

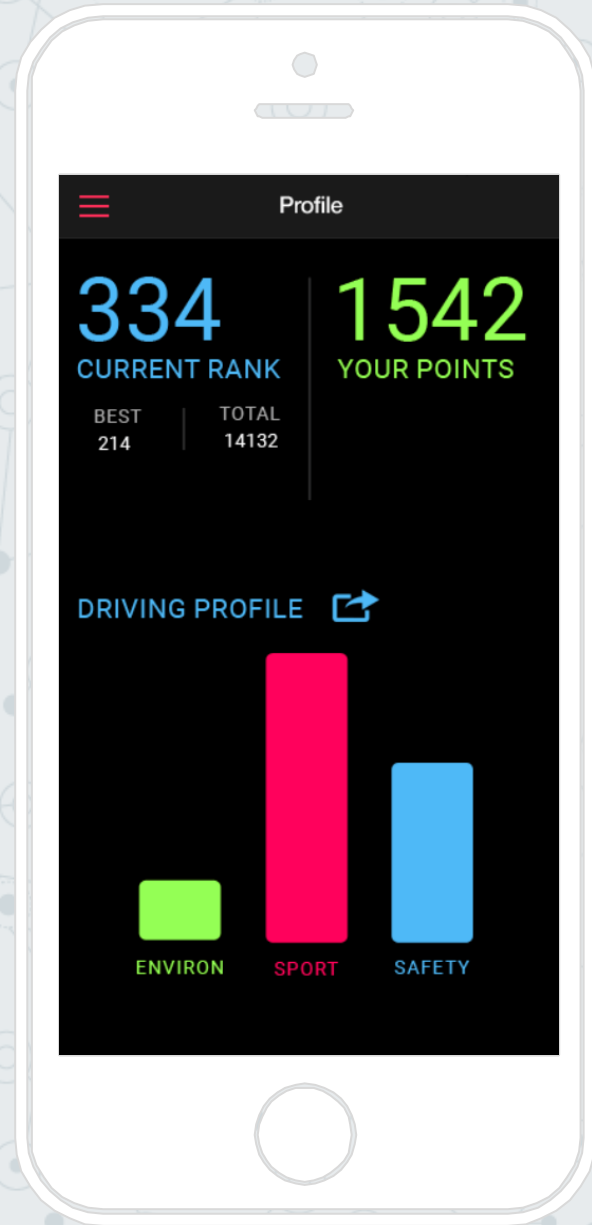


Continuous Integration

for an iPhone App

Projekt “badgeMe”

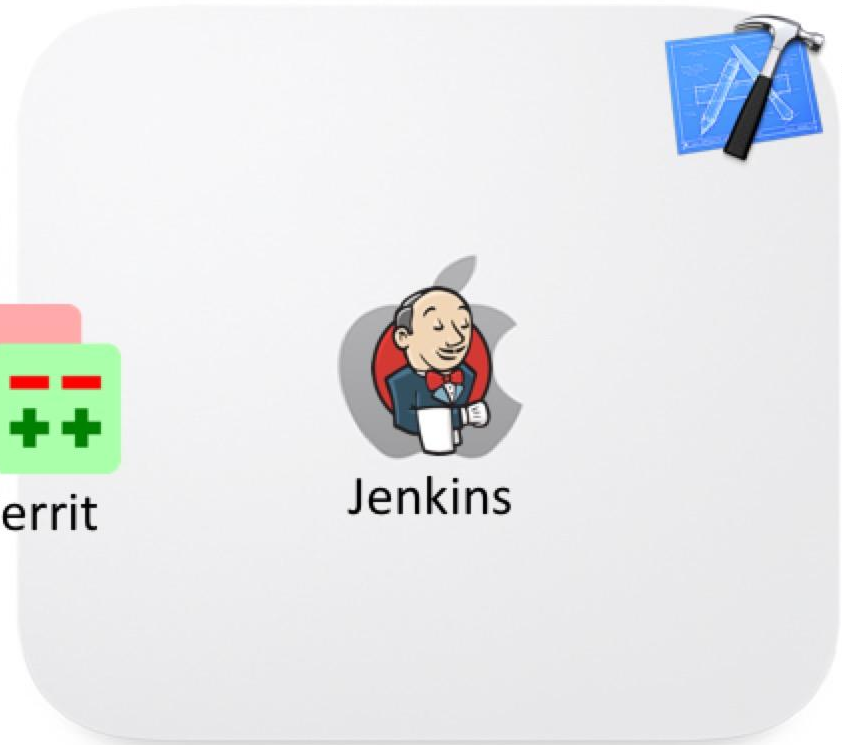
- ◎ iOS & Apple Watch Application
- ◎ Backend zur Aufbereitung der Auto-Daten
- ◎ Auswertung von Fahreigenschaften (z.B. Geschwindigkeit, zurückgelegte Strecke, Benzinverbrauch, ...)
- ◎ Gamification mit Badges
- ◎ Erstellen eines Profils mit echten Daten
- ◎ Verwendung bei Drittanbietern



BadgeMe

Apple Watch & iOS App

git replica 



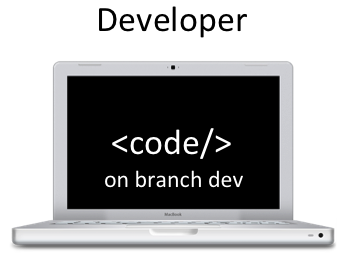
Xcode

A decorative network diagram in the top-left corner, consisting of various sized circles (nodes) connected by thin lines (edges). Some nodes are solid grey, while others are hollow with a dashed border. The network is sparse and irregular.

Development Stage

A decorative network diagram in the bottom-right corner, similar to the one in the top-left, with nodes of varying sizes and styles connected by thin lines.

git replica 



Gerrit




Jenkins

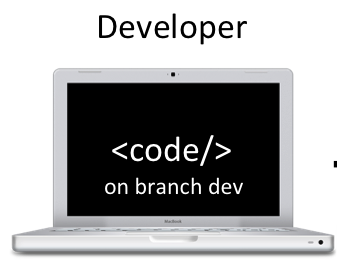


Xcode

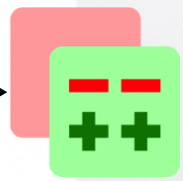


Slack

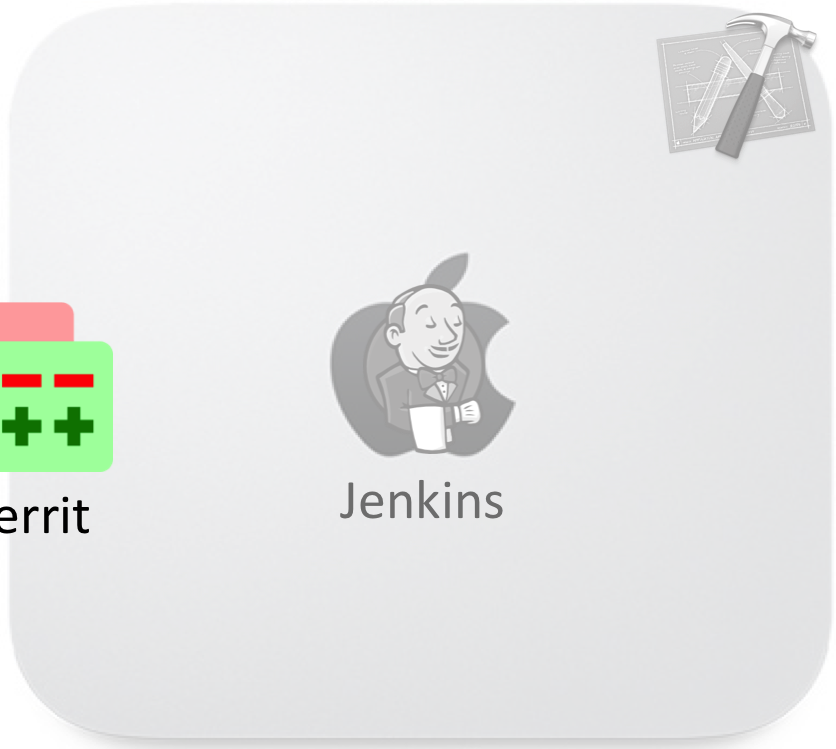
git replica 



git review dev →



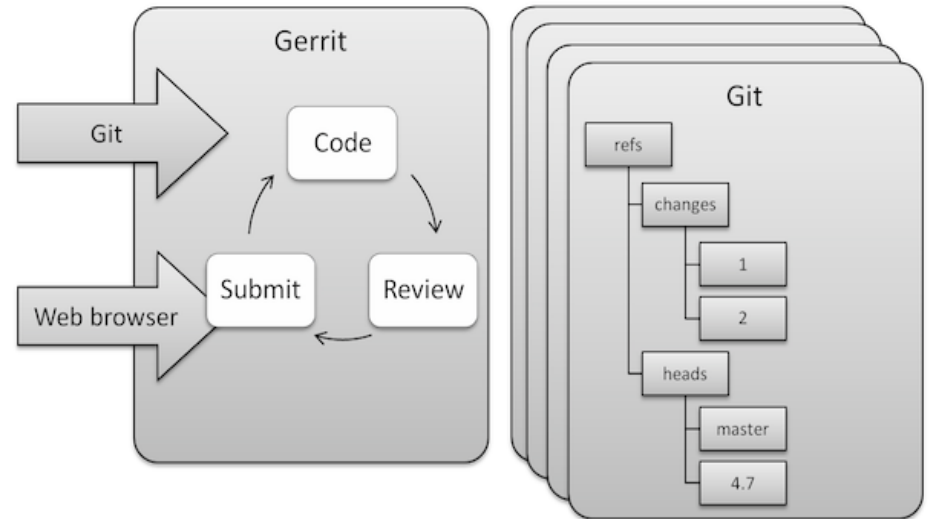
Gerrit



Slack

Gerrit

- Webbasiertes Code-Reviewing
- Erstellt interne Git-Repositories
- Side-by-side Änderungsansicht
- Hinzufügen von Anmerkungen
- Code-Änderungen im Browser möglich
- Möglichkeit, neue Patchsets zu erstellen



RankingController.swift | m x

mrs.mmlab.mintern.mi.hdm-stuttgart.de:8081/#c/64/1/badgame+WatchKit+Extension/InterfaceController/RankingController.swift

All Projects Documentation
Open Merged Abandoned

badgame-app / badgame WatchKit Extension/InterfaceController/RankingController.swift

