Continuous Integration with Jenkins

... focus on Python

Mika & Jenkins

Grml.org Project

Daily builds & Releases
(>80 Jobs)

Sipwise.com

Full release management (>190 Jobs)

facts & FAQ

QuickBuild

Buildbot

Bamboo

Bitten

CDash

pony-build

CruiseControl

Apoycot

cijoe

Integrity

Jenkins

Team City

Continuum

Jenkins

“The Wordpress of CI“™

Facts

Hudson: 2004

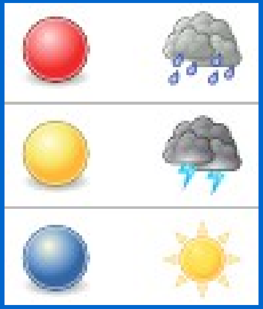
Jenkins: 2011

~weekly releases && LTS version

MIT license

>450 Plugins

>35k installations



FAQ #1: Blue?!

http://jenkins-ci.org/content/why-does-jenkins-have-blue-balls

Demo

```
% curl-o jenkins.war \
    http://mirrors.jenkins-ci.org/war/latest/jenkins.war

% java -jar jenkins.war

% $BROWSER http://0.0.0.0:8080
```

NOTE: use packages for production

best practices

homogenous jobs

similar jobs share build scripts/steps

discard old builds

win performance, disk usage,...

trigger builds

... instead of polling for changes

slaves & distributed builds

scale out early

automate

... whatever hurts

external dependencies

... get rid of them

artifacts

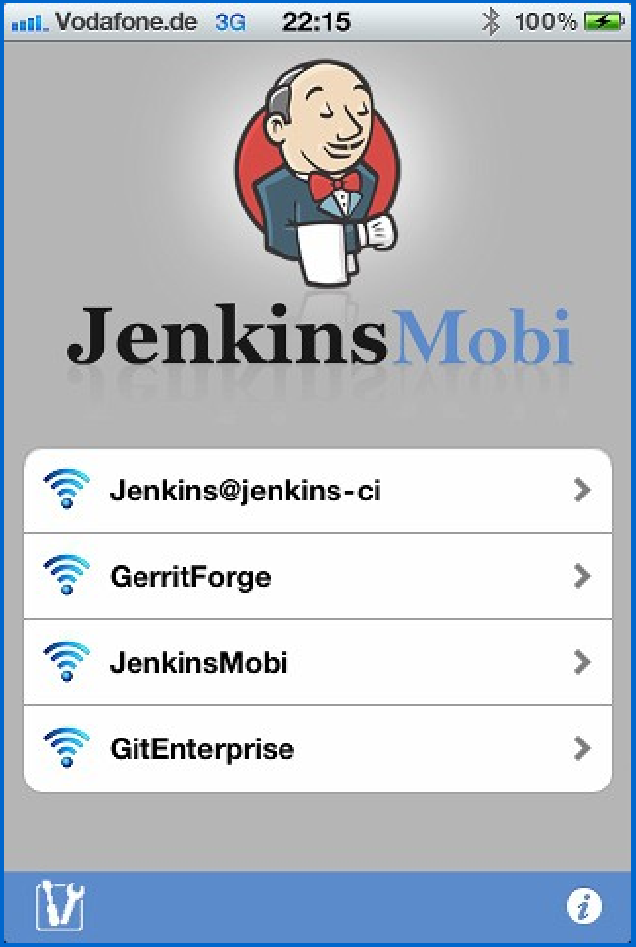
… and fingerprints

notifications

via mail, jabber, irc,...

