

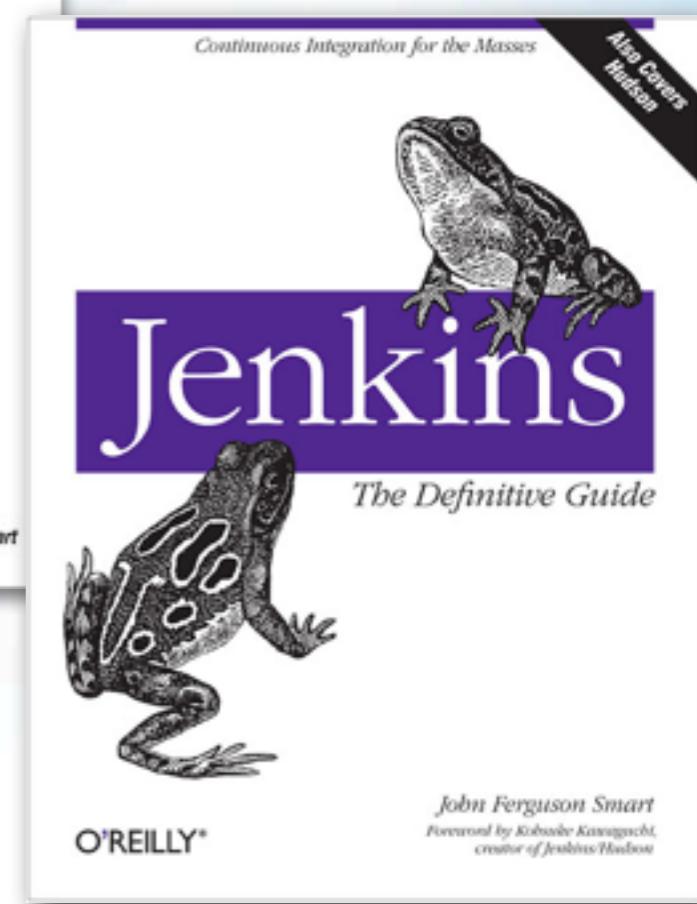
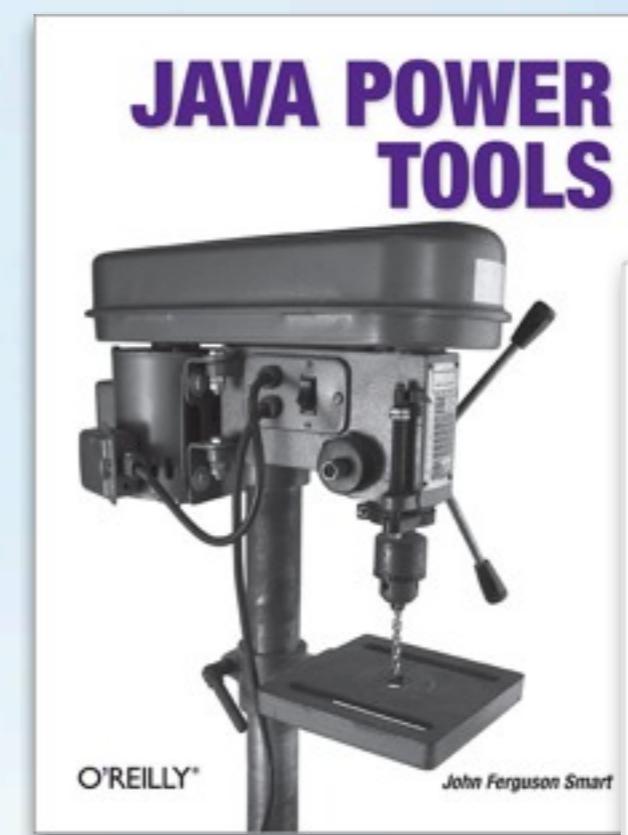


Jenkins

From Continuous Integration to Continuous Delivery

John Ferguson Smart
CEO
Wakaleo Consulting

Who is this guy, anyway?



Continuous Delivery



Getting value to the business.
Fast.

CI in the clouds



```
public enum Cell {  
    LIVE_CELL('*'),  
    ...  
}  
  
private String sy...  
private Cell(Stri...  
    this.symbol = ...  
}
```



DEV



INTEGRATION



STAGING



PROD

Demonstration environment

wakaleo / game-of-life

Admin Unwatch Pull Request 341 323

Code Network Pull Requests 1 Issues 3 Wiki 0 Stats & Graphs

Demo application for the 'Jenkins: The Definitive Guide' book
<http://www.wakaleo.com/books/jenkins-the-definitive-guide>

Clone in Mac ZIP SSH HTTP Git Read-Only git@github.com:wakaleo/game-of-life.git Read+Write access

Files Commits Branches 5 Tags 83 Downloads Current branch: master

Latest commit to the master branch
Updated failsafe version
wakaleo authored 5 days ago

game-of-life /

name	age	message
gameoflife-build/	November 07, 2011	[maven-release-plugin] prepare for next release (version 1.0.0-SNAPSHOT)
gameoflife-cli/	November 07, 2011	[maven-release-plugin] prepare for next release (version 1.0.0-SNAPSHOT)
gameoflife-core/	November 07, 2011	[maven-release-plugin] prepare for next release (version 1.0.0-SNAPSHOT)
gameoflife-deploy/	May 04, 2011	First commit [wakaleo]
gameoflife-web/	5 days ago	Merged in changes from the CD demo [wakaleo]

Switch Branches/Tags

Filter branches/tags

Branches Tags

continuous-delivery-demo
feature-history
feature-new-look-and-feel
Integration-branch
master

Source code on Github

Demonstration environment

Jenkins

search

wakaleo | log out

[Jenkins](#) » [gameoflife](#)

[ENABLE AUTO REFRESH](#)

[New Job](#)

[add description](#)

[People](#)

[Build History](#)

[Edit View](#)

[Delete View](#)

[Project Relationship](#)

[Check File Fingerprint](#)

[Manage Jenkins](#)

[My Views](#)

[Dependency Graph](#)

Build Queue

No builds in the queue.

