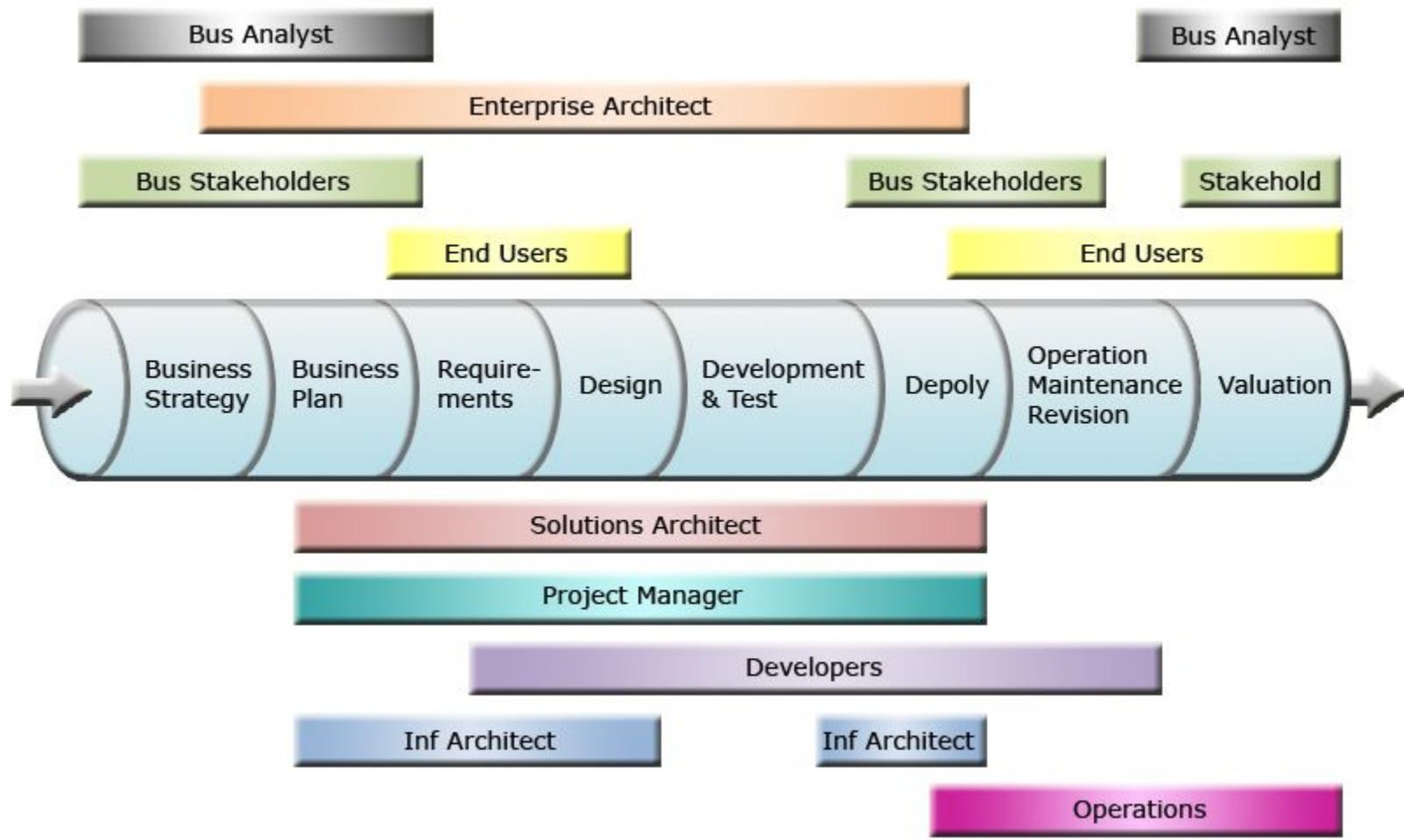


¿qué es devops?

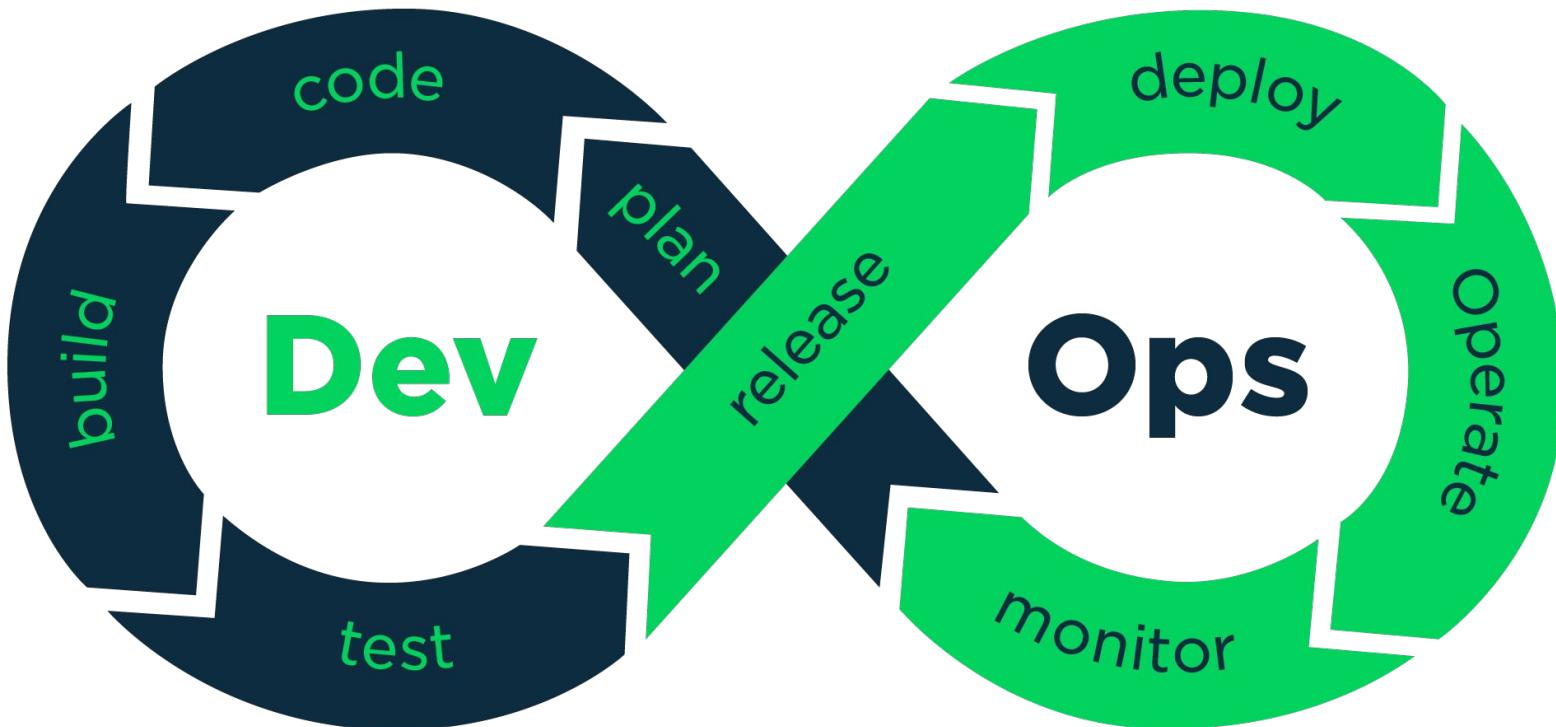
desarrollo y operaciones



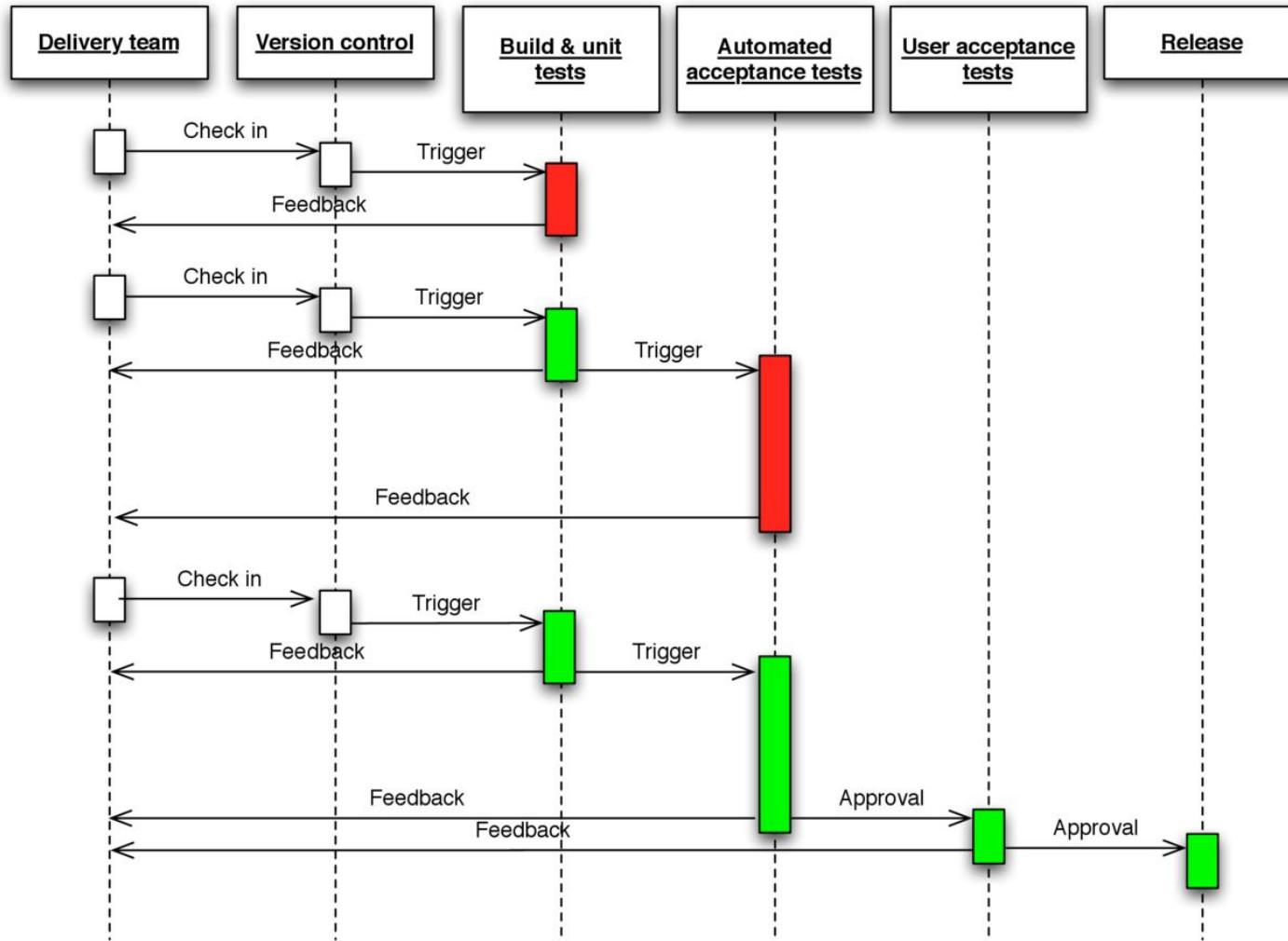
¿qué es devops? - ciclo de vida de una solución



¿qué es devops? - bucle de publicación y realimentación

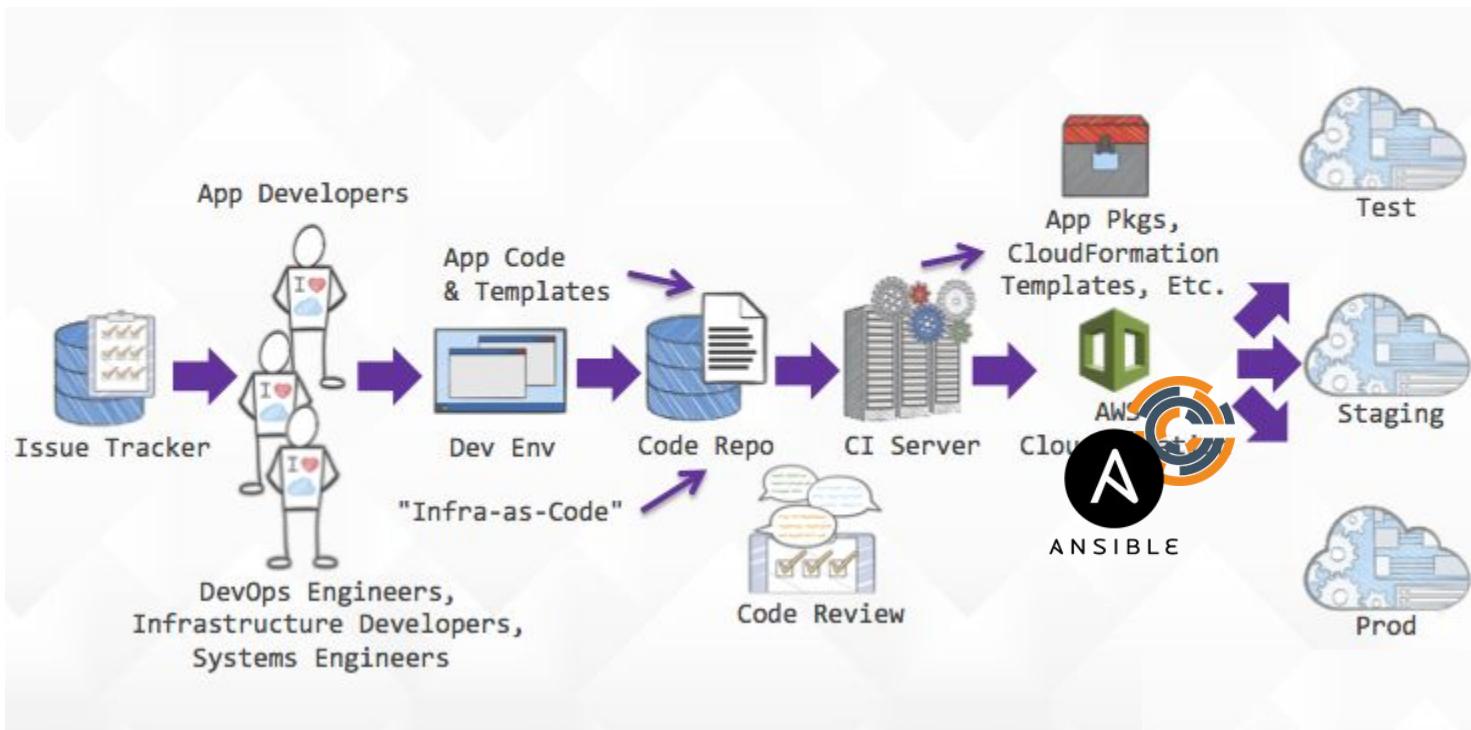


¿qué es devops? - tubería de despliegue (CI)



fuente: jez humble

¿qué es devops? - infraestructura como código (IaC)



¿qué es devops? - herramientas

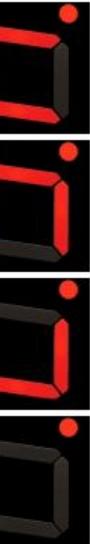
PERIODIC TABLE OF DEVOPS TOOLS (V1)