mobile apps

... e.g. www.jenkins-ci.mobi



Source: www.youtube.com/watch?v=1EGk2rvZe8A

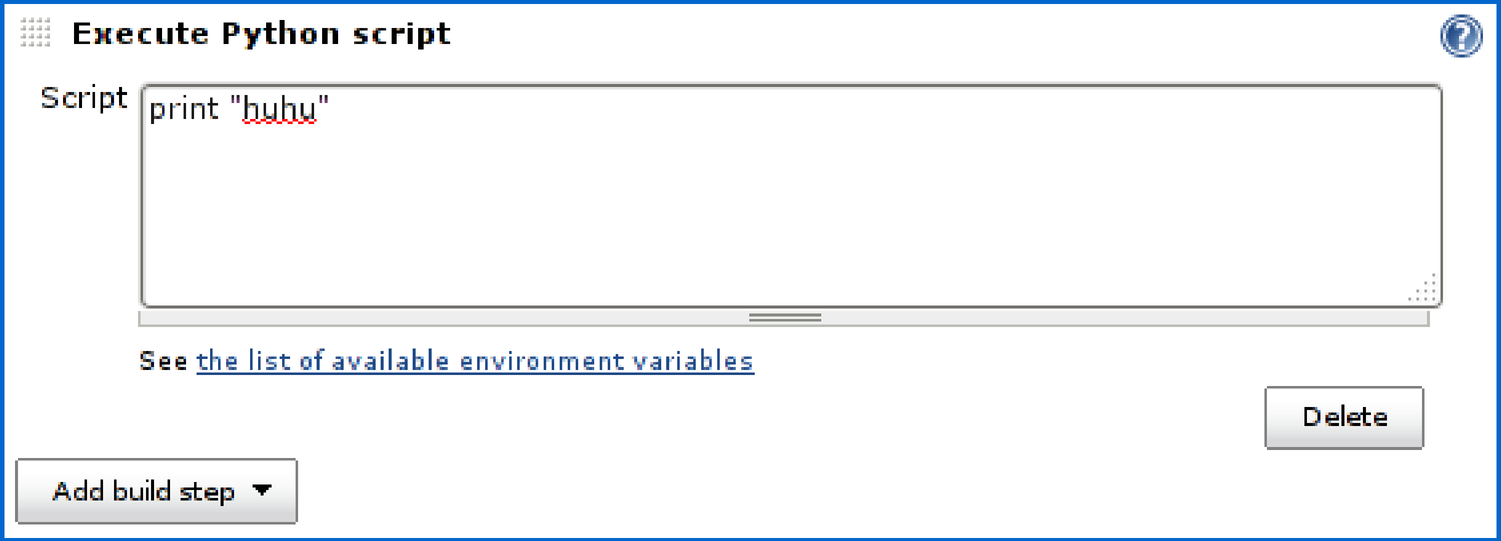
backups

... and restore

useful plugins

Python Plugin

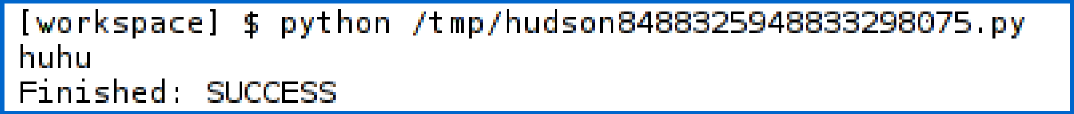
for executing python



Script

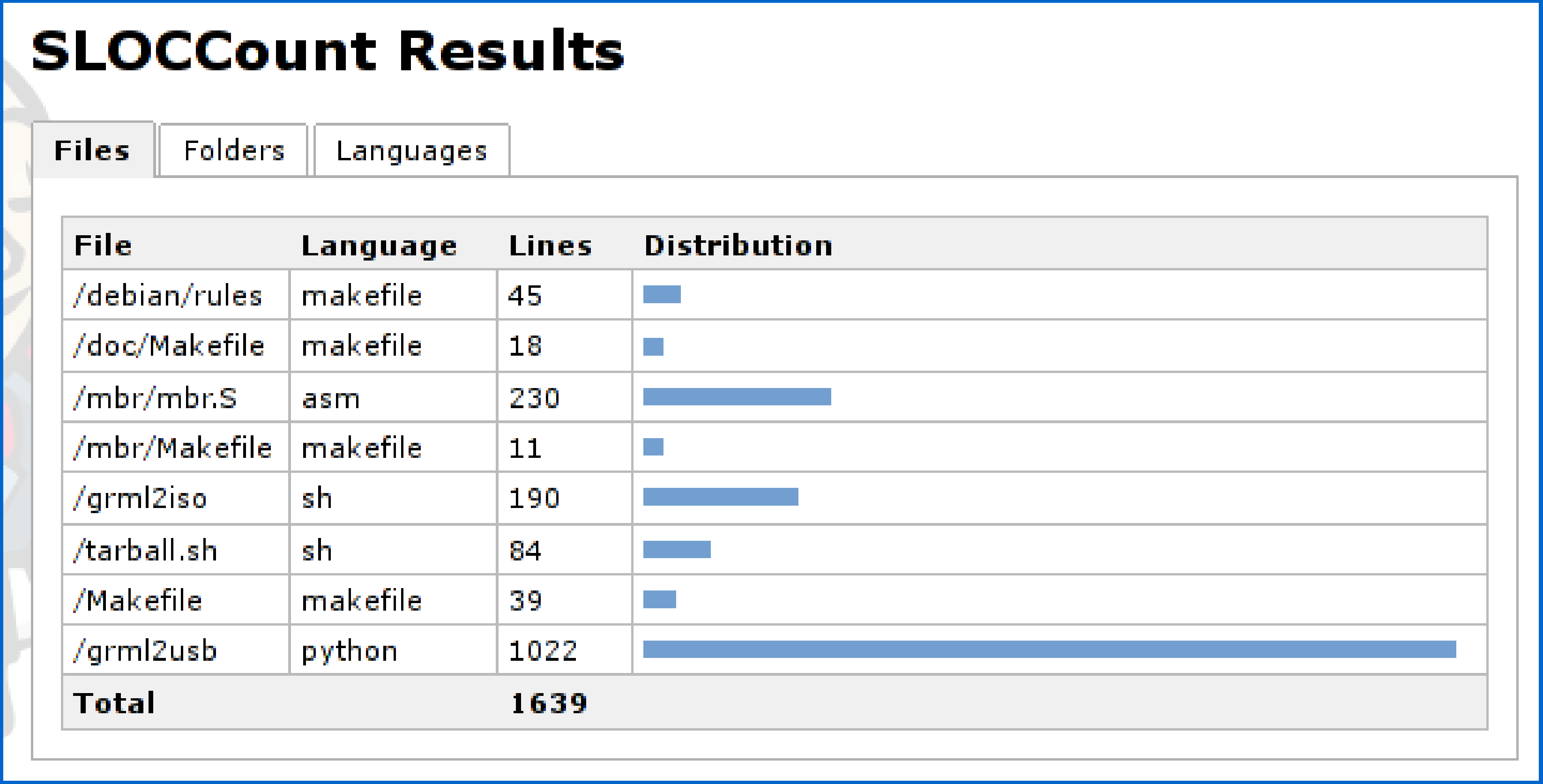
```
print "huhu"
```

See the list of available environment variables



```
[workspace] $ python /tmp/hudson8488325948833298075.py
huhu
Finished: SUCCESS
```