Build Executor Status

#	Master
1	Idle
2	Idle
	windows-slave
1	Idle
2	Idle

All	Extreme	Radiator	build-pipeline	gameoflife		thucydides	+
S	W	Name ↓		Last Success	Last Failure	Last Duration	Progress
		gameoflife-code-quality		2 days 5 hr (#25)	6 days 9 hr (#8)	2 min 9 sec	
		gameoflife-default		2 days 5 hr (#34)	6 days 5 hr (#22)	1 min 41 sec	
		gameoflife-deploy-to-prod		1 day 19 hr (#6)	6 days 5 hr (#1)	20 sec	
		gameoflife-integration		2 days 9 hr (#932)	5 days 4 hr (#923)	2 min 18 sec	
		gameoflife-release-candidate		2 days 5 hr (#25)	2 days 9 hr (#22)	3 min 55 sec	
		gameoflife-smoke-tests		2 days 5 hr (#13)	2 days 9 hr (#11)	2 min 10 sec	

Icon: [S](#) [M](#) [L](#)

Legend [RSS for all](#) [RSS for failures](#) [RSS for just latest builds](#)



Jenkins instance on Amazon

Demonstration environment

CloudBees

Welcome | Logout
thucydides

Applications

Manage

Add New Application

New Relic Monitoring

Papertrail Logs

Databases

Manage

Add New Database

Applications

Application	Server Pool	Status	View Application
GAMEOFLIFE configure	CloudBees shared	sleeping	show in new window
gameoflife-staging configure	CloudBees shared	sleeping	show in new window
gameoflife-dev configure	CloudBees shared	sleeping	show in new window
gameoflife-integration configure	CloudBees shared	sleeping	show in new window

Deploying to CloudBees @RUN

Demonstration environment

Welcome to Conway's Game Of Life!

This is a really cool web version of Conway's famous Game Of Life. The Game of Life is a cellular automaton devised by the British mathematician John Horton Conway way back in 1970.

The universe of the Game of Life is an infinite two-dimensional orthogonal grid of square cells, each of which is in one of two possible states, live or dead. Every cell interacts with its eight neighbors, which are the cells that are directly horizontally, vertically, or diagonally adjacent. At each step in time, the following transitions occur:

- Any live cell with fewer than two live neighbours dies, as if caused by underpopulation.
- Any live cell with more than three live neighbours dies, as if by overcrowding.
- Any live cell with two or three live neighbours lives on to the next generation.
- Any dead cell with exactly three live neighbours becomes a live cell.

[New Game](#)

[History](#)

Game Of Life version 0.8.15 (build job gameoflife-release-candidate - #27)

