

**Macoun**

# Best Practices für Continuous Integration mit iOS

Felix Schulze | ImmobilienScout24

# Continuous Integration

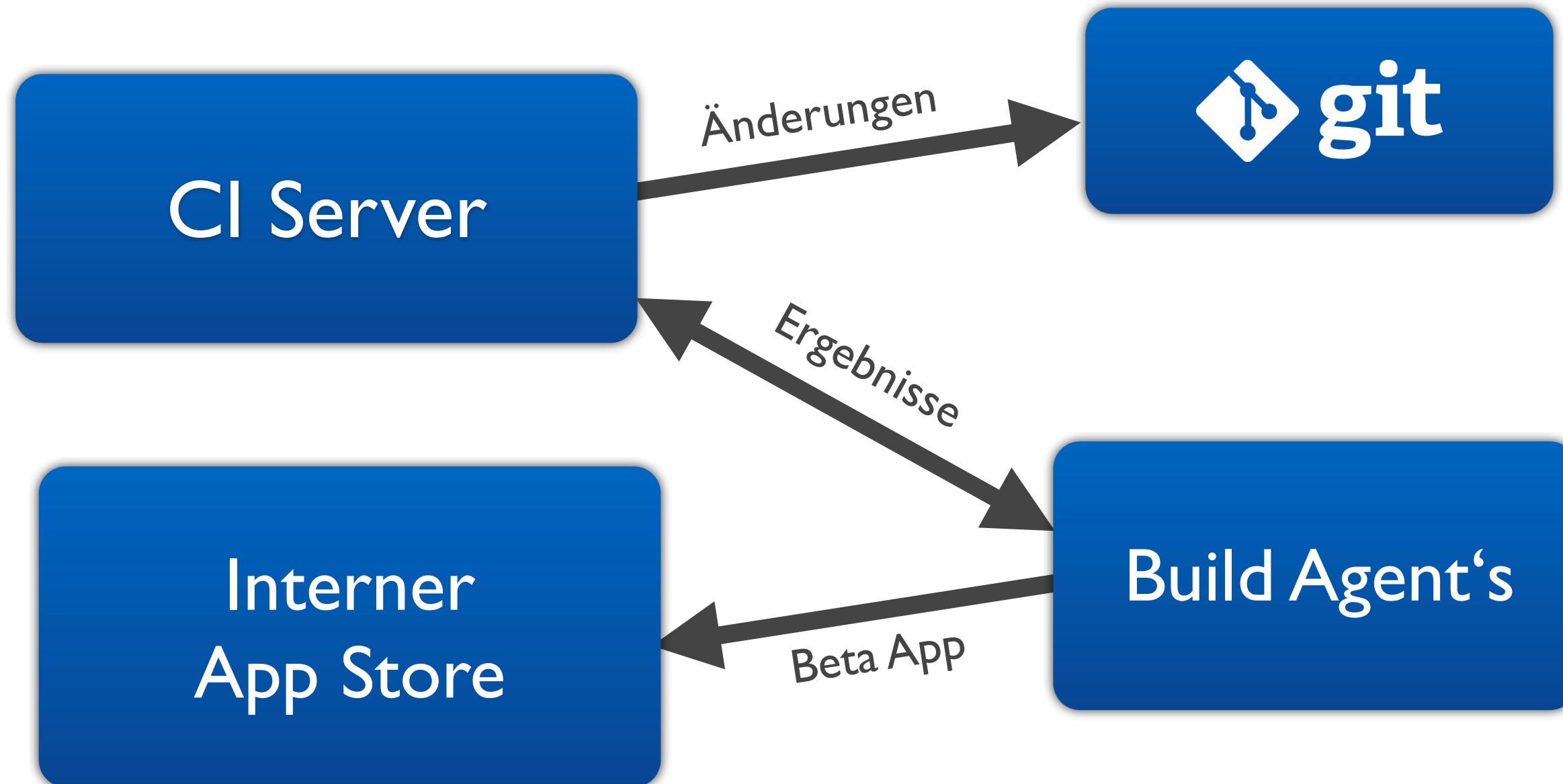
# Continuous Integration

- Werkzeug
  - für Risikominimierung und Qualitätssteigerung
  - Automatisierung
  - Beispiele: Jenkins, TeamCity, Bamboo, ...

