

Jenkins as a Code

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Meet Jenkins

“Jenkins is an award-winning, cross-platform, continuous integration and continuous delivery application [...]”

(source: <https://wiki.jenkins-ci.org/display/JENKINS/Meet+Jenkins>)

Meet Jenkins

- large, active community
- hundreds of plugins
- easy installation on configuration

but..

- some plugins are unstable
- some plugins are orphaned
- upgrades are (almost) always frightening... :(

Quick poll



Meet Jenkins as a Code!



What can be automated?

- Jenkins master installation
- Jenkins slaves creation
- Plugin installation
- Credentials configuration
- Jobs configuration!

How to automate?

1. Infrastructure
2. Jenkins itself

Infrastructure

- Jenkins master
 - install and configure Jenkins
 - install required plugins
 - install and configure all required tools
- Jenkins slaves
 - install and configure all required tools
 - connect slaves to master

Infrastructure

- Configuration management tools
 - Ansible
 - Puppet
 - Chef
 - etc.
- Slave <-> Master
 - jenkins-swarm-plugin
 - dynamic slaves creation

Jenkins

- all jobs definitions stored in SCM

...and...

- jenkins-cli.jar
- jenkins-job-builder
- Workflow plugin
- Job DSL plugin

...for jobs configuration...

Jenkins as a Code - case study

- hundreds of jobs
- almost all configured manually
- some of them stored in SCM as XMLs....
- ...with credentials...

Jenkins as a Code - case study

- hard to change anything (e.g. SCM url)
- hard to upgrade
- hard to test changes
- hard to backup & restore

Jenkins as a Code - case study

- Ansible as the configuration management tool
 - plugin installation
 - initial job creation
 - slaves management
- Job DSL plugin for job management
 - gradle project
 - with tests!

DEMO

Bonus! Jenkins 2.0!

- the end of January - release?
- Groovy out of core
- JavaScript modularization
- new website
- UX improvements
- Pipeline as Code
 - Jenkinsfile
 - workflow stage view plugin

Thank you!



Links

- <https://wiki.jenkins-ci.org/display/JENKINS/Jenkins+CLI>
- <http://docs.openstack.org/infra/jenkins-job-builder/>
- <https://wiki.jenkins-ci.org/display/JENKINS/Job+DSL+Plugin>
- <https://github.com/4finance/jenkins-pipeline-dsl>
- <https://groups.google.com/d/msg/jenkinsci-dev/vbXK7JJekFw/B1Ev00UxBgAJ>
- <https://github.com/jenkinsci/workflow-plugin>
- <https://wiki.jenkins-ci.org/display/JENKINS/Jenkins+2.0>