

NSLondon

May 2015

Honza Dvorsky

@czechboy0

honzadvorsky.com



Welcome to NSLondon everyo|

Send

everyo

everyone

everyone's

SwiftKey



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123



EN CS

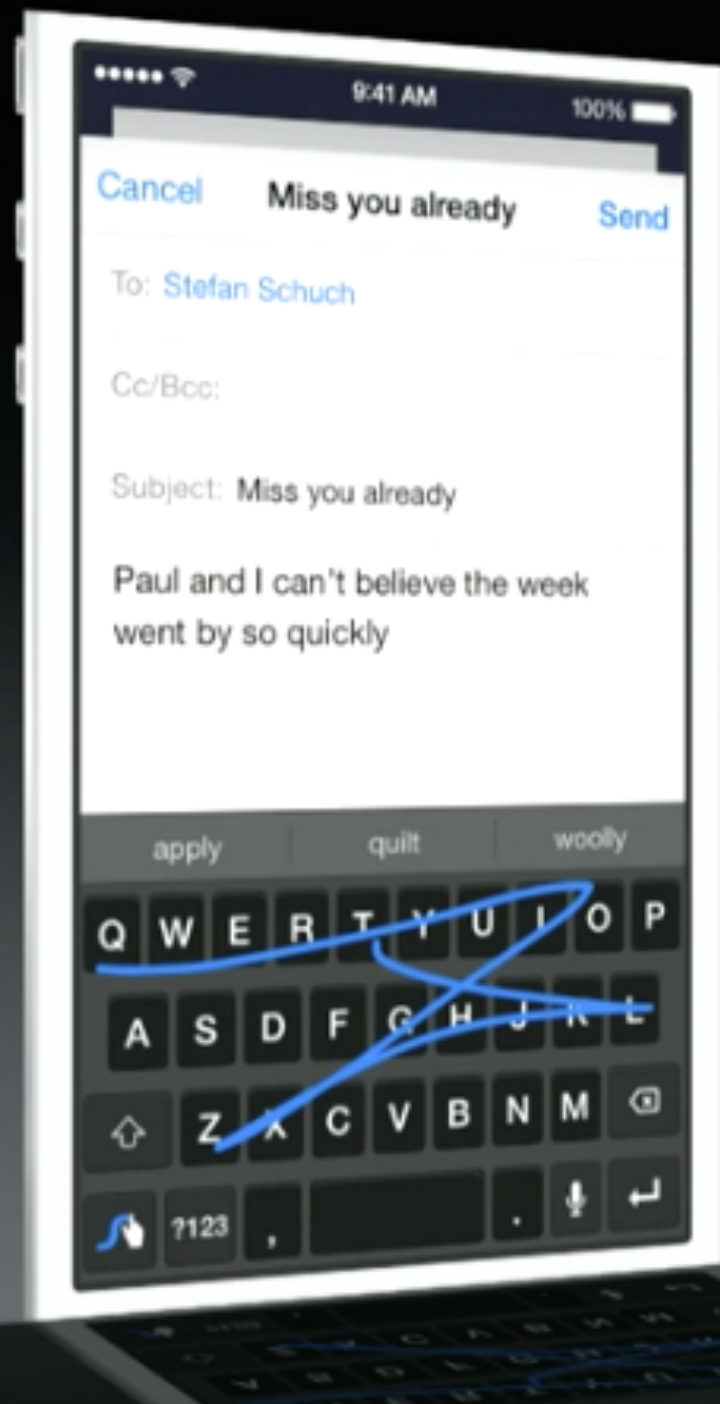
SwiftKey

?!,

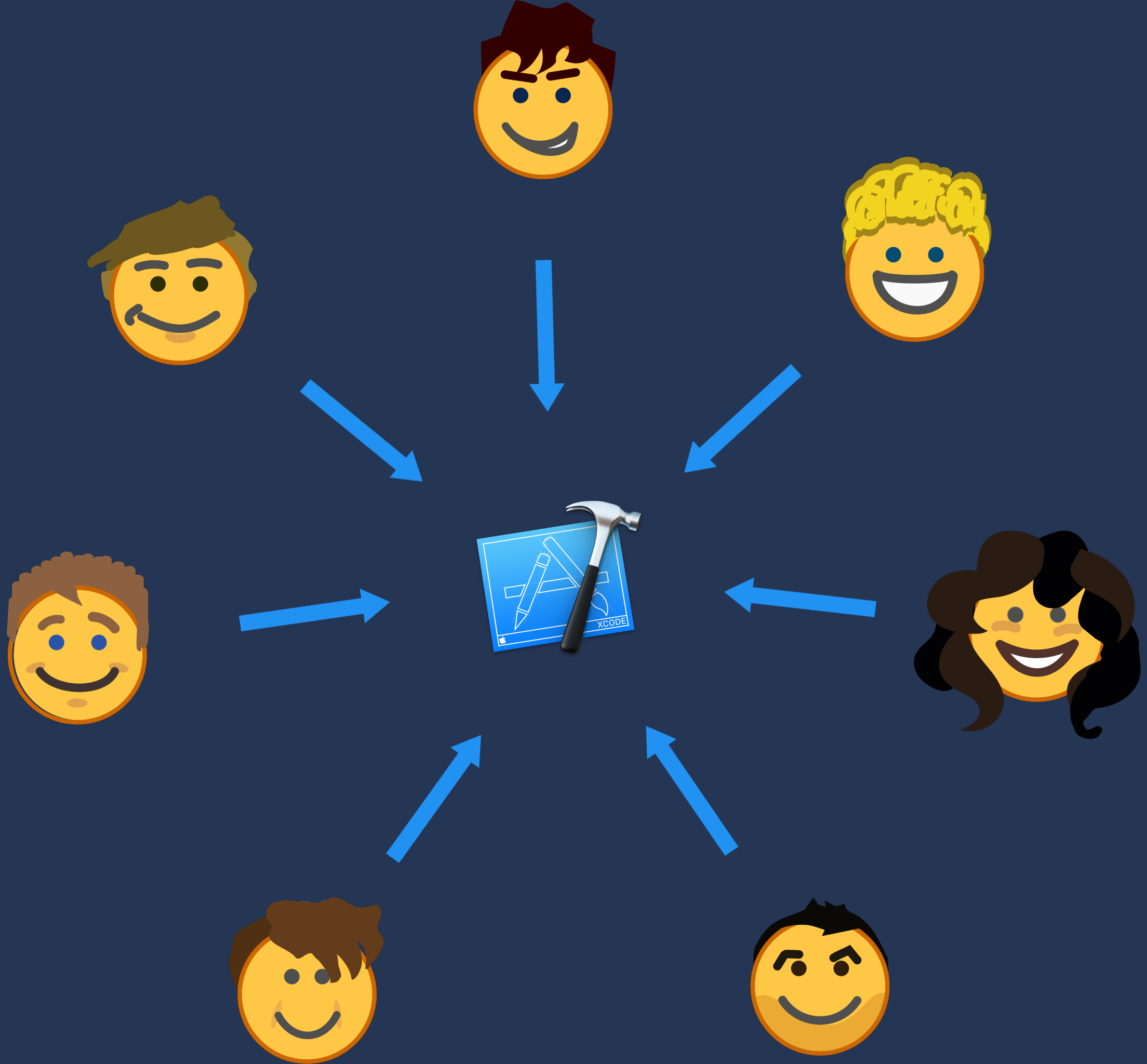
.



Keyboards



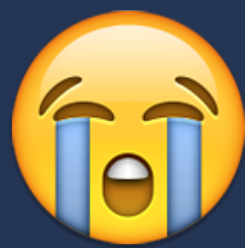








 **Merge pull request**



**MOVE
FAST AND
BREAK
THINGS**



Continuous Integration on the Edge

What?

*... a practice of
merging all
developer working
copies with a shared
mainline several
times a day.*

