

Continuous Integration -Kom igång!

Andreas Ek 2013-06-12 Geek Meet VAS

Varför CI?

- Agilt utvecklingssätt kräver ständig transparens och leverans.
- Enklare och snabbare leverans / lansering
- Möjliggör minskad tid för nyckelpersoner
- Ökar förmågan hos "vanliga" utvecklare
- Tar bort repetitiva moment
- Höjer kvaliteten i dina projekt

Agile Manifesto Principles

1. Our highest priority is to satisfy the customer through early and **continuous delivery** of valuable software.
2. Welcome changing requirements, even late in development. Agile processes harness change for the customer's competitive advantage.
3. **Deliver working software frequently**, from a couple of weeks to a couple of months, with a preference to the shorter timescale.
4. Business people and developers must work together **daily** throughout the project.
5. Build projects around motivated individuals. **Give them the environment** and support they need, and trust them to get the job done.
6. The most efficient and effective method of conveying information to and within a development team is face-to-face conversation.
7. **Working software** is the primary measure of progress.
8. Agile processes promote sustainable development. The sponsors, developers, and users should be able to maintain a constant pace indefinitely.
9. **Continuous attention** to technical excellence and good design enhances agility.
10. **Simplicity**--the art of maximizing the amount of work not done--is essential.
11. The best architectures, requirements, and designs emerge from self-organizing teams.
12. At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behavior accordingly.

Vad är CI?

Continuous Integration

Kontinuerlig integration?

Kontinuerlig leverans?

Ständig transparens?

Automatiska produktinkrement?

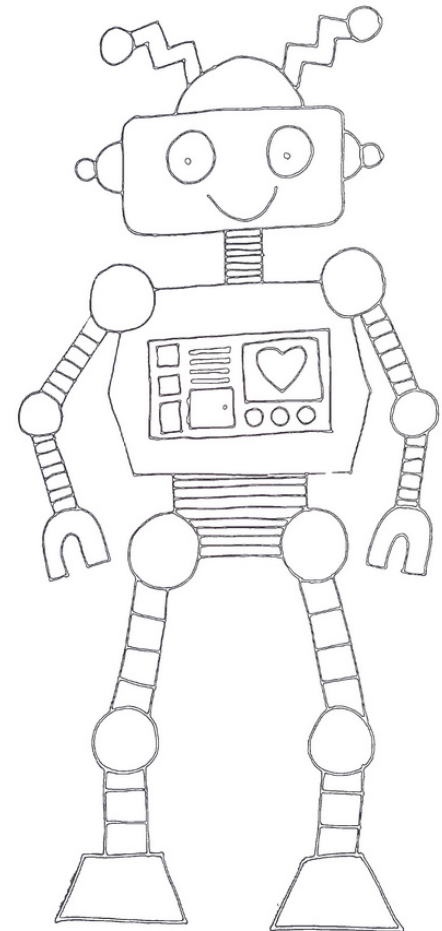
Byggsript?

Testautomatik?

