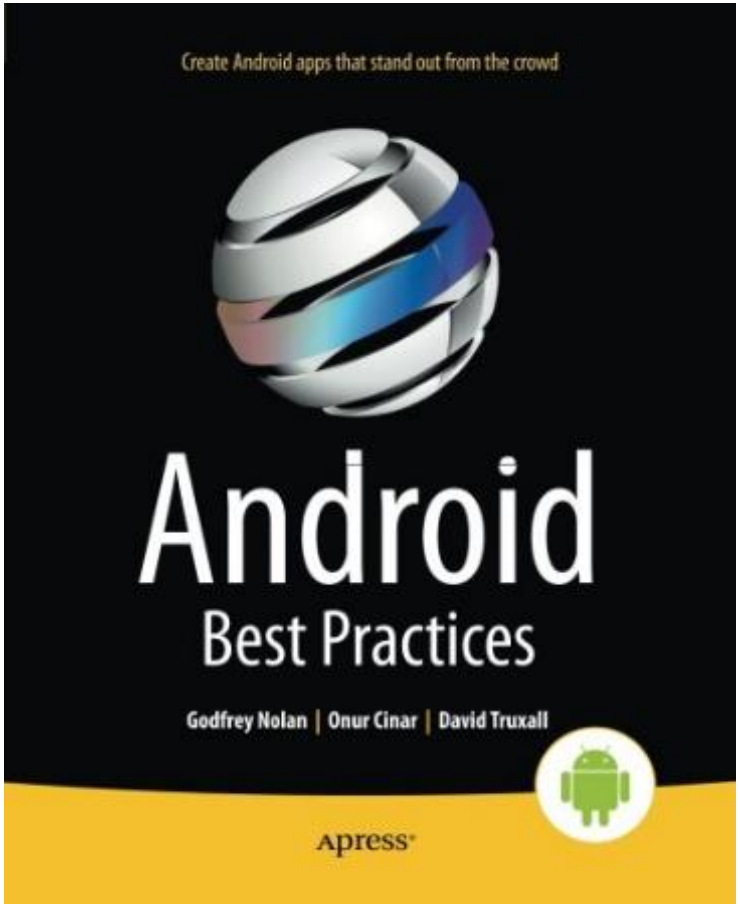
Hewlett Packard
Enterprise

Software In Motion

Continuous Delivery for Mobile

David Truxall, Ph.D.

About Me



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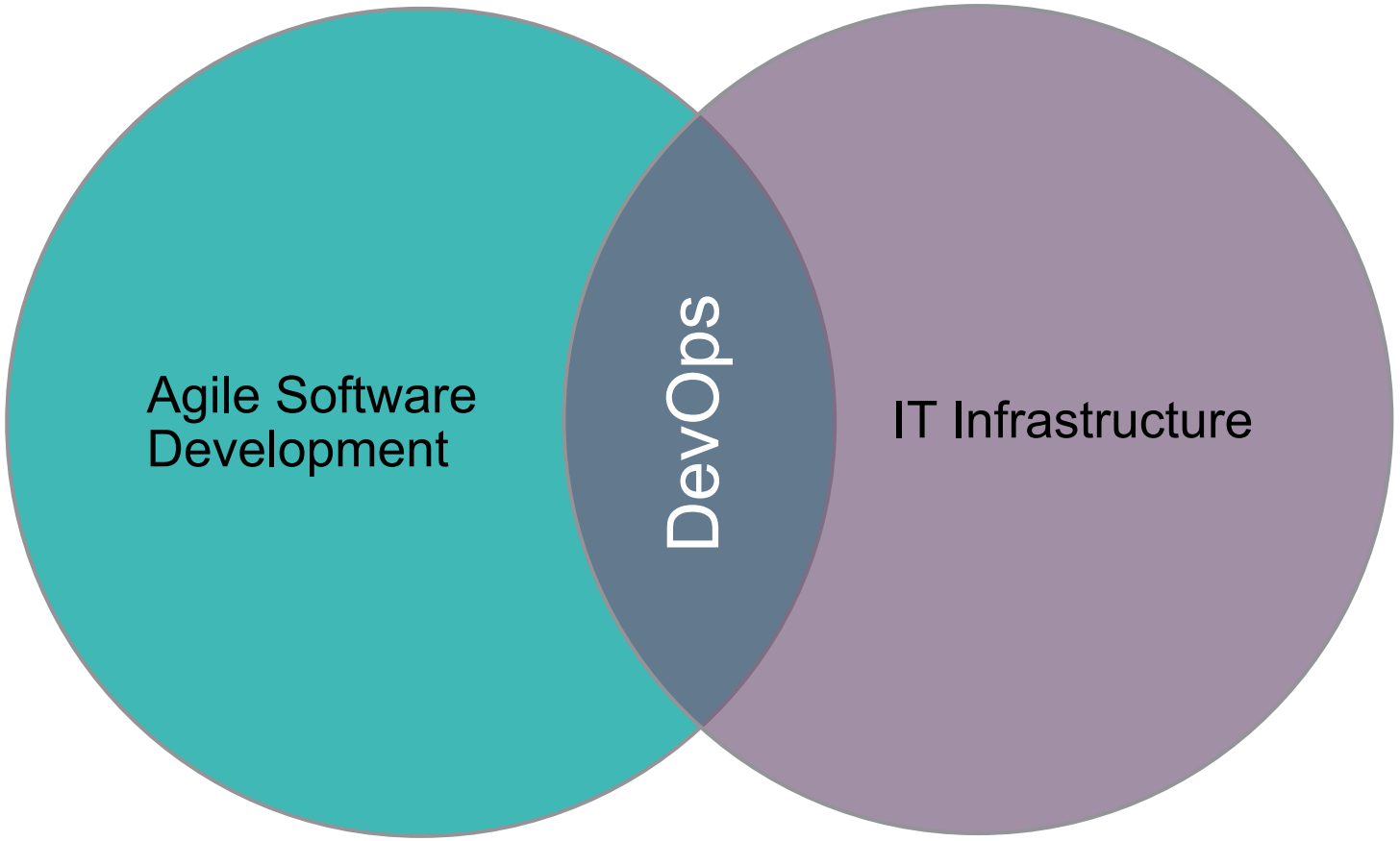
http://bit.ly/mobile-cd