– Wikipedia.org

*... prevent
integration
problems, referred
to as "integration
hell".*

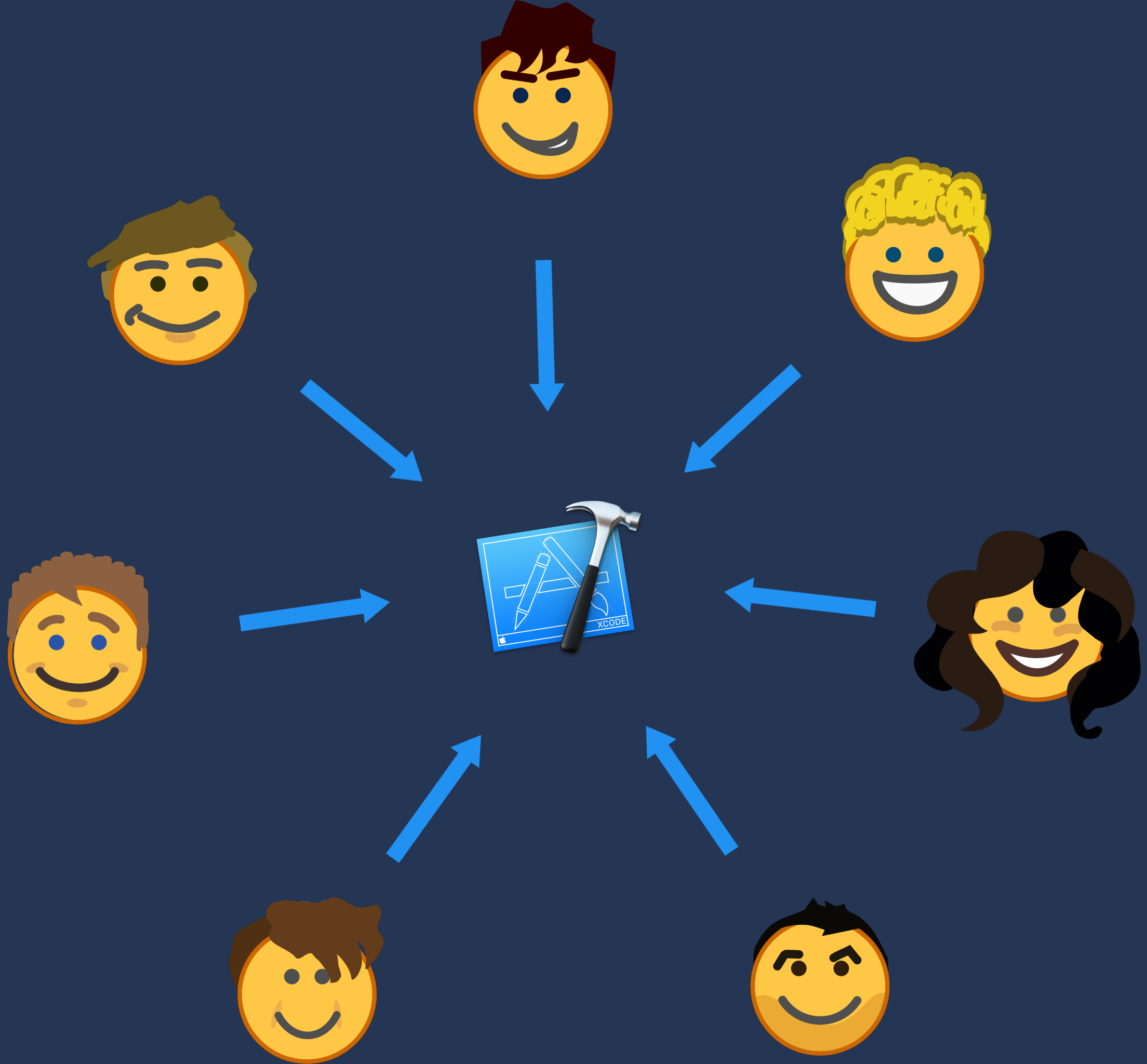
– Wikipedia.org

```
if ((err = SSLHashSHA1.update(&hashCtx, &signedParams)) != 0)
```

```
    goto fail;
```

```
    goto fail;
```

```
if ((err = SSLHashSHA1.final(&hashCtx, &hashOut)) != 0)
```

TEST



ALL THE THINGS

*Continuous
Integration is a
practice of knowing
what you're
merging, and
merging it often.*

– **hd**



Braille Keyboard for direct 6-dot braille input
Instant burst mode
New definition dictionaries for Russian, Brazilian Portuguese, Thai, and Turkish
Auto night mode in iBooks
Panoramic photos on iPad
DuckDuckGo support in Safari
Battery usage by app
Travel time notifications
24 new dictation languages
See your books as a series in iBooks
Multi-device support for MFi hearing aids
Tips app
Lunar calendar support
Alex voice for accessibility
Vector maps in China
Hindi localization
Flyover city tours
Separate focus and exposure in Camera
RSS feeds in Shared Links
Improved zoom for accessibility
In Case of Emergency card
Purchase iTunes content with Siri
Rich text editing in Notes
Touch ID to exit from Guided Access
Indian, Tagalog, Irish Gaelic, and Slovenian keyboards
Shazam with Siri
FaceTime call waiting
Place cards in other apps
Private browsing per tab in Safari
Hey, Siri
iBooks built into iOS
Wi-Fi calling
Camera timer
Navigation for China
Speak screen
Time limits and countdown timer for Guided Access



Latest Xcode 6 & iOS 8 Beta

- Extensions support
- Swift support
- new beta every 2 weeks



Jenkins

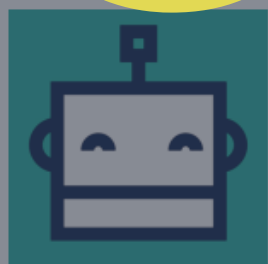


Bamboo



Xcode Server

CI systems?