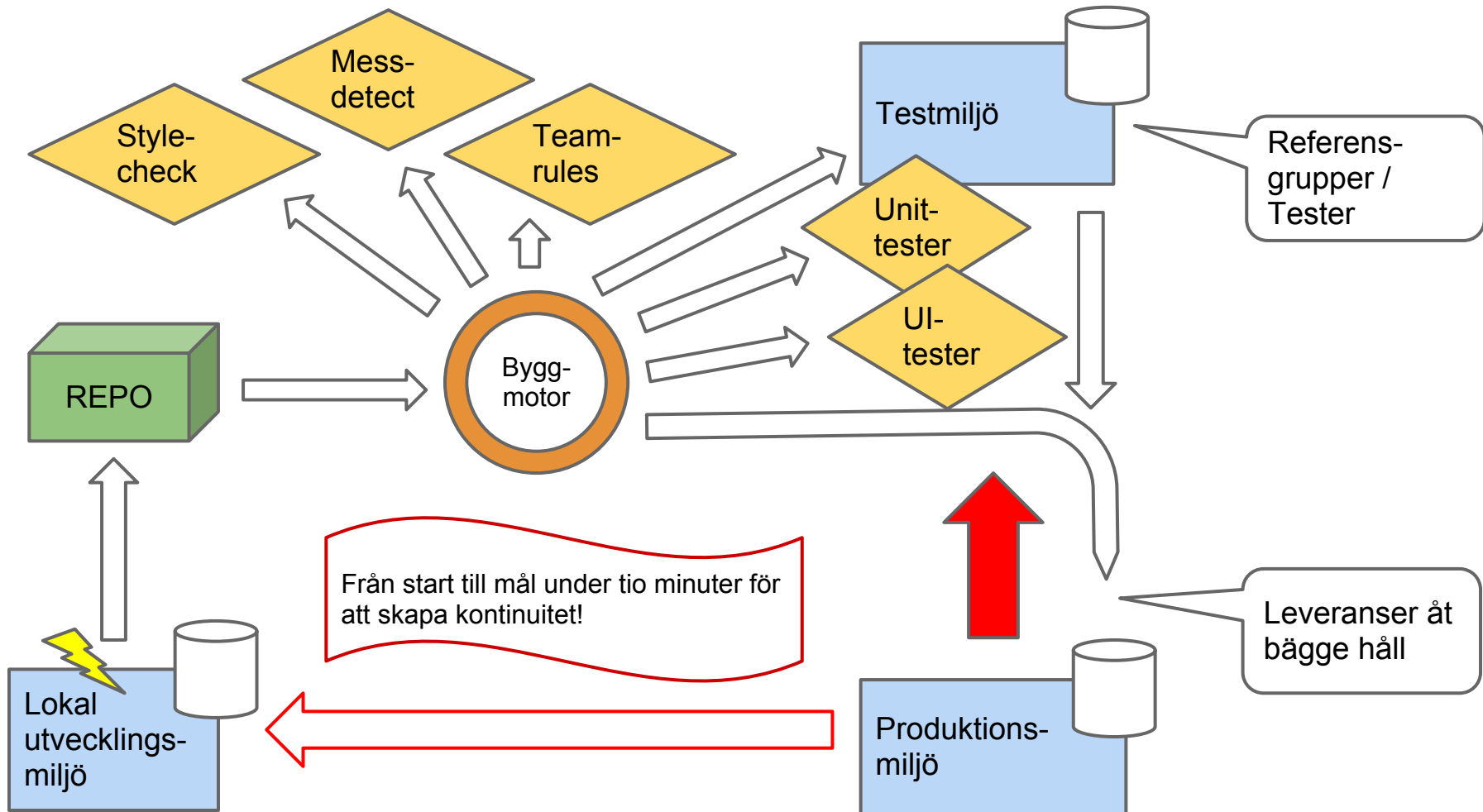
UI-testning?

Verktyg för TDD?

Namn på svenska?!



Blueprint



Utmaningar

Tar tid att bygga upp

Normal CI-uppsättning > 40h

Projekt på 200h? 20%? No way!

***Hur kan vi komma igång
med CI på kortare tid?***



Börja men med en sak i taget!