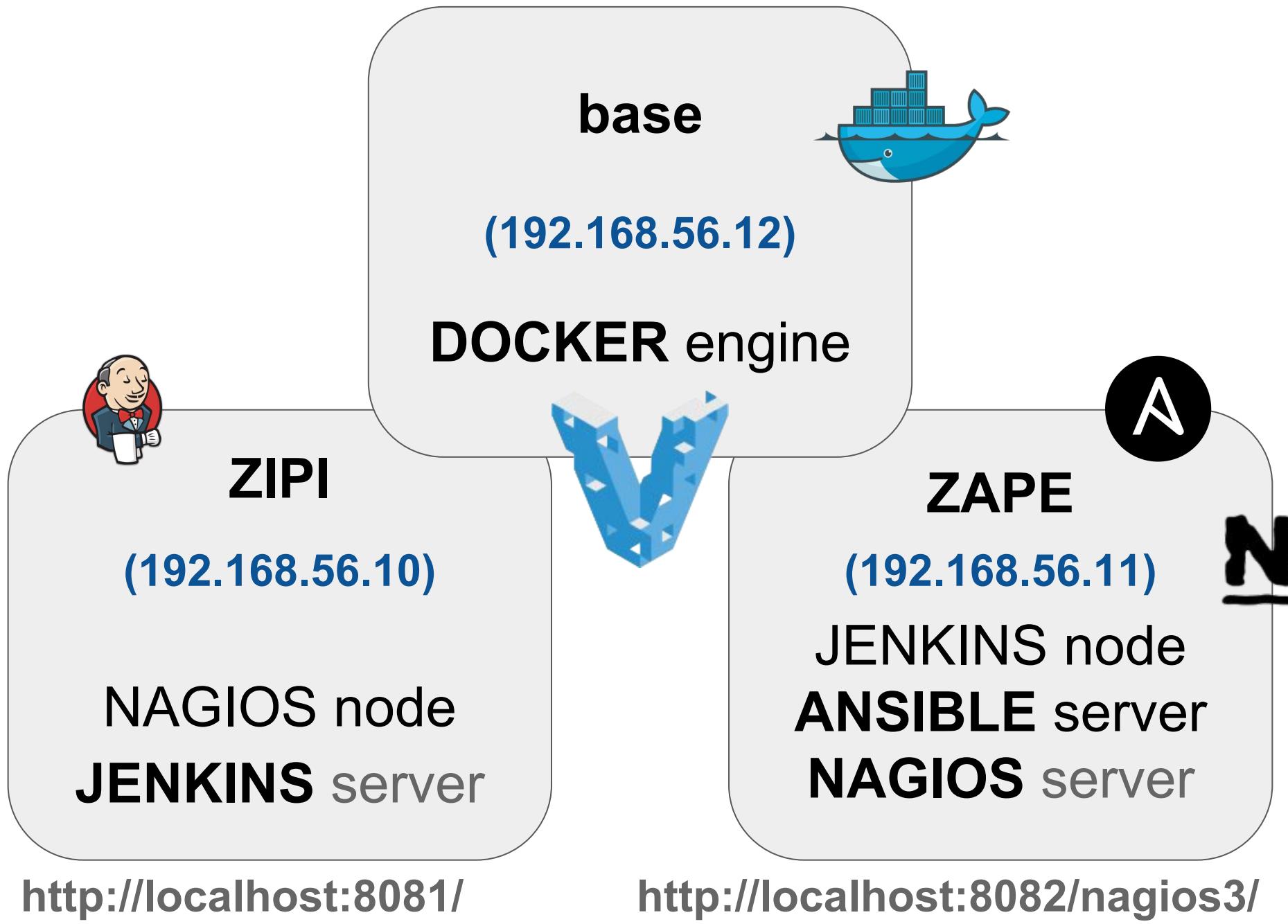
XebiaLabs Deliver Faster

The Periodic Table of DevOps Tools (V1) is a grid of 118 tools, each with a symbol and name. The tools are categorized by element type (e.g., Database, SCM, Build, etc.) and grouped by periodic table position. A legend on the left defines the colors: Orange for Open Source, Yellow for Free, Green for Freemium, Blue for Paid, and Grey for Enterprise. The table includes a red box highlighting Jenkins (Jn) and Nagios (Ni).

Category	Symbol	Name	Type			
Database	O	MySQL	Os			
SCM	Gt	Git	Os			
Build	Ch	Chef	En			
Testing	Pu	Puppet	En			
Deployment	An	Ansible	Os			
Config / Provisioning	Sl	Salt	En			
Containerization	Dk	Docker	Os			
Cloud / IaaS / PaaS	Az	Azure	Pd			
Release Mgmt	Ssh	SSH	Fr			
Collaboration	Bl	BladeLogic	En			
BI / Monitoring	Va	Vagrant	Os			
Logging	Tf	Terraform	Fr			
Security	Rk	rkt	Os			
	Hk	Heroku	Fm			
Database	Pq	PostgreSQL	Os			
SCM	Mc	Mercurial	Fr			
Build	Mv	Maven	Os			
Deployment	Gr	Gradle	Os			
Config / Provisioning	Mr	Meister	En			
Containerization	Jn	Jenkins	Os			
Collaboration	Bb	Bamboo	Pd			
Cloud / IaaS / PaaS	Tr	Travis CI	Os			
Release Mgmt	Ar	Archiva	Fr			
Logging	Fn	FitNesse	Os			
Security	Se	Selenium	Fr			
	Gn	Gatling	Os			
Deployment	Gd	Deployment Manager	Pd			
Config / Provisioning	Sf	SmartFrog	Os			
Containerization	Cb	Cobbler	Bc			
Collaboration	Kb	Kubernetes	Os			
Cloud / IaaS / PaaS	Rs	Rackspace	En			
Database	Mg	MongoDB	Os			
SCM	Gh	Github	Fm			
Build	Br	Buildr	Os			
Deployment	At	ANT	Os			
Config / Provisioning	Bm	BuildMaster	Fm			
Containerization	Cs	Codeship	En			
Collaboration	Sn	Snap CI	Pd			
Cloud / IaaS / PaaS	Cr	CircleCI	Fr			
Release Mgmt	Nx	Nexus	Os			
Logging	Cu	Cucumber	Fr			
Security	Cj	Cucumber.js	Fr			
	Qu	Qunit	Os			
Deployment	Cp	Capistrano	Fr			
Config / Provisioning	Ju	Juju	Os			
Containerization	Rd	Rundeck	Fr			
Collaboration	Cf	CFEngine	Os			
Cloud / IaaS / PaaS	Pk	Packer	Fr			
Database	Db	DB2	Fm			
SCM	Bb	Bitbucket	Fm			
Build	Qb	QuickBuild	En			
Deployment	Ub	UrbanCode Build	En			
Config / Provisioning	Ta	TeamCity	Fm			
Containerization	Sh	Shipable	En			
Collaboration	Cc	CruiseControl	Os			
Cloud / IaaS / PaaS	Ay	Artifactory	Fr			
Release Mgmt	Ju	JUnit	Fr			
Logging	Jm	JMeter	Fr			
Security	Tn	TestNG	Fr			
	Rd	RapidDeploy	En			
Deployment	Cy	CodeDeploy	En			
Config / Provisioning	Oc	Octopus Deploy	En			
Containerization	No	CA Nolio	En			
Collaboration	Eb	ElasticBox	En			
Cloud / IaaS / PaaS	Ad	Apprenda	En			
Database	Cs	Cassandra	Fr			
SCM	Hx	Helix	En			
Build	Msb	MSBuild	Os			
Deployment	Rk	Rake	Os			
Config / Provisioning	Lb	LuntBuild	Os			
Containerization	Cu	Continuum	Os			
Collaboration	Ca	Continua CI	Fm			
Cloud / IaaS / PaaS	Gu	Gump	Os			
Release Mgmt	Ng	NuGet	Os			
Logging	Ap	Appium	Os			
Security	Xltv	XL TestView	En			
	Tc	TestComplete	En			
Deployment	Go	Go	Os			
Config / Provisioning	Ef	ElectricFlow	En			
Containerization	Xld	XL Deploy	En			
Collaboration	Ud	UrbanCode Deploy	En			
Cloud / IaaS / PaaS	Mo	Mesos	Os			
Database	Cf	Cloud Foundry	Os			
Share	Twitter		LinkedIn	8+	Email	+
Embed	</>		Image	Image		
Become Excellent!	Subscribe here!					

entorno de prácticas





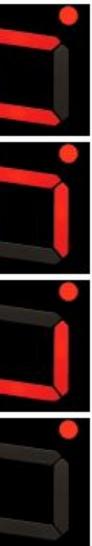
herramientas para las prácticas

- virtualbox: <https://www.virtualbox.org/>
- vagrant: <http://www.vagrantup.com/>
- putty: <http://www.chiark.greenend.org.uk/>
- sublime text: <http://www.sublimetext.com/>
- git: <http://git-scm.com/>
- sourcetree: <http://www.sourcetreeapp.com/>



desarrollo

día 1

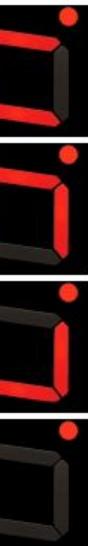


desarrollo: índice

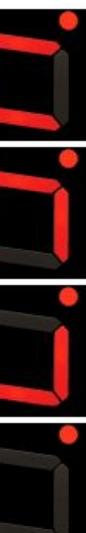
1. editor
2. entorno virtualizado
3. control de versiones

editores: herramientas

Geany BBEdit TextWrangler
Vim UltraEdit
TextEdit Pico jEdit
Tinctora gedit VEDIT
Kate TextMate Alphatk Editra
XEmacs AkelPad Atom Nano SublimeText Gobby Coda
TextPad ConTEXT JOE JED
JOVE KEDIT KWrite SciTE
Notepad++ epsilon Acme PolyEdit
PSPad Xeditor



editores - sublime text



C:\Sample Files\interactive.py - Sublime Text 1.2

File Edit Selection View Tools Project Preferences Help

interactive.py

```
1 # -*- coding: utf-8 -*-
2 #
3 # Copyright (C) 2006-2007 Alec Thomas <alec@swepoff.org>
4 #
5 # This software is licensed as described in the file COPYING, which
6 # you should have received as part of this distribution.
7 #
8 #
9 """CLY and readline, together at last.
10
11 This module uses readline's line editing and tab completion along w/
12 grammar parser to provide an interactive command line environment.
13
14 It includes support for application specific history files, dynamic
15 customizable completion key, interactive help and more.
16
17 Press ``?`` at any location to contextual help.
18 """
19
20 import os
21 import sys
22 import readline
23 import cly.relex
24 import cly.console as console
25 from cly.exceptions import Error, ParseError
26 from cly.builder import Grammar
27 from cly.parser import Parser
28
29
30 __all__ = ['Interact', 'interact']
31 __docformat__ = 'restructuredtext en'
32
33
34 class Interact(object):
35     """CLY interaction through readline. Due to readline limitation,
36     Interact object can be active within an application.
37
38     Constructor arguments:
39
40     `parser`: ``Parser`` or ``Grammar`` object
41         The parser/grammar to use for interaction.
42
43     `application='cly'`: string
44         The application name. Used to construct the history file name
45         prompt, if not provided.
46
47     `prompt=None`: string
48         The prompt.
49
50     `history_file=None`: string
51         The history file name.
52
53     `history_length=500`: int
54         The maximum number of entries in the history file.
55
56     `completion_key='tab'`: string
57         The key used for tab completion.
58
59     `completion_delimiters=' \t\n\r'`: string
60         Delimiters for completion.
61
62     `with_context=False`: bool
63         Whether to use context-aware completion.
64
65     `inhibit_exceptions=False`: bool
66         Whether to inhibit exceptions during completion.
67
68     `backtrace=False`: bool
69         Whether to include backtrace information in completion results.
70
71     `help_key='?'`: string
72         Key to use for tab completion.
73
74     """
75     _cli_inject_text = ''
76     _completion_candidates = []
77     _parser = None
78     prompt = None
79     user_context = None
80     history_file = None
81     application = None
82
83     def __init__(self, grammar_or_parser, application='cly', prompt=None,
84                  user_context=None, with_context=False, history_file=None,
85                  history_length=500, completion_key='tab',
86                  completion_delimiters=' \t\n\r',
87                  help_key='?', inhibit_exceptions=False,
88                  with_backtrace=False):
89
90         if prompt is None:
91             prompt = application + '> '
92
93         if history_file is None:
94             history_file = os.path.expanduser('~/.%s_history' % application)
95
96         if isinstance(grammar_or_parser, Grammar):
97             parser = Parser(grammar_or_parser)
98         else:
99             parser = grammar_or_parser
100
101         if with_context is not None:
102             parser.with_context = with_context
103
104         if user_context is not None:
105             parser.user_context = user_context
106
107         Interact._parser = parser
108         Interact.prompt = prompt
109         Interact.application = application
110         Interact.user_context = user_context
111         Interact.history_file = history_file
112         Interact.history_length = history_length
113         Interact.completion_delimiters = completion_delimiters
114         Interact.completion_key = completion_key
115
116     try:
117         readline.set_history_length(history_length)
118         readline.read_history_file(history_file)
119     except:
119         pass
120
121     readline.parse_and_bind("%s: complete" % completion_key)
122     readline.set_completer_delims(self.completion_delimiters)
```

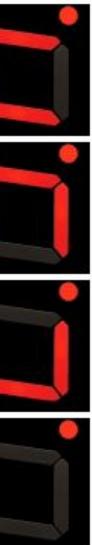
Line 1, Column 1

Python Unix

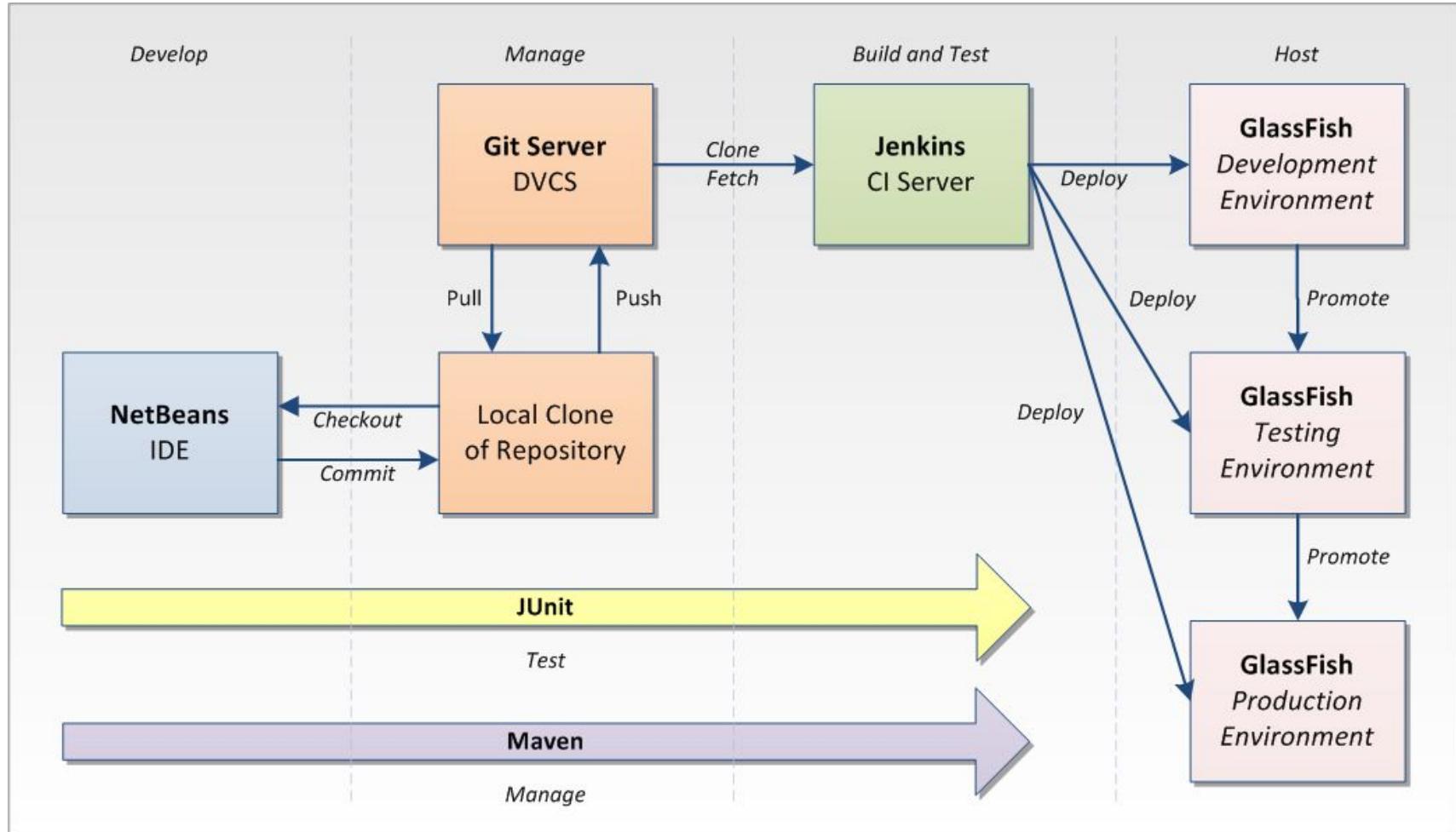


ejemplos reales

día 1



ejemplo 1.1: Java CI



fuente: <http://goo.gl/3sjkL2>

ejemplo 1.2: Sergejus Barinova on deployment @ AdForm

Adform Releazr by RnD Release Dashboard Deploy Queue Facts ADFORM\ls_barinovas

Show releases for any team for period 2013-04-11 - 2013-04-19 Register new release Export to Excel