Agenda

1. Concepts
2. Build tools
3. Platform examples
4. Testing
5. Deployment

DevOps



Concepts

- Continuous Integration
  - Build the app regularly
  - Know when the app is compiling or broken
  - Fail early
  - Happens more often than you would imagine

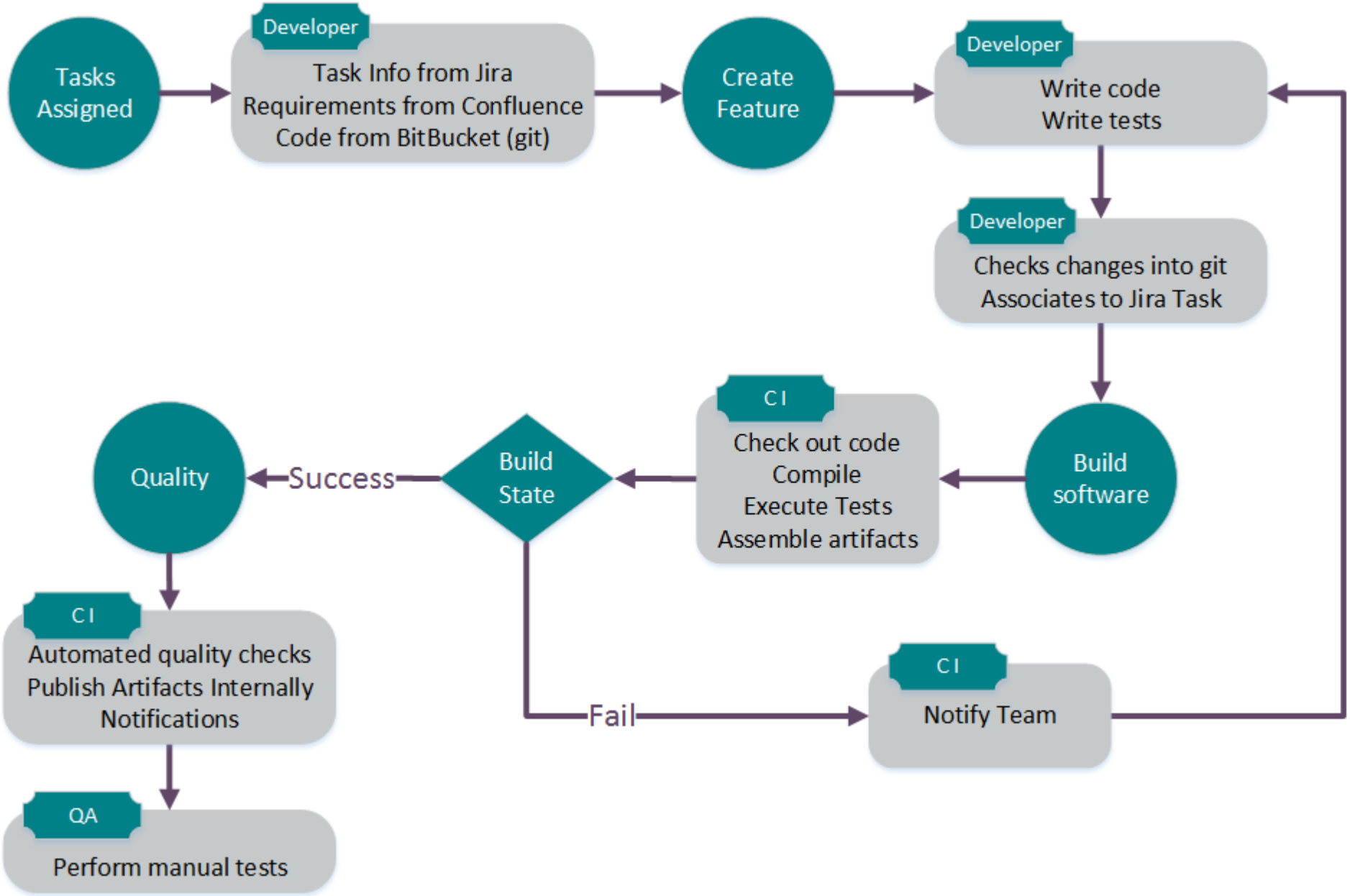
- Continuous Delivery
  - App is constantly tested
  - Deliverable to production at any time
  - Automated deployment