Versionshantering

Byggmotor

Analys / Style

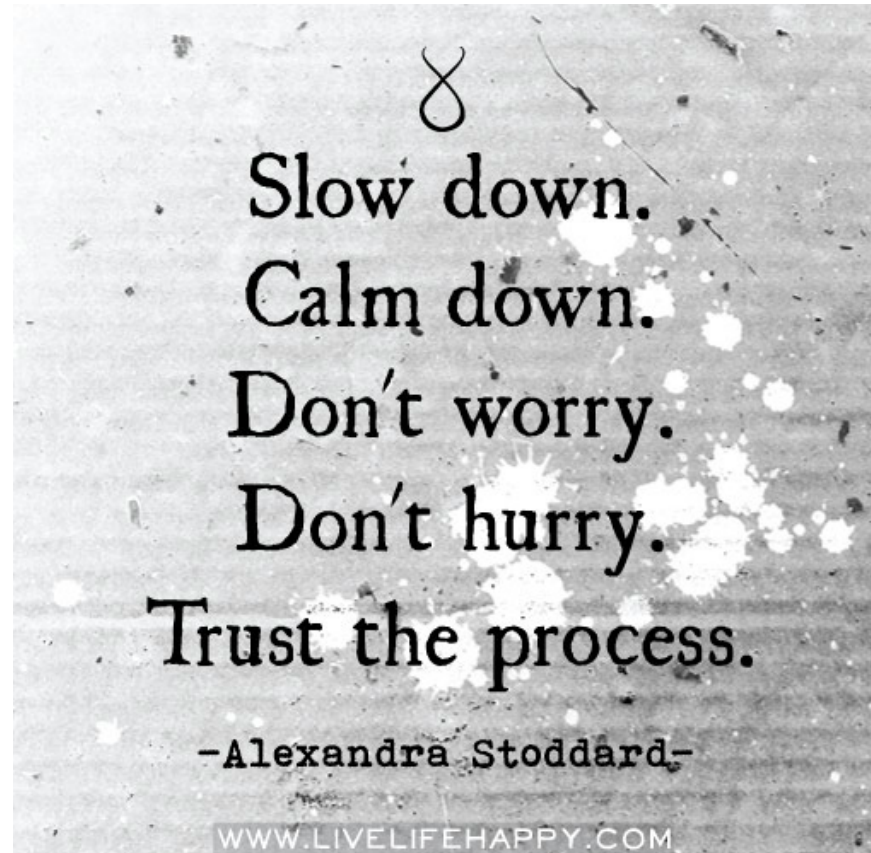
Unit/last/stress-test

UI-Test

Leverans

Pipeline

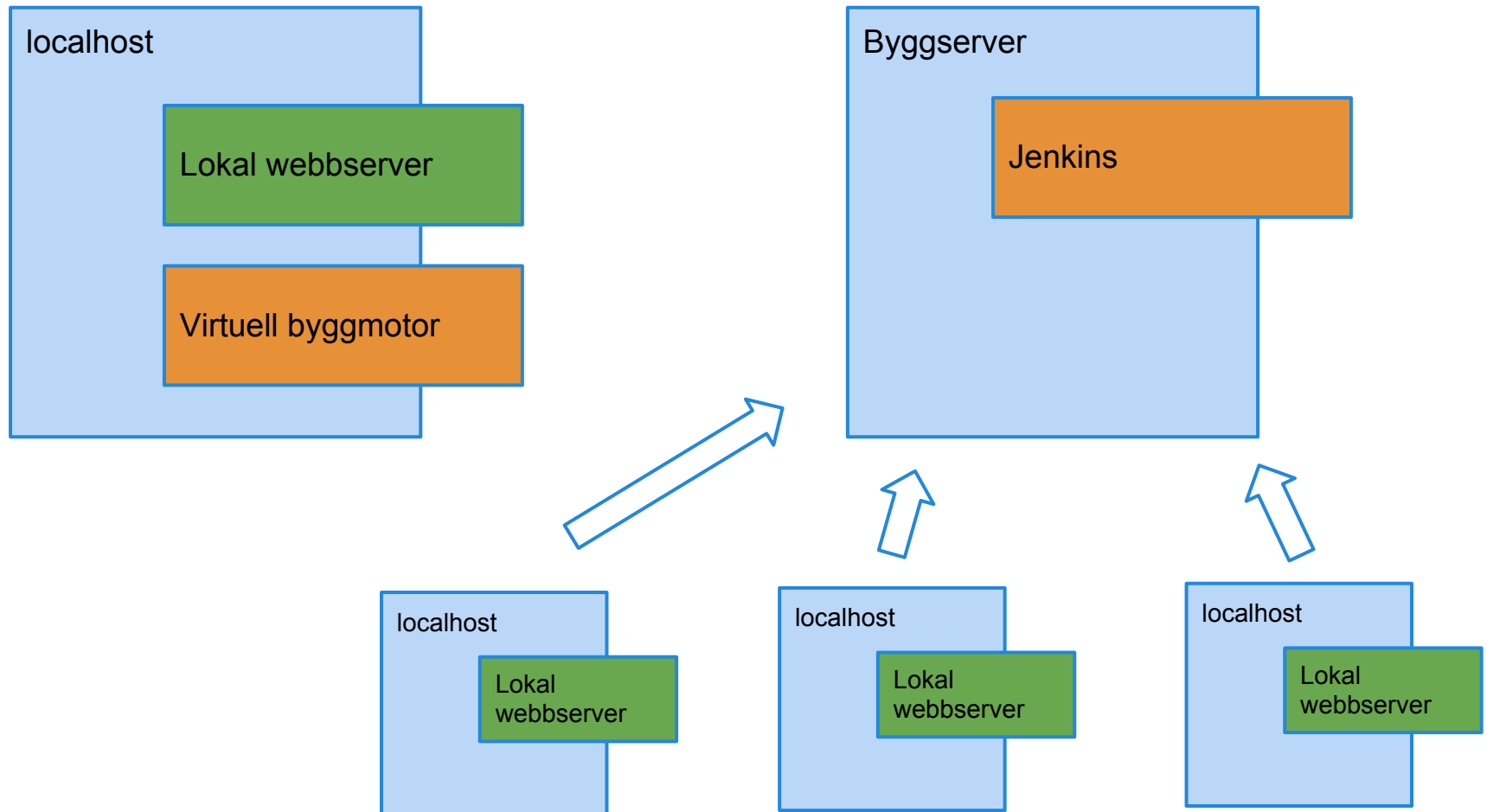
Support



Demonstration



Miljöer för denna demo



Lokal utvecklingsmiljö

Demo (knockoutjs :-)

Exempel: varukorg

<http://cart.dev>

Continuous Integration Demo

Built With Bootstrap ➔ WrapBootstrap ➔

Category	Product	Price	Quantity	Subtotal	
Classic Cars	1948 Porsche Type 356 Roads	\$62.16	<input type="text" value="7"/>	\$435.12	Remove
Motorcycles	1974 Ducati 350 Mk3 Desmo	\$56.13	<input type="text" value="3"/>	\$168.39	Remove
Planes	American Airlines: B767-300	\$51.15	<input type="text" value="6"/>	\$306.90	Remove
Ships	The USS Constitution Ship	\$33.97	<input type="text" value="5"/>	\$169.85	Remove