SLOCCount

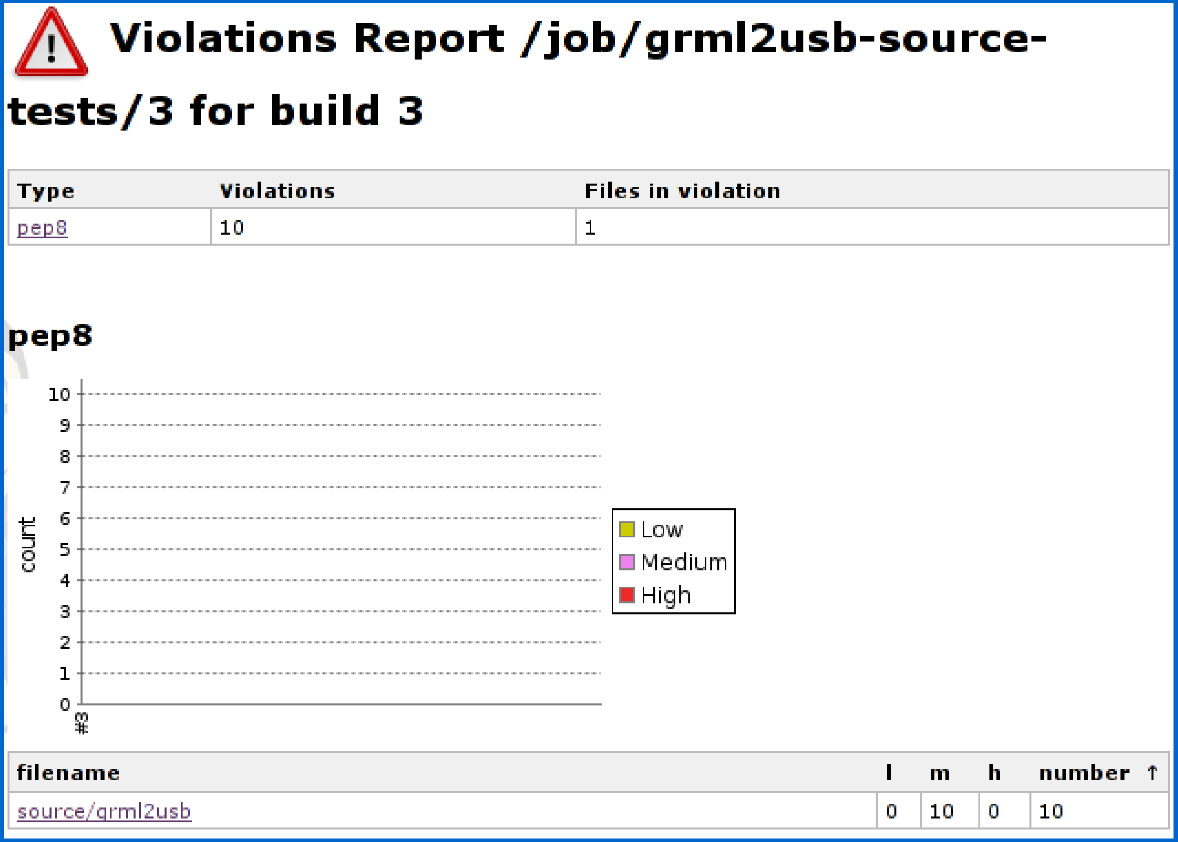


SLOCCount Results

File	Language	Lines	Distribution
/debian/rules	makefile	45	
/doc/Makefile	makefile	18	
/mbr/mbr.S	asm	230	
/mbr/Makefile	makefile	11	
/grml2iso	sh	190	
/tarball.sh	sh	84	
/Makefile	makefile	39	
/grml2usb	python	1022	
Total		**1639**	

Violations Plugin

for pep8, pylint,...