Travis CI



go™
Continuous Delivery

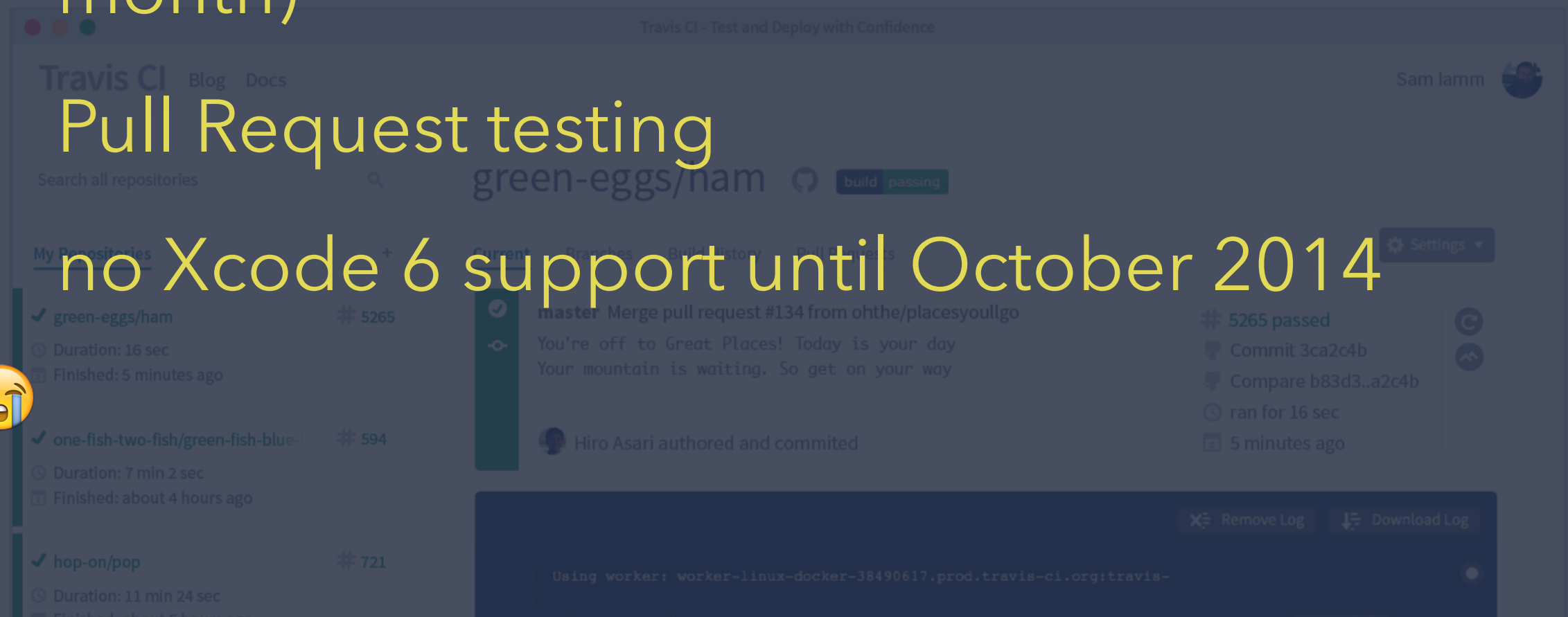


circleci

Travis CI

Easily sync your GitHub projects with Travis CI and you'll be testing your code in minutes!

- free for public repos (private from \$129/month)
- Pull Request testing
- no Xcode 6 support until October 2014



circle ci

- limited free plan for private repos
- Pull request testing
- Xcode support still in beta



Sign Up Free

Need Help? Contact us!

Bitrise

- limited free plan for private repos
- Pull request testing
- built for iOS developers
- no Xcode 6 support until September 15, 2014



Jenkins

- free, self-hosted
- Pull Request testing with a plugin
- complex setup
- no Xcode 6 support until December 2014

A screenshot of the Jenkins website (jenkins-ci.org) with a dark blue background. The page features several sections: 'Jenkins User Conference 2015' with dates for U.S. East, Europe, Israel, and U.S. West; 'Download Jenkins' with tabs for 'Release' and 'Long-Term Support Release', showing the 'Java Web Archive (.war)' as the 'Latest and greatest (1.613)' with links to 'changelog' and 'past releases'; 'Or native package' with a list of operating systems including Windows, Ubuntu/Debian, Red Hat/Fedora/CentOS, Mac OS X, openSUSE, and FreeBSD; 'Meet Jenkins' with a cartoon character; 'Use Jenkins' with a group of people; and 'Customize Jenkins' with a puzzle piece icon and text about 1009 plugins. A 'Fork me on GitHub' banner is visible in the top right corner.

Jenkins User Conference 2015
Don't miss out on the latest from the Jenkins Community!

U.S. East - June 18-19
Europe - June 23-24
Israel - July 16
U.S. West - September 2-3

Early Bird Ends May 15th - REGISTER NOW

Download Jenkins

Release Long-Term Support Release

Java Web Archive (.war)
Latest and greatest (1.613)
changelog | past releases | RC

upgrading from Hudson?

Or native package

- Windows
- Ubuntu/Debian
- Red Hat/Fedora/CentOS
- Mac OS X
- openSUSE
- FreeBSD

Meet Jenkins
Find out what Jenkins is and get started.

Use Jenkins
See how to get more out of your Jenkins.