Trains	1962 City of Detroit Streetcar	\$37.49	<input type="text" value="2"/>	\$74.98	Remove
Trucks and Buses	1940s Ford truck	\$84.76	<input type="text" value="3"/>	\$254.28	Remove
Vintage Cars	1904 Buick Runabout	\$52.66	<input type="text" value="1"/>	\$52.66	Remove
Classic Cars	1966 Shelby Cobra 427 S/C	\$29.18	<input type="text" value="8"/>	\$233.44	Remove
Motorcycles	1997 BMW R 1100 S	\$60.86	<input type="text" value="2"/>	\$121.72	Remove

Total value: \$1817.34

Add product

Submit order

CI-miljö, virtuell server



ubuntu®



Jenkins



7 steg till UI-test

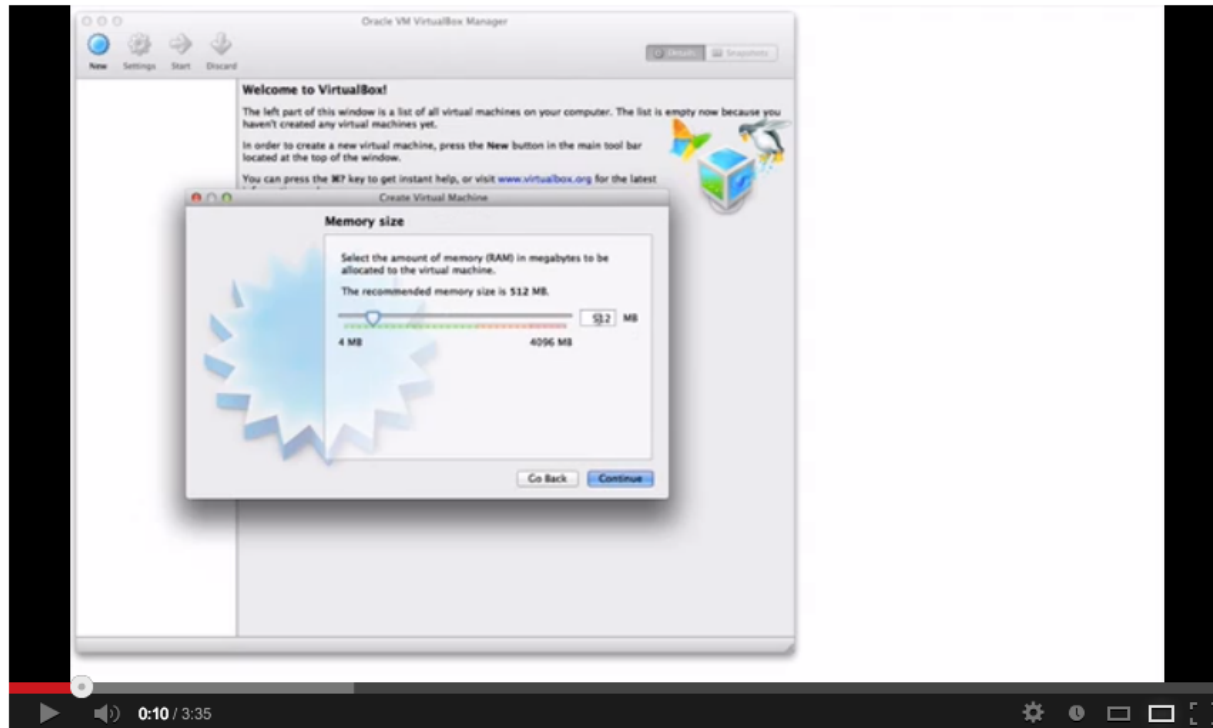
- Installation virtuell miljö (steg 1-3) *
- Konfiguration (steg 4-5) *
- UI Test Case (steg 6)
- CI-Jobb (steg 7)