Violations Report /job/grml2usb-source-tests/3 for build 3

Type	Violations	Files in violation
pep8	10	1

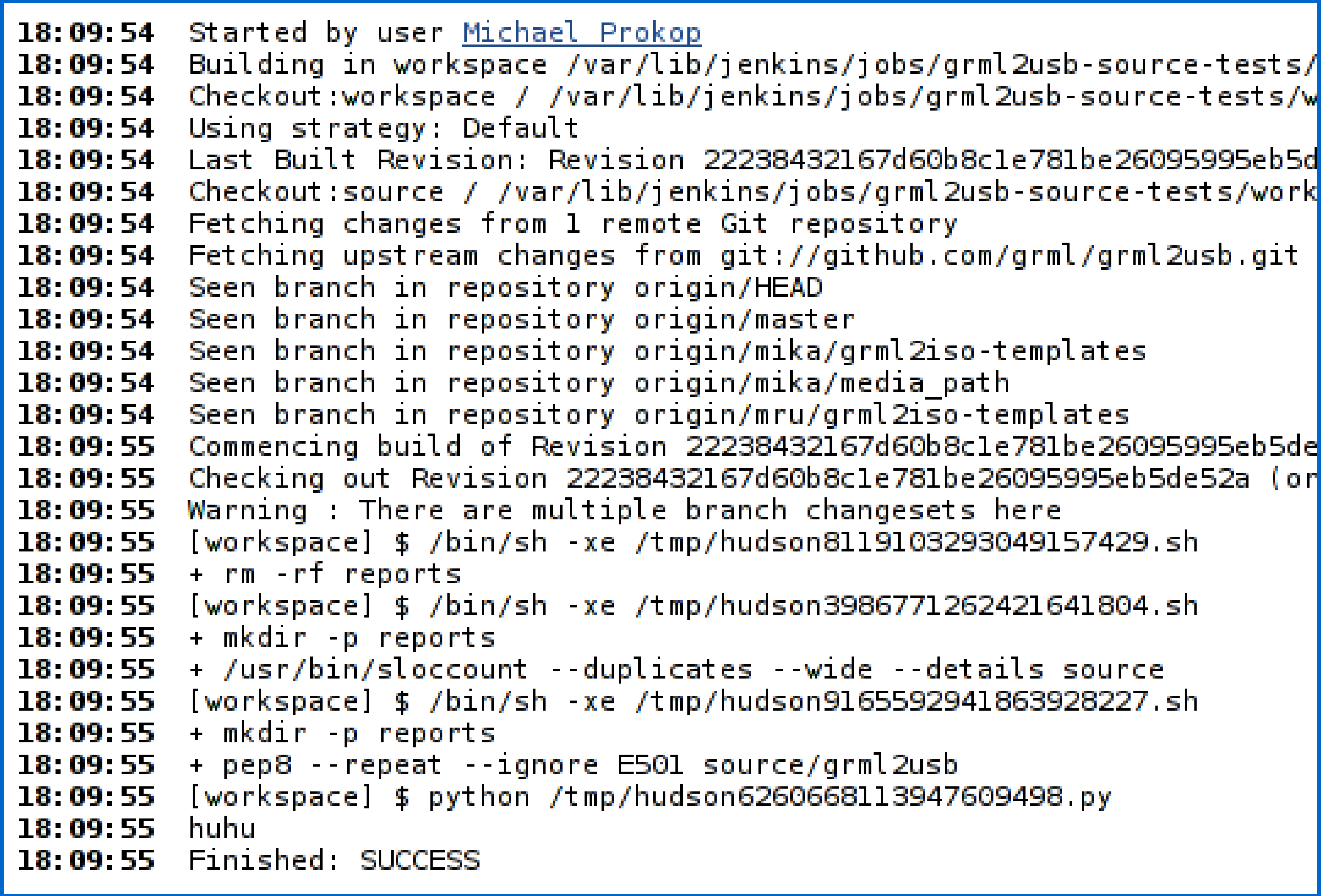
pep8

filename	l	m	h	number ↑
source/grml2usb	0	10	0	10

Nose Tests, Coverage,..

... see upcoming Lightning Talk :)

Timestamper Plugin



```
18:09:54  Started by user Michael Prokop
18:09:54  Building in workspace /var/lib/jenkins/jobs/grml2usb-source-tests/
18:09:54  Checkout:workspace / /var/lib/jenkins/jobs/grml2usb-source-tests/w
18:09:54  Using strategy: Default
18:09:54  Last Built Revision: Revision 22238432167d60b8c1e781be26095995eb5d
18:09:54  Checkout:source / /var/lib/jenkins/jobs/grml2usb-source-tests/work
18:09:54  Fetching changes from 1 remote Git repository
18:09:54  Fetching upstream changes from git://github.com/grml/grml2usb.git
18:09:54  Seen branch in repository origin/HEAD
18:09:54  Seen branch in repository origin/master
18:09:54  Seen branch in repository origin/mika/grml2iso-templates
18:09:54  Seen branch in repository origin/mika/media_path
18:09:54  Seen branch in repository origin/mru/grml2iso-templates
18:09:55  Commencing build of Revision 22238432167d60b8c1e781be26095995eb5de
18:09:55  Checking out Revision 22238432167d60b8c1e781be26095995eb5de52a (or
18:09:55  Warning : There are multiple branch changesets here
18:09:55  [workspace] $ /bin/sh -xe /tmp/hudson8119103293049157429.sh
18:09:55  + rm -rf reports
18:09:55  [workspace] $ /bin/sh -xe /tmp/hudson3986771262421641804.sh
18:09:55  + mkdir -p reports
18:09:55  + /usr/bin/sloccount --duplicates --wide --details source
18:09:55  [workspace] $ /bin/sh -xe /tmp/hudson9165592941863928227.sh
18:09:55  + mkdir -p reports
18:09:55  + pep8 --repeat --ignore E501 source/grml2usb
18:09:55  [workspace] $ python /tmp/hudson6260668113947609498.py
18:09:55  huhu
18:09:55  Finished: SUCCESS
```

Test Anything Protocol

for python, ruby, bash,...

Bruce Schneier [Plugin]

... knows Alice and Bob's shared secret.