Customize Jenkins
Choose from **1009** plugins to customize Jenkins exactly to your needs.

TeamCity

- free with limits
- ~supports Pull Request testing with a plugin requiring you to modify your git repo
- complex to setup
- no Xcode 6 support mentioned in the documentation at all



Enjoy all-around customer support

Extend as you go

Whenever you need special additional functionality, choose

Xcode Server

- free
- Xcode 6 support from day 1!
- minutes to setup
- no Pull Request testing





Jenkins



TC TeamCity



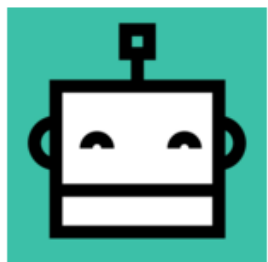
Travis CI



go
Continuous Delivery



Xcode Server





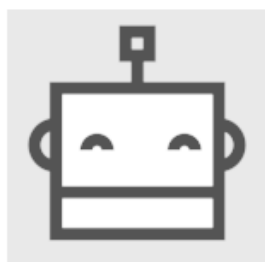
Jenkins



Xcode Server



TeamCity



Travis CI



Xcode Server



Xcode + OS X Server

iOS Dev Center

iOS Dev Center

Mac Dev Center

Safari Dev Center

Hi, **Honza Dvorsky** | [My Profile](#) | [Sign out](#)

iOS 8.3 SDK iOS 8.4 beta 2

Resources for iOS 8



Downloads

Download the latest build of iOS SDK



iOS Developer Library

- [Getting Started](#)
- [Guides](#)
- [Reference](#)
- [Release Notes](#)
- [Sample Code](#)
- [Technical Notes](#)
- [Technical Q&As](#)



Development Videos

- [iOS Development](#)
- [WWDC Videos](#)



iAd JS Developer Library

Get technical documentation on developing with iAd JS.



Apple Developer Forums

Discuss iOS development with other developers and Apple engineers.

Featured Content

- [iOS 8 for Developers](#)
- [What's New in iOS](#)
- [Adaptive User Interfaces](#)
- [App Extensions](#)
- [Apple Pay](#)
- [CloudKit](#)
- [Handoff](#)
- [HealthKit](#)
- [HomeKit](#)
- [64-Bit Transition Guide](#)

iOS Developer Program

- [Certificates, Identifiers & Profiles](#)
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App Store Resource Center



Prepare for App Submission



App Store Approval Process



Managing Apps



Marketing Resources

News and Updates

Stay up-to-date with the latest Apple developer news and updates.
[Learn more](#) ▶

App Distribution Guide

Downloads



OS X Server 4.1

This is the release version of OS X Server 4.1 for OS X Yosemite systems.

[Download](#)

Posted Date: Apr 8, 2015
Build: 14S1092



Server

- honza dvorsky's mbpr 14
- Alerts 36
- Certificates
- Logs
- Stats

Accounts

- Users
- Groups

Services

- Caching
- Calendar
- Contacts
- File Sharing
- Mail
- Messages
- Profile Manager
- Time Machine
- VPN
- Websites
- Wiki

Xcode

Advanced



Xcode

☐ OFF














Choose Xcode to begin

Streamline Mac and iOS app development with Xcode Server.
Download Xcode from the Mac App Store

Choose Xcode...

Features

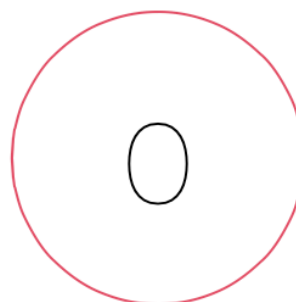
- scheduled, on commit builds
- analyze -> test -> archive workflow
- testing on iOS devices
- OTA app installation
- pre/post run triggers for custom scripts, email notifications

-  **Build**
Today 18:39
-  **Test**
Today 01:35
-  **Workspace**
No Logs
-  **Builda Archiver**
192.168.1.64
 -  Integrate (6)
14/05/2015 00:51
 -  Integrate (5)
11/05/2015 01:37
 -  Integrate (4)
05/05/2015 21:08
 -  Integrate (3)
04/05/2015 22:42
 -  Integrate (2)
04/05/2015 13:37
 -  Integrate (1)
04/05/2015 00:23
-  **Builda On Commit**
192.168.1.64