* Förberett i denna demo...

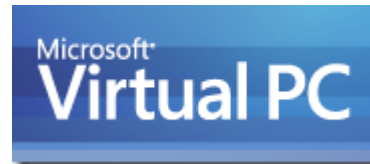


Installationsstegen 1-5, video

<http://www.youtube.com/watch?v=dedsQ55hl7g>



Steg 1 - Installera virtuell server



Steg 2 - Åtkomst virtuell server

Logga in som root:

`sudo su`

Ta reda på dina IP-adresser:

`ifconfig`

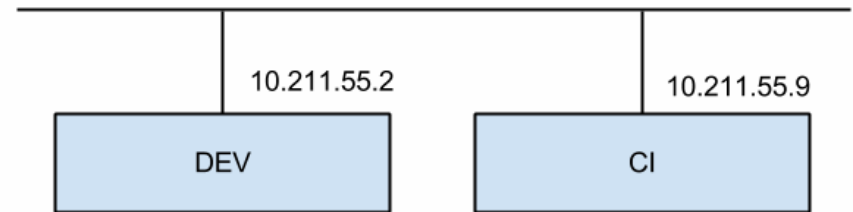
Installera openssh:

`apt-get install -y openssh-server`

Modifiera hostfilen:

`nano /etc/hosts`

`# exempel: 10.211.55.2 calc.local`



Steg 3 - Installera tjänster

Lägg till Jenkinsrepo

```
wget -q -O - http://pkg.jenkins-ci.org/debian/jenkins-ci.org.key | sudo apt-key add -  
sh -c 'echo deb http://pkg.jenkins-ci.org/debian binary/ > /etc/apt/sources.list.d/jenkins.list'  
apt-get update && apt-get upgrade -y
```

Installera Java, Git, Xvfb, Firefox, Jenkins

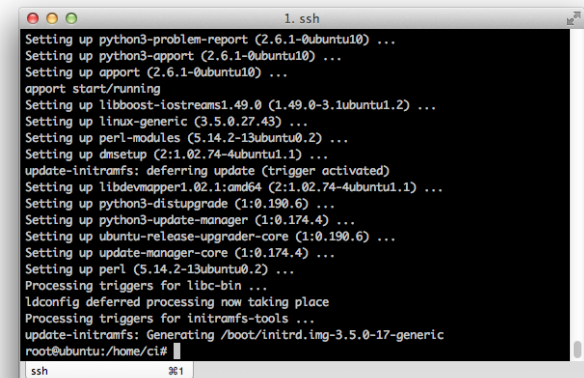
```
apt-get install -y default-jre git xvfb firefox jenkins
```

Buggfix för Selenium

```
ln -s /usr/lib/firefox/firefox /usr/bin/firefox-bin
```

Lägg in Selenium standalone

```
wget http://selenium.googlecode.com/files/selenium-server-standalone-2.32.0.jar  
mkdir -p /var/lib/selenium  
mv selenium-server-standalone-2.32.0.jar /var/lib/selenium/selenium.jar
```