Chuck Norris [Plugin]

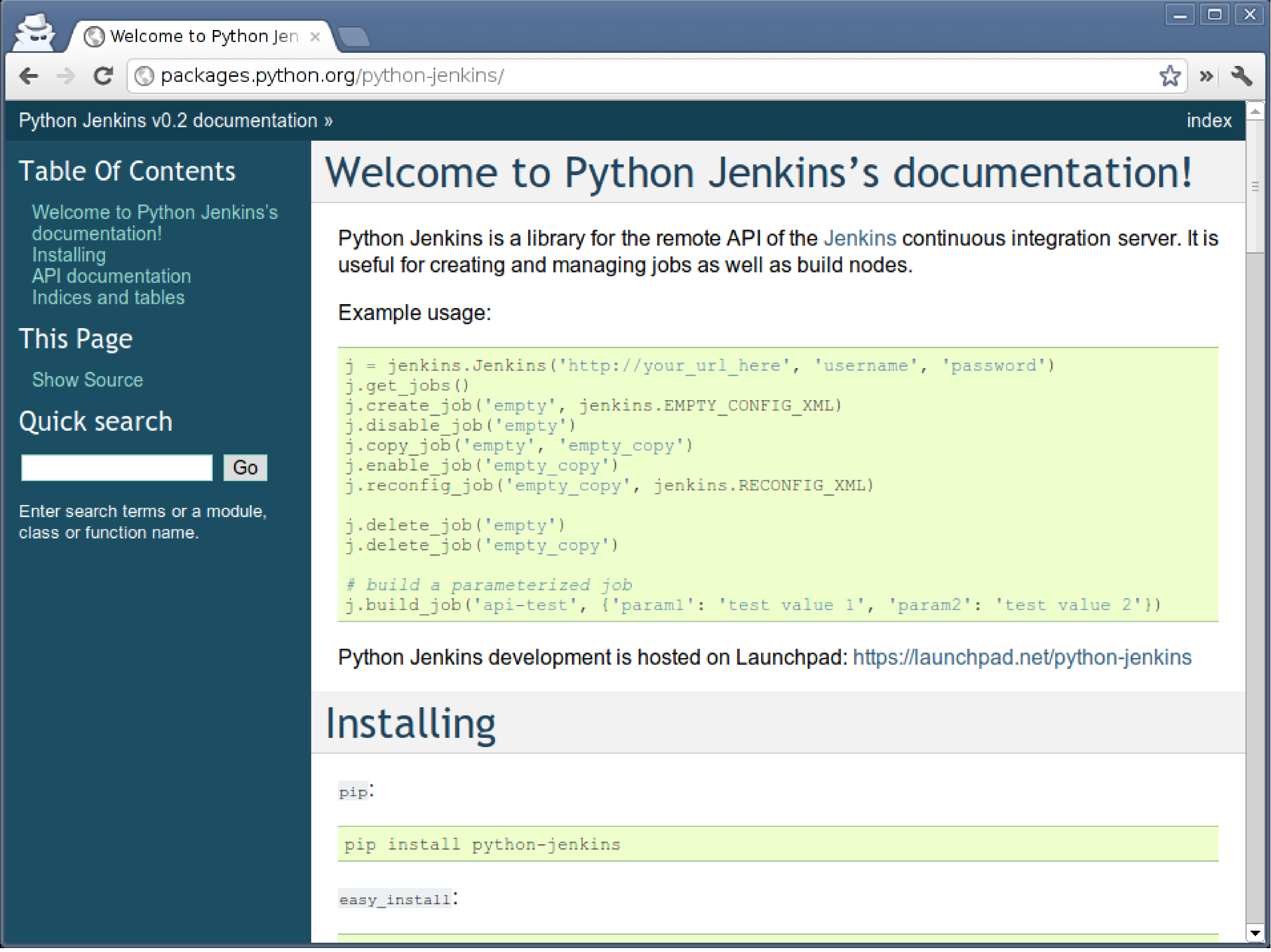
... can instantiate an abstract class

persona plugin

python related projects

Python API

https://launchpad.net/python-jenkins



Python Jenkins v0.2 documentation » index

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Quick search

Enter search terms or a module, class or function name.

Welcome to Python Jenkins's documentation!

Python Jenkins is a library for the remote API of the Jenkins continuous integration server. It is useful for creating and managing jobs as well as build nodes.

Example usage:

```
j = jenkins.Jenkins('http://your_url_here', 'username', 'password')
j.get_jobs()
j.create_job('empty', jenkins.EMPTY_CONFIG_XML)
j.disable_job('empty')
j.copy_job('empty', 'empty_copy')
j.enable_job('empty_copy')
j.reconfig_job('empty_copy', jenkins.RECONFIG_XML)

j.delete_job('empty')
j.delete_job('empty_copy')

# build a parameterized job
j.build_job('api-test', {'param1': 'test value 1', 'param2': 'test value 2'})
```

Python Jenkins development is hosted on Launchpad: https://launchpad.net/python-jenkins