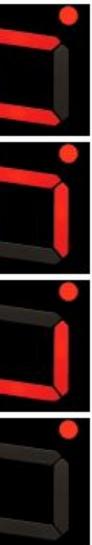
Team, Release	DEV1	DEV3	INTEG	PREPROD	PROD
2013-04-19 (4)	4 passed	1 failed 3 passed	4 passed	4 passed	4 passed
Direct Integrations AdServing (Global) Notes: 2013-04-19 - 1.2.372	passed Deploy Roll back Resume Log	passed Deploy Roll back Resume Log	passed Deploy Roll back Resume Log	passed Deploy Roll back Resume Log Mark not ready	passed Deploy Roll back Resume Log
Direct Integrations Inventory Sources UI	passed Deploy Roll back Resume Log	passed Deploy Roll back Resume Log	passed Deploy Roll back Resume Log	passed Deploy Roll back Resume Log Mark not ready	passed Deploy Roll back Resume Log
Direct Integrations Inventory Sources Service	passed Deploy Roll back Resume Log	failed Deploy Roll back Resume Log	passed Deploy Roll back Resume Log	passed Deploy Roll back Resume Log Mark not ready	passed Deploy Roll back Resume Log

fuente: <http://www.infoq.com/presentations/continuous-delivery-happiness>



desarrollo: git

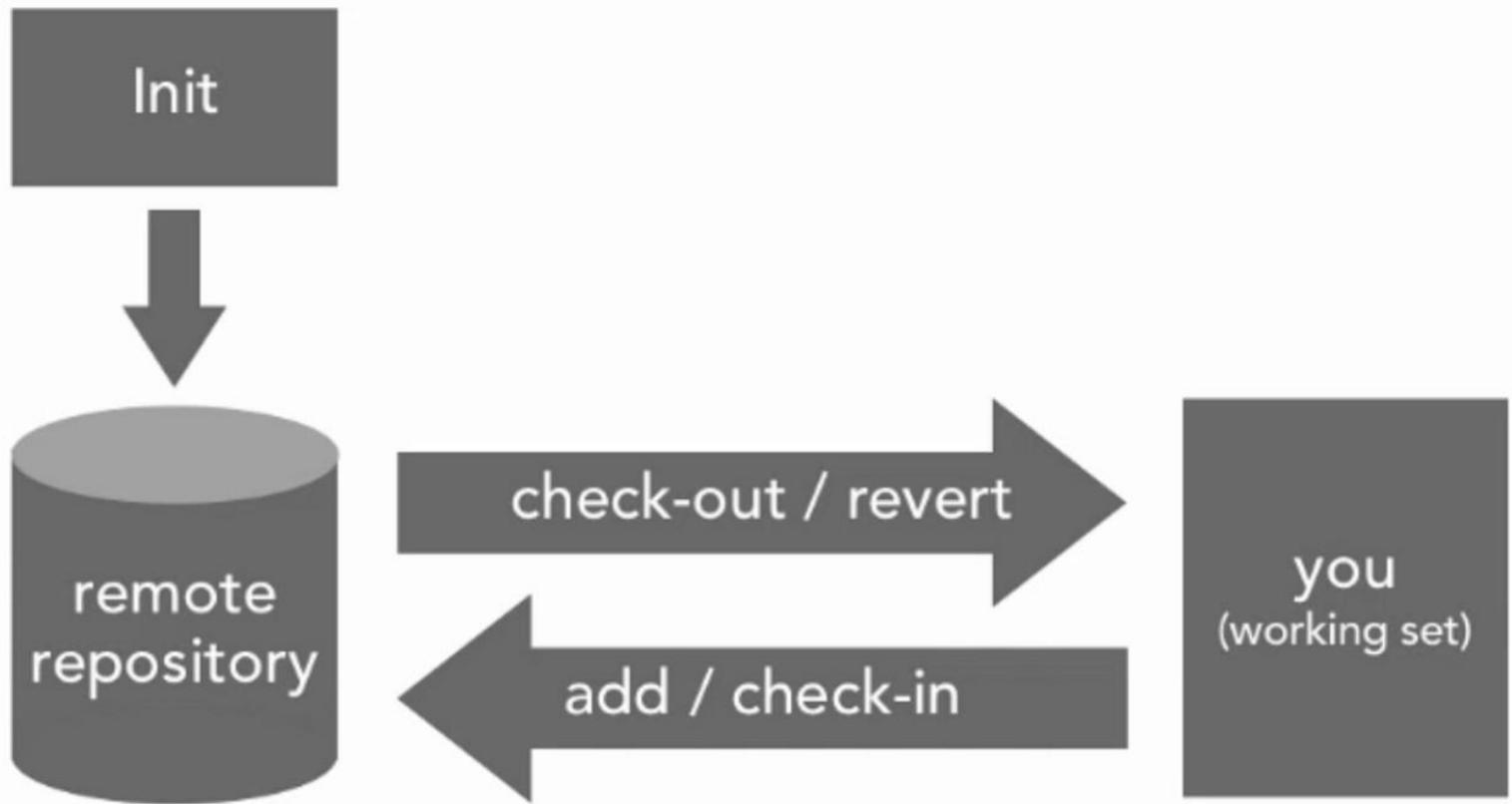
control de versiones



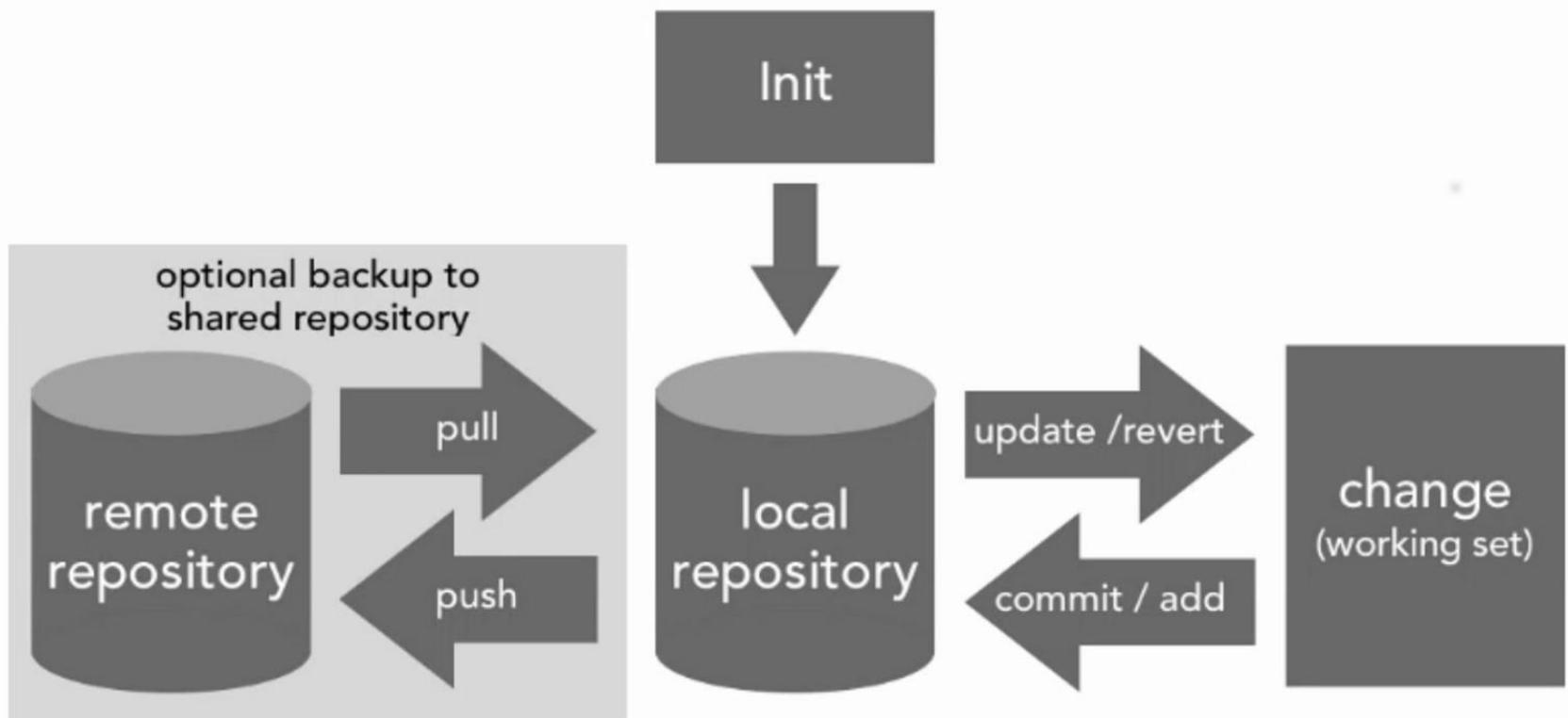
control de versiones: herramientas

Mercurial Git Vault
BitKeeper Synergy darcs CVS
StarTeam Vesta Subversion TFS
Fossil PVCS Bazaar
 Veracity

control de versiones: centralizado

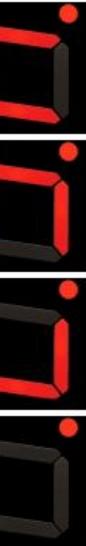


control de versiones: distribuido



control de versiones: centralizado contra distribuido

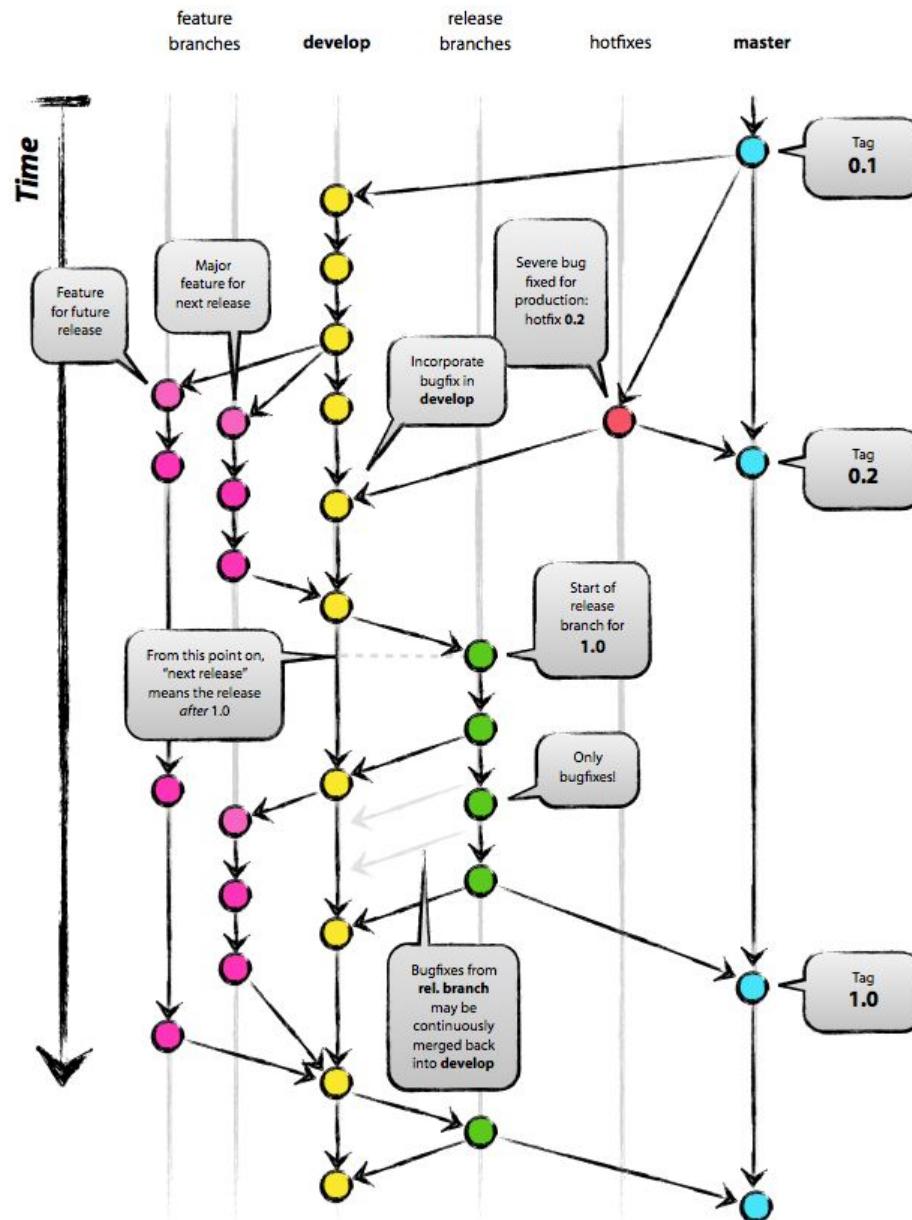
Centralized	
CVS	1986
Perforce	1995
Subversion	2000
MS Team Foundation Server	2010
Distributed	
Git	2005
Mercurial	2005



control de versiones: beneficios

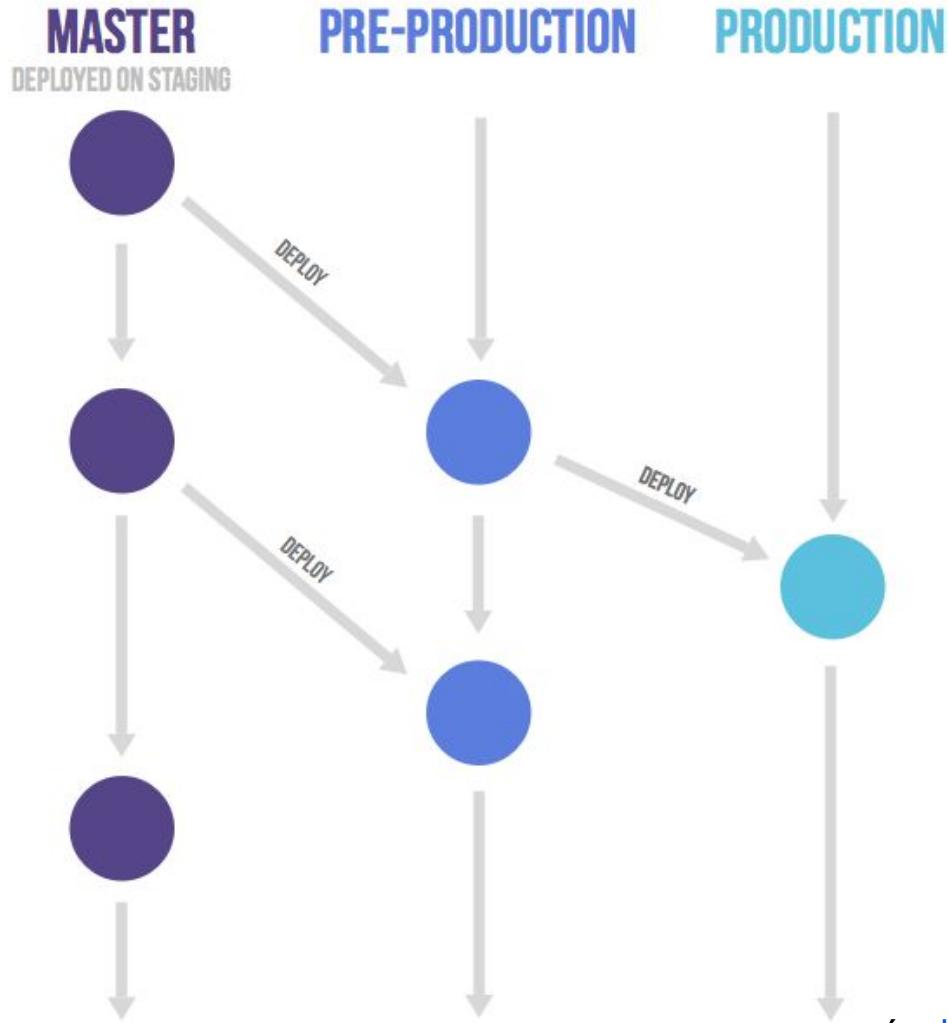
- Sincronización
- Responsabilidad
- Detección de conflictos
- Seguimiento de cambios
- Deshacer a la versión X
- Etiquetado de cambios
- *Copias de seguridad*