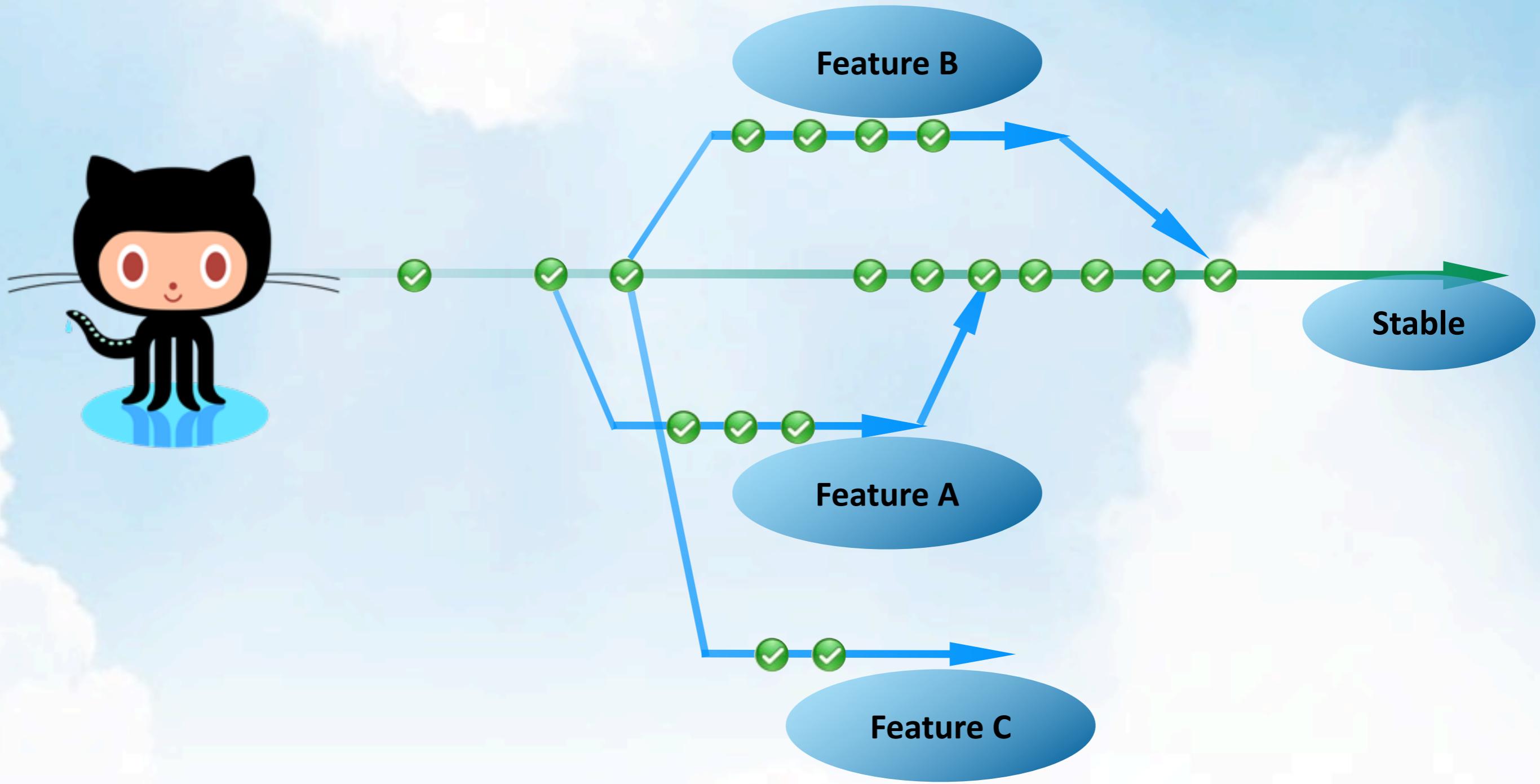
Our application

Branching into Continuous Delivery

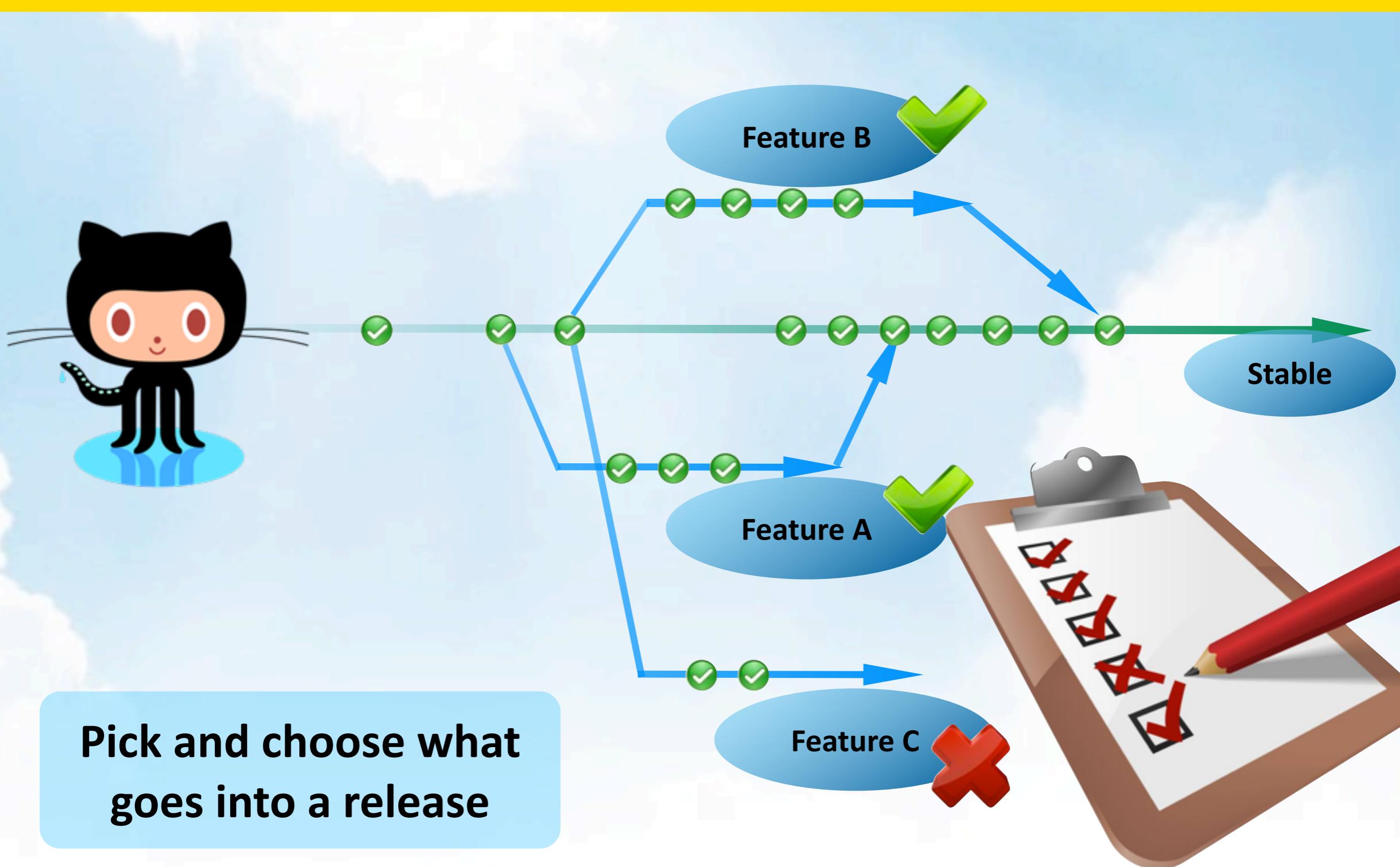


or: How I Stopped Worrying And
Learned to Love Feature Branches

Branching into Continuous Delivery



Branching into Continuous Delivery



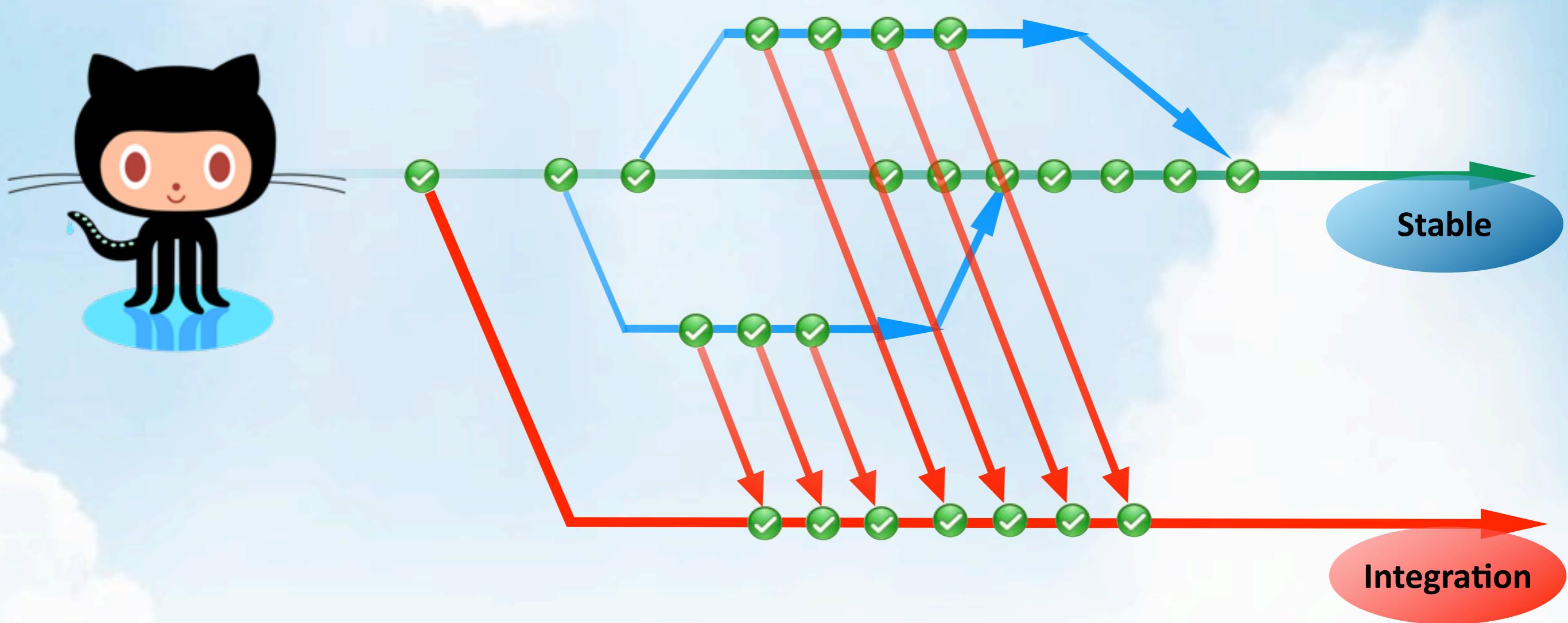
Branching into Continuous Delivery



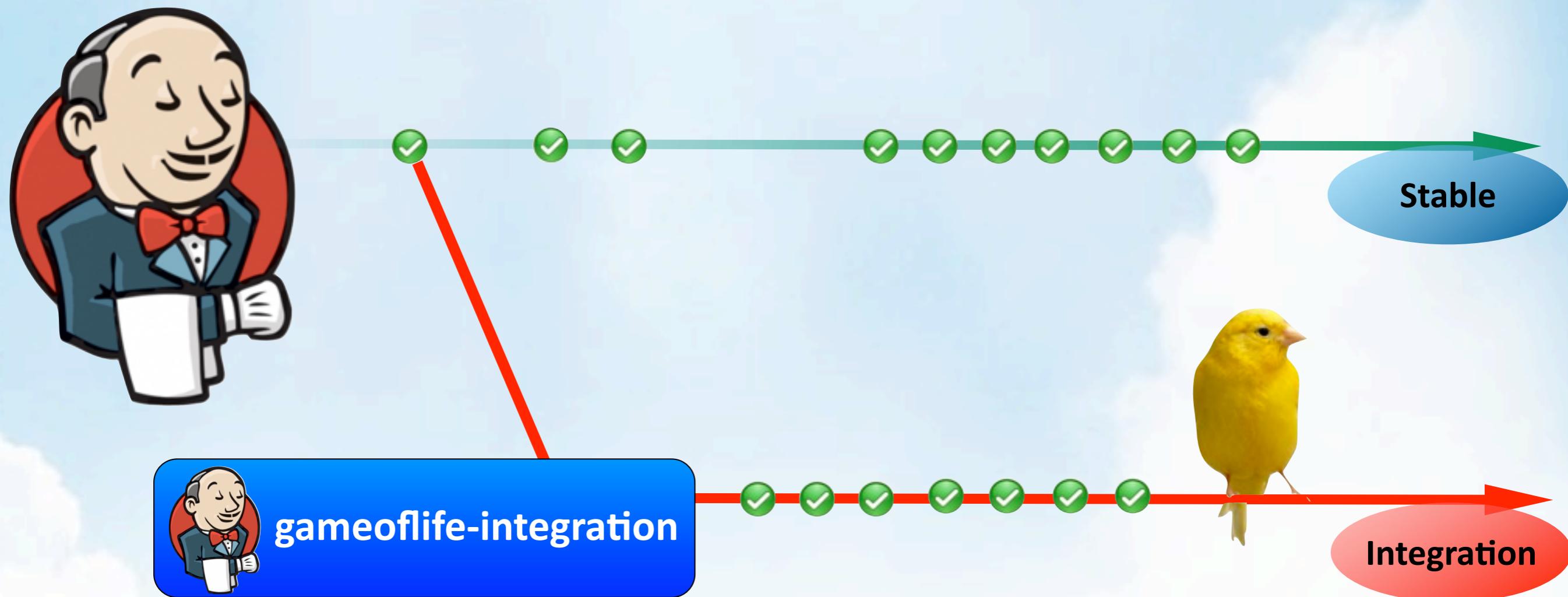
The problem with
feature branches

Everyone needs a canary or two

Branching into Continuous Delivery



Branching into Continuous Delivery



Branching into Continuous Delivery

Source Code Management

CVS
 Git

Repositories

URL of repository: `git@github.com:wakaleo/game-of-life.git` [?](#)

[Advanced...](#) [Delete Repository](#)

Add

Branches to build

Branch Specifier (blank for default): `feature-*` [?](#)