Patch Set Base 1 Patch Set 1

similarity index 74%
rename from badgame WatchKit Extension/RankingController.swift
rename to badgame WatchKit Extension/InterfaceController/RankingController.swift
... skipped 3 common lines ...

```
4 //  
5 // Created by Manuel Kalla on 09/06/15.  
6 // Copyright © 2015 HdM. All rights reserved.  
7 //  
8  
9 import Foundation  
10 import WatchKit  
11  
12  
13 class RankingController: WKInterfaceController {  
14     @IBOutlet var rankingLabel: WKInterfaceLabel!  
15     var rank: Int = 14  
16     var maxRank: Int = 1324  
17  
18  
19  
20  
21  
22  
23  
24 override func awakeWithContext(context: AnyObject?) {  
25     super.awakeWithContext(context)  
26     // Configure interface objects here.  
27 }  
28  
29  
30 override func willActivate() {  
31     // This method is called when watch view controller is about to be visible to user  
32     super.willActivate()  
33     AnimationController.sharedInstance.startLabelAnimation(rankingLabel, _startValue:maxRank, _endValue:rank  
34     //WKInterfaceDevice().playHaptic(.Success)  
35 }  
36  
37  
38 override func didDeactivate() {  
39     // This method is called when watch view controller is no longer visible  
40     super.didDeactivate()  
41 }  
42 }  
43 }  
44 }  
45 }
```

```
4 //  
5 // Created by Manuel Kalla on 09/06/15.  
6 // Copyright © 2015 HdM. All rights reserved.  
7 //  
8  
9 import Foundation  
10 import WatchKit  
11  
12  
13 class RankingController: WKInterfaceController {  
14     @IBOutlet var rankingLabel: WKInterfaceLabel!  
15     let rank: Int = 14  
16     let maxRank: Int = 1324  
17  
18  
19  
20 // =====  
21 // MARK: Application Lifecycle  
22 // =====  
23  
24 override func awakeWithContext(context: AnyObject?) {  
25     super.awakeWithContext(context)  
26     // Configure interface objects here.  
27 }  
28  
29  
30 override func willActivate() {  
31     // This method is called when watch view controller is about to be visible to user  
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39     // This method is called when watch view controller is no longer visible  
40     super.didDeactivate()  
41 }  
42 }  
43 }  
44 }  
45 }
```

Powered by Gerrit Code Review (2.11) | Press '?' to view keyboard shortcuts

Browser: mrs.mmlab.mintern.mi.hdm-stuttgart.de:8081/#/c/147/

Navigation: iPhoneblog ifun.de ComputerBase Apfeltalk Facebook Netflix Twitch SC2Casts HdM YouTube

Menu: **All** My Projects People Plugins Documentation

Sub-menu: Open Merged Abandoned

Search: Search term [] Search Manuel Schwandt

Change 147 - Needs Verified Patch Sets (1/1) Download

added Backend and Pushnotification test

Change-Id: I8d22255f4e5a750dac1832c26d1517f5c5609c54

Reply...

Owner [Manuel Kalla](#)

Reviewers **Add...**

Project [badgeme-app](#)

Branch [dev_demo](#)

Topic

Strategy Merge if Necessary

Uploaded 2 seconds ago

Cherry Pick **Rebase** **Abandon** **Follow-Up**

Code-Review
Verified

Author [Manuel K <mkalla@gmx.net>](#) Jun 17, 2015 5:00 PM

Committer [Manuel K <mkalla@gmx.net>](#) Jun 17, 2015 5:00 PM

Commit 3b0738ddb75b2c765106035250e1b485f305f549

Parent(s) 1e536d44b0c72213a87f1aae1a9cf4088d2cd50a

Change-Id I8d22255f4e5a750dac1832c26d1517f5c5609c54


Files **Open All** Diff against: **Base** **Edit**

File Path	Comments Size
<input type="checkbox"/> Commit Message	
<input type="checkbox"/> badgemeTests/badgemeTests.swift	14
	+13, -1

History **Expand All**

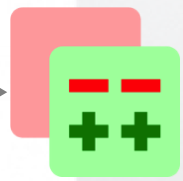
Manuel Kalla Uploaded patch set 1. 5:00 PM

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git replica 



git review dev →

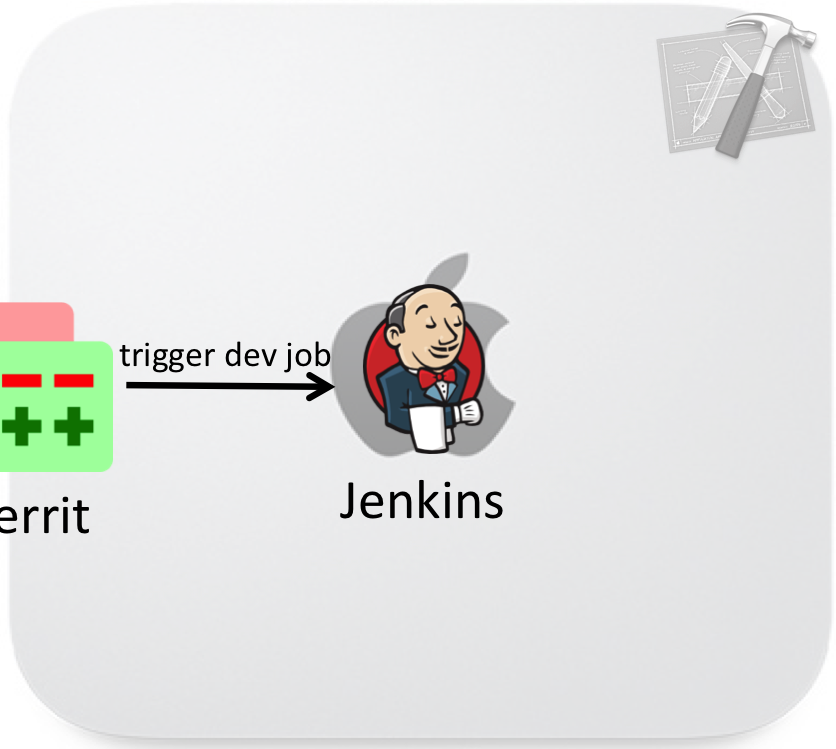


Gerrit

trigger dev job →



Jenkins



Xcode



Slack

Jenkins



Jenkins

- ◎ Continuous Integration Service
- ◎ Unterstützt Version Control Systems (CVS, SVN)
- ◎ Ausführung / Überwachung von sich wiederholenden Jobs
 - Builden von Software-Projekten
 - Automatisierte Testdurchführung
- ◎ Erweiterbar durch Plugins
- ◎ REST-basierte Schnittstelle



Jenkins Konfiguration

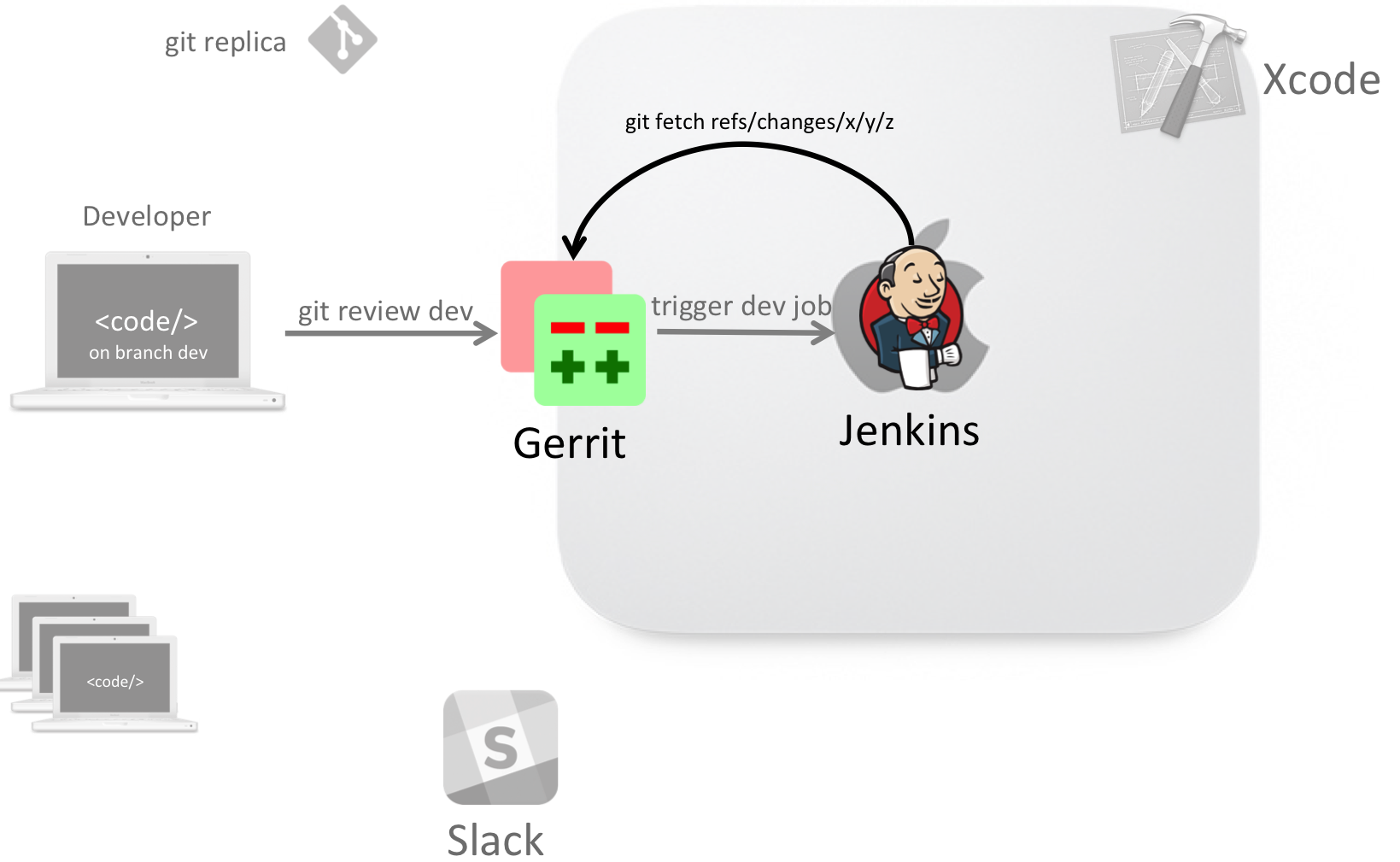
- ⊙ Plugins
 - Git
 - Xcode
 - Slack
 - Gerrit-Trigger
- ⊙ Jobkonfiguration
 - Allgemeine Job-Einstellungen
 - Pre-build
 - Einzelne build-steps
 - Post-build