ramas: git flow



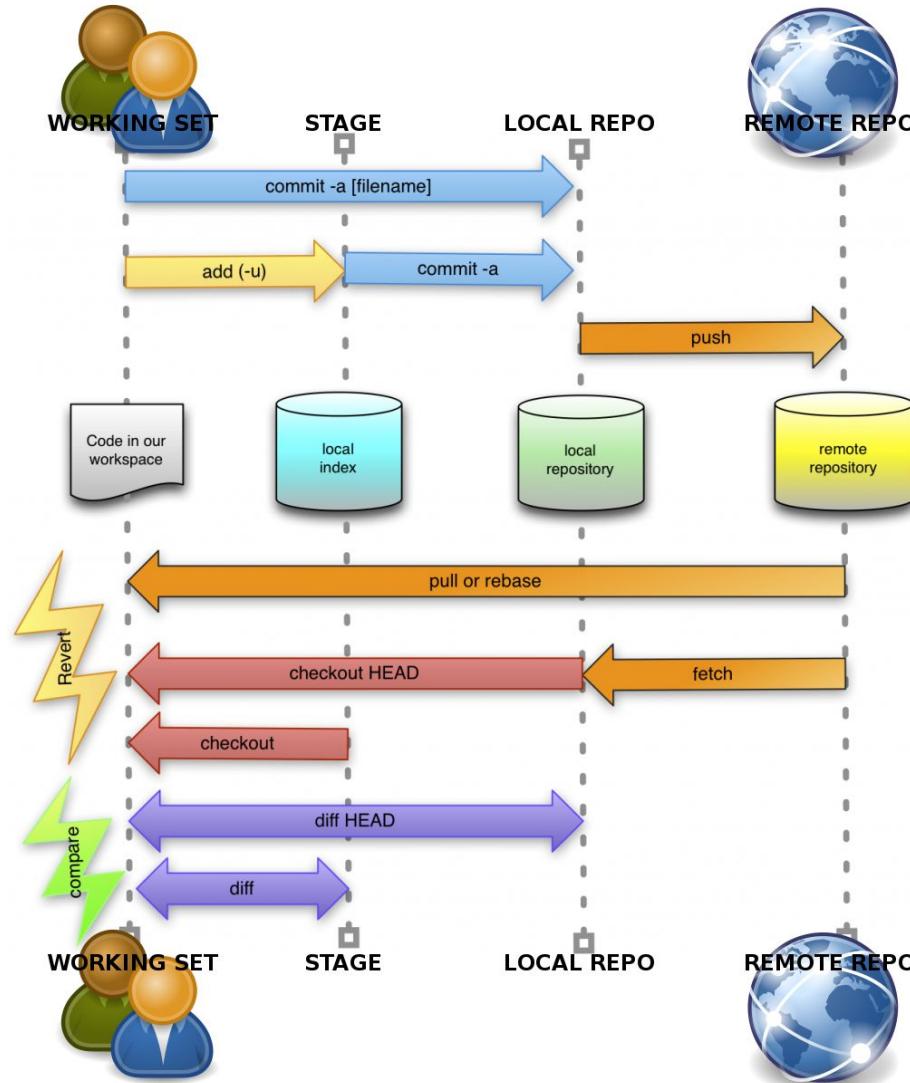
más: <http://goo.gl/Tf1vn>

ramas: gitlab flow



más: <https://goo.gl/Z0w1nQ>

desarrollo: git - comandos de transporte de datos



desarrollo: git - más información

Git - <http://git-scm.com>

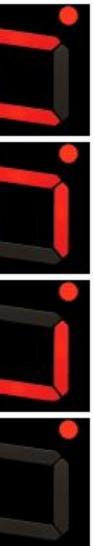
<http://gitref.org/>

<https://www.atlassian.com/git/>

<http://rogerdudler.github.io/git-guide/>

desarrollo: git - práctica

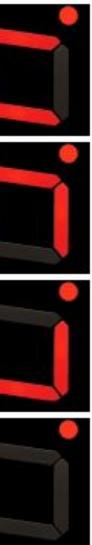
<http://try.github.io/>



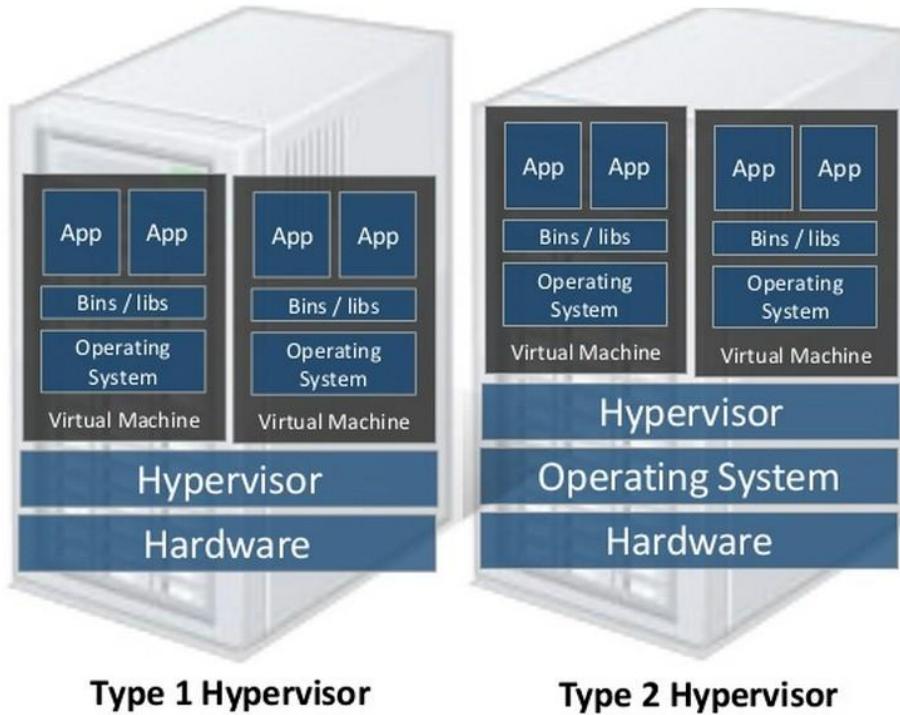


desarrollo: vagrant

entorno de desarrollo virtualizado



entorno virtualizado: ¿que es?



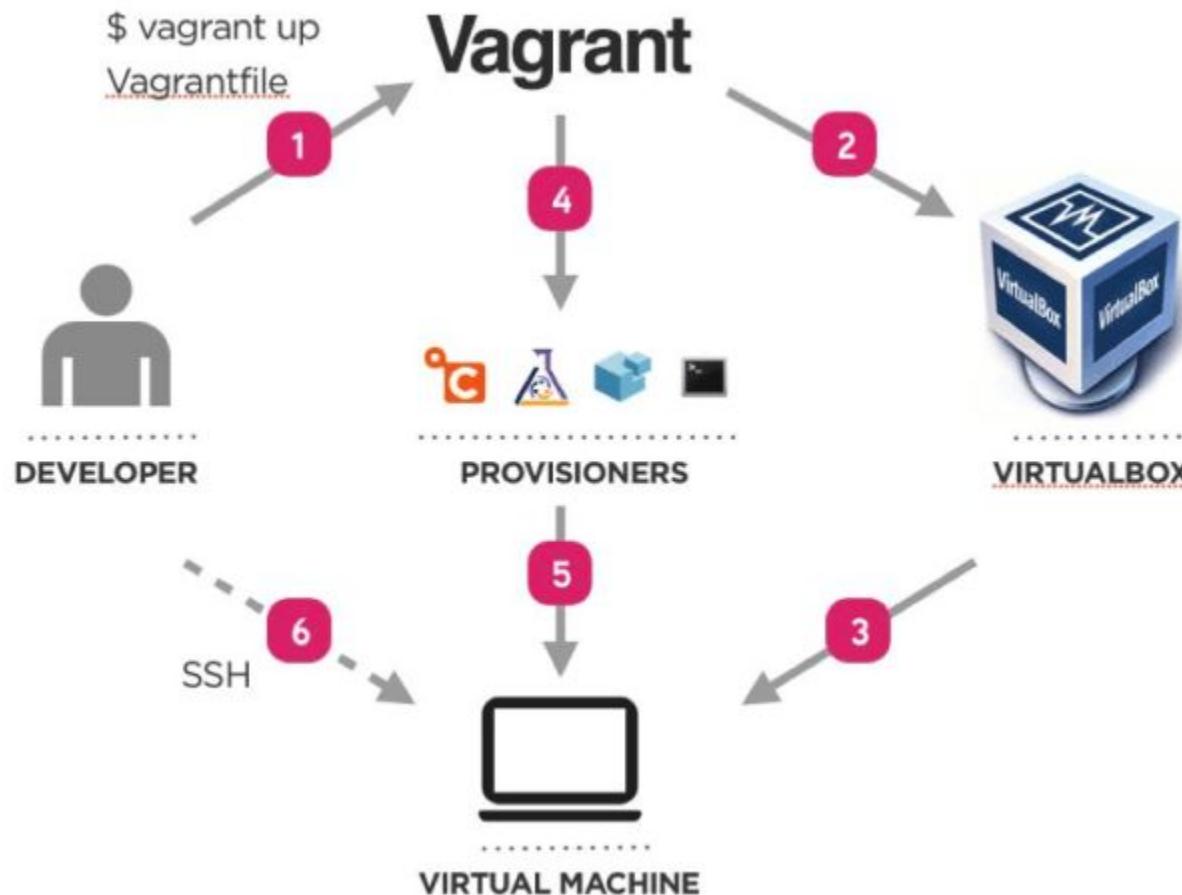
Oracle VM Server, Citrix
XenServer, VMware
ESX/ESXi, Microsoft
Hyper-V, ...

VMware Workstation,
VMware Player,
VirtualBox, Parallels,
KVM, QEMU, ...

entorno virtualizado: herramientas

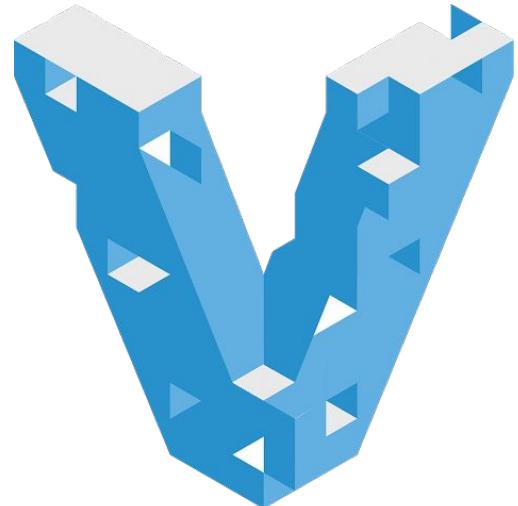
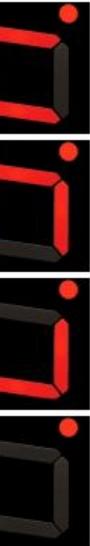
Vagrant Hercules
GXemul OracleVM
DOSEMU
Virtuozzo OpenVZ QEMU
Xen OVPsim PikeOS
VMware KVM VirtualPC
LXC Hyper-V SunxVMServer
PearPC
QuickTransit
VirtualBox

desarrollo: vagrant - ¿que es?



desarrollo: vagrant - práctica

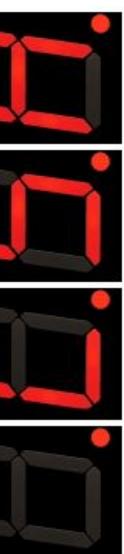
<https://github.com/carlessanagustin/AITM>





integración

día 2



integración: índice

1. sistema de seguimiento de tareas y errores
2. rendimiento
3. integración continua

sistemas de seguimiento de tareas y errores: herramientas



HPQualityCenter
Teamwork Redmine Brimir
MantisBT YouTrack
Supportworks RequestTracker
GLPI StarTeam
Planbox
FogBugz OTRS JIRA
Fossil Bontq
Roundup SysAid GNATS
Trac
Debbugs Bugzilla

sistemas de seguimiento de tareas y errores: redmine

Home My page Projects Administration Help

Logged as admin - My account Sign out

My project

Overview Activity Roadmap Issues News Documents Wiki Files Repository Settings

Issues

Filters

Status [open](#)

Add filter:

[Apply](#) [Clear](#) [Save](#)

#	Tracker	Status	Priority	Description
127	Bug	New	Normal	Ticket with...
116	Bug	New	Low	Keep play...
88	Feature	Assigned	Low	HTTP Cha...
83	Feature	Assigned	Low	Export th...
82	Feature	New	Low	Formatte...
81	Feature	New	Normal	DVTS sup...
79	Feature	New	Low	QuickTime...
78	Feature	New	Low	Full H232...
77	Feature	Assigned	Low	Closed ca...
74	Feature	New	Low	Progressiv...
73	Feature	New	Low	Dshow tu...
72	Feature	New	Low	V4L tunin...
70	Feature	New	Low	Electric Pi...
69	Bug	New	Low	SDL vout...
65	Feature	New	Low	Protocol i...
64	Feature	New	Normal	Improve i...
63	Feature	New	Low	Gstreamer...
62	Feature	New	Low	Gnutella :...
59	Feature	New	Low	Finalizatio...
58	Bug	Assigned	Low	Re-write...
57	Feature	New	Low	MacOS X ...
51	Bug	New	Low	Better Mc...

MyProject

Home My page Projects Administration Help

Overview Activity Roadmap Issues New issue Dashboard Gantt Calendar News Documents Wiki Files Repository Settings

Task Board

New 3 Issues In progress 4 Issues Feedback 2 Issues Done 5 Issues

Bug 9 Issues

#5 Bug A slightly longer issue subject to test the handling of long issue subjects of at least 4 lines of text within... Sprint 1 Paul Product Owner Cat 1

#4 Bug Test

#16 Bug Important!

#12 Bug Bug #33

#17 Bug Low!