Installing

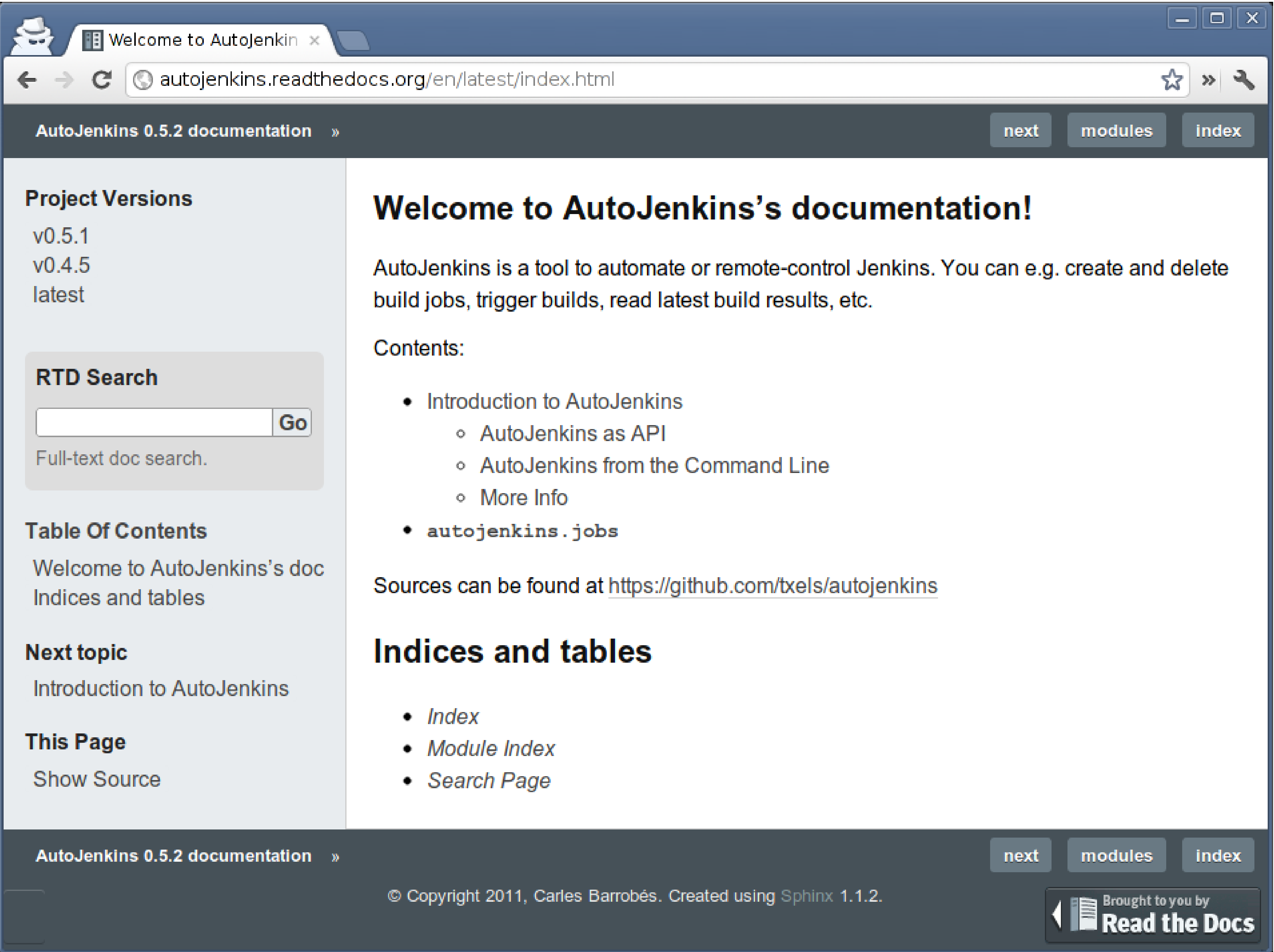
`pip`:

```
pip install python-jenkins
```

`easy_install`:

Autojenkins

https://github.com/txels/autojenkins


Welcome to AutoJenkin ×
autojenkins.readthedocs.org/en/latest/index.html
AutoJenkins 0.5.2 documentation »
next
modules
index

Project Versions

v0.5.1
v0.4.5
latest

RTD Search

Full-text doc search.

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Welcome to AutoJenkins's doc
Indices and tables

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Introduction to AutoJenkins

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Welcome to AutoJenkins's documentation!

AutoJenkins is a tool to automate or remote-control Jenkins. You can e.g. create and delete build jobs, trigger builds, read latest build results, etc.

Contents:

- Introduction to AutoJenkins
  - AutoJenkins as API
  - AutoJenkins from the Command Line
  - More Info
- **`autojenkins.jobs`**

