

Automate Everything

Continuous Integration for iOS and Mac

by Brian Partridge



Who?



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Agenda

- The What & Whys of CI
- Introduction to Jenkins
- More Advanced Techniques

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Build

⌘ + B

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Screenshots

*Release
Notes*

*Provisioning
Profiles*

Building

Release

Deployment

*Archive
Products*

Every. Single. Time.



Automate Everything

*Anything worth doing more than once
is worth automating.*

- Compilation
- Testing
- Archiving
- Deployment

Continuous Integration

“The practice of merging multiple developer working copies several times a day.”

+

“The practice of determining characteristics of code and performing actions based on those characteristics.”

Your Personal Robot



What's a Jenkins?

- Web Service
- Open Source
- Vetted By Enterprise
- Small Footprint

Your First Automated Build

- Installation
- Plugins
- Configuration
- Demo

Installation

```
> brew install jenkins  
  
> java -jar /usr/local/opt/  
jenkins/libexec/jenkins.war  
  
> open http://localhost:8080
```

Plugins

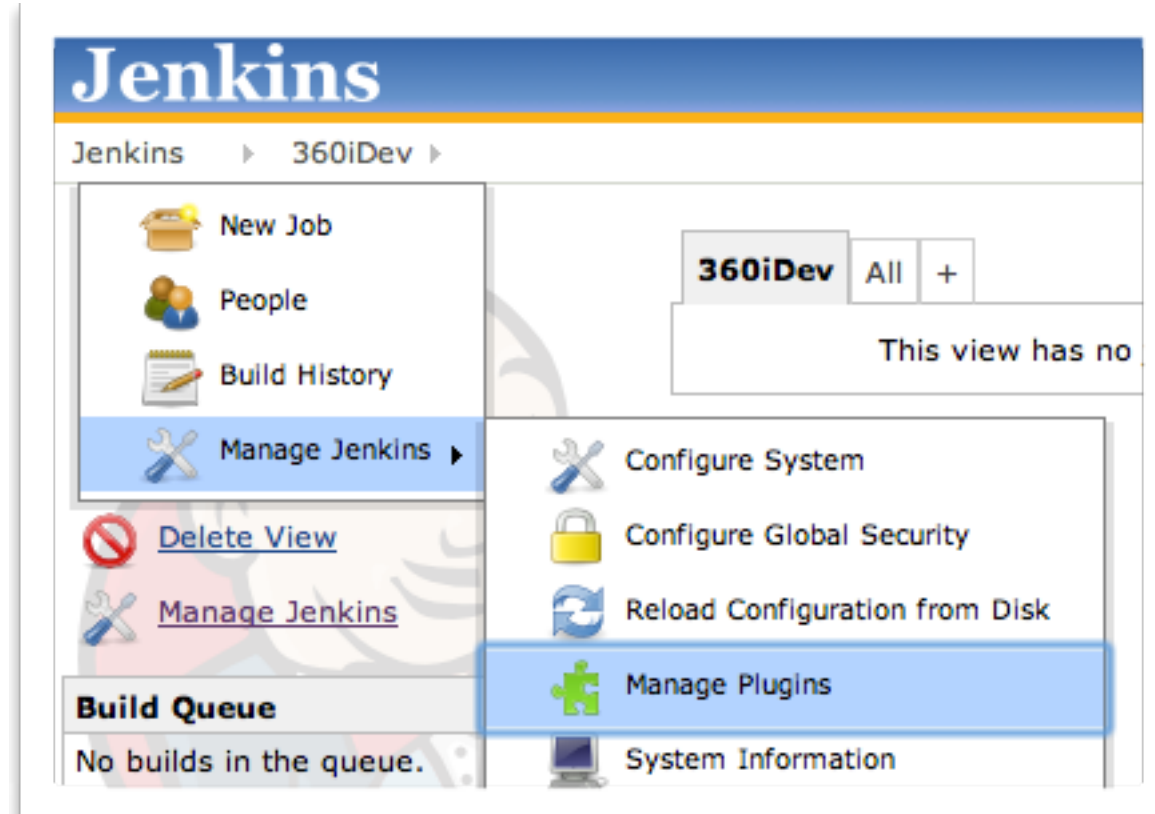
Source Control

- git, mercurial, svn, etc

Build Systems

- Xcode, Maven, Ant, etc

Plugins



Get A Job

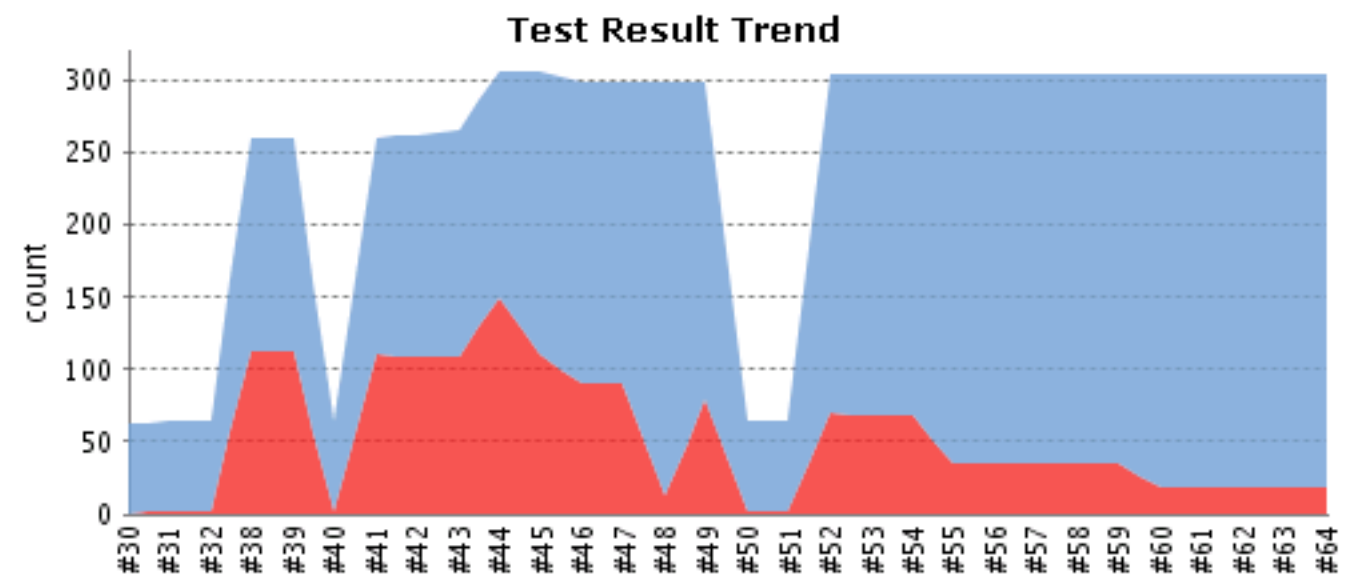
- Source Control
- Build Frequency
- Build Step

Live Demo

What could go wrong?

Finishing Your Job

- Subsequent Jobs
- Unit Tests
- Static Analysis
- Deployment



Live Demo

He's at it again!

Jenkins Backup

SCM Sync configuration

SCM

- ☐ None
- ☐ Subversion
- ☒ Git

Repository URL

Never bother me with commit messages

☐

Display SCM Sync Status

☒

Commit message pattern

Manual synchronization includes

Reload config from SCM

[Reload](#)