Redmine Admin

#14 Bug bsgbsg Sprint 1

#11 Bug Done #2

#13 Bug Bug #42 Redmine Admin

#15 Bug bgsfbav

Feature 1 Issue

#9 Task Single-Task

#6 Task Test Redmine Admin

#7 Task A Task Redmine Admin

#10 Task Already done

Priorities: Low Normal High Urgent Immediate
Warnings: Overdue

Redmine Dashboard

rendimiento: herramientas

SilkPerformer

BlazeMeter WebLOAD

VisualStudioUltimate

NeoLoad loadUI Gatling

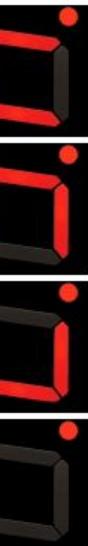
Blitz LoginVSI

JMeter Loaderio

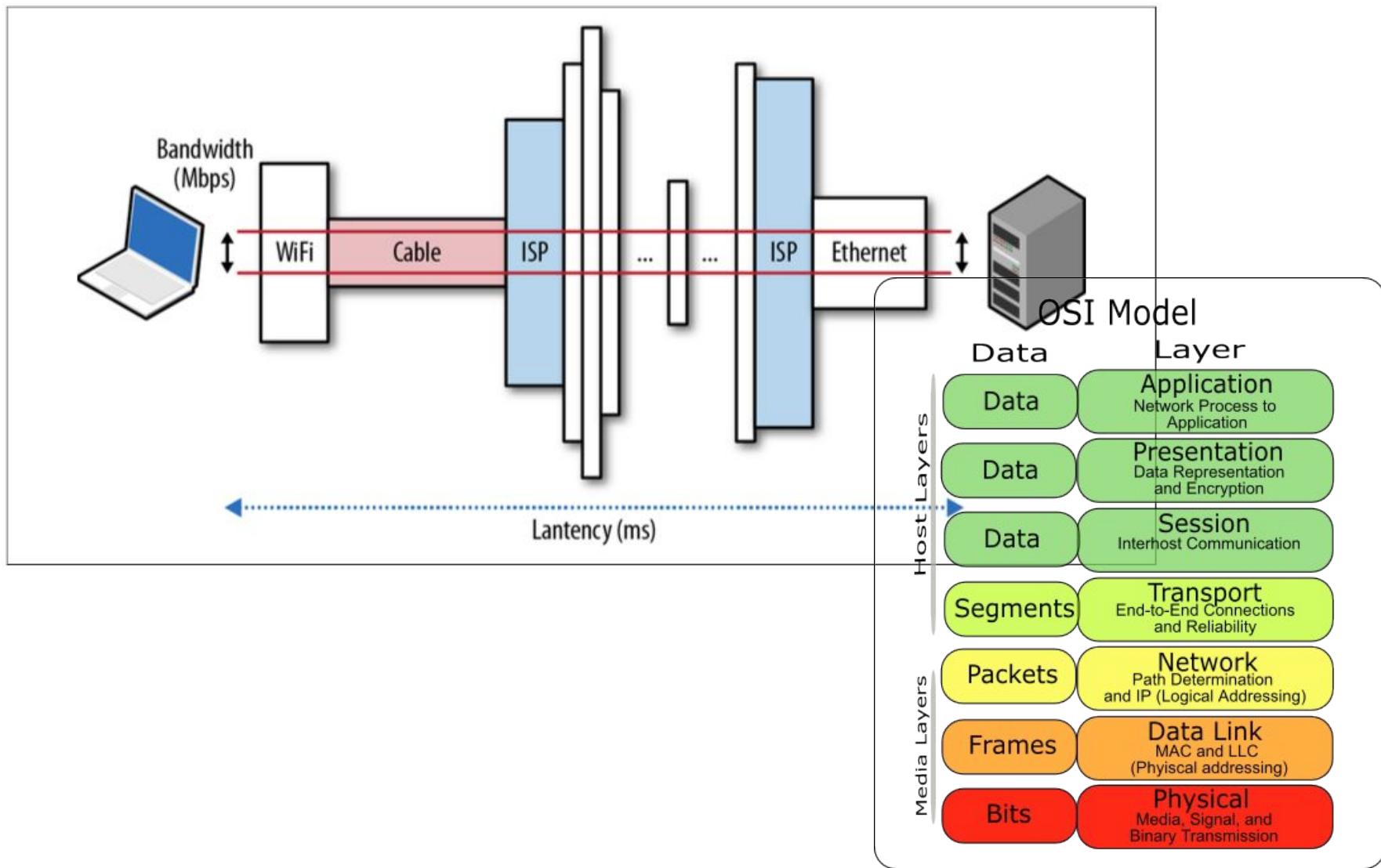
LoadRunner OpenSTA

CloudTest

TestStudio



rendimiento web: arquitectura



rendimiento web: ejemplos

Latest Performance Report for:
<http://www.carlessanagustin.com/>

Report generated: Sat, Mar 7, 2015, 2:55 AM -0800

Grade: **D** (%) ↓

Page load time: 8.20s
Total page size: 843KB
Total number of requests: 72

About me My Work My Blog My TV Contact me

My Work DIAPRO Collaboration with Mediapro Collaborating with M2M Cloud

Grade: **D** (%) ↓

Page load time: 8.20s
Total page size: 843KB
Total number of requests: 72

Line History

GRADE	TYPE	PRIORITY
F (16)	↓ Server	High
F (46)	↓ Images	High
E (55)	↓ CSS/JS	High
E (55)	↓ Server	High
D (60)	↓ Server	High
D (66)	↑ JS	High
C (70)	↓ JS	Medium
B (81)	↓ CSS	High
B (84)	↓ Content	High
B (85)	↑ Images	High
B (85)	↓ CSS	Medium

Network

Method	File	Type	Size	0 ms	1.28 s	2.56 s	3.84 s	5.12 s	6.40 s
200 GET proxy.jpg?i=IBaAaHfR0chM6Ly9mYX... o.twimg.com	jpeg	123.39 kB							→ 492 ms
200 GET widgets.js	js	113.53 kB					→ 314 ms		
200 GET cb-gapi.loaded_0	js	112.18 kB				→ 102 ms			
200 GET 353126527740809216?dnt=false&domain... cdn.syndication.twimg.com	js	100.21 kB					→ 556 ms		
304 GET Lean-y-Agile-front-310x202.png	png	94.63 kB						→ 2068 ms	
304 GET jquery.js?v=1.11.1	js	93.56 kB						→ 73 ms	
200 GET nkb-310x232.png	png	81.04 kB						→ 1765 ms	
200 GET Taller-de-Integración-Continua-con-Je...	png	73.43 kB						→ 2045 ms	
304 GET buildbot-310x182.png	png	53.77 kB						→ 2078 ms	
200 GET jetpack.css?v=3.3	css	51.83 kB						→ 286 ms	
304 GET django-vagrant-310x141.png	png	49.34 kB						→ 2073 ms	
304 GET full-stack-310x219.jpg	jpeg	48.86 kB						→ 1785 ms	

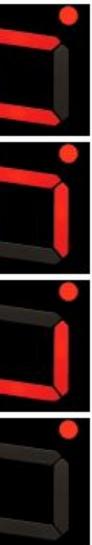
All HTML CSS JS XHR Fonts Images Media Flash Other

80 requests, 1,473.53 kB, 7.31 s | Clear



ejemplos reales

día 2



ejemplo 2.1: django stack (vagrant)

- Debian 7.4 + Nginx + Python 2.7
- Virtualenv
 - Django 1.6.2
 - django-celery
 - django-compressor
 - django-debug-toolbar
 - Fabric
 - South
 - psycopg2
 - Gunicorn
- Postgresql 9.3
- Supervisor

fuente: <https://vagrantcloud.com/hipwerk/django-dev-env>

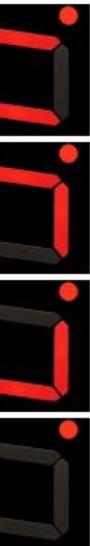
ejemplo 2.2: ruby on rails stack (sysdivision)

- ubuntu
- proxmox
- nginx
- unicorn
- ruby + rails
- capistrano
- redis
- mongodb
- capybara + cucumber



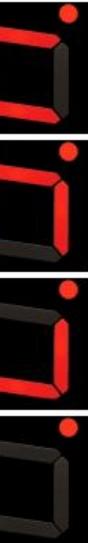
integración: jenkins

integración continua

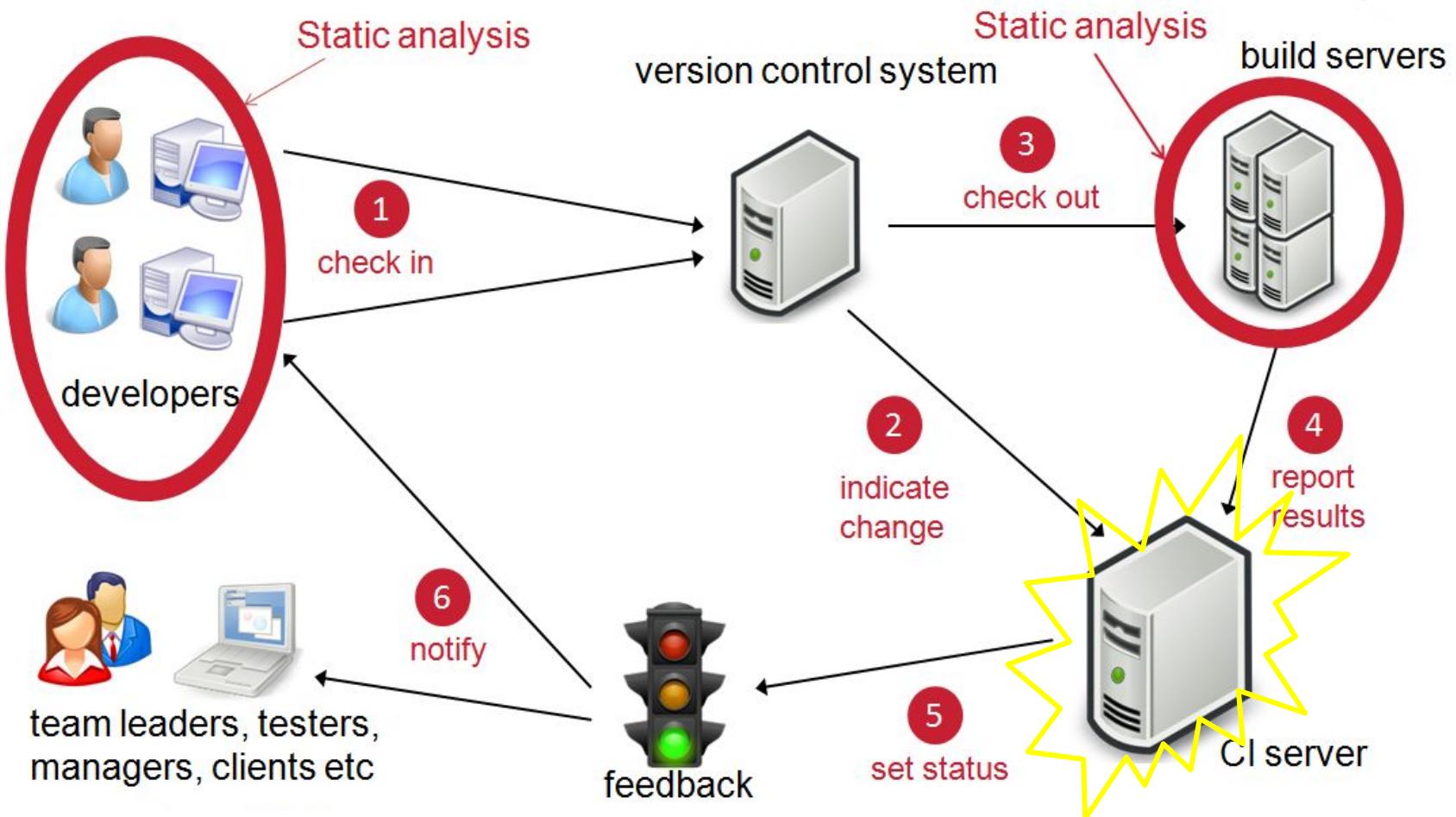


integración continua: herramientas

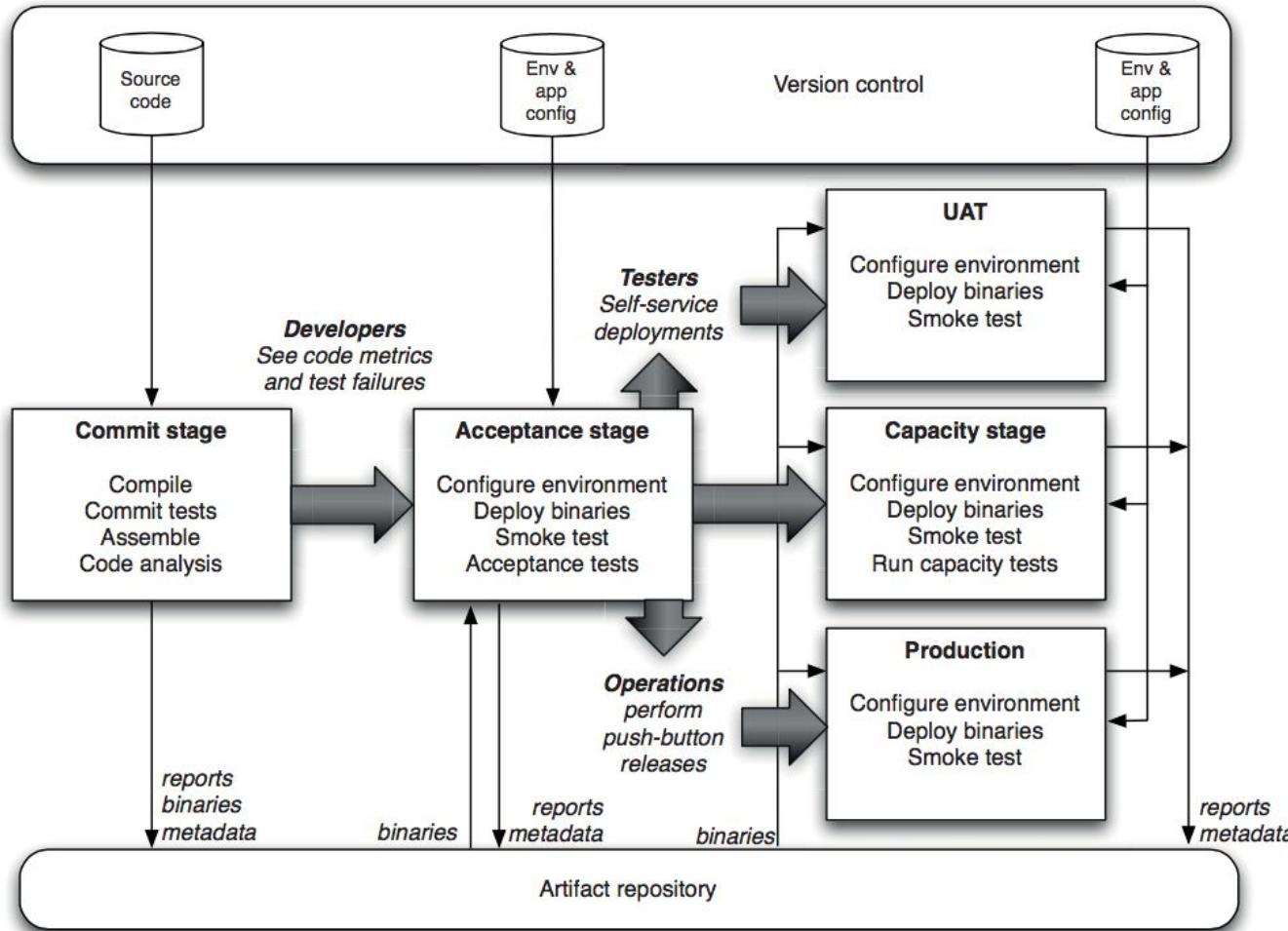
Lordui Jenkins
Hudson CircleCI
easyCIS Go Integrity
Tinderbox Gump BuildMaster
LuntBuild TeamCity
TravisCI CABIE TFS
pyCI nodeci Koality Continuum
AnthillPro
CruiseControl
Bamboo Continua
Codeship