Sources can be found at https://github.com/txels/autojenkins

Indices and tables

- *Index*
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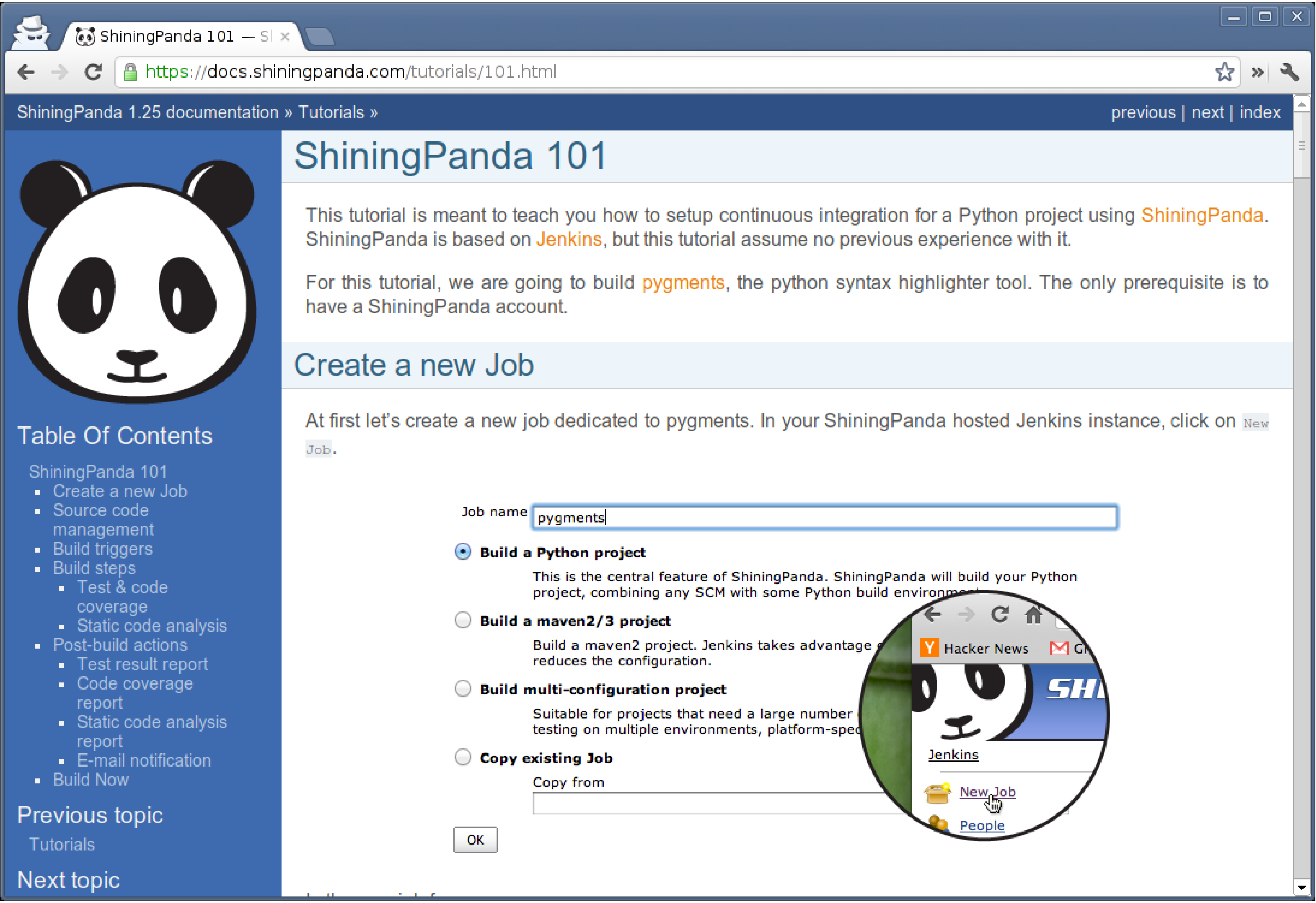
Shining Panda

www.shiningpanda.com



ShiningPanda 101

This tutorial is meant to teach you how to setup continuous integration for a Python project using ShiningPanda. ShiningPanda is based on Jenkins, but this tutorial assume no previous experience with it.

For this tutorial, we are going to build pygments, the python syntax highlighter tool. The only prerequisite is to have a ShiningPanda account.

Create a new Job

At first let's create a new job dedicated to pygments. In your ShiningPanda hosted Jenkins instance, click on `New Job`.

Job name pygments

● **Build a Python project**

This is the central feature of ShiningPanda. ShiningPanda will build your Python project, combining any SCM with some Python build environme

○ **Build a maven2/3 project**

Build a maven2 project. Jenkins takes advantage
reduces the configuration.

○ **Build multi-configuration project**

Suitable for projects that need a large number
testing on multiple environments, platform-spec