A terminal window titled '1. ssh' showing the output of an 'apt-get update' command. The output lists various packages being updated, including python3-problem-report, python3-apport, apport, libboost-iostreams, linux-generic, perl-modules, dmsetup, update-initramfs, libdevmapper, python3-distupgrader, python3-update-manager, ubuntu-release-upgrader-core, update-manager-core, and perl. It also shows the progress of processing triggers for libc-bin, ldconfig, and update-initramfs. The terminal ends with the prompt 'root@ubuntu:/home/ci#'.

```
1. ssh  
Setting up python3-problem-report (2.6.1-0ubuntu10) ...  
Setting up python3-apport (2.6.1-0ubuntu10) ...  
Setting up apport (2.6.1-0ubuntu10) ...  
apport start/running  
Setting up libboost-iostreams1.49.0 (1.49.0-3.1ubuntu1.2) ...  
Setting up linux-generic (3.5.0-27.43) ...  
Setting up perl-modules (5.14.2-13ubuntu0.2) ...  
Setting up dmsetup (2:1.02.74-4ubuntu1.1) ...  
update-initramfs: deferring update (trigger activated)  
Setting up libdevmapper1.02.1:amd64 (2:1.02.74-4ubuntu1.1) ...  
Setting up python3-distupgrader (1:0.190.6) ...  
Setting up python3-update-manager (1:0.174.4) ...  
Setting up ubuntu-release-upgrader-core (1:0.190.6) ...  
Setting up update-manager-core (1:0.174.4) ...  
Setting up perl (5.14.2-13ubuntu0.2) ...  
Processing triggers for libc-bin ...  
ldconfig deferred processing now taking place  
Processing triggers for initramfs-tools ...  
update-initramfs: Generating /boot/initrd.img-3.5.0-17-generic  
root@ubuntu:/home/ci#
```

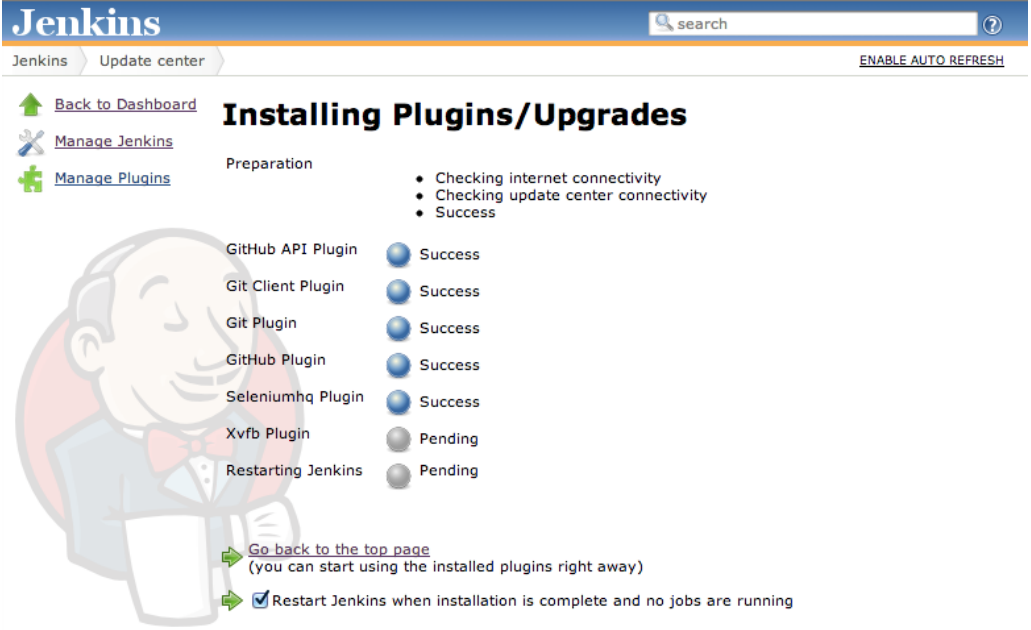
Steg 4 - Jenkins Plugins

Installera plugins på Jenkins port 8080!