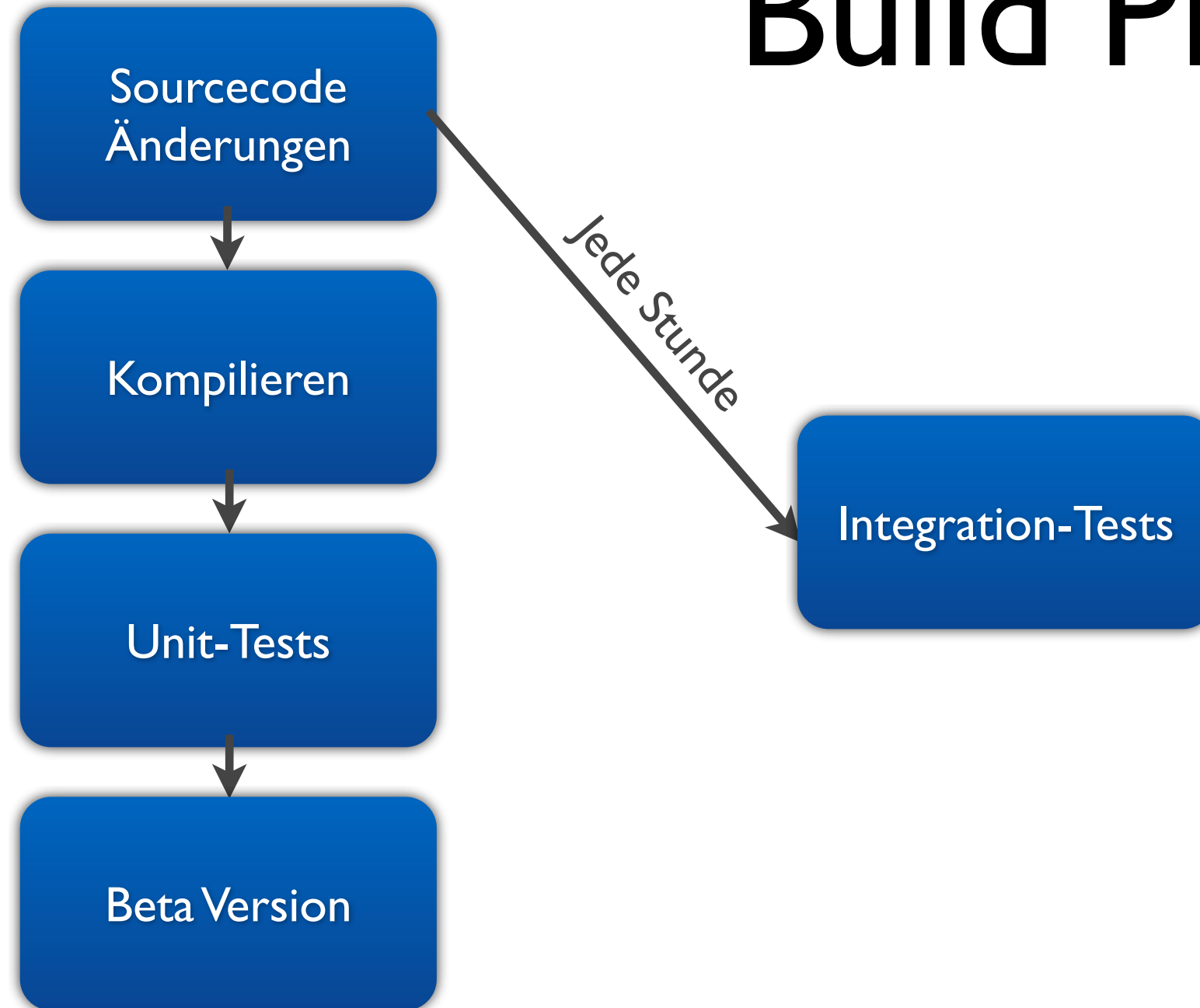
# Bestandteile

- Build-Management
- Unit-Tests
- Integration-Tests
- Automatische Beta Versionen

# Aufbau für iOS



# Build Prozess Details



Projects -- TeamCity

teamcity/overview.html

TC

Projects

My Changes

Agents 42

Build Queue 6

Felix Schulze

Administration

↑

↓

☐ Hide Successful Configurations

[Configure Visible Projects](#)

▼ IS24-Search-iOS-App

no hidden

×

▼ IS24-Wohnen-iOS-Base

Run

...