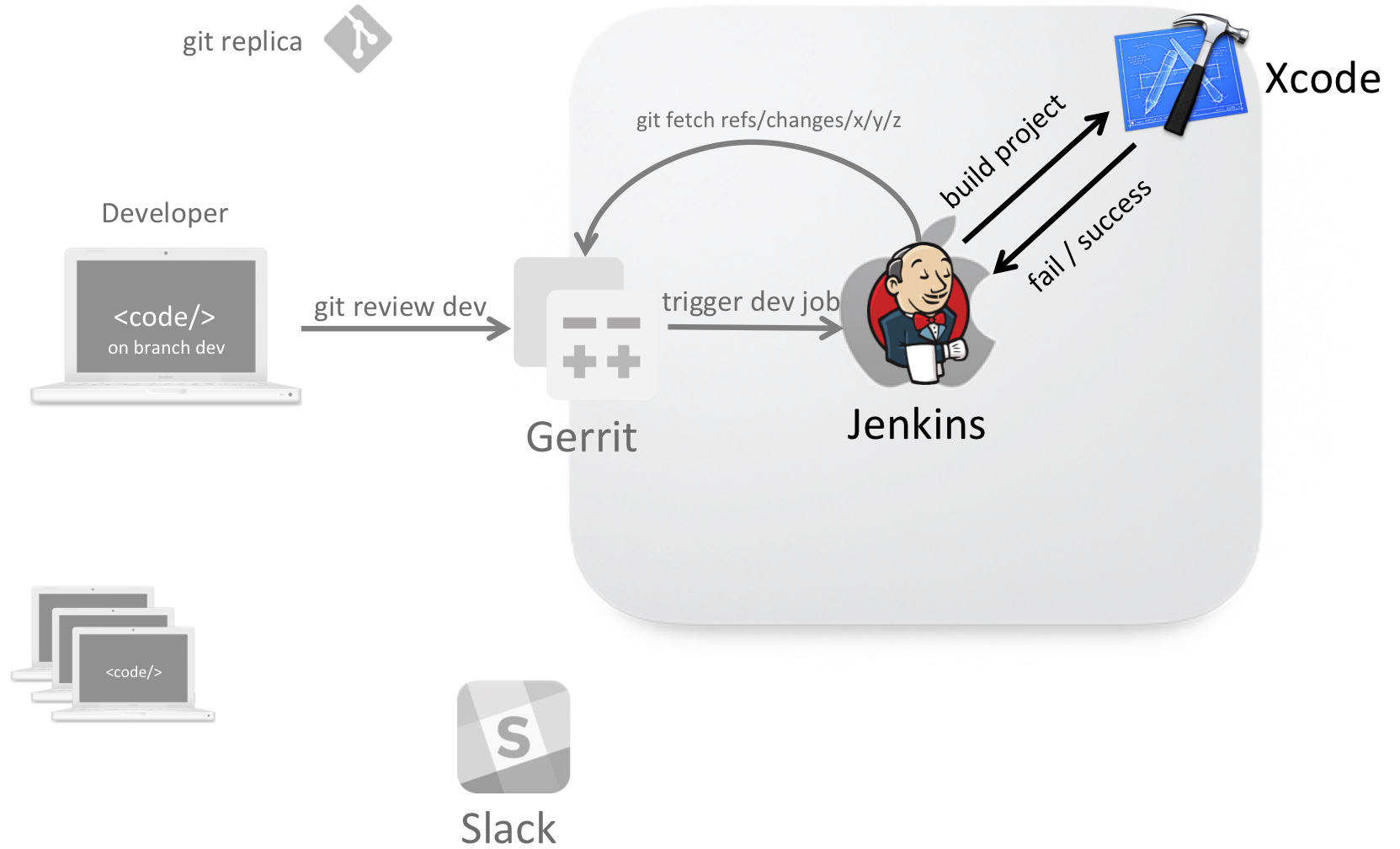


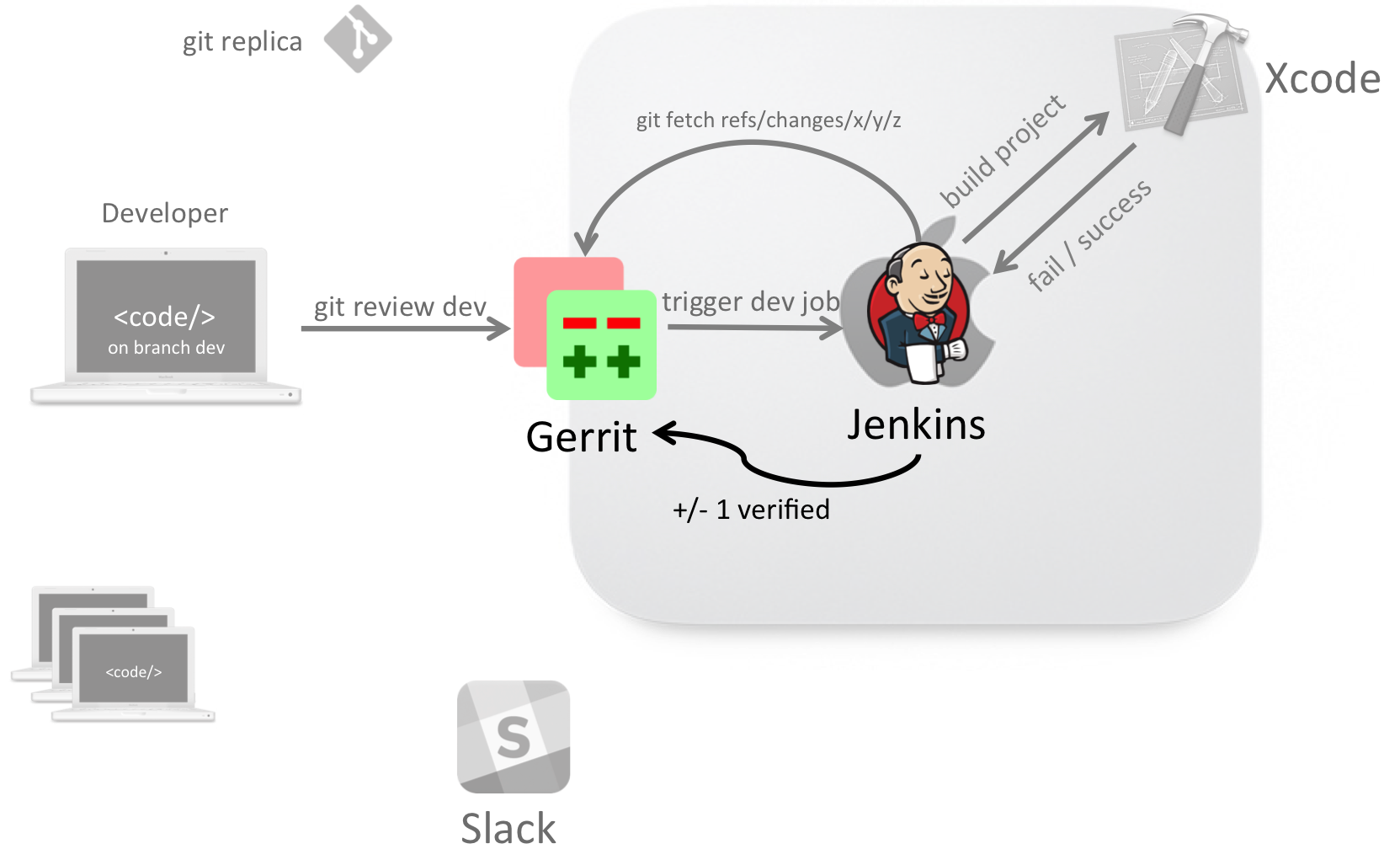
Job: “Build and test patchset on dev”

- ⊙ Allgemeine Einstellungen:
 - Einstellungen für Slack vornehmen
- ⊙ Pre-Build:
 - Source Code Management
 - Änderungen vom Gerrit-Repository abrufen
- ⊙ Build-Steps:
 - Build project (Xcode Plugin)
 - Tests anstoßen (Shell command)
- ⊙ Post-Build
 - Benachrichtigungen via Slack (Success / Failure)









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Search term Manuel Schwandt

Change 147 - Needs Code-Review
Patch Sets (1/1) ▾ Download ▾ ☆

added Backend and Pushnotification test
 Change-Id: I8d22255f4e5a750dac1832c26d1517f5c5609c54

Owner [Manuel Kalla](#)
 Reviewers [jenkins](#)

Project [badgeme-app](#)
 Branch [dev_demo](#)
 Topic
 Strategy Merge if Necessary
 Updated 2 seconds ago

Code-Review +1 [jenkins](#)
 Verified +1 [jenkins](#)

Author [Manuel K <mkalla@gmx.net>](#) Jun 17, 2015 5:00 PM
 Committer [Manuel K <mkalla@gmx.net>](#) Jun 17, 2015 5:00 PM
 Commit 3b0738ddb75b2c765106035250e1b485f305f549
 Parent(s) 1e536d44b0c72213a87f1aae1a9cf4088d2cd50a
 Change-Id I8d22255f4e5a750dac1832c26d1517f5c5609c54