[Delete Branch](#)

Add

Merge options

Merge before build [?](#)

Name of repository: (default first specified, e.g. origin) `origin`

Branch to merge to: (e.g. master) `integration-branch`

Git Publisher [?](#)
 Push Only If Build Succeeds [?](#)
 Merge Results [?](#)

If pre-build merging is configured, push the result back to the origin

Feature branch integration is easy with git and Jenkins



DEMO

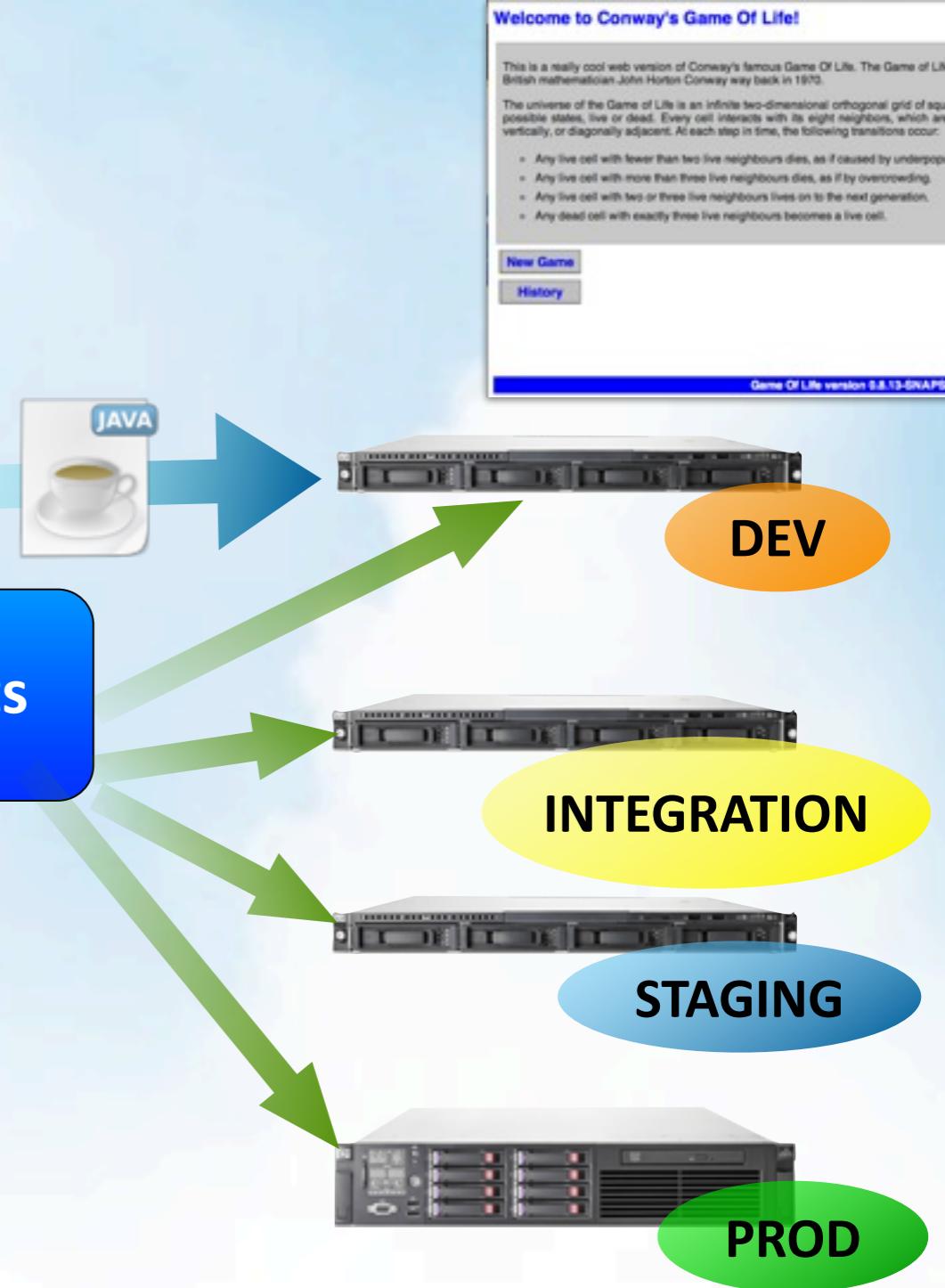
The integration branch in action

Smoke tests

“Where there’s smoke, there’s fire”