integración continua: tubería de despliegue 3/3 - arquitectura

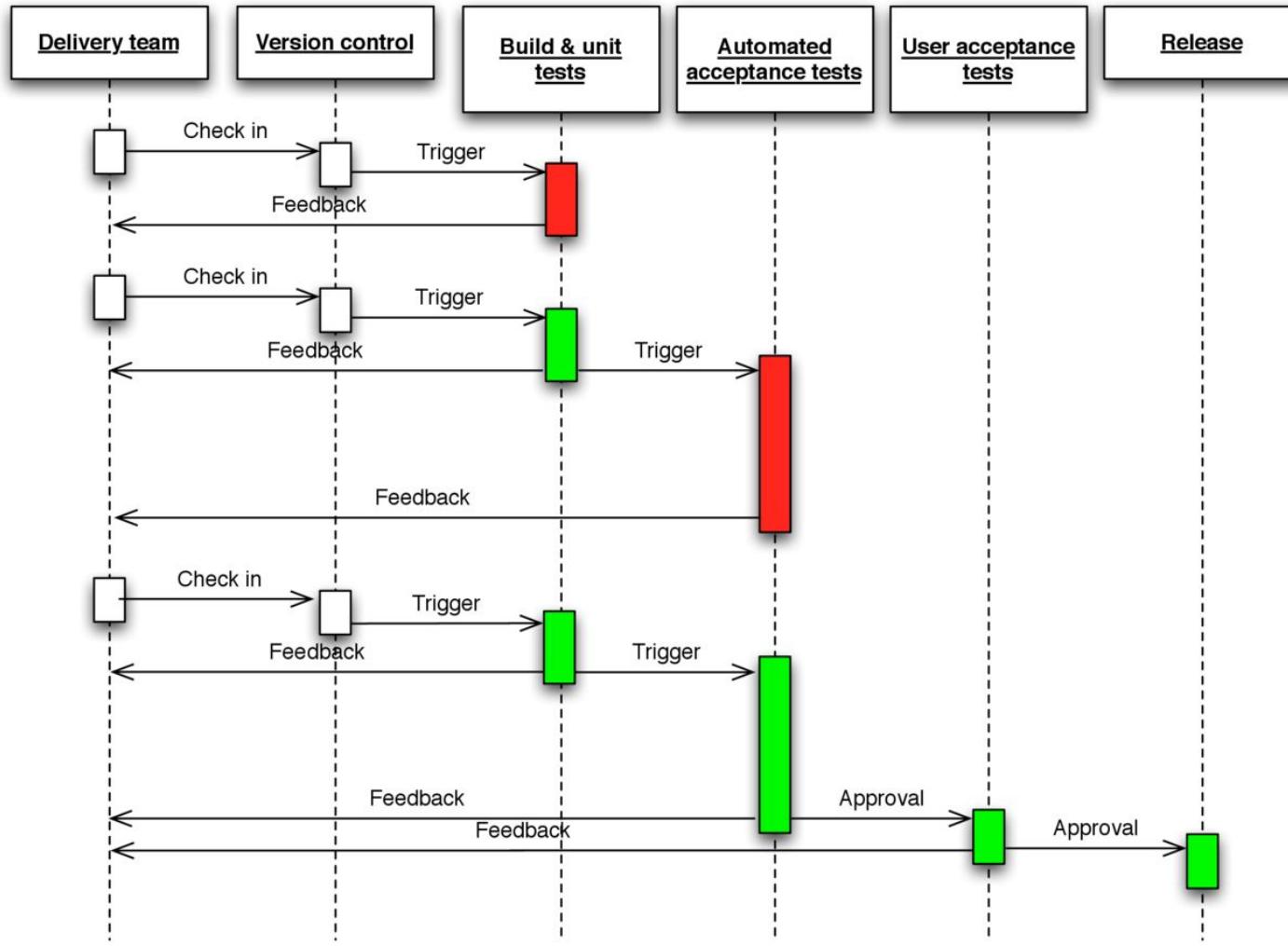


integración continua: tubería de despliegue 1/3 - modelo



fuente: jez humble

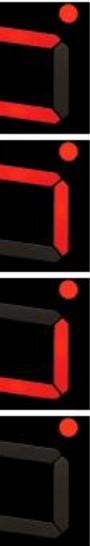
integración continua: tubería de despliegue 2/3 - cambios



fuente: jez humble

integración continua: jenkins - práctica

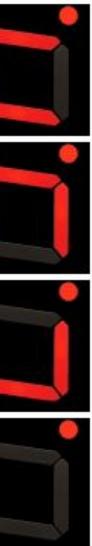
<https://github.com/carlessanagustin/AITM>





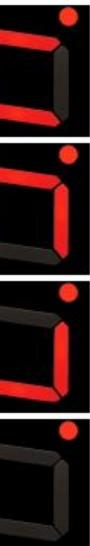
despliegue

día 3



despliegue: índice

1. automatización de configuración y compilación
2. gestión de la configuración
3. monitorización



automatización de configuración y compilación: herramientas

Grunt
Ant
Rake Maven
Buildout
make MSBuild
BuildIt automake
Bake NAnt
configure

automatización de configuración y compilación: grunt

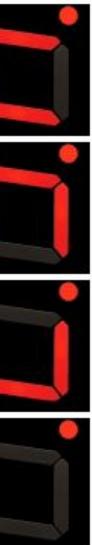


```
node_modules — bash — 120x32
unknown-58:b0:35:77:08:ae:node_modules peterlangley$ sudo npm install -g grunt-cli
Password:
npm http GET https://registry.npmjs.org/grunt-cli
npm http 304 https://registry.npmjs.org/grunt-cli
npm http GET https://registry.npmjs.org/nopt
npm http GET https://registry.npmjs.org/findup-sync
npm http GET https://registry.npmjs.org/resolve
npm http 304 https://registry.npmjs.org/resolve
npm http 304 https://registry.npmjs.org/findup-sync
npm http 304 https://registry.npmjs.org/nopt
npm http GET https://registry.npmjs.org/abbrev
npm http GET https://registry.npmjs.org/glob
npm http GET https://registry.npmjs.org/lodash
npm http 304 https://registry.npmjs.org/glob
npm http 304 https://registry.npmjs.org/abbrev
http 304 https://registry.npmjs.org/lodash
http GET https://registry.npmjs.org/mirage
http GET https://registry.npmjs.org/fil-fs
http 304 https://registry.npmjs.org/mirage
http 304 https://registry.npmjs.org/fil-fs
http 304 https://registry.npmjs.org/inherits
http 304 https://registry.npmjs.org/sigmund
http 304 https://registry.npmjs.org/sigmund
http 304 https://registry.npmjs.org/lru-cache
http 304 https://registry.npmjs.org/lru-cache
/usr/local/bin/grunt -> /usr/local/lib/node_modules/grunt-cli/bin/grunt
grunt-cli@0.1.9 /usr/local/lib/node_modules/grunt-cli
└── resolve@0.3.1
    └── node@1.0.10 (abbrev@1.0.4
        └── findup-sync@0.1.2 (lodash@1.0.1, glob@3.1.21)
unknown-58:b0:35:77:08:ae:node_modules peterlangley$
```



ejemplos reales

día 3



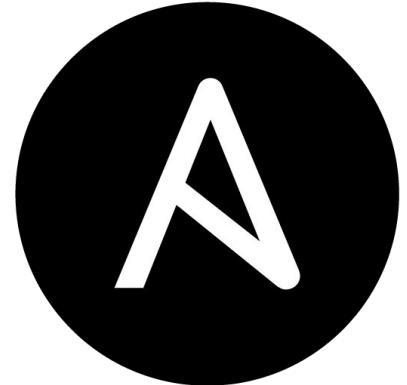
ejemplo 3.1: Andy Sykes on monitoring @ forward3d

- sensu: <http://sensuapp.org/>
- graphite: <http://graphite.readthedocs.org/en/latest/>
- flapjac: <http://flapjack.io/>

fuente: <https://www.youtube.com/watch?v=Q9BagdHGopg>

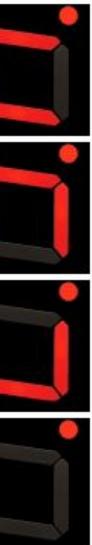
ejemplo 3.3: python stack (randall degges)

- python + django
- rabbitMQ (queueing)
- celery (task queue)
- memcached
- mysql
- github
- puppet
- monit + munin + nagios
- haproxy
- nginx
- gunicorn
- jenkins
- rackspace

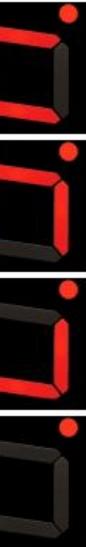


despliegue: ansible

infraestructura como código
gestión de configuración



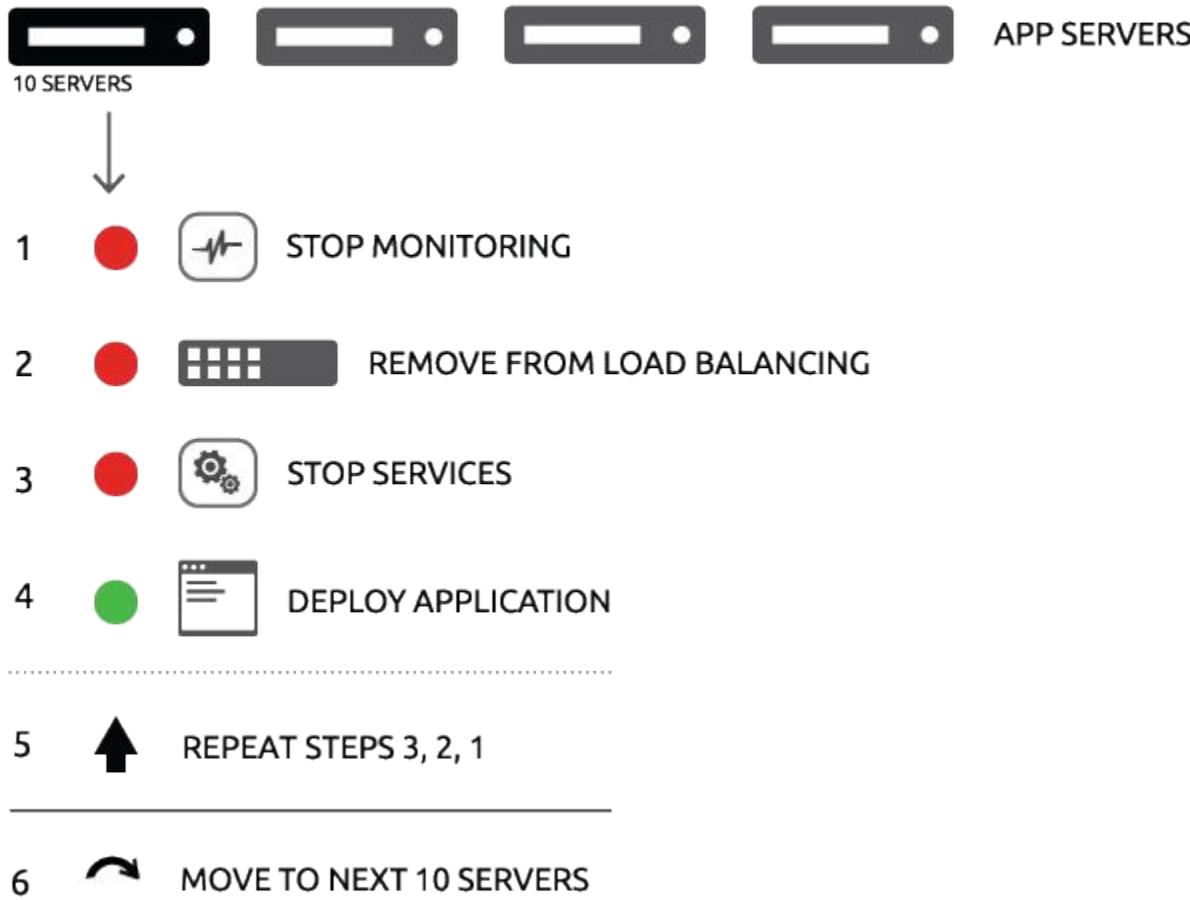
gestión de la configuración: herramientas



Ansible
Spacewalk
ISconf_{salt} NixOS
Rundeck cdist
Bcfg2 Synctool
Radmind CFEngine STAF NOC
Juju Rex Quattor
Rudder
Puppet
PIKT GLPI
LCFG Opsi SmartFrog
Chef