○ **Copy existing Job**

Copy from

OK

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pbundler

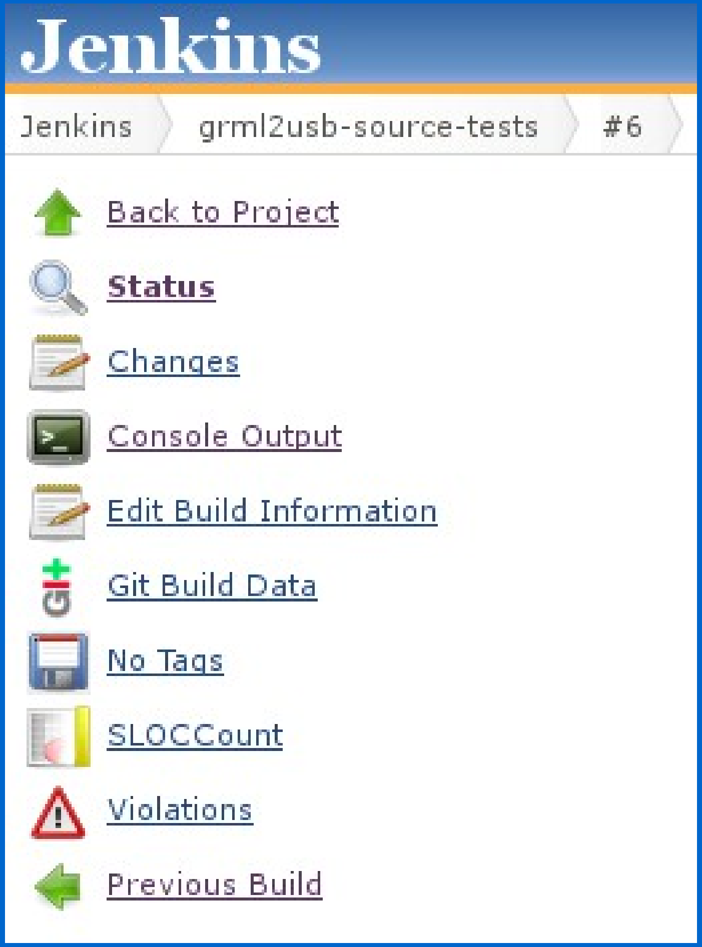
Bundler for Python

https://github.com/zeha/pbundler

Jenkins News

version 1.455

UI improvements



Jenkins

Jenkins › grml2usb-source-tests › #6

- Back to Project
- Status
- Changes
- Console Output
- Edit Build Information
- Git Build Data
- No Tags
- SLOCCount
- Violations
- Previous Build

Plugins in Ruby via JRuby

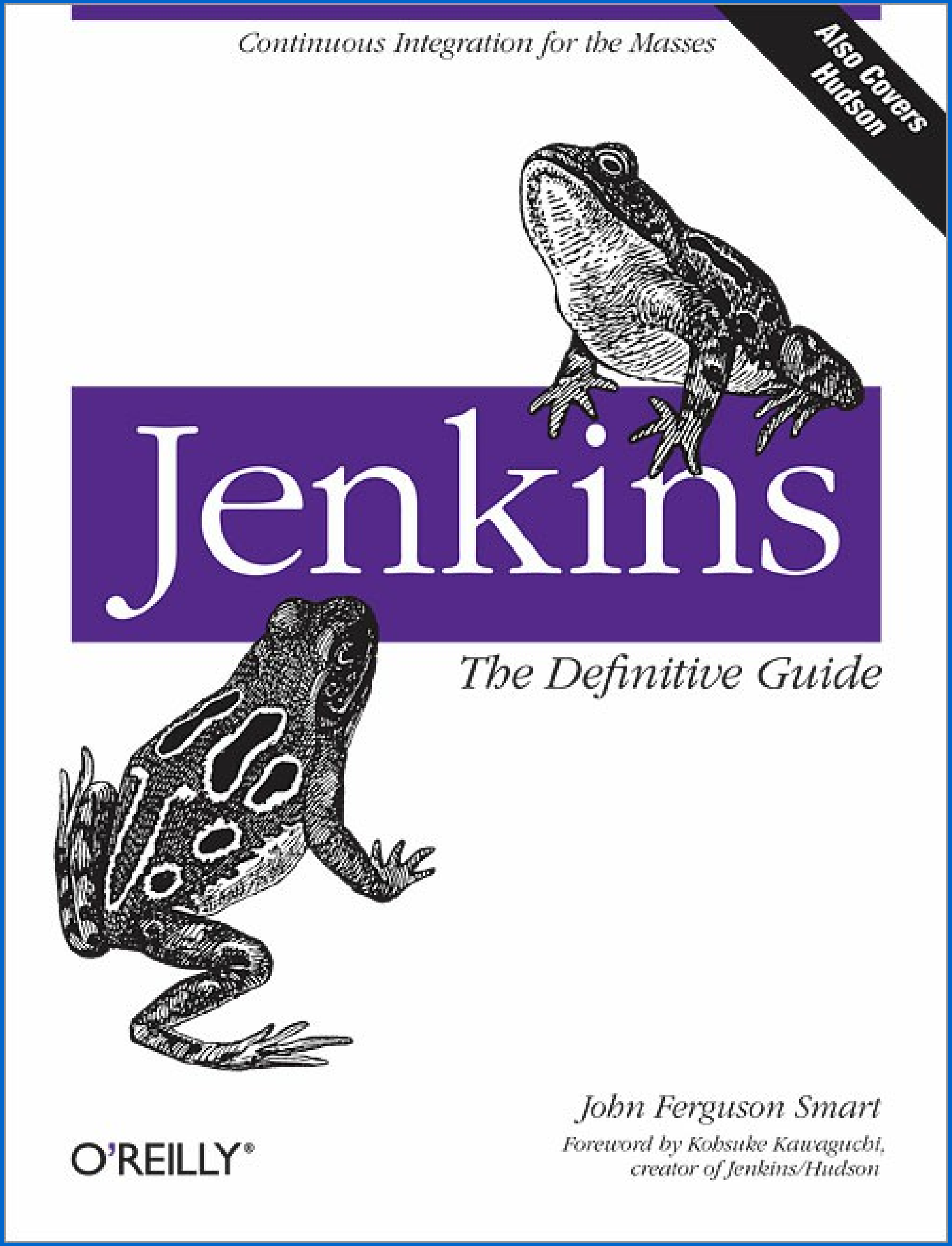
Charles Lowell++

Any volunteers for Jython?

:)

Ressources

Jez Humble & David Farley:
Continuous Delivery,
Addison-Wesley, 2010


Continuous Integration for the Masses
Also Covers Hudson
Jenkins
The Definitive Guide
John Ferguson Smart
Foreword by Kohsuke Kawaguchi, creator of Jenkins/Hudson
O'REILLY

Jenkins
The Definitive Guide

wakaleo.com/books/jenkins-the-definitive-guide

Questions || Wishes?

@mikagrml

mika @ github

michael-prokop.at/blog/