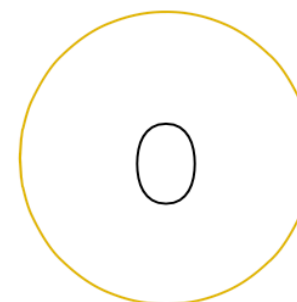
less than 1 minute

Logs

Integrate N

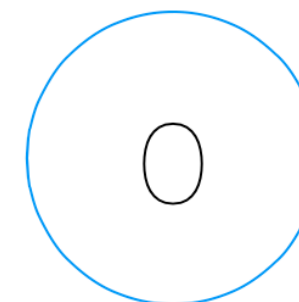



 ERRORS
No Change



 WARNINGS

No Change



 ISSUES
No Change



 TESTS
No Change

Device Testing

Devices: 1
Total Tests: 10
Tests Passed: 10
Tests Failed: 0



Honza's MacBook...
MacBook Pro
OS X 10.10.3 (x86_64)
All Tests Passed

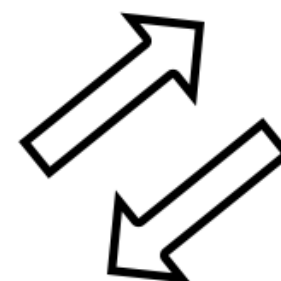
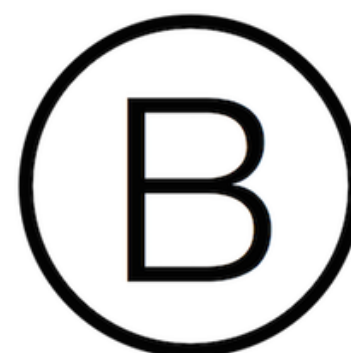
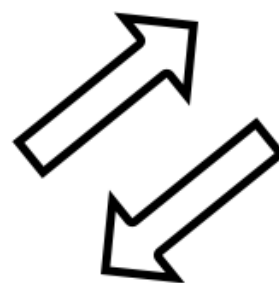
GitHub



Xcode Server



Xcode Server



GitHub



Buildasaur

GitHub, Inc.

This repository

Search

Explore

Gist

Blog

Help

czechboy0

+

czechboy0 / Buildasaur

Unwatch

7

Unstar

194

Fork

8

Free, local and automatic testing of GitHub Pull Requests with Xcode Bots. Keep your team productive and safe. Get up and running in minutes. @buildasaur <http://honzadvorsky.com/buildasaur> — Edit

131 commits

1 branch

9 releases

4 contributors

branch: master

Buildasaur / +

started looking into how we could use fastlane to make releases faster.

czechboy0 authored 14 hours ago

latest commit 294d40551b

Buildasaur

Buildasaur.xcodeproj

Buildasaur.xcworkspace

Buildasaur

Meta

fastlane

.gitignore

.travis.yml

LICENSE

added a menu bar item which shows the status of each syncer and a b...

added a blueprint test (can't write a succeeding test because i'd hav...

added a menu bar item which shows the status of each syncer and a b...

checked in checkout file

v++ (let's go for a big one next time)

changes to readme

started looking into how we could use fastlane to make releases faster.

started looking into how we could use fastlane to make releases faster.

travis setup

3 days ago

3 days ago

2 days ago

3 days ago

2 days ago

2 days ago

14 hours ago

14 hours ago

a month ago

<> Code

Issues 9

Pull requests 0

Wiki

Pulse

SSH clone URL

git@github.com:cze

You can clone with HTTPS, SSH, or Subversion.

Clone in Desktop

Download ZIP

Buildasaur

- Mac app
- connects GitHub Pull Requests with Xcode Server
- open source on GitHub: [czechboy0/Buildasaur](#)
- Swift 1.2



Buildasaur

/Users/honzadvorsky/Documents/Buildasaur/
Buildasaur.xcworkspace

git@github.com:czechboy0/Buildasaur.git

Builda PR



.....

id_rsa.pub

id_rsa

Your SSH key passphrase (if you have one)

Edit

Verified access, all is well!

Xcode Server Configuration

https://127.0.0.1

testadmin

.....

You need to add your Xcode Server credentials here.

Edit

Verified access, all is well!

Manual Bot Management

Stop



Wait for "Ittm" ☐



Post Status Comments ☒

Sync interval [s] 15



Last successful sync at 2015-05-16 17:32:36 +0000

Syncer is Idle... Waiting for the next sync...

GitHub Rate Limit: count: 85/5000, renews in 2389 seconds,
rate: 0.07/1.38, using 5.05% of the allowed request rate.

All Pull Requests: 0

All Bots: 0

Building Buildasaur

- Swift 1.2
- Xcode 6.3



GitHub <-> Buildasaur <-> Xcode Server

Update ViewController.swift

✖ 603e188

B

buildasaur commented 18 hours ago

Collaborator



Result of integration 1
Integration took 5 seconds.
5 build errors: build-errors

Add more commits by pushing to the **czechboy0-patch-4** branch on **czechboy0/Buildasaur-Tester**.




✖ **Error** — Buildasaur: Build error!

Merge with caution!

You can also merge branches on the [command line](#).



Merge pull request

  Update README.md

✓ ef2d5e2

(B)

buildasaur commented 18 hours ago

Collaborator



Result of integration 1
Integration took 17 seconds.
Perfect build! All 2 tests passed. 🍏

Add more commits by pushing to the **czechboy0-patch-3** branch on **czechboy0/Buildasaur-Tester**.