Manage Jenkins -> Manage Plugins

- Github Plugin
- Xvfb Plugin
- Seleniumhq Plugin

Install + Restart



Jenkins [ENABLE AUTO REFRESH](#)

[Jenkins](#) [Update center](#)

[Back to Dashboard](#) [Manage Jenkins](#) [Manage Plugins](#)

Installing Plugins/Upgrades

Preparation

- Checking internet connectivity
- Checking update center connectivity
- Success

GitHub API Plugin	Success
Git Client Plugin	Success
Git Plugin	Success
GitHub Plugin	Success
Seleniumhq Plugin	Success
Xvfb Plugin	Pending
Restarting Jenkins	Pending

[Go back to the top page](#)
(you can start using the installed plugins right away)

☒ Restart Jenkins when installation is complete and no jobs are running

[Help us localize this page](#) Page generated: Apr 25, 2013 10:31:45 AM [REST API](#) [Jenkins ver. 1.512](#)

Steg 5 - Globala inställningar

Ställ in Jenkins globalt

Manage Jenkins -> Configure System

- Git, path: /usr/bin/git
- xvfb path: /usr/bin
- Git Plugin Global: Name / Email
- Selenium RC: /var/lib/selenium/selenium.jar

Spara!

Xvfb installation

Xvfb installation installations

Xvfb installation

Name

xvfb

Directory in which to find Xvfb executable

/usr/bin



Install automatically

Delete Xvfb installation

Add Xvfb installation

List of Xvfb installation installations on this system

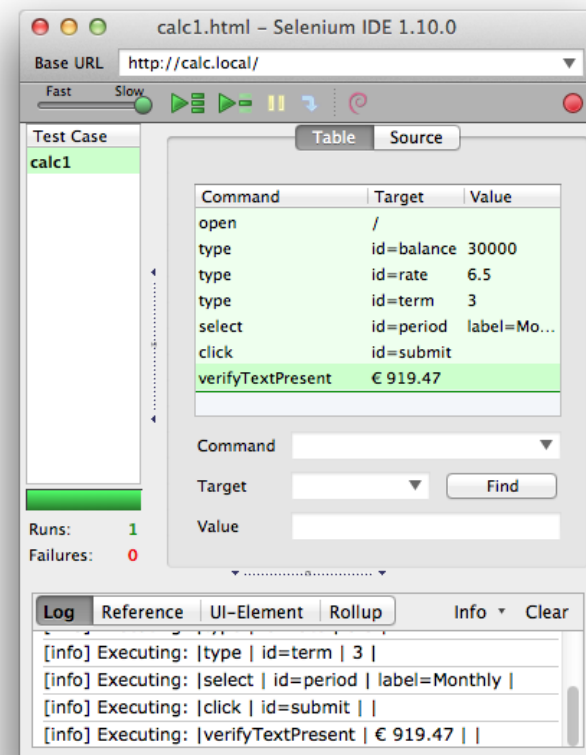
Steg 6 - Testcase

Firefox!

Installera Selenium IDE

Skapa ett UI-testcase

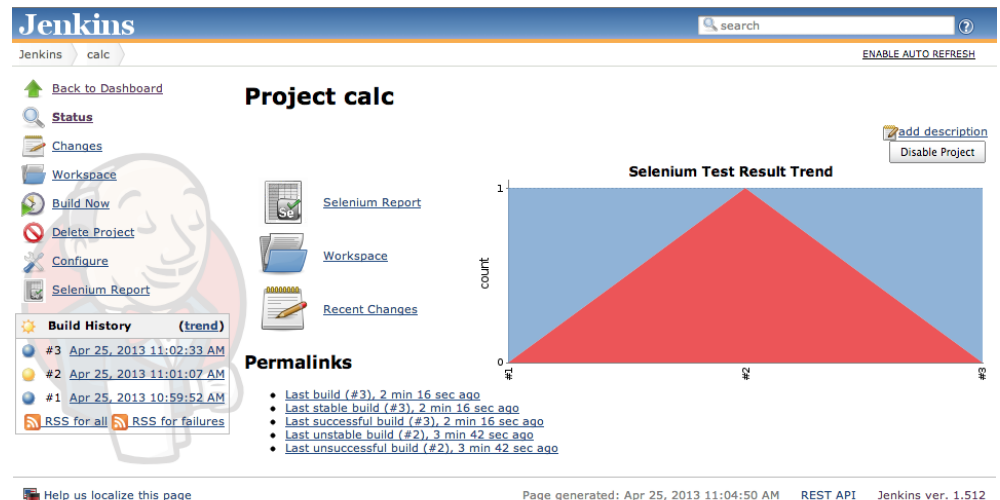
Spara i projektet som filer



Steg 7 - Skapa ett jobb

- Koppla github
- Start xvfb
- Koppla browser, testcase, url och resultat
- Koppla post-build med Selenium Report

Spara!