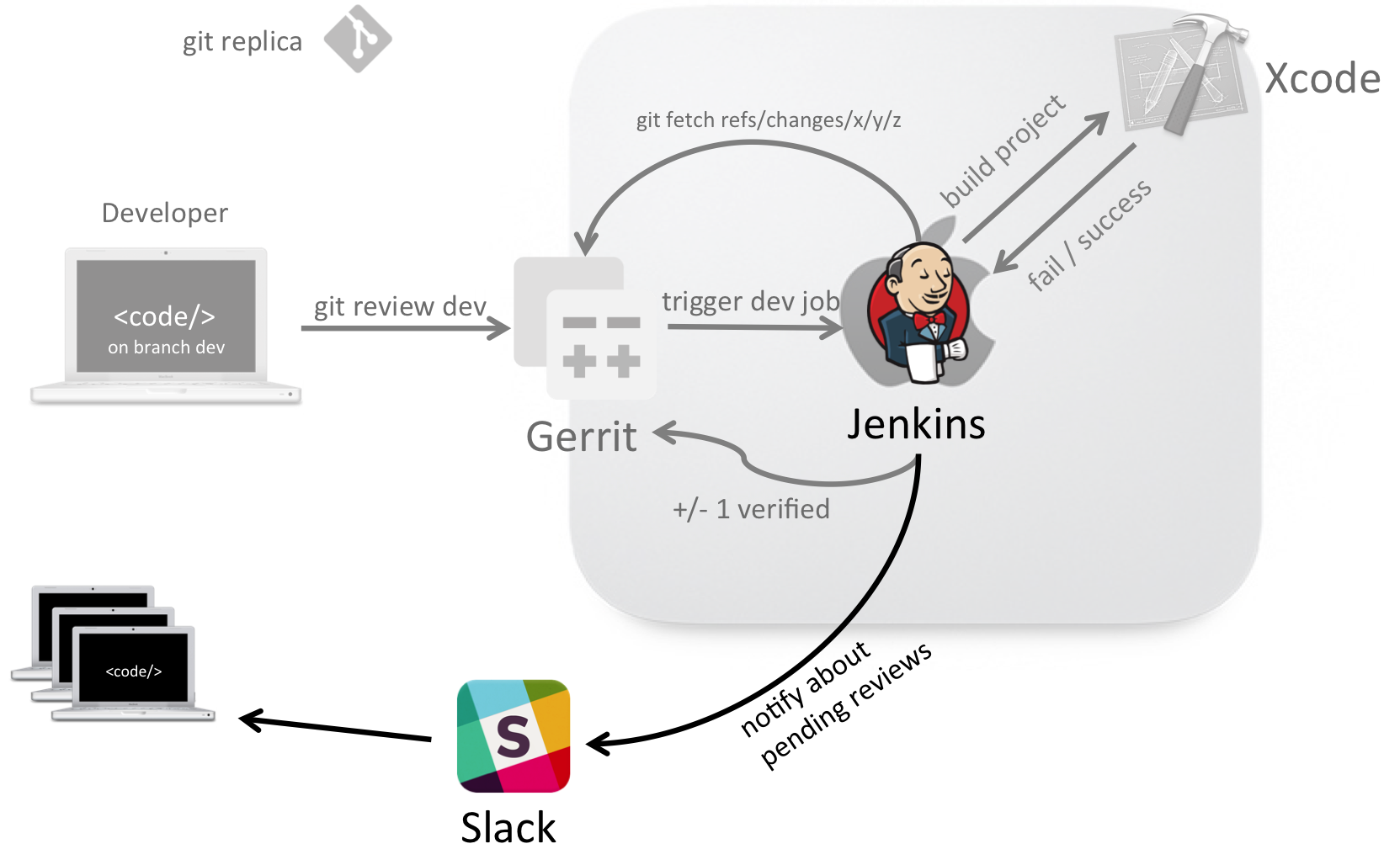
Files Diff against: **Base**

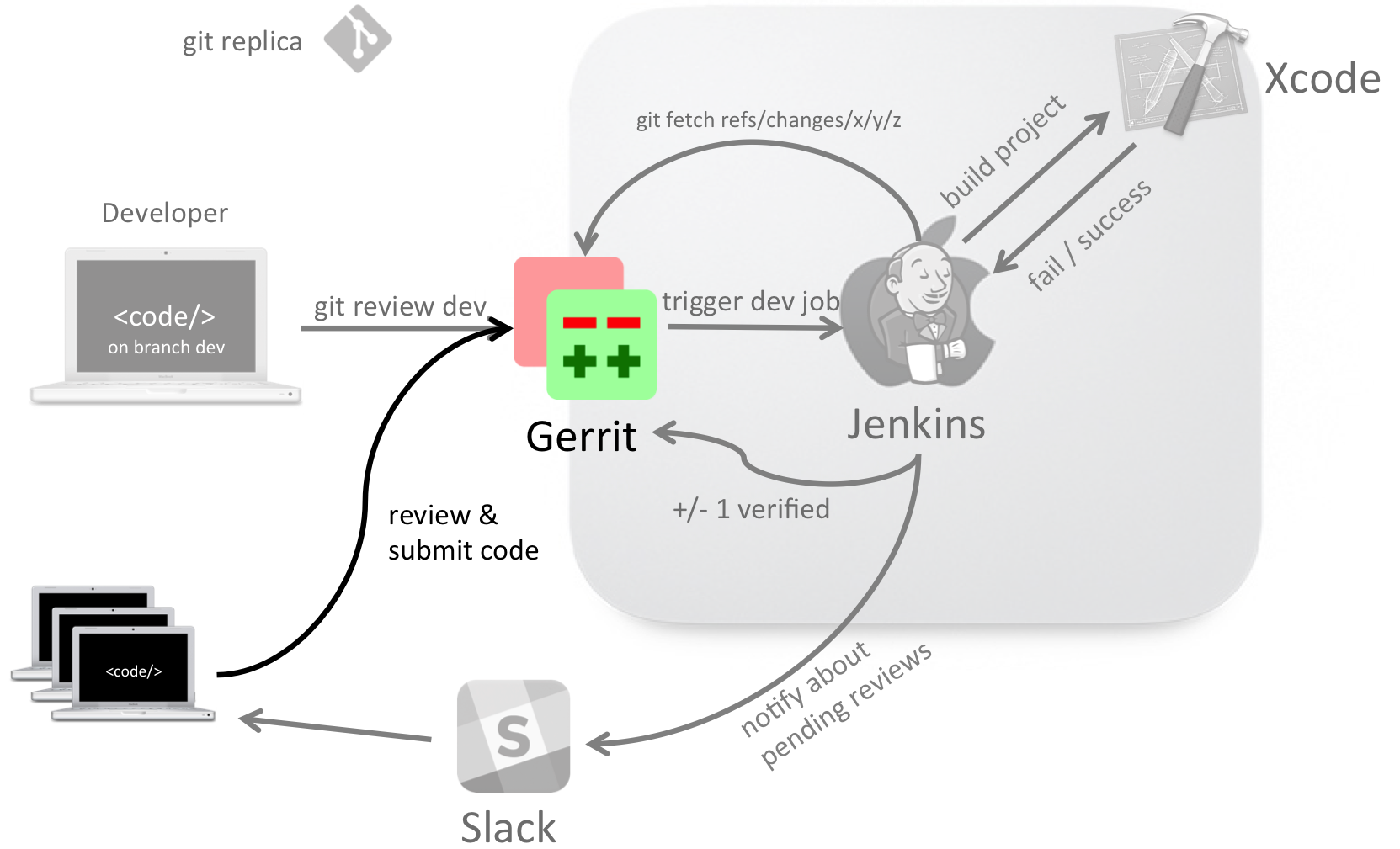
File Path	Comments	Size
<input type="checkbox"/> Commit Message		
<input type="checkbox"/> badgemeTests/badgemeTests.swift		14
		+13, -1

History

Manuel Kalla	Uploaded patch set 1.	5:00 PM
jenkins	Patch Set 1: Build Started http://192.168.8.10:8080/job/Build%20and%20test%20PatchSet%20on%20dev/12/	5:00 PM
jenkins	Patch Set 1: Code-Review+1 Verified+1 Build Successful http://192.168.8.10:8080/job/Build%20and%20test%20PatchSet%20on%20dev/12/ : SUCCE...	5:00 PM

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Search: Search **Manuel Schwandt**

Menu: All **My** Projects People Plugins Documentation
 Sub-menu: Changes Drafts Draft Comments Watched Changes Starred Changes Groups

Change 147 - Ready to Submit

added Backend and Pushnotification test

Change-Id: I8d22255f4e5a750dac1832c26d1517f5c5609c54

Patch Sets (1/1) Download ☆

Reply...

Owner [Manuel Kalla](#)

Reviewers [Manuel Schwandt](#) × [jenkins](#) × Add...

Project [badgeme-app](#) ⚙

Branch [dev_demo](#)

Topic 📝

Strategy Merge if Necessary

Updated 0 seconds ago

Cherry Pick Rebase Abandon Follow-Up

Submit

Code-Review +2 [Manuel Schwandt](#)

+1 [jenkins](#)

Verified +1 [jenkins](#)

Author [Manuel K <mkalla@gmx.net>](#) Jun 17, 2015 5:00 PM

Committer [Manuel K <mkalla@gmx.net>](#) Jun 17, 2015 5:00 PM

Commit 3b0738ddb75b2c765106035250e1b485f305f549 📄

Parent(s) 1e536d44b0c72213a87f1aae1a9cf4088d2cd50a 📄

Change-Id I8d22255f4e5a750dac1832c26d1517f5c5609c54 📄

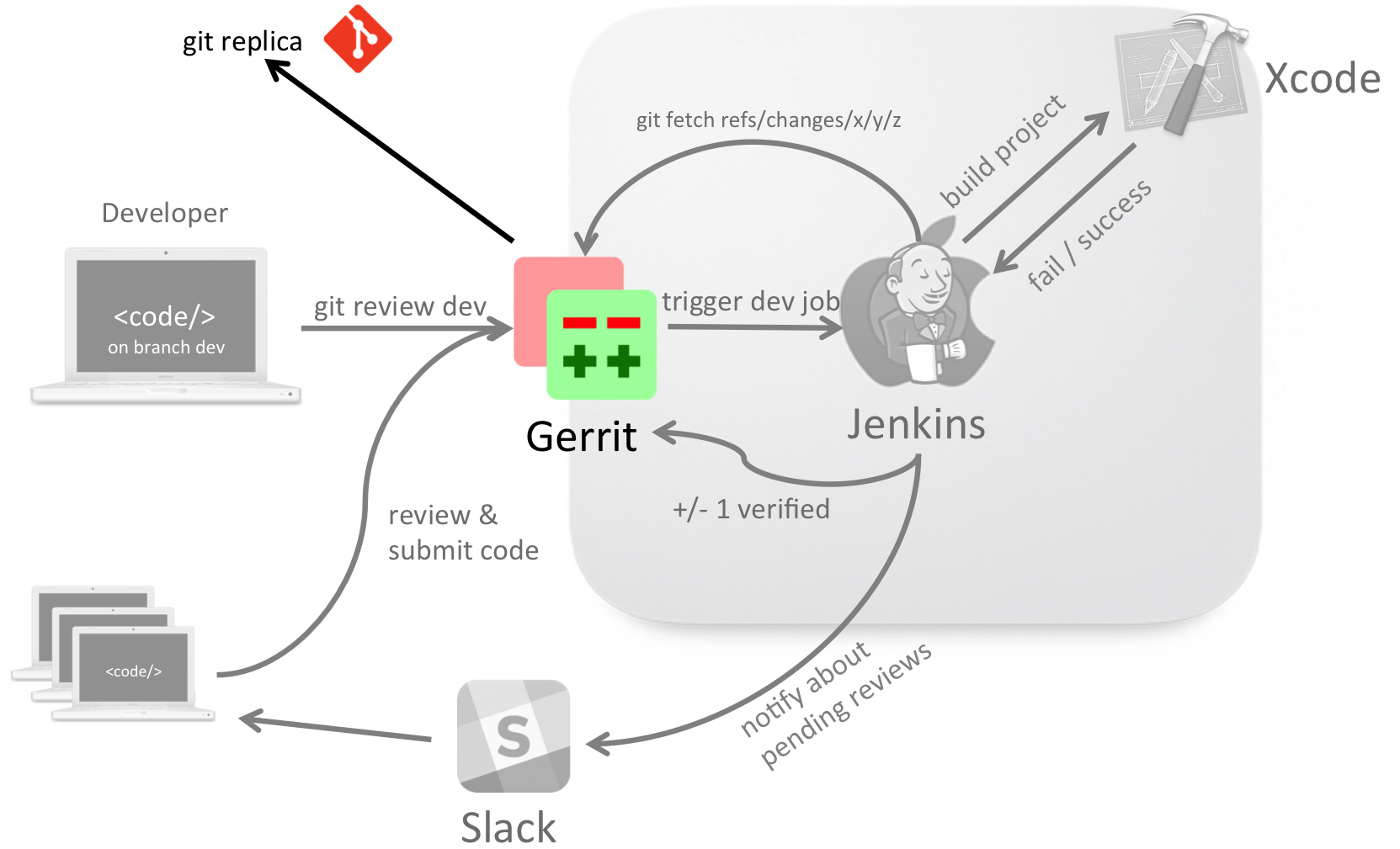
Files Open All Diff against: **Base** ⌵ Edit

File Path	Comments Size
<input type="checkbox"/> Commit Message	
<input type="checkbox"/> badgemeTests/badgemeTests.swift	14 <div style="width: 100%; height: 10px; background: linear-gradient(to right, green 95%, red 5%);"></div>
	+13, -1 <div style="width: 100%; height: 10px; background: linear-gradient(to right, green 95%, red 5%);"></div>

History Expand All

Manuel Kalla	Uploaded patch set 1.	5:00 PM
jenkins	Patch Set 1: Build Started http://192.168.8.10:8080/job/Build%20and%20test%20PatchSet%20on%20dev/12/	5:00 PM
jenkins	Patch Set 1: Code-Review+1 Verified+1 Build Successful http://192.168.8.10:8080/job/Build%20and%20test%20PatchSet%20on%20dev/12/ : SUCCE...	5:00 PM
Manuel Schwandt	Patch Set 1: Code-Review+2	5:01 PM

Powered by [Gerrit Code Review \(2.11\)](#) | Press '?' to view keyboard shortcuts

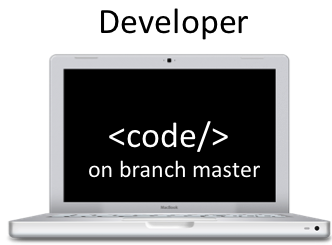


A decorative network diagram in the top-left corner, consisting of various sized nodes (some solid grey, some hollow white) connected by thin grey lines, forming a complex web structure.