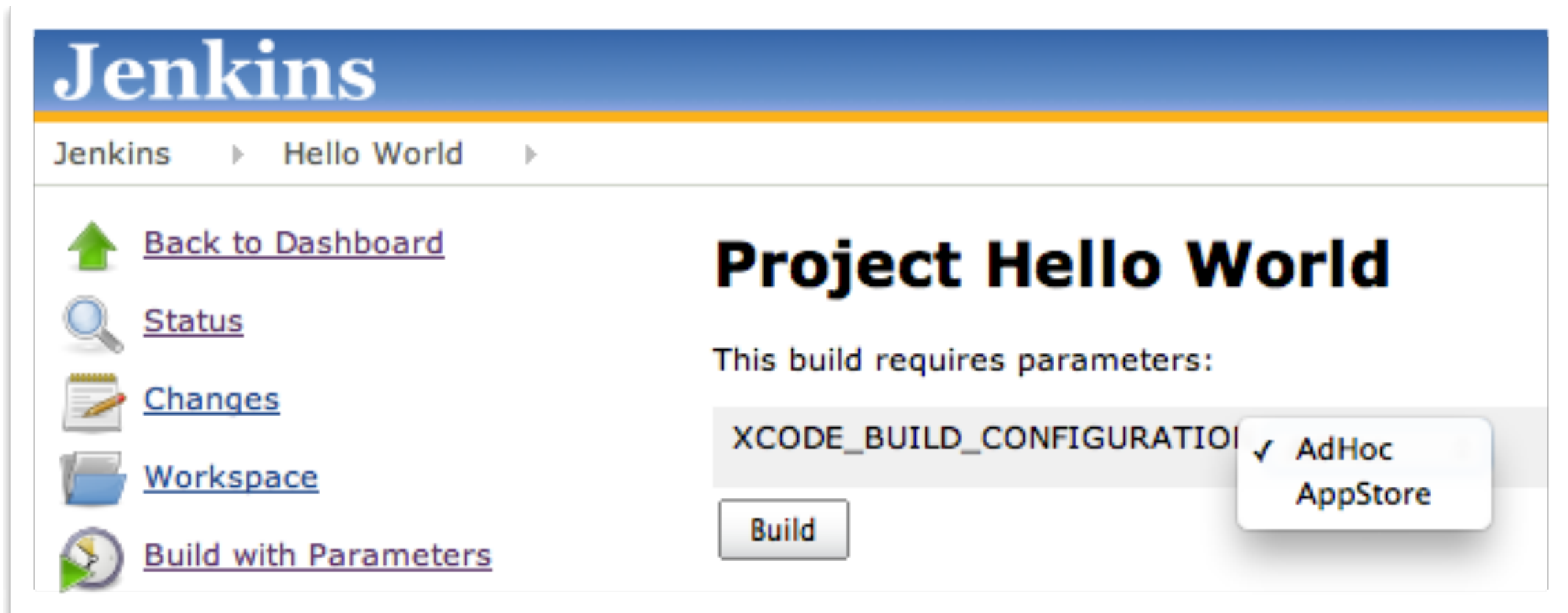
Intermediate Techniques

WHAT IF WE TRIED
MORE POWER?



- Parameterized Builds
- Scripts
- Multiple Build Hosts






Build Parameters



The screenshot shows the Jenkins web interface. At the top is a blue header with the word "Jenkins" in white. Below the header is a breadcrumb trail: "Jenkins" followed by a right-pointing triangle, then "Hello World" followed by another right-pointing triangle. On the left side, there is a vertical list of links, each with an icon and a text label: a green upward arrow for "Back to Dashboard", a magnifying glass for "Status", a notepad and pencil for "Changes", a folder for "Workspace", and a green circle with a white play button for "Build with Parameters". The main content area on the right has the title "Project Hello World" in large, bold, black font. Below the title, it says "This build requires parameters:". Underneath this text is a light gray box containing the parameter name "XCODE_BUILD_CONFIGURATION" followed by a dropdown menu. The dropdown menu is open, showing two options: "AdHoc" with a checkmark and "AppStore". Below the parameter box is a gray button labeled "Build".

Jenkins

Jenkins ▶ Hello World ▶

-  [Back to Dashboard](#)
-  [Status](#)
-  [Changes](#)
-  [Workspace](#)
-  [Build with Parameters](#)

Project Hello World

This build requires parameters:

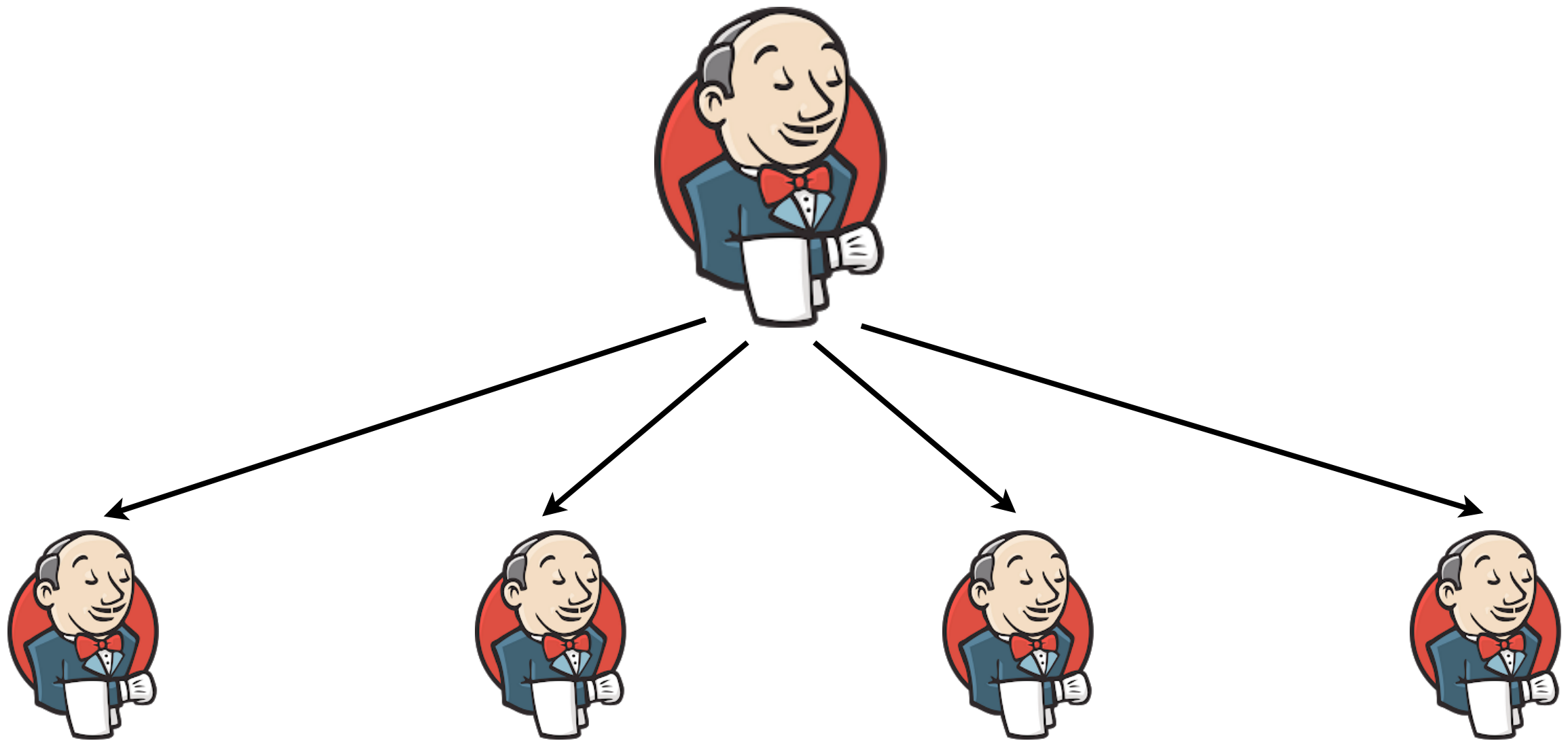
XCODE_BUILD_CONFIGURATION ✓ AdHoc
AppStore

Build

Scripts

- xcodebuild
- agvtool new-version -all "\$BUILD_NUMBER"
- Open the Keychain
- <https://github.com/brianpartridge/iOS-Build-Scripts>

Multiple Build Hosts



Advanced Techniques

Jenkins API

- url + “/api/json”
- [http://localhost:8080/job/Hello%20iPhone/
lastBuild/api/json](http://localhost:8080/job/Hello%20iPhone/lastBuild/api/json)

iOS Screenshots

- KSScreenshotManager
- WaxSim
- <http://ksuther.com/2013/02/24/automating-ios-app-store-screenshots/>

Supporting Legacy OSX

- VMware Fusion
- vmrun CLI
 - Start and Stop VMs
 - Manage Snapshots
 - Run Scripts

Live Demo

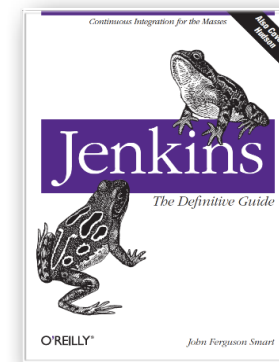
One more time.

Wrapping Up

Let the robots make your life better.

More Info

- <http://jenkins-ci.org>
- Jenkins: The Definitive Guide
by John Ferguson Smart
- <http://bit.ly/automate-everything>



Thank You!