Kör!

Jenkins

Jenkins calc #3

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[Edit Build Information](#)
[Delete Build](#)
[Git Build Data](#)
[No Tags](#)
[Selenium Report](#)
[Previous Build](#)

Console Output

```
Started by user anonymous
Building in workspace /var/lib/jenkins/jobs/calc/workspace
Checkout:workspace / /var/lib/jenkins/jobs/calc/workspace - hudson.remoting.LocalChannel@40fbd0ee
Using strategy: Default
Last Built Revision: Revision 1e089d6c3897afea99c4c60705964edd02e48a8e (origin/master, origin/HEAD)
Fetching changes from 1 remote Git repository
Fetching upstream changes from origin
Seen branch in repository origin/HEAD
Seen branch in repository origin/master
Commencing build of Revision 38a793da6eld3a0a6974160408837efef2fc4b8a (origin/HEAD, origin/master)
Checking out Revision 38a793da6eld3a0a6974160408837efef2fc4b8a (origin/HEAD, origin/master)
Warning : There are multiple branch changesets here
Xvfb starting$ /usr/bin/Xvfb :2 -screen 0 1024x768x24 -fbdir /var/lib/jenkins/2013-04-25_11-02-335182788596461955308xvfb
java -jar /var/lib/selenium/selenium.jar -htmlSuite *firefox http://calc.local
/var/lib/jenkins/jobs/calc/workspace/build/ui/suite1.html /var/lib/jenkins/jobs/calc/workspace/build/log/selenium.html
[workspace] $ java -jar /var/lib/selenium/selenium.jar -htmlSuite *firefox http://calc.local
/var/lib/jenkins/jobs/calc/workspace/build/ui/suite1.html /var/lib/jenkins/jobs/calc/workspace/build/log/selenium.html
Apr 25, 2013 11:02:35 AM org.opengrid.selenium.GridLauncher main
INFO: Launching a standalone server
11:02:36.021 INFO - Java: Oracle Corporation 23.7-b01
11:02:36.032 INFO - OS: Linux 3.5.0-17-generic amd64
11:02:36.058 INFO - v2.32.0, with Core v2.32.0. Built from revision 6c40c18
11:02:36.248 INFO - RemoteWebDriver instances should connect to: http://127.0.0.1:4444/wd/hub
11:02:36.249 INFO - Version Jetty/5.1.x
11:02:36.250 INFO - Started HttpContext[/selenium-server/driver,/selenium-server/driver]
11:02:36.251 INFO - Started HttpContext[/selenium-server,/selenium-server]
11:02:36.251 INFO - Started HttpContext[/,/]
11:02:36.273 INFO - Started org.opengrid.jetty.jetty.servlet.ServletHandler@43c332b8
11:02:36.274 INFO - Started HttpContext[/wd,/wd]
11:02:36.280 INFO - Started SocketListener on 0.0.0.0:4444
11:02:36.280 INFO - Started org.opengrid.jetty.jetty.Server@f41bf9f
jar:file:/var/lib/selenium/selenium.jar!/customProfileDirCUSTFFCHROME
11:02:36.558 INFO - Preparing Firefox profile...
11:02:37.628 INFO - Launching Firefox...
11:02:38.610 INFO - Checking Resource aliases
11:02:41.511 INFO - Checking Resource aliases
11:02:41.515 INFO - Received posted results
calc1.html
<a href="calc1.html">calc1</a></td></tr>
</tbody></table>

11:02:42.136 INFO - Killing Firefox...
Xvfb stopping
Publishing Selenium report...
Test failures: 0
Test totals : 1
-----
Command Passes : 1
Command Failures : 0
Command Errors : 0
Finished: SUCCESS
```



Skript, dokument, plugin



GitHub

<https://github.com/EkAndreas/geekmeetvas>
eller
www.flowcom.se

Tack!



Flowcom AB

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