Deployment Stage

A decorative network diagram in the bottom-right corner, similar to the one in the top-left, with nodes and connecting lines.


git replica 




TestFlight



Gerrit

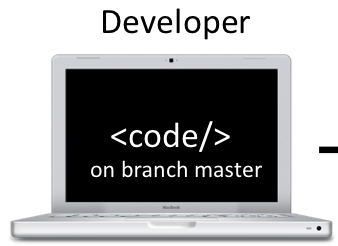



Jenkins


Xcode


altool

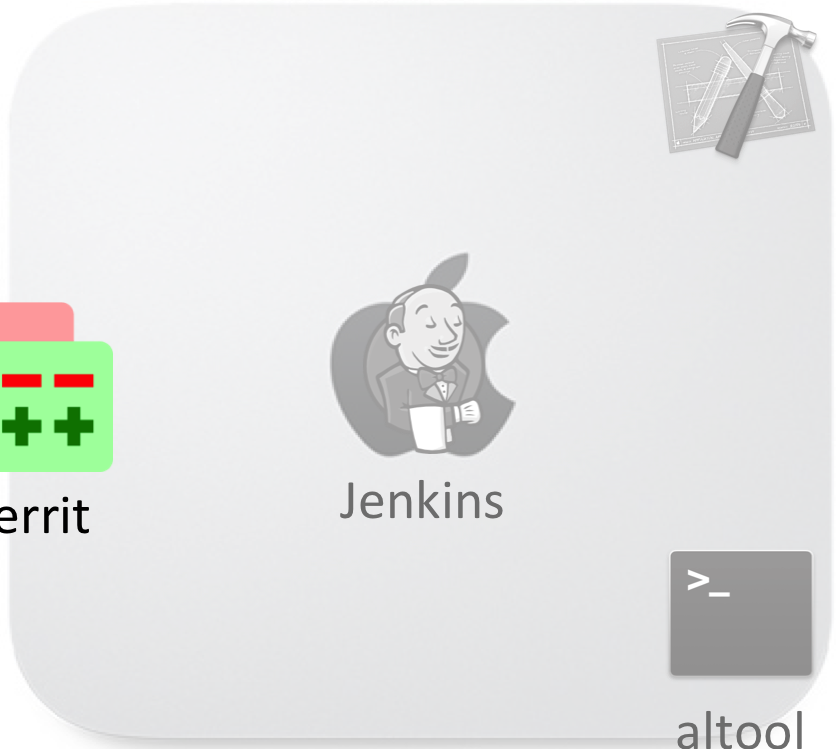
git replica 



git merge dev →



Gerrit