✓ **All is well** — Buildasaur: Build passed!

This pull request can be automatically merged.

You can also merge branches on the [command line](#).



 **Merge pull request**

List pull requests

```
GET /repos/:owner/:repo/pulls
```

Parameters

Name	Type	Description
state	string	Either open, closed, or all to filter by state. Default: open
head	string	Filter pulls by head user and branch name in the format of user:ref-name. Example: github:new-script-format.
base	string	Filter pulls by base branch name. Example: gh-pages.
sort	string	What sort pulls by. Can be created, updated, popularity (commits), closed, merged, or merged_at. Default is created.
direction	string	The direction on the sort can be either asc or desc. Default is desc when sort is created or sort is not specified, otherwise asc.

Response

```
Status: 200 OK
Link: <https://api.github.com/resource?page=2>; rel="next",
      <https://api.github.com/resource?page=5>; rel="last"
X-RateLimit-Limit: 5000
X-RateLimit-Remaining: 4999

[
  {
    "id": 1,
    "url": "https://api.github.com/repos/octocat/Hello-World/pulls/1347",
    "html_url": "https://github.com/octocat/Hello-World/pull/1347",
    "diff_url": "https://github.com/octocat/Hello-World/pull/1347.diff",
    "patch_url": "https://github.com/octocat/Hello-World/pull/1347.patch",
    "issue_url": "https://api.github.com/repos/octocat/Hello-World/issues/1347"
```

GitHub API

Xcode Server

API



140
141
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180


```
// Miscellaneous =====  
app.del(k.XCSAPIBasePath + '/unittests', prepareRequest, db_core.removeUnitTestDocs);  
app.get(k.XCSAPIBasePath + '/unittests/cleanup', xcsutil.unitTestCleanup);  
app.get(k.XCSAPIBasePath + '/ping', prepareRequest, auth.verifyIfServiceIsEnabledAllowCertificate, xcsutil.ping);  
app.get(k.XCSAPIBasePath + '/hostname', prepareRequest, auth.verifyIfServiceIsEnabledAllowCertificate, xcsutil.hostname);  
  
// Health =====  
app.get(k.XCSAPIBasePath + '/health', prepareRequest, auth.verifyIfServiceIsEnabledAllowCertificate, health.status.bind(health));  
app.get(k.XCSAPIBasePath + '/is_compaction_active', prepareRequest, auth.verifyIfServiceIsEnabledAllowCertificate, database.isCompactionActive);  
app.get(k.XCSAPIBasePath + '/fragmentation_index', prepareRequest, auth.verifyIfServiceIsEnabledAllowCertificate, database.fragmentationIndex);  
app.post(k.XCSAPIBasePath + '/compact', prepareRequest, auth.verifyIfServiceIsEnabledAllowCertificate, database.compact.bind(database));  
  
// Authentication =====  
app.post(k.XCSAPIBasePath + '/auth/login', prepareRequest, auth.verifyIfServiceIsEnabledAllowCertificate, auth.login);  
app.post(k.XCSAPIBasePath + '/auth/force_login', prepareRequest, auth.verifyIfServiceIsEnabledAllowCertificate, auth.force_login);  
app.get(k.XCSAPIBasePath + '/auth/logout', prepareRequest, auth.verifyIfServiceIsEnabledAllowCertificate, auth.logout);  
app.get(k.XCSAPIBasePath + '/auth/islogged', prepareRequest, auth.verifyIfServiceIsEnabledAllowCertificate, auth.isLogged);  
app.get(k.XCSAPIBasePath + '/auth/isBotCreated', prepareRequest, auth.verifyIfServiceIsEnabledAllowCertificate, auth.isBotCreated);  
  
// Bots =====  
app.get(k.XCSAPIBasePath + '/bots/:id', prepareRequest, auth.verifyIfServiceIsEnabledAllowCertificate, auth.enforceBotCreatorRole);  
app.get(k.XCSAPIBasePath + '/bots/:id/flight', prepareRequest, auth.verifyIfServiceIsEnabledAllowCertificate, auth.enforceBotCreatorRole);  
app.get(k.XCSAPIBasePath + '/bots/:id/reports', prepareRequest, auth.verifyIfServiceIsEnabledAllowCertificate, auth.enforceBotCreatorRole);  
app.get(k.XCSAPIBasePath + '/bots/:id/stats', prepareRequest, auth.verifyIfServiceIsEnabledAllowCertificate, auth.enforceBotCreatorRole);  
app.get(k.XCSAPIBasePath + '/bots/:id/viewer', prepareRequest, auth.verifyIfServiceIsEnabledAllowCertificate, auth.enforceBotViewerRole);  
app.patch(k.XCSAPIBasePath + '/bots/:id', prepareRequest, auth.verifyIfServiceIsEnabledAllowCertificate, auth.enforceBotCreatorRole);  
app.del(k.XCSAPIBasePath + '/bots/:id/:rev', prepareRequest, auth.verifyIfServiceIsEnabledAllowCertificate, auth.enforceBotCreatorRole);  
app.del(k.XCSAPIBasePath + '/bots', prepareRequest, auth.verifyIfServiceIsEnabledAllowCertificate, auth.enforceBotCreatorRole);  
app.get(k.XCSAPIBasePath + '/bots/:id/stats', prepareRequest, auth.verifyIfServiceIsEnabledAllowCertificate, auth.enforceBotViewerRole);  
  
// Users =====  
app.get(k.XCSAPIBasePath + '/users/:name/canCreateRepositories', prepareRequest, auth.verifyIfServiceIsEnabledAllowCertificate, user.canCreateRepositories);  
app.get(k.XCSAPIBasePath + '/users/:name/canViewBots', prepareRequest, auth.verifyIfServiceIsEnabledAllowCertificate, user.canViewBots);  
app.get(k.XCSAPIBasePath + '/users/:name/canCreateBots', prepareRequest, auth.verifyIfServiceIsEnabledAllowCertificate, user.canCreateBots);  
app.get(k.XCSAPIBasePath + '/users/canAnyoneCreateRepositories', prepareRequest, auth.verifyIfServiceIsEnabledAllowCertificate, user.canAnyoneCreateRepositories);  
app.get(k.XCSAPIBasePath + '/users/canAnyoneViewBots', prepareRequest, auth.verifyIfServiceIsEnabledAllowCertificate, user.canAnyoneViewBots);  
app.get(k.XCSAPIBasePath + '/users/canAnyoneCreateBots', prepareRequest, auth.verifyIfServiceIsEnabledAllowCertificate, user.canAnyoneCreateBots);  
  
// Integrations =====  
app.post(k.XCSAPIBasePath + '/bots/:id/integrations', prepareRequest, auth.verifyIfServiceIsEnabledAllowCertificate, auth.enforceBotCreatorRole);
```