gestión de la configuración: ansible

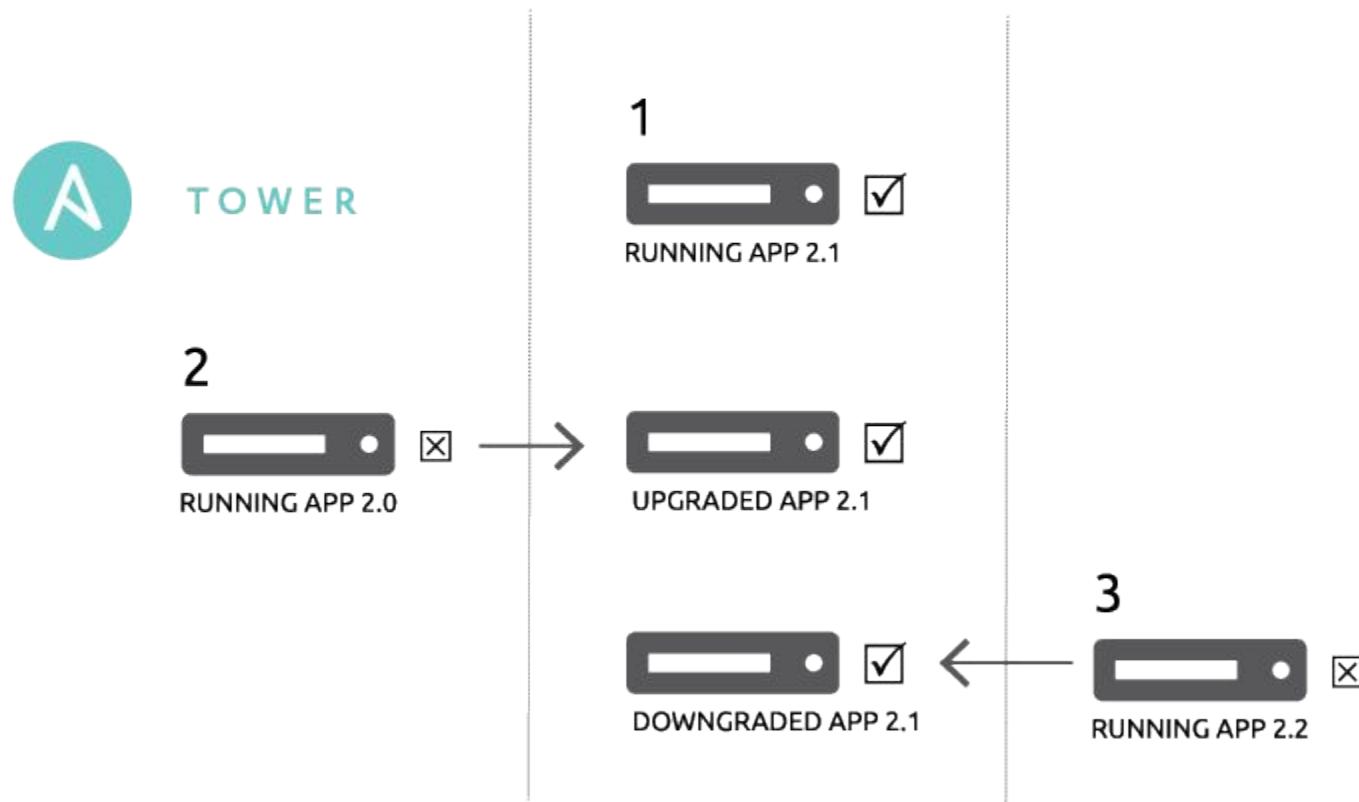
- application deployment



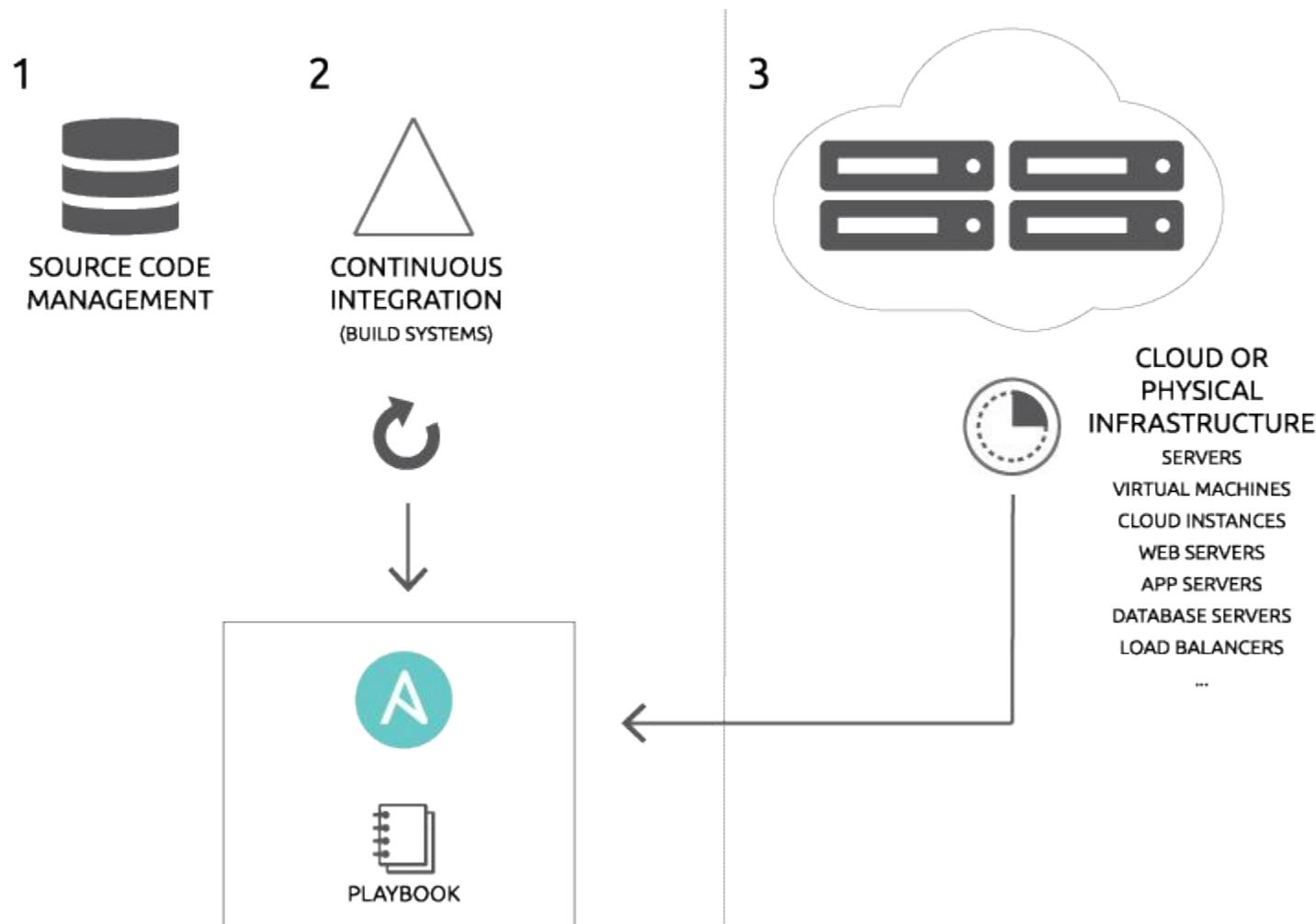
gestión de la configuración: ansible

- configuration management

Configure all servers to run App version 2.1

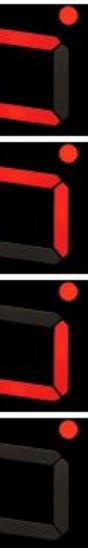
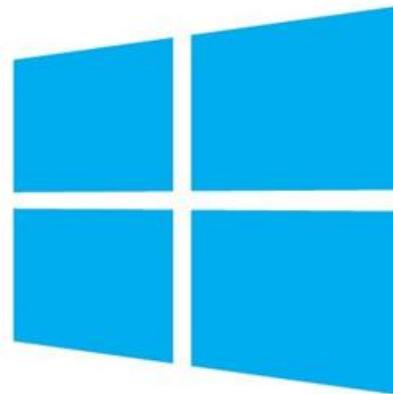
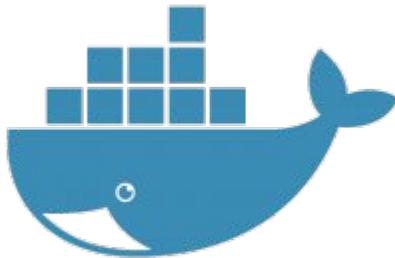


gestión de la configuración: ansible - continuous delivery



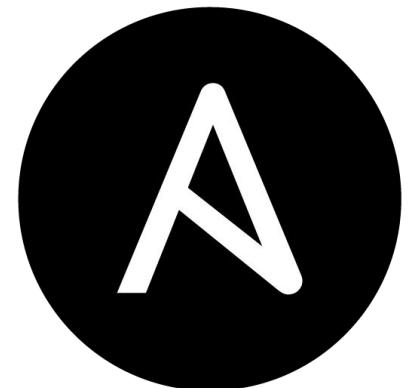
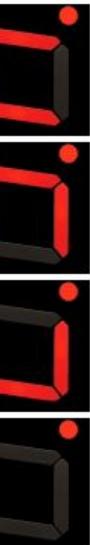
gestión de la configuración: ansible

- otras integraciones



gestión de la configuración: ansible - práctica

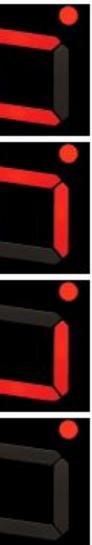
<https://github.com/carlessanagustin/AITM>





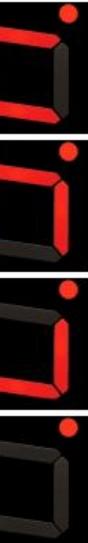
despliegue: nagios

monitorización



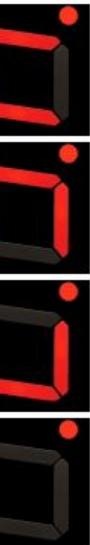
monitorización: herramientas

Zabbix OpenNMS
Argus Nagios
Glasswire Shinken PathSolutions
NetXMS Scrutinizer Cacti
Spiceworks Opsview Ganglia
ServersCheck OpenKBM SevOne NNMI AccelOps
collectd Monitorix ExtraHop
Zenoss Kaseya
Icinga NeuralStar Munin
Solarwinds

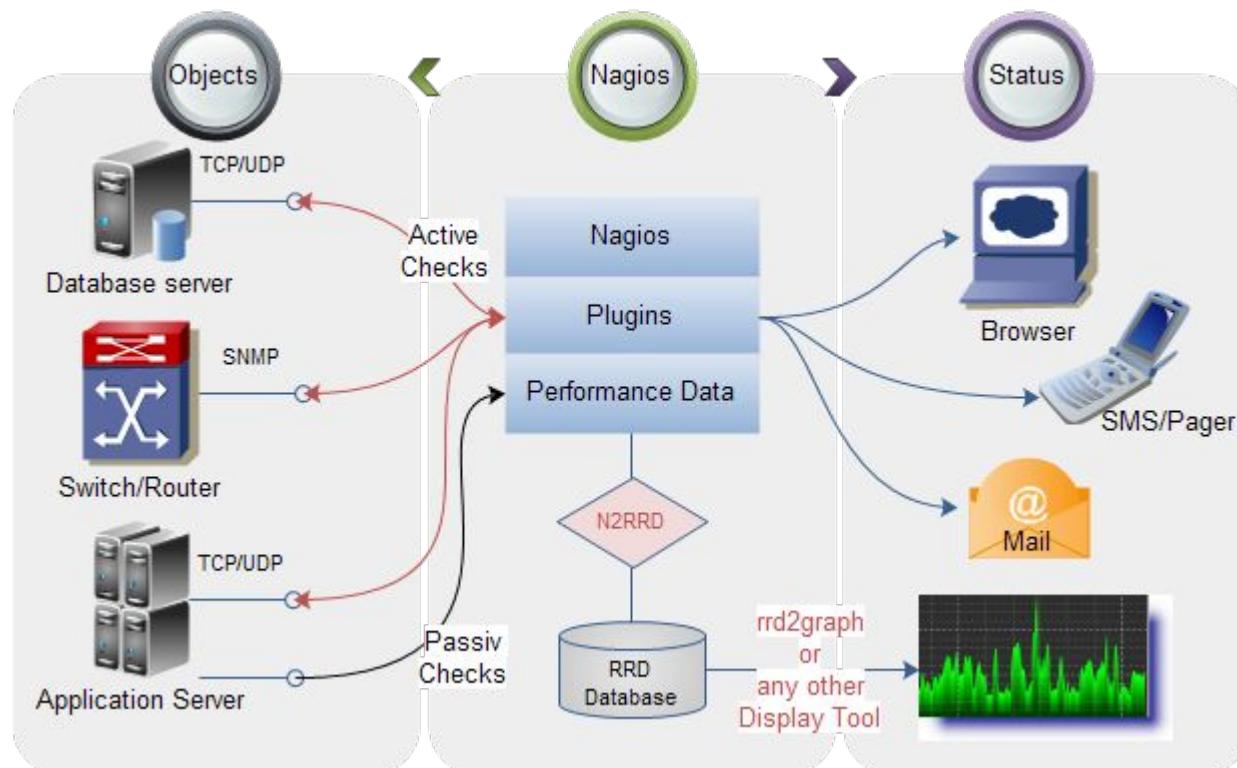


monitorización: tipos

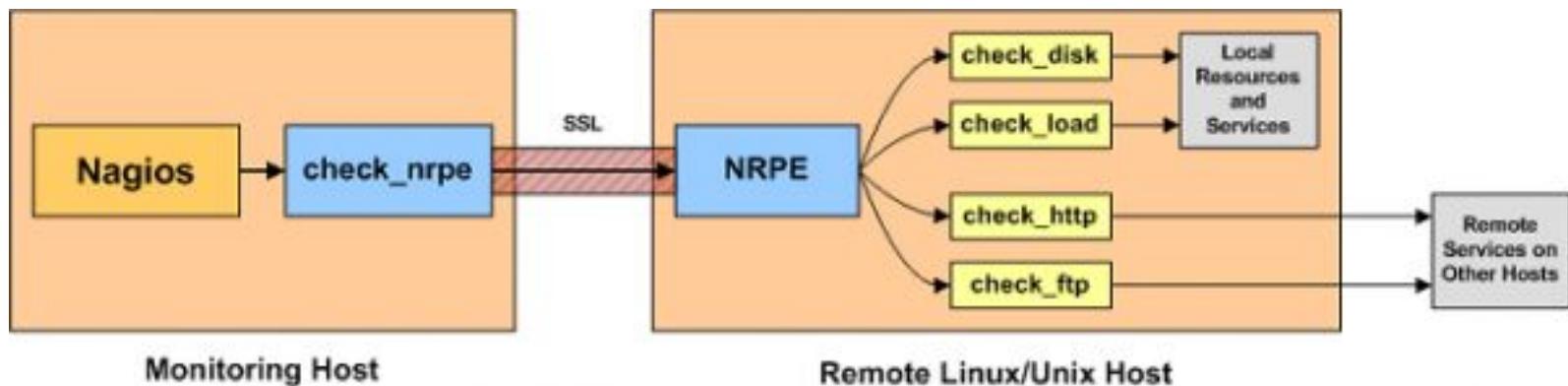
- Monitoreo de sistemas
- Monitoreo de redes
- Monitoreo de la dependencias
- Integración
- Monitoreo de la actividad de negocio
- Instrumentación de procesos o trazeo
- Procesamiento de eventos complejos



monitorización: nagios - arquitectura

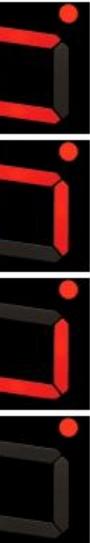


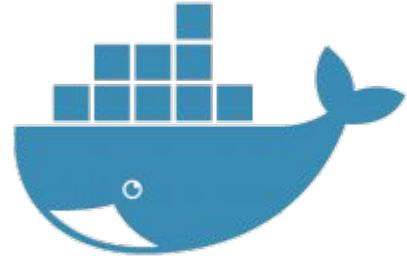
monitorización: nagios remote plugin executor



monitorización de sistemas y redes: nagios - práctica

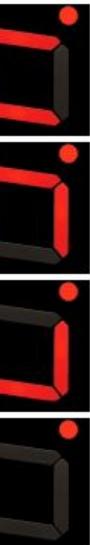
<https://github.com/carlessanagustin/AITM>





entornos: docker

contenedores de aplicaciones



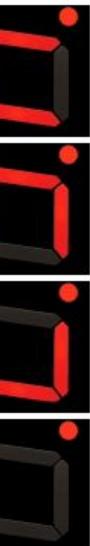
separación de intereses

*desarrolladores o
programadores*

- Código
- Librerías
- Aplicación
- Gestor de paquetes
- Información y datos

operaciones o sysadmin

- Registro (logging)
- Acceso remoto
- Configuración de red
- Monitorización



separación de intereses

desarrolladores o programadores

- Código
- Librerías
- Aplicación
- Gestor de paquetes
- Información y datos

operaciones o sysadmin

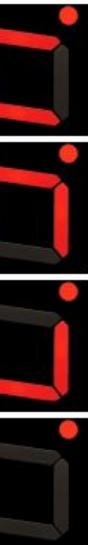
- Registro (logging)
- Acceso remoto
- Configuración de red
- Monitorización

Consistencia de sistemas

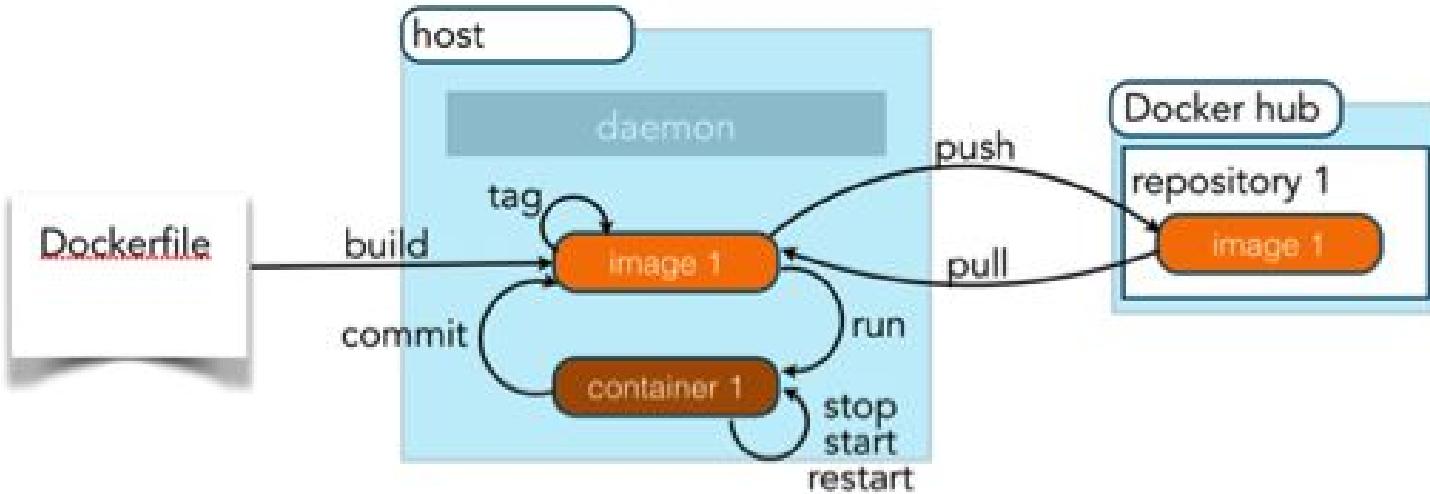
Gestión de redes y
volúmenes nativo

Clustering y redes
escalable nativo

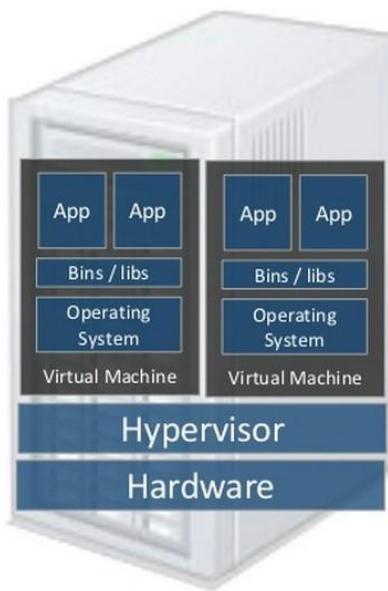
Flexibilidad con
arquitectura conectable al
ecosistema



docker: workflow



máquinas virtuales vs docker



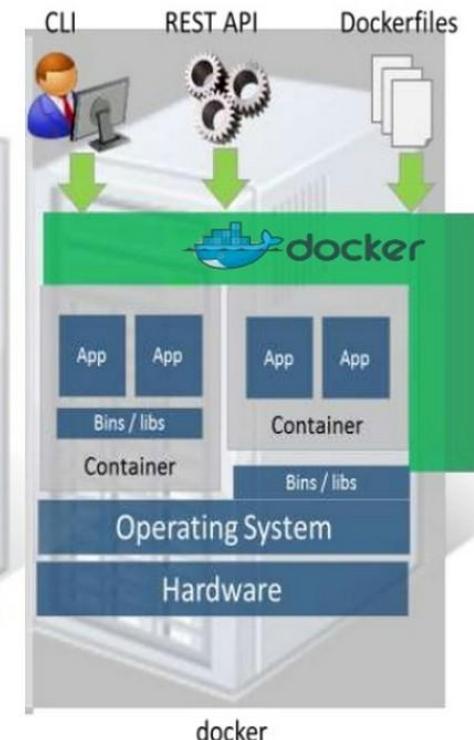
Type 1 Hypervisor



Type 2 Hypervisor



Linux Containers



Docker

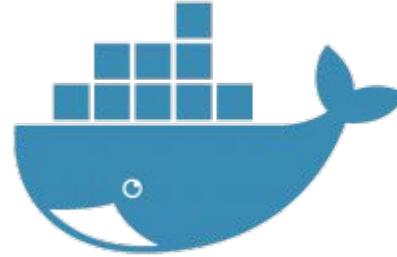
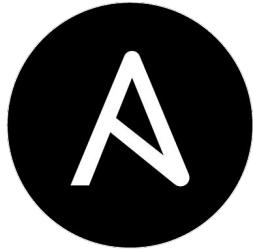
Oracle VM Server, Citrix
XenServer, VMware
ESX/ESXi, Microsoft
Hyper-V, ...