Continuous Delivery is impossible
without Continuous Quality

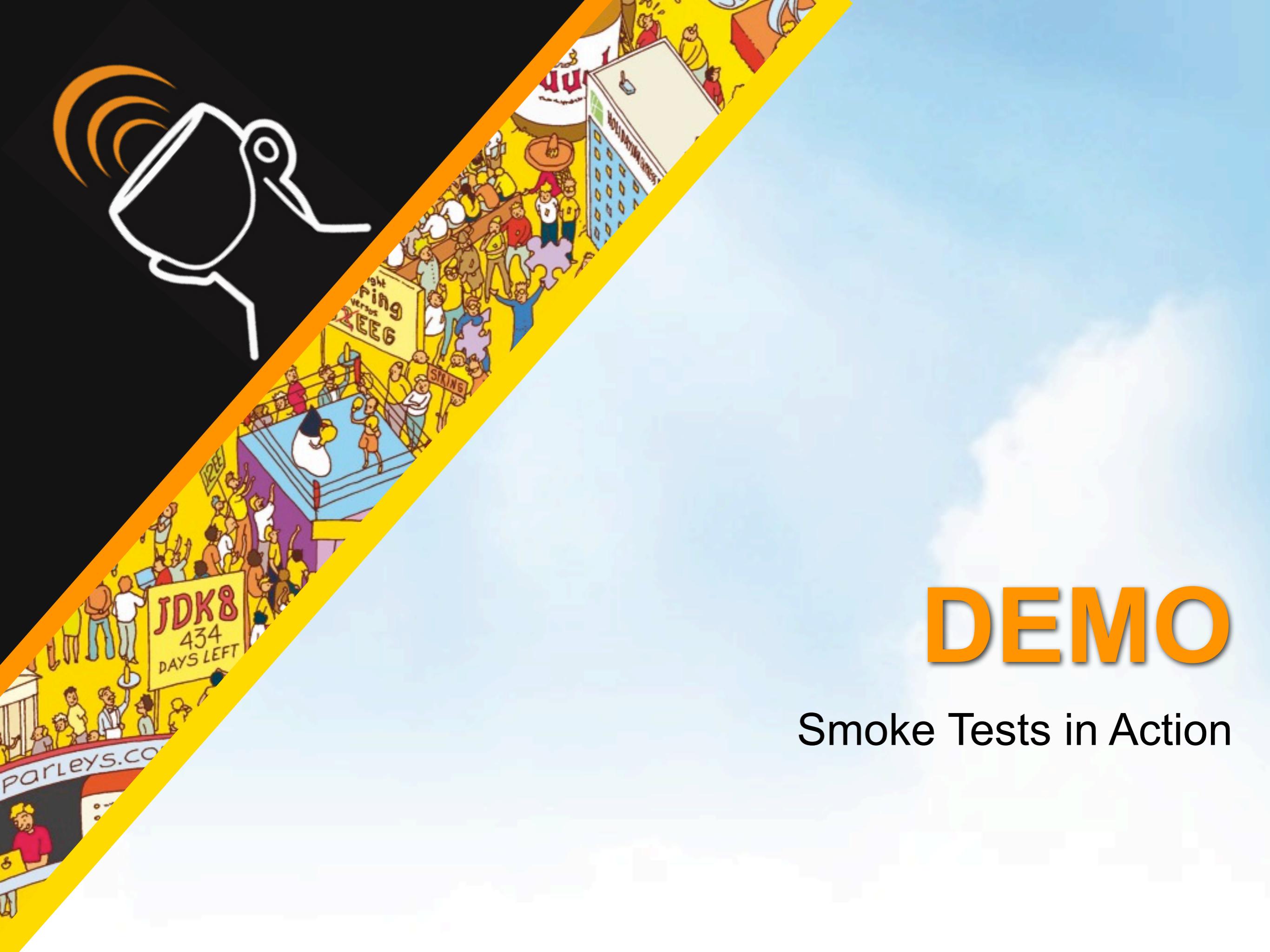
Smoke tests



Smoke tests

Smoke Tests can also be Automated Acceptance Tests





DEMO

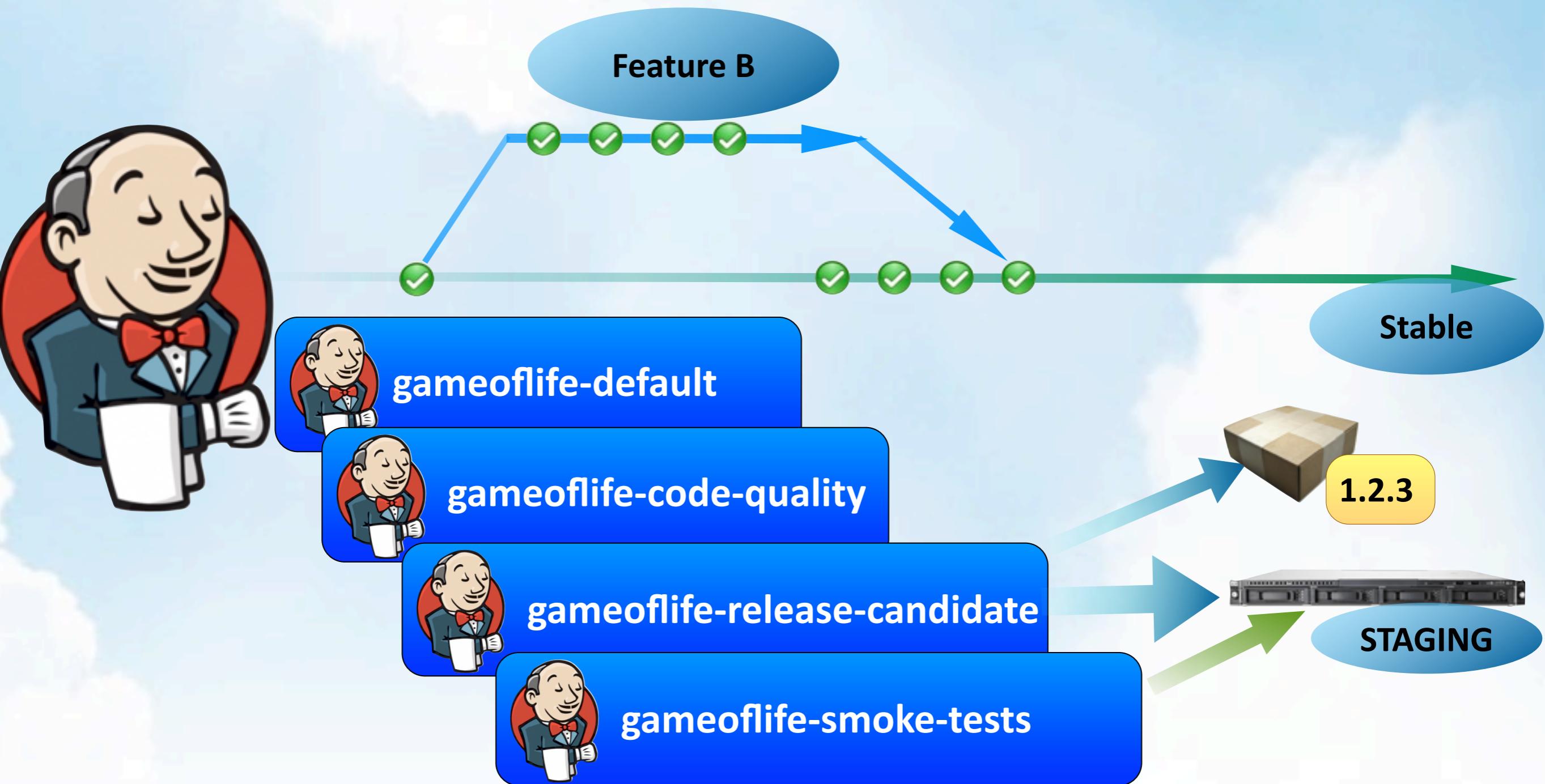
Smoke Tests in Action

Continuous Delivery

A smiling deliveryman in a tan uniform and cap carries several cardboard boxes labeled "FRAGILE" on his shoulder. He is set against a background of a blue sky with white clouds and a small cartoon airplane.

Deliveries when the business needs them

Continuous Delivery





DEMO

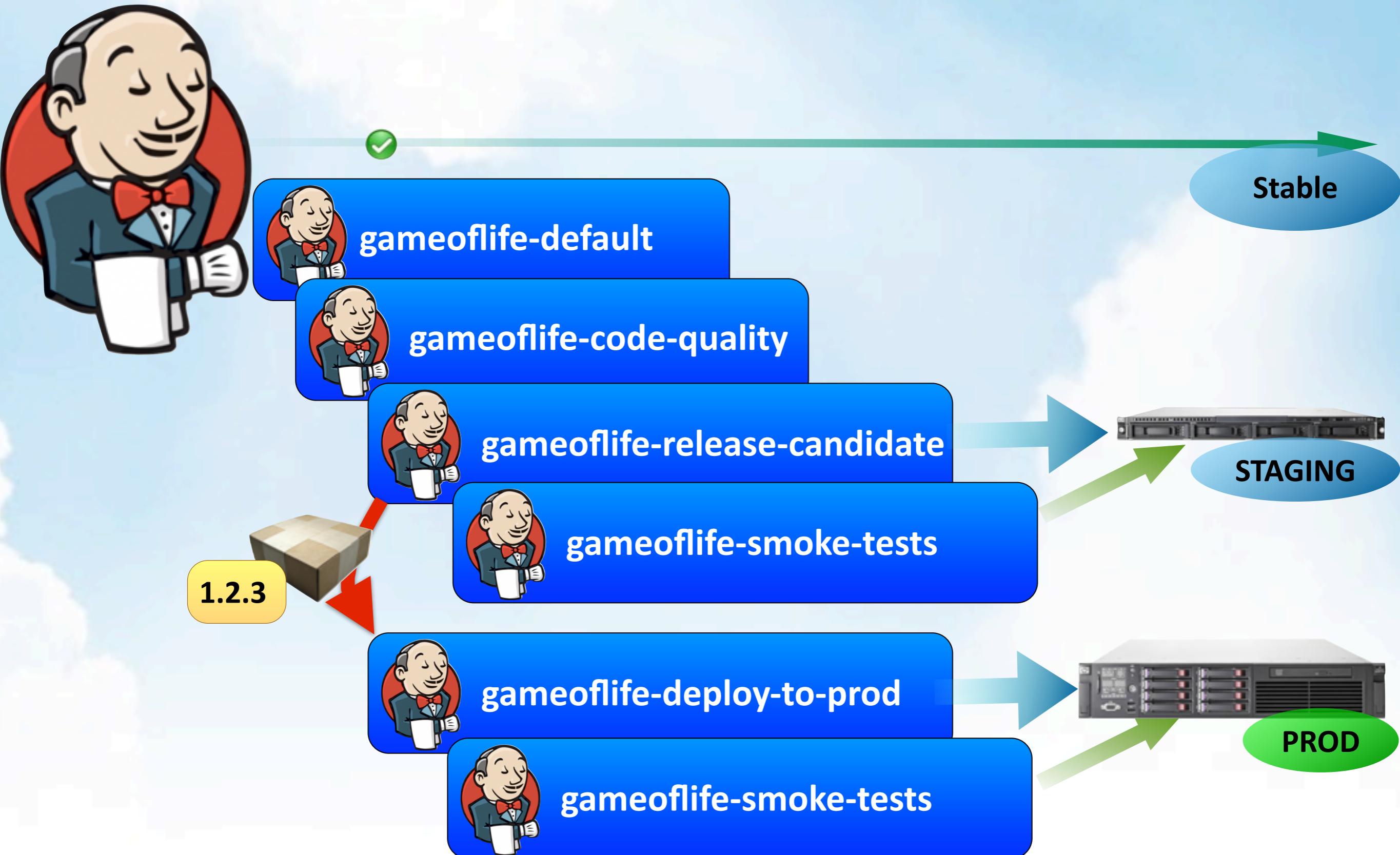
Producing a release candidate

Build Pipeline

Pushing your code into production



Build Pipeline



Build Pipeline



Jenkins search wakaleo | log out [ENABLE AUTO REFRESH](#)

Build Pipeline View: Game Of Life

[Configure View](#) [Start Build of Pipeline for gameoflife-default](#) [View/Hide Build Pipeline Icon Legend](#)

The Jenkins interface shows a build pipeline for the "Game Of Life" project. The pipeline consists of five stages: gameoflife-default, gameoflife-code-quality, gameoflife-release-candidate, gameoflife-deploy-to-prod, and gameoflife-smoke-tests. Each stage is represented by a grey box with a blue and yellow icon. Below the stages, two parallel horizontal timelines show the history of builds. The top timeline shows builds for gameoflife-default (#43), gameoflife-code-quality (#33), gameoflife-release-candidate (#33), gameoflife-deploy-to-prod (#9), and gameoflife-smoke-tests (#34). The bottom timeline shows builds for gameoflife-default (#42), gameoflife-code-quality (#32), gameoflife-release-candidate (#32), gameoflife-deploy-to-prod (#8), and a pending build for gameoflife-smoke-tests. Each build entry includes the build number, date, time, duration, and a green success icon.