Node.js

/Applications/
Xcode.app/
Contents/
Developer/usr/
share/xcs/xcsd/
routes/routes.js

http://localhost:10355/_utils/

http://localhost:10355/_utils/



CouchDB
relax

Tools

Recent Databases

- _replicator
- _users
- users

ls/

Welcome to Admin F
Everyone is admin. Fi

Futon on Apache CouchDB

Redis

\$ redis-cli -p 10356

Builda Archiver

Integration 2					3 hrs ago
0	0	0	7		

Builda On Commit

Integration 13					3 hrs ago
0	0	0	7		



192.168.1.64



Latest ▾

/Applications/
Xcode.app/
Contents/
Developer/usr/
share/xcs/
xcswebui/



HONZA DVORSKY

Under the Hood of Xcode Server

BLOG HD'S WRITING HD'S SOFTWARE HONZA OR JAN? CONTACT

Under the Hood of Xcode Server

As part of building a project called Buildasaur, I had a chance to explore the ins and outs of Xcode Server. Xcode Server is a combination of two of Apple's apps, OS X Server and Xcode. Together, they can provide a continuous integration server for your repository.

Back in 2013, when Xcode 5 was released, Apple referred to the system as "Xcode

honzadvorsky.com



Xcode Server

Xcode Server + Buildasaur

PLEASE DO NOT FEED OR DISTURB



BUILDASAUR HARD AT WORK *we love him very much*

ICY BOX



Server

- honza dvorsky's mbpr 14
- Alerts 36
- Certificates
- Logs
- Stats

Accounts

- Users
- Groups

Services

- Caching
- Calendar
- Contacts
- File Sharing
- Mail
- Messages
- Profile Manager
- Time Machine
- VPN
- Websites
- Wiki

Xcode

Advanced



Xcode

☐ OFF



Choose Xcode to begin

Streamline Mac and iOS app development with Xcode Server.
Download Xcode from the Mac App Store

Choose Xcode...



The epicenter
of change.

WWDC15

**MOVE
FAST AND
don't BREAK
THINGS**





Welcome to NSLondon everyo|

Send

everyo

everyone

everyone's

**Come work
at SwiftKey!**



z

x

c

v

b

n

m



123



EN CS

 SwiftKey

?!,

.



Thanks!!

Honza Dvorsky

@czechboy0

honzadvorsky.com

Links

[Under the Hood of Xcode Server](#)

honzadvorsky.com

[Continuous Integration - Wikipedia](#)

[Xcode Server Documentation](#)

[SwiftKey](#)

[Buildasaur](#)

[CI servers](#)

[Emojis](#)

[iOS 8 Keynote - Keyboards](#)

[iOS 8 Keynote](#)