Jenkins



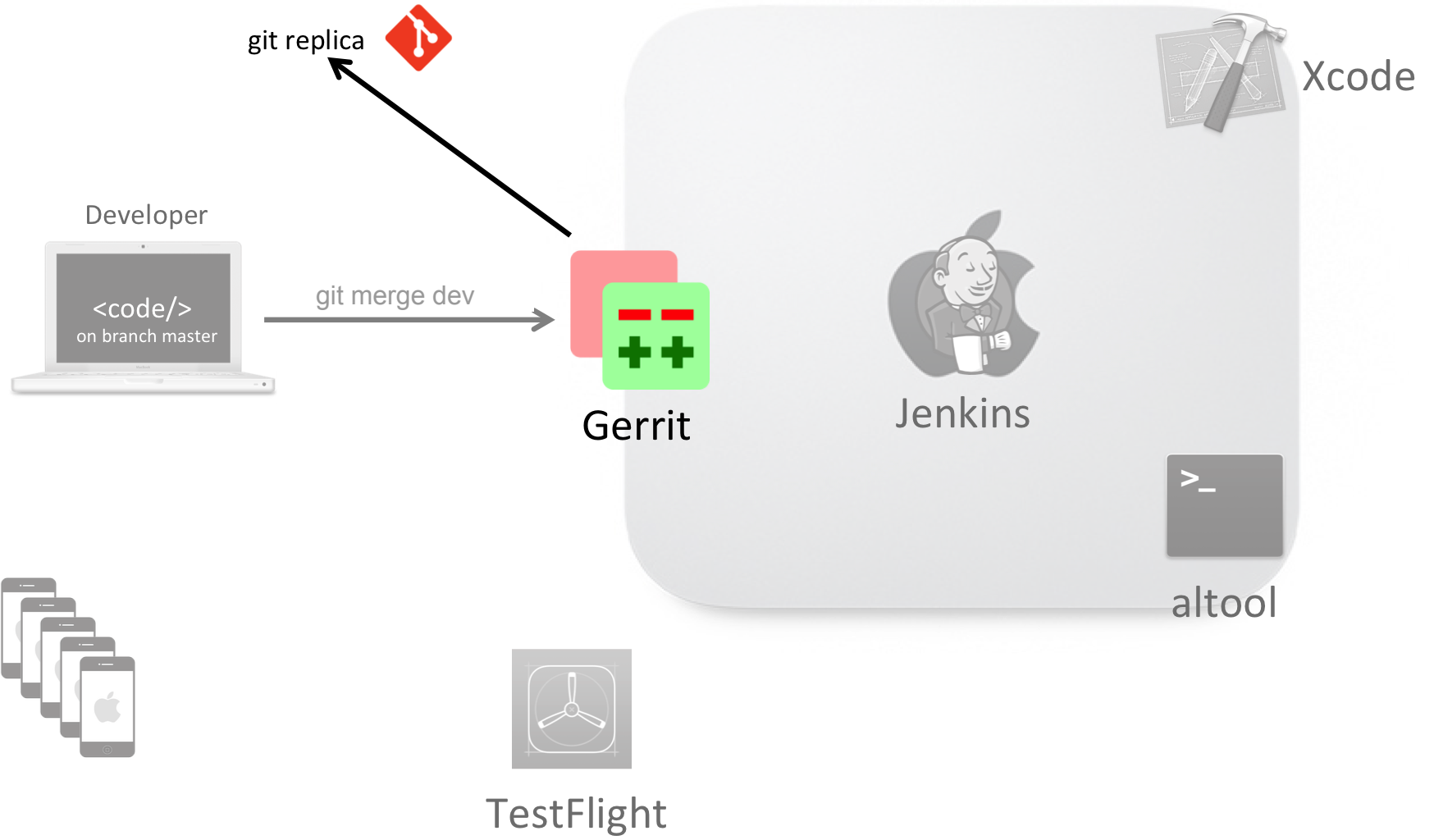
Xcode

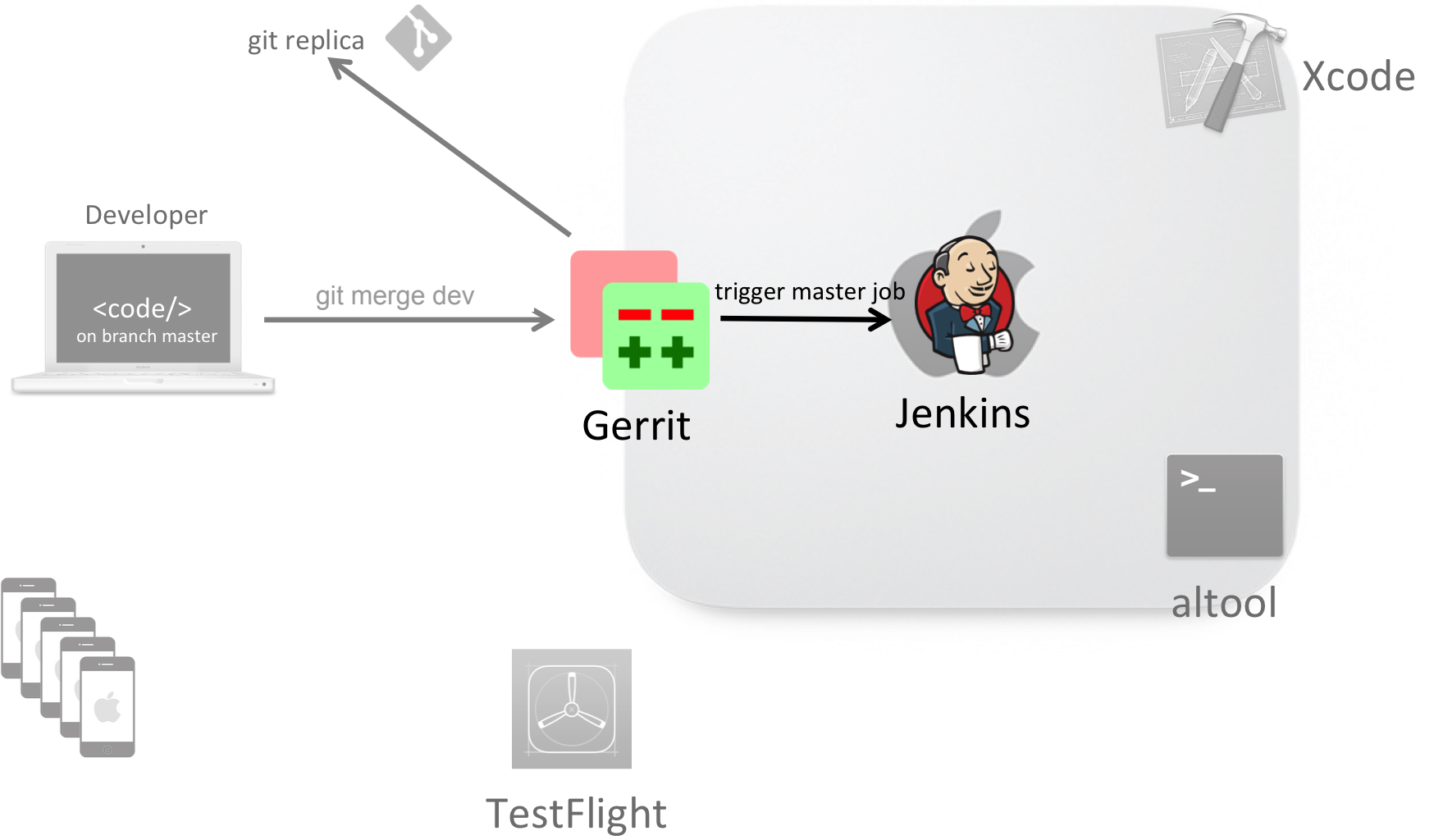


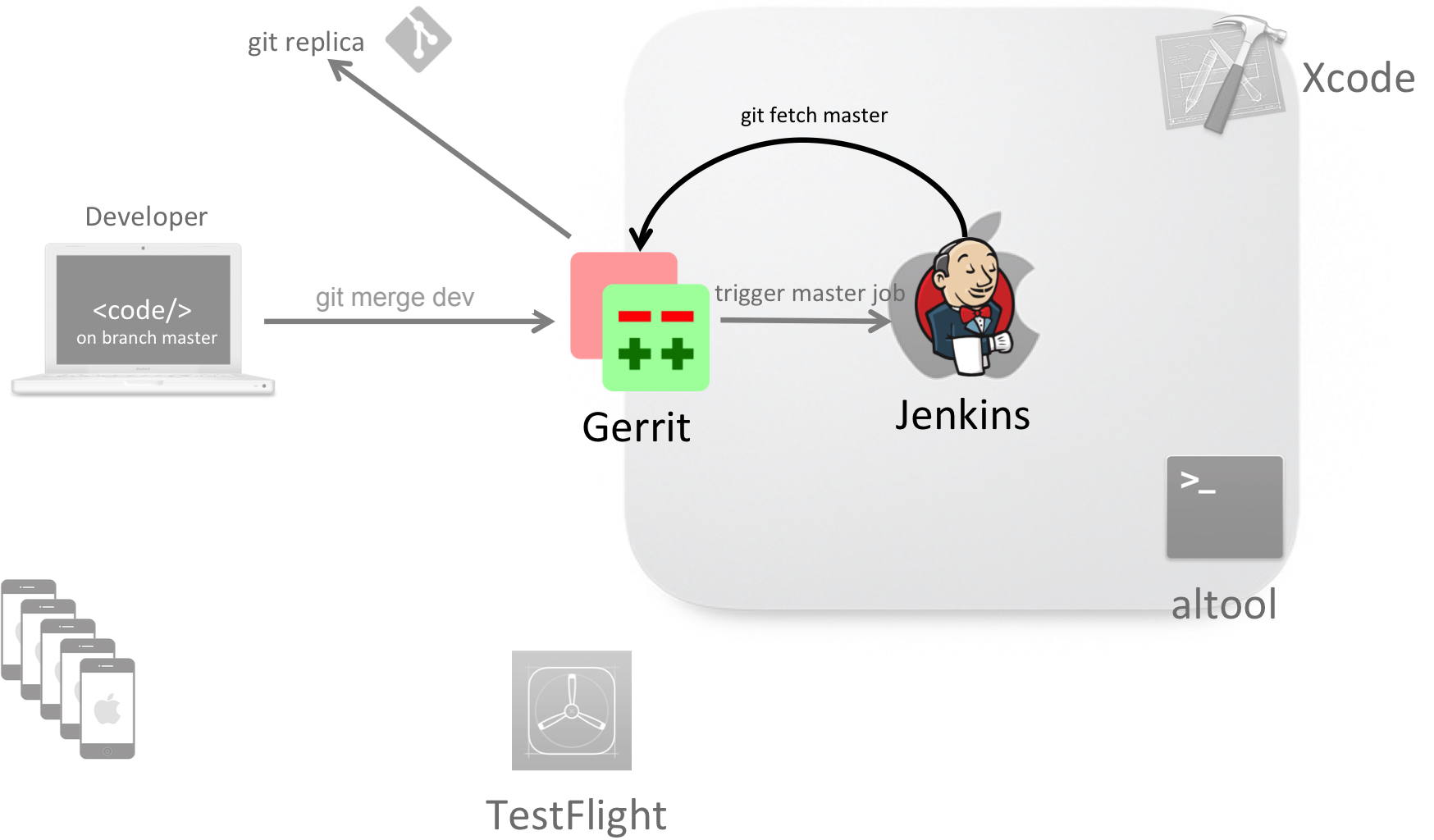
altool

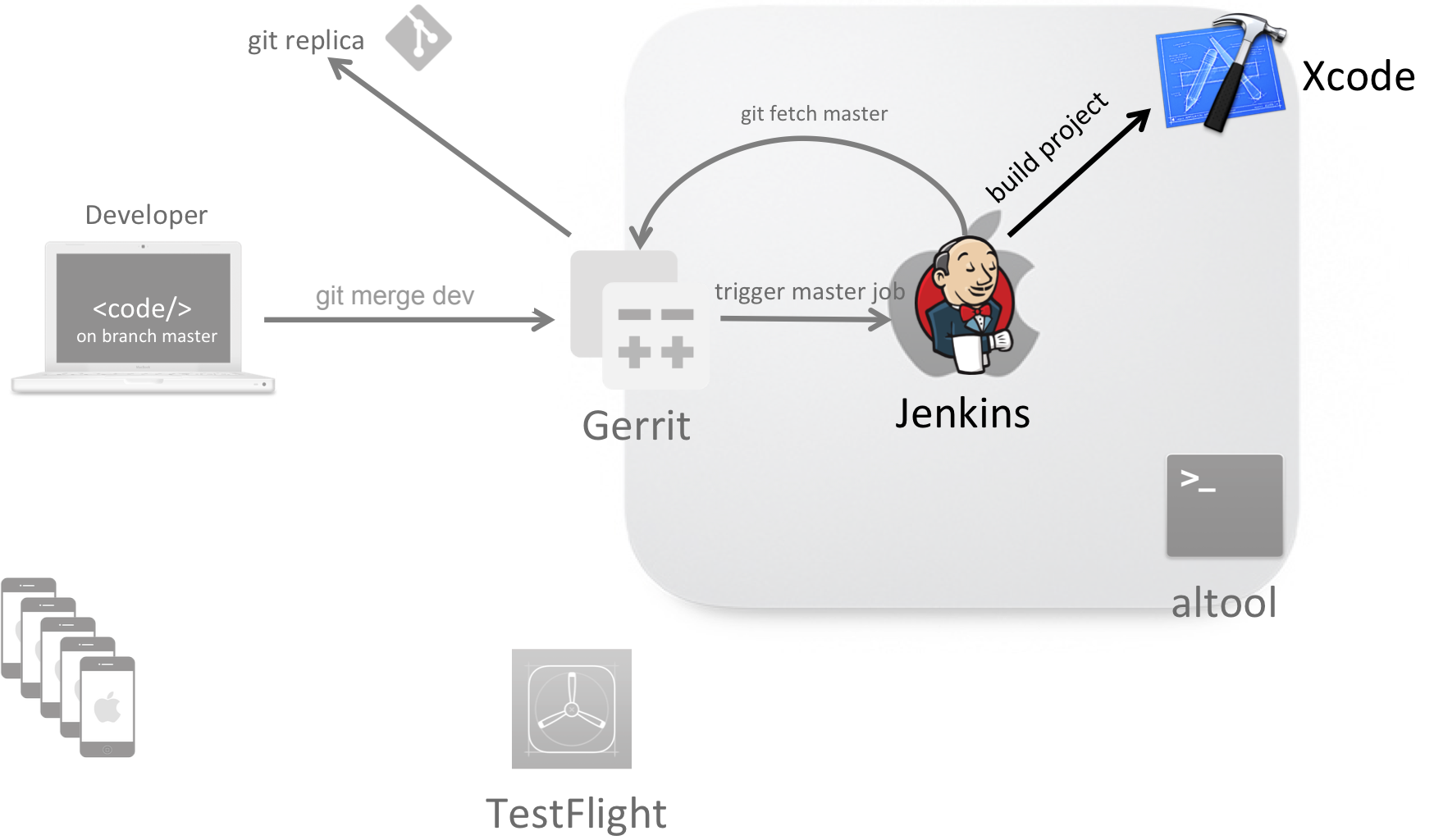


TestFlight



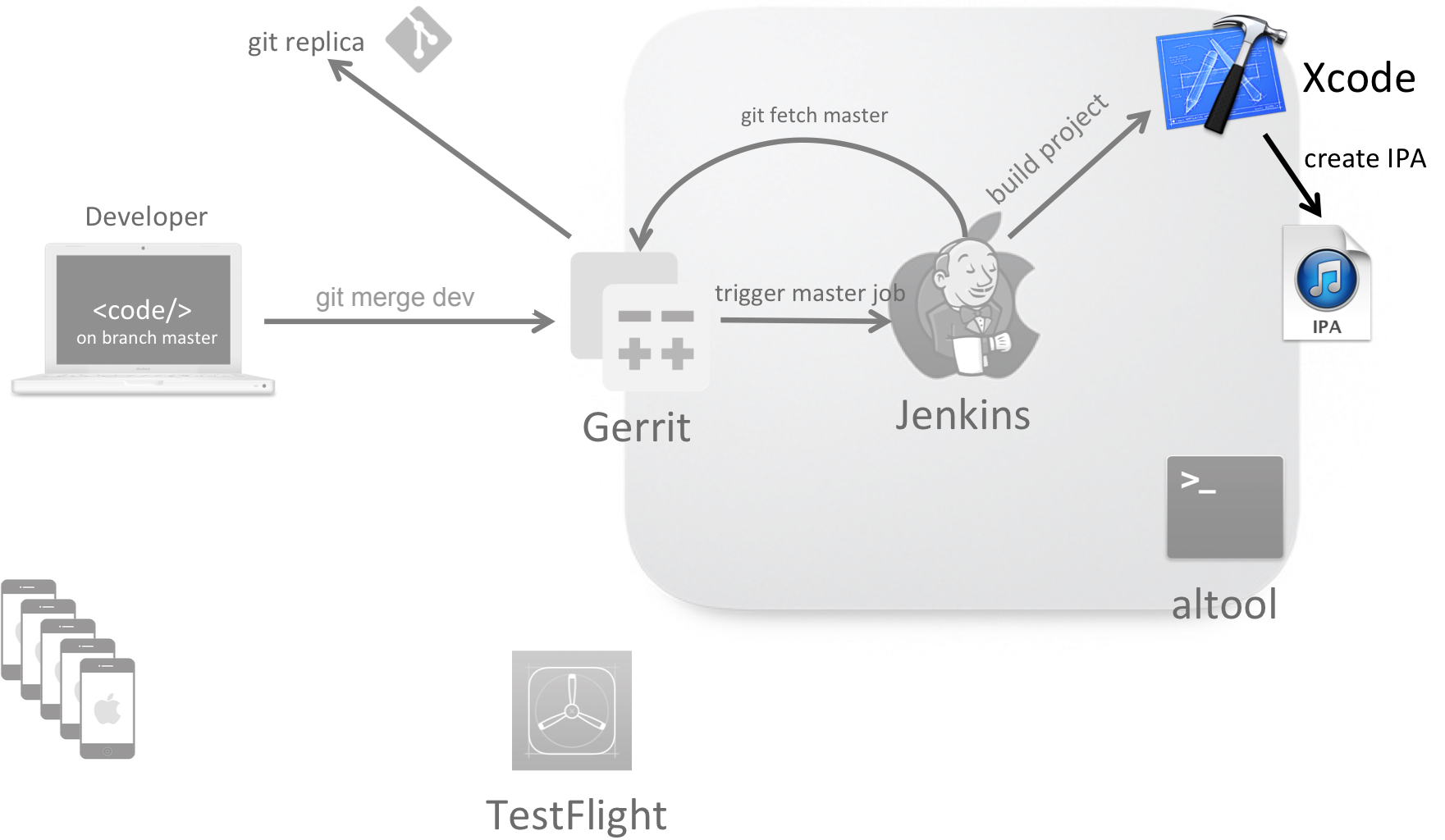


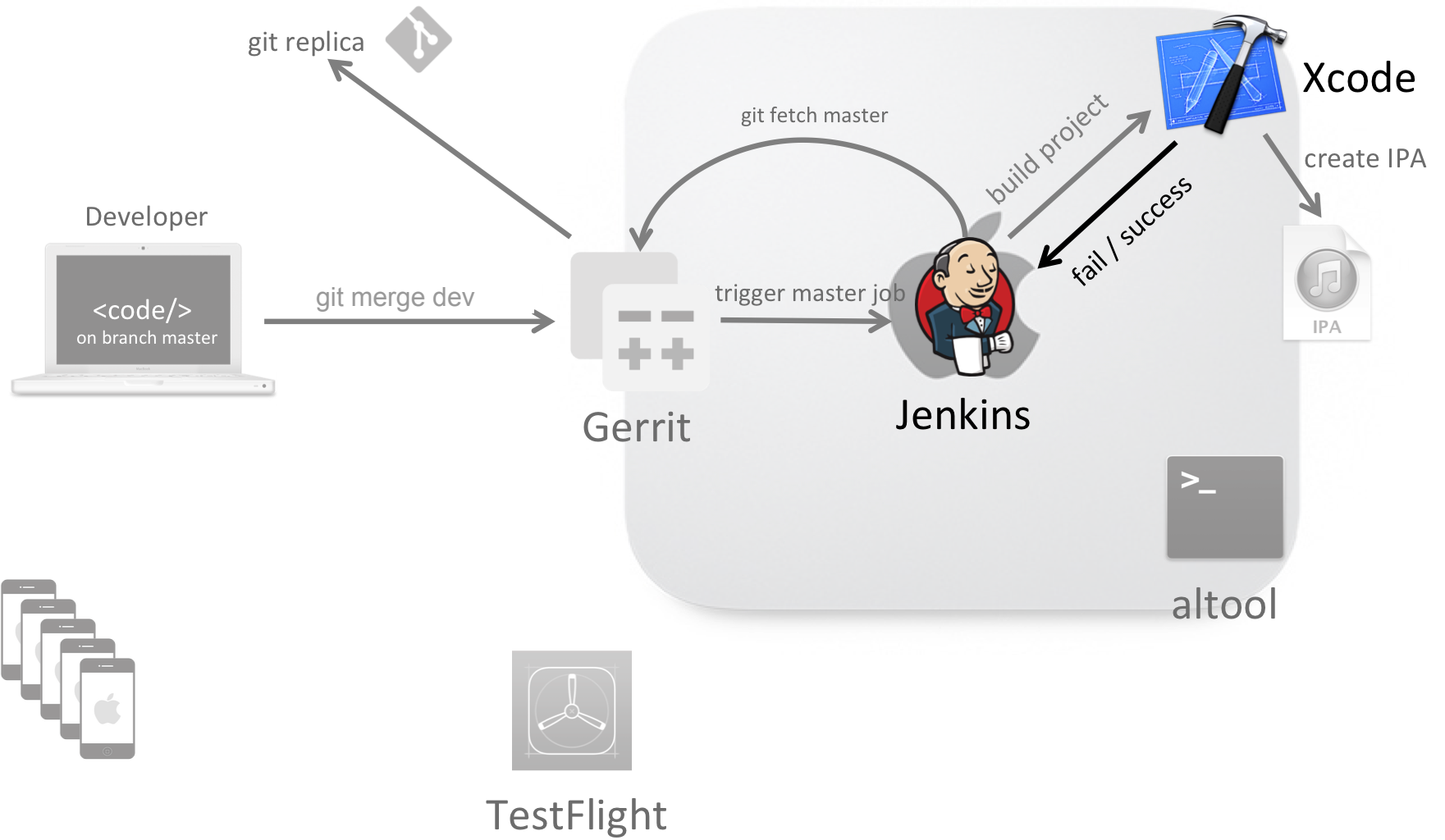


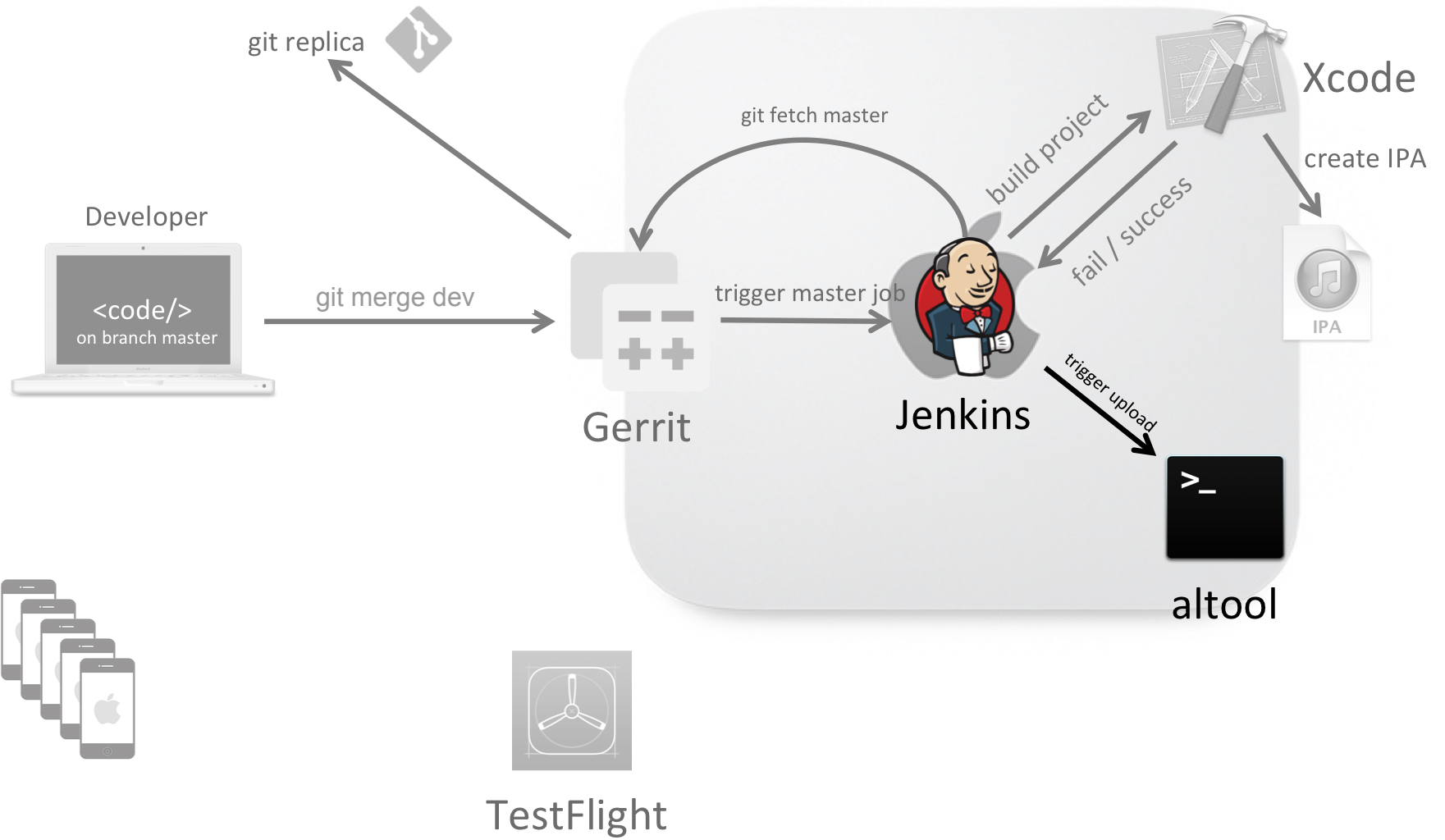