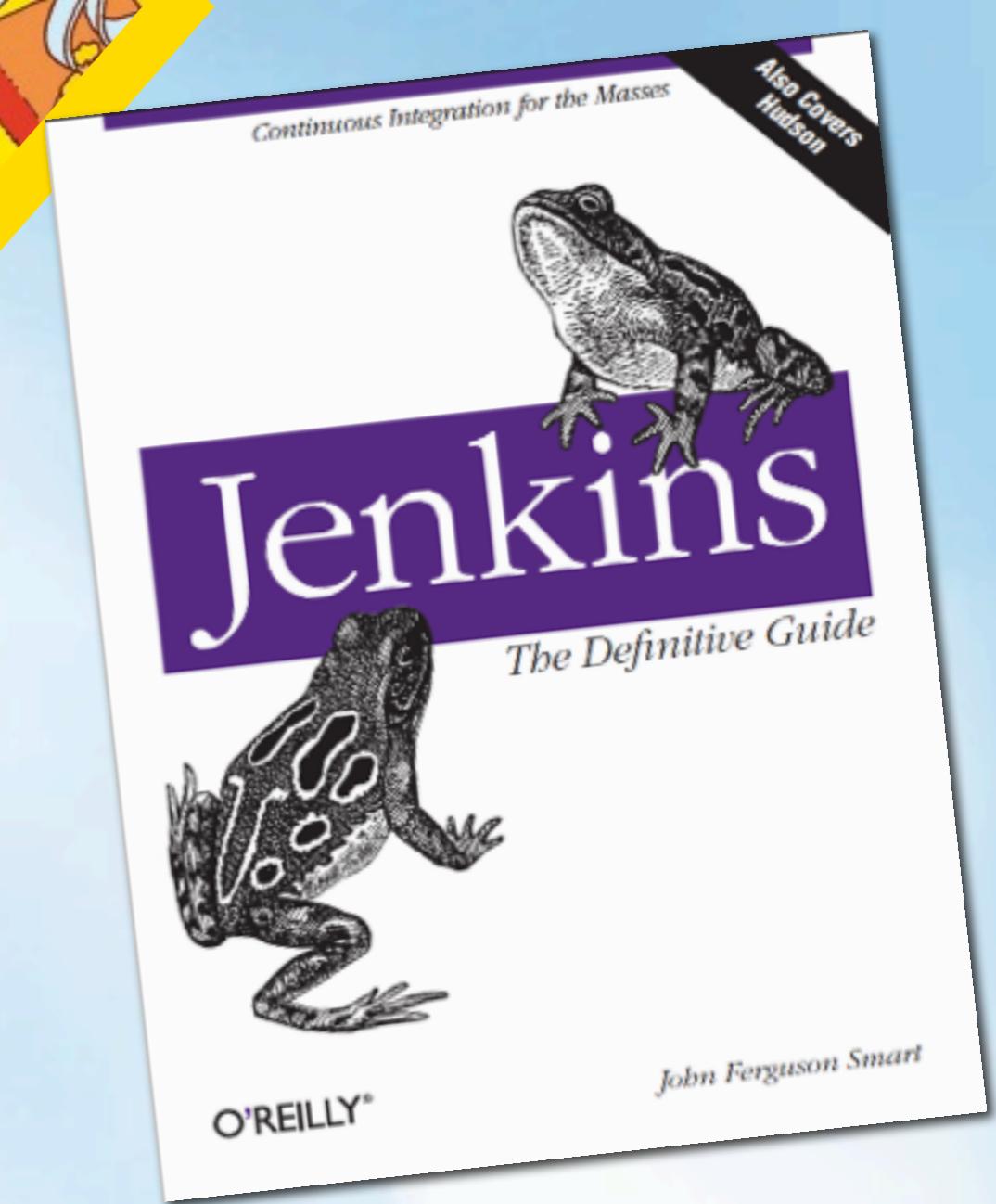
```
graph LR; A[gameoflife-default] --> B[gameoflife-code-quality]; B --> C[gameoflife-release-candidate]; C --> D[gameoflife-deploy-to-prod]; D --> E[gameoflife-smoke-tests];
```

Build Stage	Build #	Date	Time	Duration	Status
gameoflife-default	#43	Nov 15, 2011	10:03:21 AM UTC	1 min 12 sec	Success
gameoflife-code-quality	#33	Nov 15, 2011	10:04:39 AM UTC	3 min 32 sec	Success
gameoflife-release-candidate	#33	Nov 15, 2011	10:08:17 AM UTC	5 min 7 sec	Success
gameoflife-deploy-to-prod	#9	Nov 15, 2011	10:25:18 AM UTC	20 sec	Success
gameoflife-smoke-tests	#34	Nov 15, 2011	10:11:07 AM UTC	1 min 42 sec	Success
gameoflife-default	#42	Nov 15, 2011	9:20:21 AM UTC	1 min 16 sec	Success
gameoflife-code-quality	#32	Nov 15, 2011	9:21:43 AM UTC	1 min 42 sec	Success
gameoflife-release-candidate	#32	Nov 15, 2011	9:23:31 AM UTC	3 min 29 sec	Success
gameoflife-deploy-to-prod	#8	Nov 15, 2011	9:44:14 AM UTC	23 sec	Success
Pending build of project: gameoflife-smoke-tests					Pending



DEMO

The build pipeline



THANK YOU!

John Ferguson Smart
Email: john.smart@wakaleo.com
Web: <http://www.wakaleo.com>
Twitter: [wakaleo](#)