VMware Workstation,
VMware Player,
VirtualBox, Parallels,
KVM, QEMU, ...

LXC

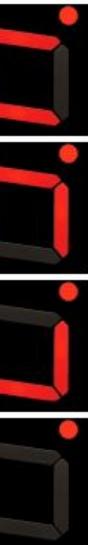
Docker

ansible vs docker

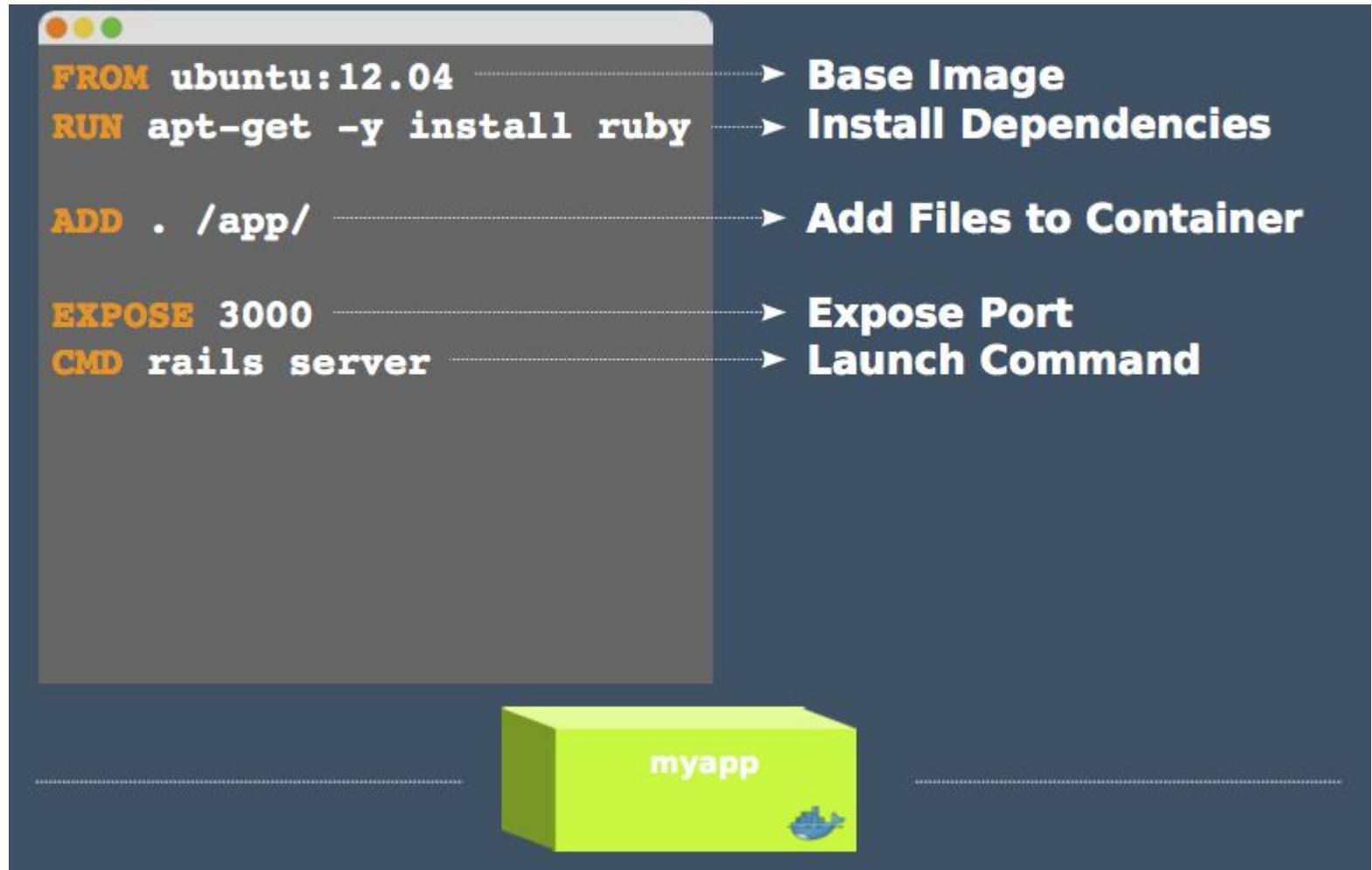


- Muchas veces depende de otros playbooks o repositorios (como apt-get o yum) para instalar software.
- Las dependencias son resueltas a tiempo de convergencia (instalación o actualización)
- Los cambios pueden ser desplegados para evolucionar un servidor.

- Docker aprovisiona aplicaciones en servidores en una capa separada del sistema operativo.
- Las dependencias son resueltas en el momento de crear la imagen (ejemplo: *docker build* o *docker entrypoint*).
- Los cambios deben hacerse deteniendo y sustituyendo un container por una nueva versión (matar el ganado).



docker: dockerfile



dockerfile: buenas prácticas

- Los contenedores deben ser efímeros.
 - Se puede detener y destruir y crear uno nuevo con unos mínimos.
- Evitar la instalación de paquetes innecesarios.
 - Los contenedores son ligeros y sólo deben contener una aplicación y sus dependencias.
- Ejecutar sólo un proceso por contenedor.
 - Desconectando las aplicaciones en múltiples contenedores hace mas fácil el escalado horizontal y la reutilización de contenedores.
 - Usar enlaces entre contenedores para las dependencias de servicios.
- Minimizar el número de capas.
 - Capas aumentan el tamaño del contenedor.
- Ordenar comandos multi línea
 - Para facilitar la lectura (utilización de "&& \")
- Usar caché para ir más rápido
 - Usando --no-cache=true/false
- Utilizar un archivo de .dockerignore
 - Para excluir archivos o directorios durante la construcción del contenedor.

suite docker

Soluciones SaaS/PaaS

- Docker Hub
- Docker Trusted Registry
- Tutum
- Universal Control Plane

Herramientas

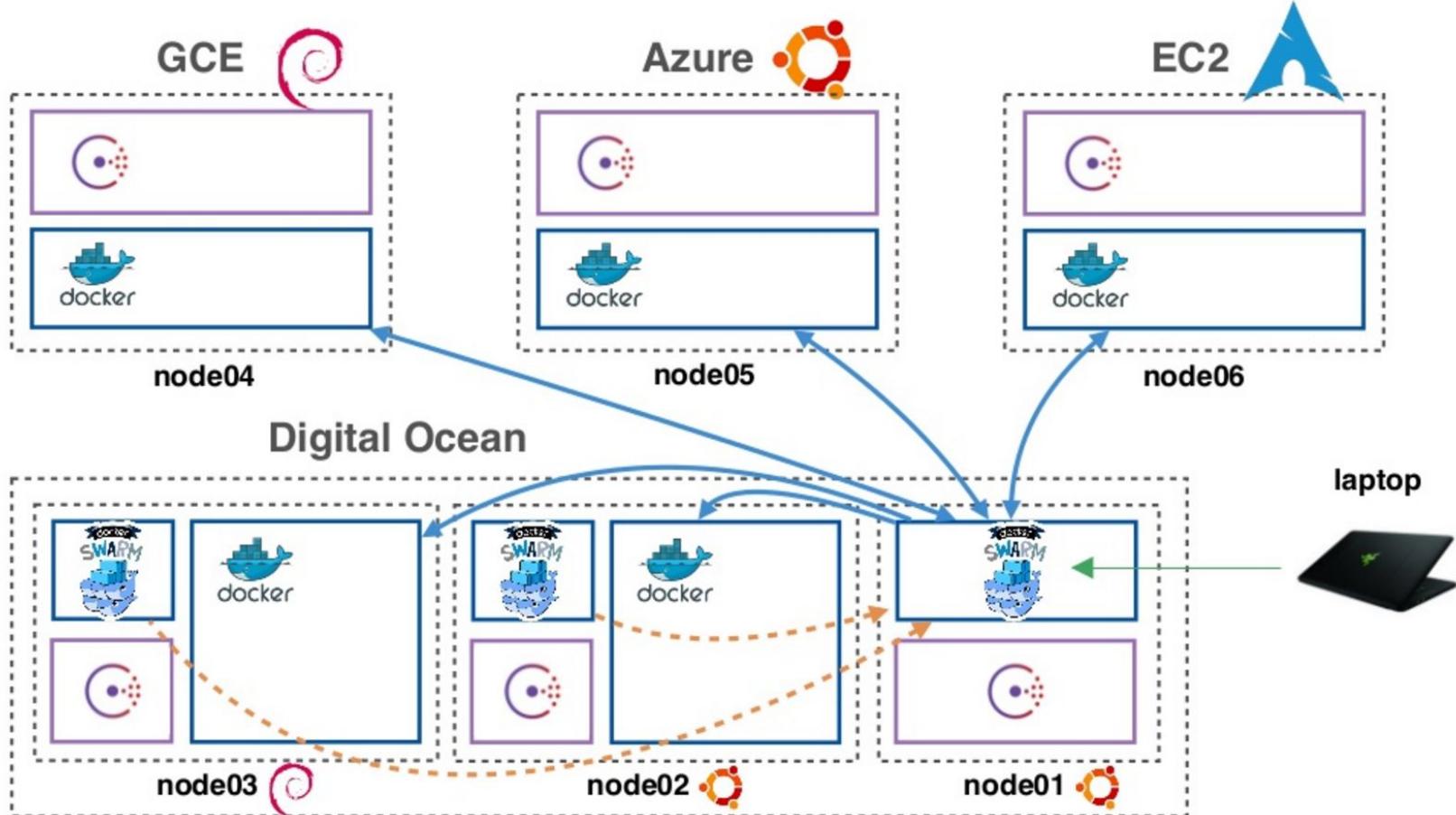
- Docker Compose
- Docker Engine
- Docker Machine
- Docker Registry
- Docker Swarm
- Kitematic

construye, empaqueta y ejecuta cualquier aplicación, en cualquier lugar

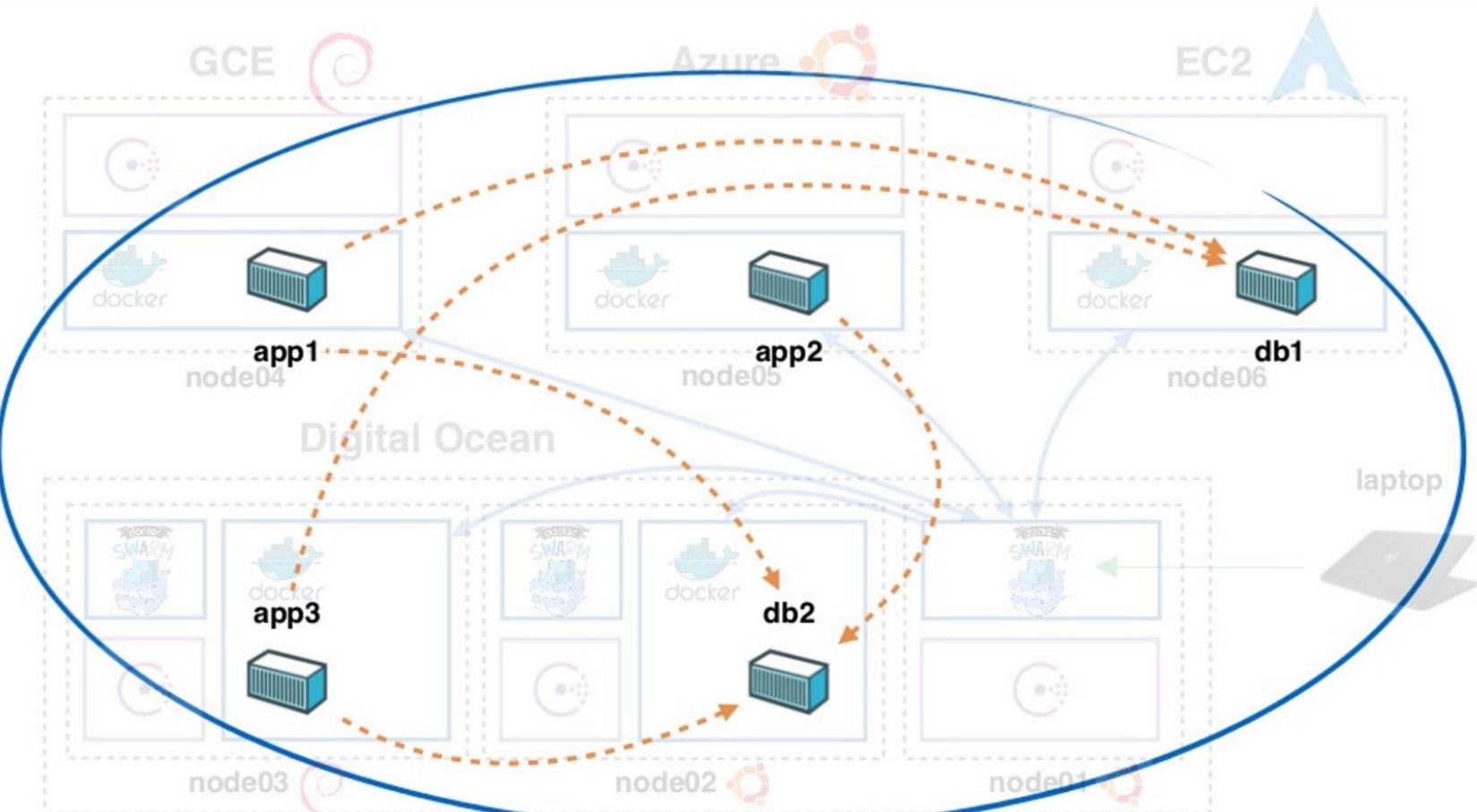


Docker motto: Build, Ship, and Run Any App, Anywhere

docker: sistemas distribuidos

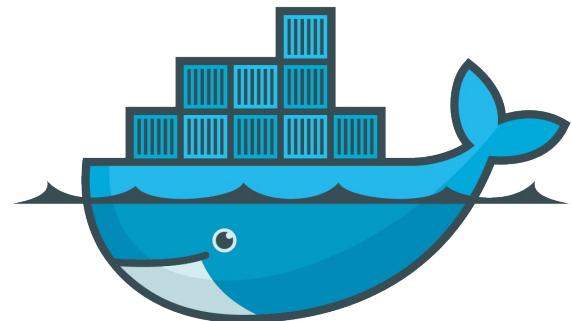
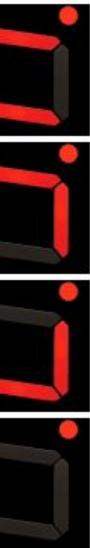


docker: sistemas distribuidos



entornos: docker - práctica

<https://github.com/carlessanagustin/AITM>



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@carlesanagustin



linkedin.carlessanagustin.com