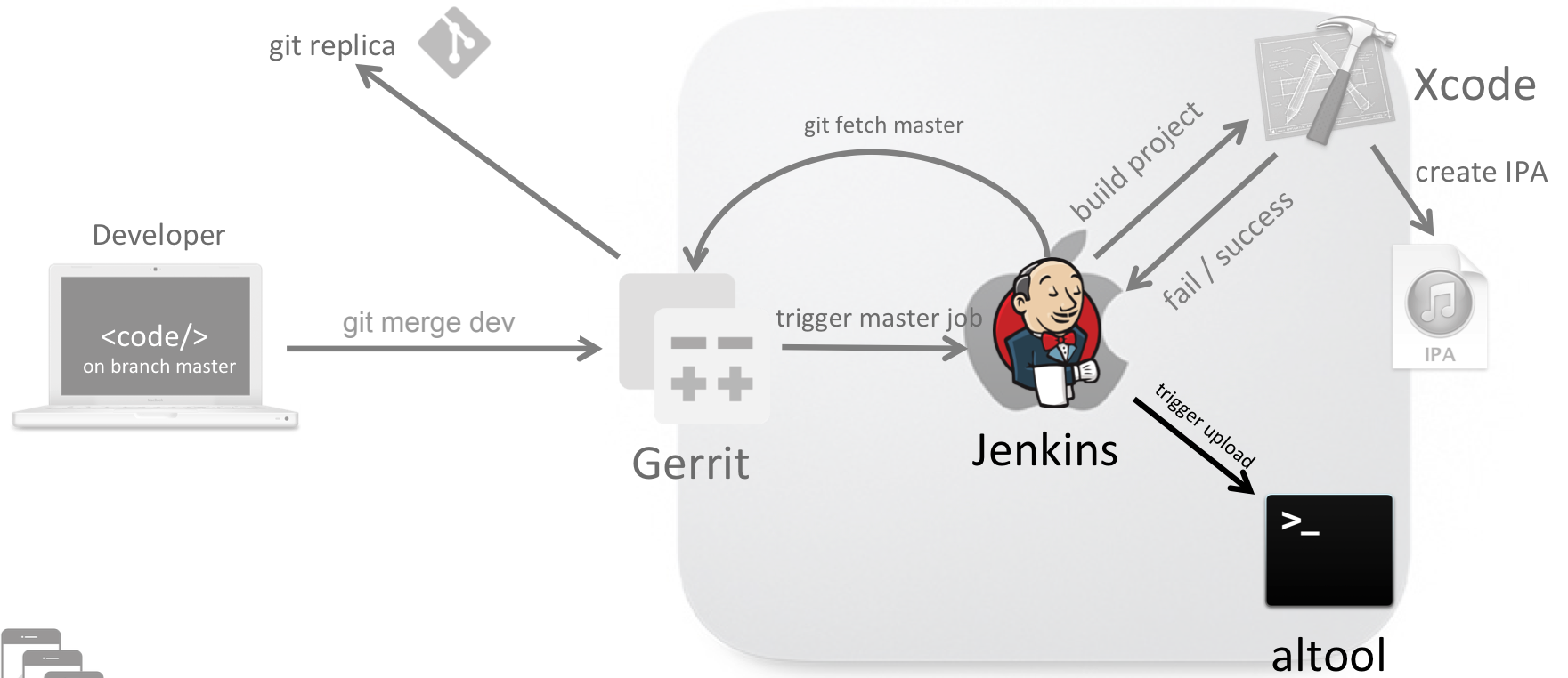
Besonderheiten der iOS-Entwicklung

- ⦿ Kostenpflichtiger Dev Account
- ⦿ Apps müssen mit Provisioning Profiles versehen werden
 - Provisioning Profile = Entwicklerzertifikat + AppID (+ DeviceID)
- ⦿ Build-Vorgang benötigt:
 - Entwicklerzertifikat
 - Private Key
 - Provisioning Profile(s)