×

#3200

✓ Tests passed: 1240

Artifacts

(1)

40 minutes ago (5m:35s)

▼ IS24-Wohnen-iPad-App

Run

...

×

#2.7-12824-a6ec928

✓ Tests passed: 361

Artifacts

No changes

one minute ago (6m:46s)

▼ IS24-Wohnen-iPad-App-Beta-Release

Run

...

×

#2.7-12824-a6ec928

🔄 Running

No artifacts

(1)

37s left

Stop

#2.7-12823-edb1d0f

✓ Success

Artifacts

(1)

55 minutes ago (1m:22s)

▼ IS24-Wohnen-iPhone-App

Run

...

×

#2960

🔄 Checking for changes

No artifacts

No changes

5m:34s left

Stop

#3.8-12824-a6ec928

✓ Tests passed: 410

Artifacts

(1)

41 minutes ago (4m:43s)

▼ IS24-Wohnen-iPhone-App-Beta-Release

Run

...

×

#3.8-12824-a6ec928

✓ Success

Artifacts

(1)

15 minutes ago (1m:17s)

▼ IS24-Wohnen-iPhone-App-Integration-Tests

Run

...

×

#3.8-12824-a6ec928

✓ Tests passed: 49

No artifacts

(1)

one minute ago (14m:26s)

Help

Feedback

TeamCity Enterprise

[License agreement](#)



# Build-Management

- Viele Systeme (Bash, Gradle, Maven, ANT...)
- Maven
  - Open Source Plugin für Xcode
  - Objektorientierte Lösung
  - Verbreitetes Build System
  - Viele Plugins
  - Viele Möglichkeiten

# Unit-Tests

# Unit-Tests

- SenTesting
  - Direkt von Apple
  - Nur Gerät
  - Keine echte App
- GH-Unit
  - Open Source
  - Simulator (über iOS-Sim)

# Mocking

# Mocking

- Dummy Objekte
- Überprüfung von Aufrufen
- OCMock Framework
  - `id sampleMock = [OCMockObject mockForClass:[Sample class]];`
  - `[[[sampleMock expect] andReturn:@"foo"] sampleFunc:@"Val"];`

Demo

# Code Coverage

- gcov
- LLVM Compiler Settings:
  - Instrument Programm Flow -> YES
  - Generate Test Coverage Files -> YES

# Coverage Reports

- lcov (graphical front-end für gcov)
  - Command Line Tool
  - HTML Reports
  - Highlighting von erreichtem Code
- Coverstory
  - Grafisches Tool



Demo

# Integration-Tests

- „Automatisierter Klicktest“
- KIF (Keep It Functional)
- Tests in Objective-C
- Test-Szenarios und Test-Schritte

Demo

# Automatische Beta Versionen

- Interner App Store (jQuery Mobile)
- Enterprise iOS Dev Account
- Hockey App
  - Automatische Updates in der App
  - Crash Reports
  - Benutzungsstatistiken

# Xcode-Maven-Plugin

- Aktuelle Features:
  - App bauen
  - Simulator starten / beenden
  - GHUnit Tests
  - KIF Integration Tests
  - Test Coverage HTML Reports
  - IPA bauen
  - App Version anpassen (GIT)

# Links

- Demo: <https://github.com/ImmobilienScout24/iOS-Continuous-Integration-Demo>
- GH-Unit: <https://github.com/gabriel/gh-unit>
- OCMock: <https://github.com/erikdoe/ocmock>
- iOS-Sim: <https://github.com/phonegap/ios-sim>
- KIF: <https://github.com/square/KIF>
- Xcode-Maven-Plugin: <https://github.com/x2on/xcode-maven-plugin>
- HockeySDK: <https://github.com/bitstadium/HockeySDK-iOS>

# Links

- CoverStory: <http://code.google.com/p/coverstory/>
- lcov: <http://ltp.sourceforge.net/coverage/lcov.php>

Fragen?



# Kontakt

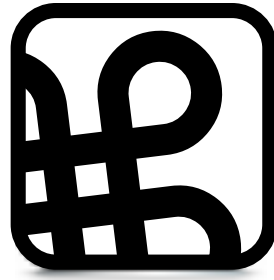
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**Vielen Dank**



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