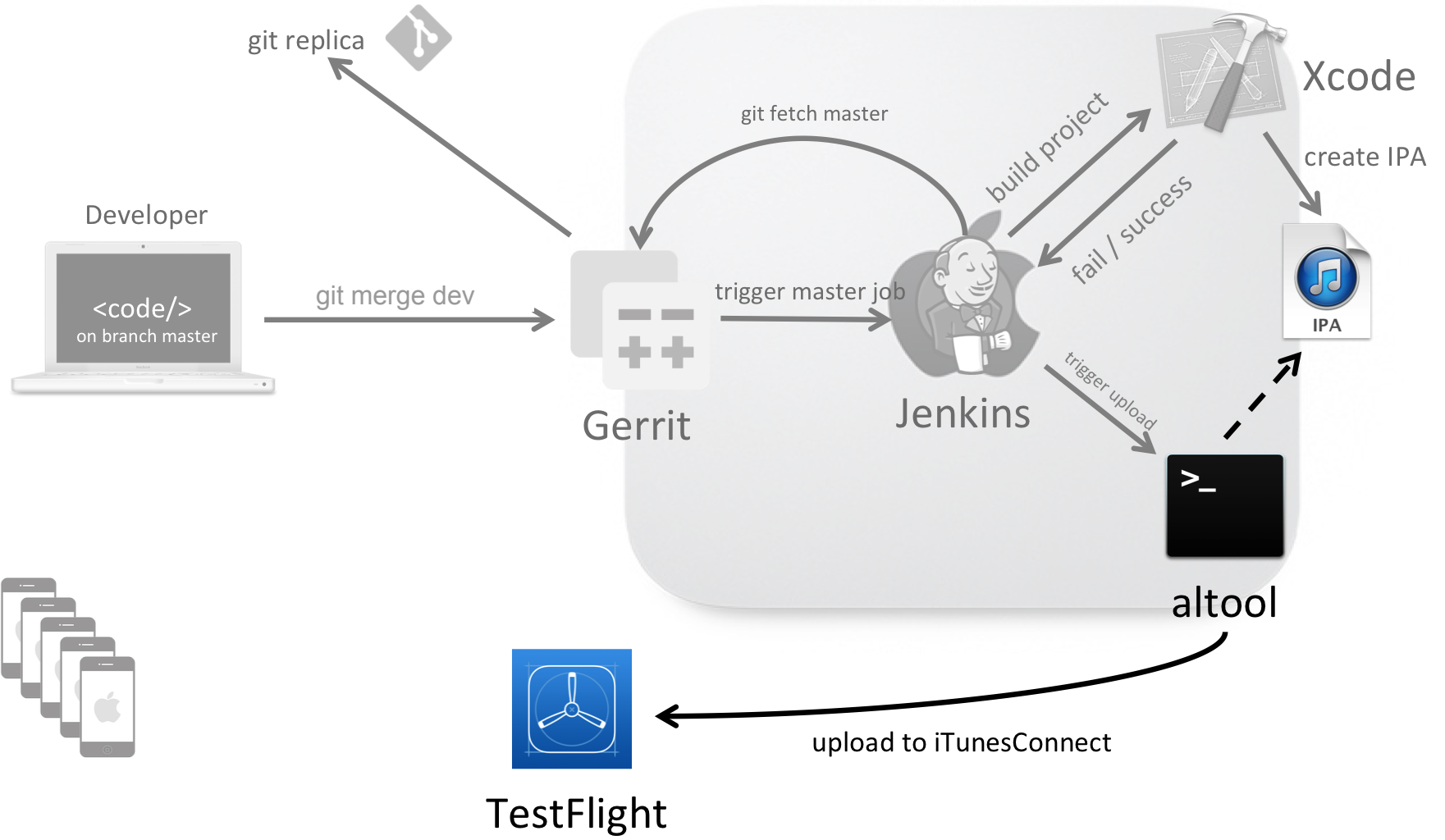








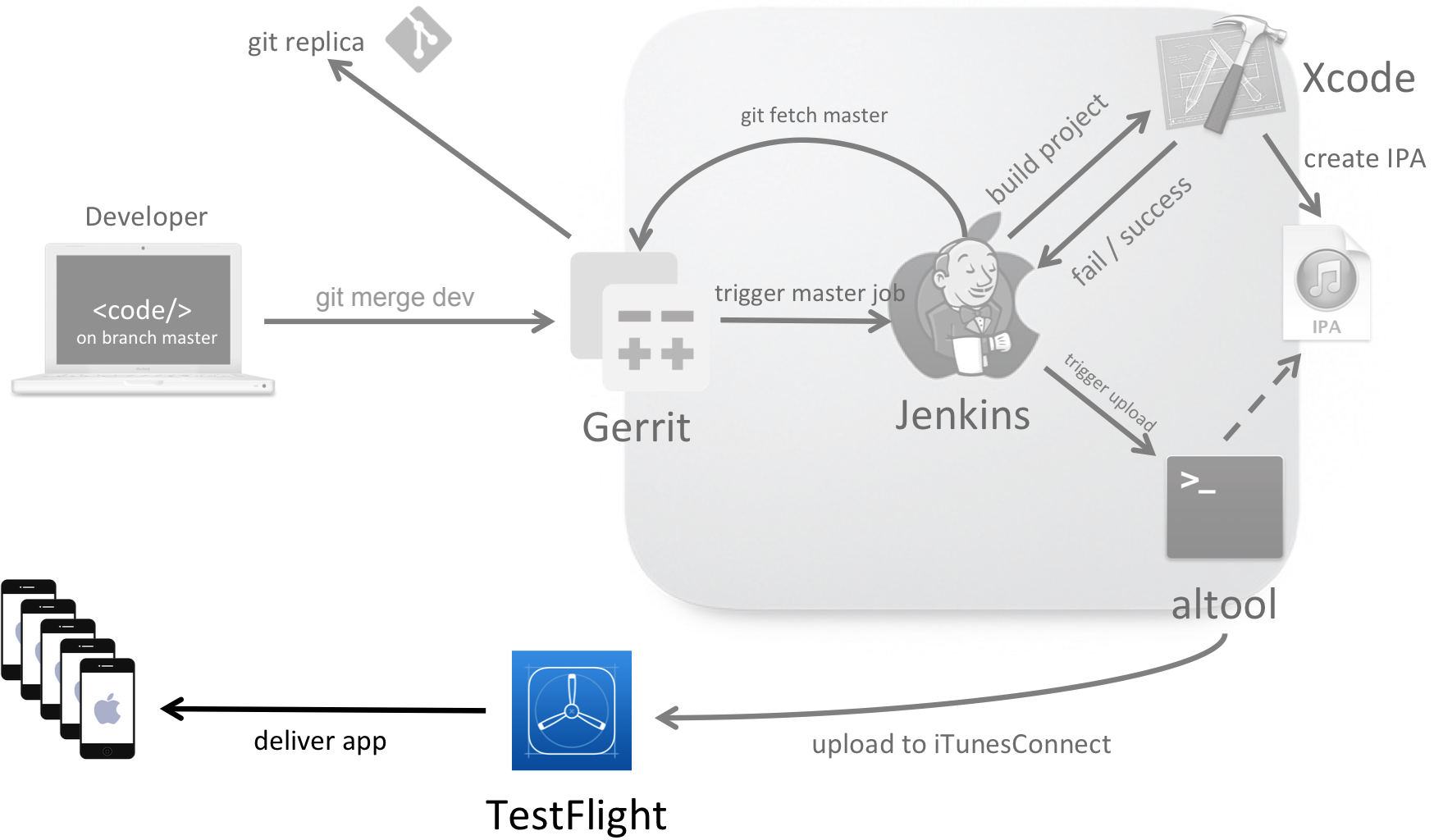
```
altool --upload-app -f [filepath] -u [username] -p [password]
```



iTunesConnect / Testflight

- ◎ Apple's Plattform für die Distribution von Apps
 - Release in App Store (erfordert Review-Prozess durch Apple)
 - Verteilung von Pre-release Apps über TestFlight
- ◎ Konfiguration der App
 - Preisgestaltung
 - Alterseinstufung
 - Bilder
 - ...
- ◎ App Analytics
 - Statistiken (z.B. Download-Zahlen, Geolocation, ...)



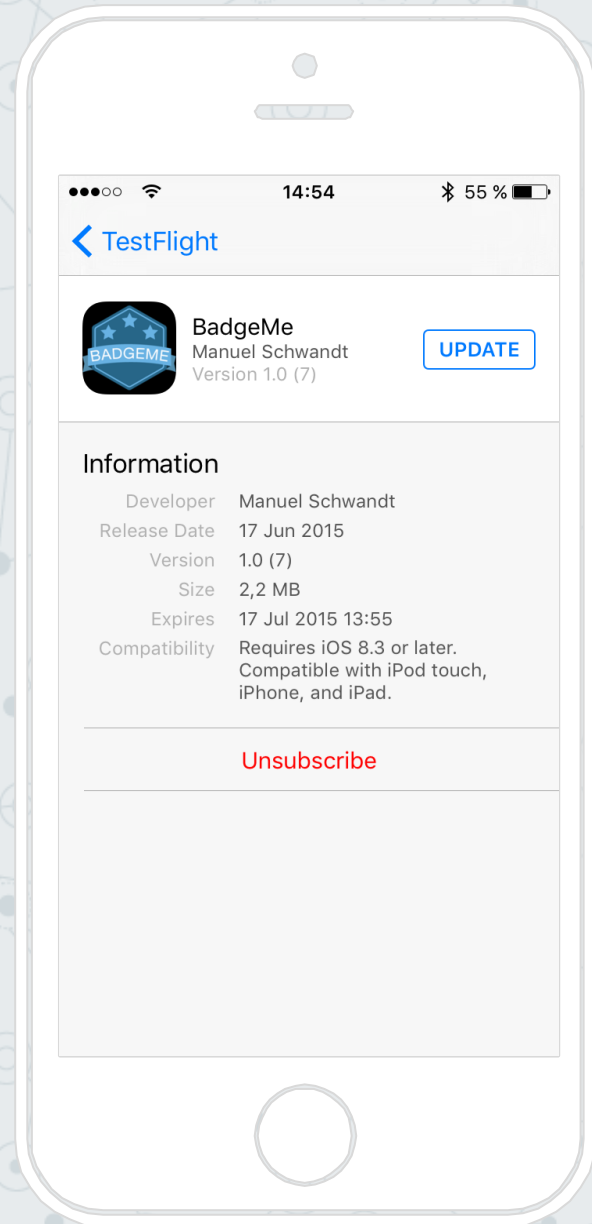




Demo

Testflight

Neue Version steht zum
Download bereit.



Probleme Gerrit

- ⊙ User-Management / Authentifizierung:
 - Erster angemeldeter Benutzer wird automatisch Admin
 - Default authentication method: OpenID (nicht mehr von Google unterstützt)
 - Launchpad / Yahoo-Konto notwendig
 - Alternative: LDAP – allerdings schwierig (HdM)
- ⊙ Löschen von Projekten
- ⊙ ChangeID in Commit-Message
- ⊙ “Verified”-Label muss in Projektkonfiguration eingetragen werden, damit gerrit-trigger funktioniert
- ⊙ git review pusht nicht auf den ausgecheckten Branch
→ `git review <BRANCH-NAME>`

Probleme Xcode / iTunesConnect

- ◎ Beta-Versionen von Xcode, iOS und WatchOS
 - Upload aus Xcode-Beta nach iTunesConnect nicht möglich
- ◎ Screensharing benötigt
 - Xcode benötigt KeyChain-Access für .ipa-Build
 - Build in Xcode musste anfangs 1x händisch gestartet werden
 - Testdurchführung nur nach händisch gestartetem Simulator möglich
 - Provisioning Profiles importieren

Fazit

Pro

- ⊙ Qualitätssicherung
- ⊙ Zusätzliches Feedback und Absicherung für Entwickler
- ⊙ Nach initialer Konfiguration hat man ein stabiles System
- ⊙ Automatisierung von Tests oder anderen lang andauernden Aktionen
- ⊙ Statistiken, Übersichten, Build-History

Contra

- ⊙ Sehr großer Einarbeitungsaufwand
- ⊙ Installation + Konfiguration initial aufwändig
- ⊙ Erhöhte Komplexität im Workflow durch zusätzliche Tools
- ⊙ Störung einzelner Tools führt zu Verzögerung des gesamten Workflows
- ⊙ Zusätzliche Server-Hardware

A decorative network diagram in the top-left corner, consisting of various sized circles (nodes) connected by thin lines (edges). Some nodes are solid grey, while others are hollow with a grey outline. The network is dense and irregular, extending from the top-left towards the center.

Danke!

Gibts noch Fragen?

A decorative network diagram in the bottom-right corner, similar to the one in the top-left. It features a cluster of nodes connected by lines, with some nodes being solid grey and others hollow with a grey outline. The network is dense and irregular, extending from the bottom-right towards the center.

Credits

Special thanks to all the people who made and released these awesome resources for free:

- ◎ Presentation template by [SlidesCarnival](#)
- ◎ Photographs by [Unsplash](#) & [Death to the Stock Photo](#) ([license](#))