Mobile Problems

- Multiple Platforms
- Multiple Environments
- App Signing
- Testing
- Deployment
- Release frequency

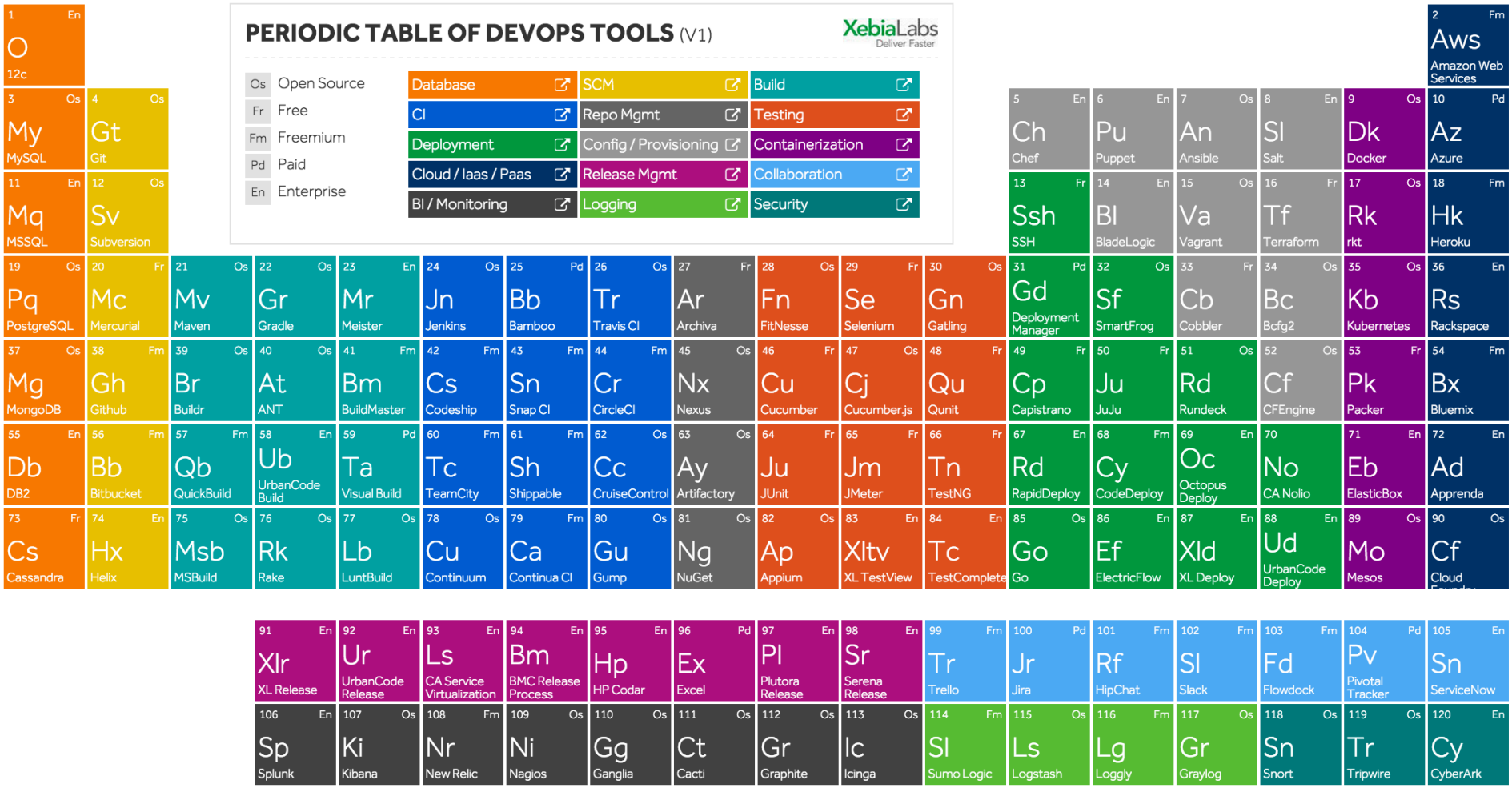
Goals

- Consistency across platforms
- Automation
- Easy for team


Tasks Assigned
Developer
Task Info from Jira
Requirements from Confluence
Code from BitBucket (git)
Create Feature
Developer
Write code
Write tests
Developer
Checks changes into git
Associates to Jira Task
Build software
CI
Check out code
Compile
Execute Tests
Assemble artifacts
Build State
Success
Quality
Fail
CI
Notify Team
CI
Automated quality checks
Publish Artifacts Internally
Notifications
QA
Perform manual tests

Tools

Tools Tools Tools



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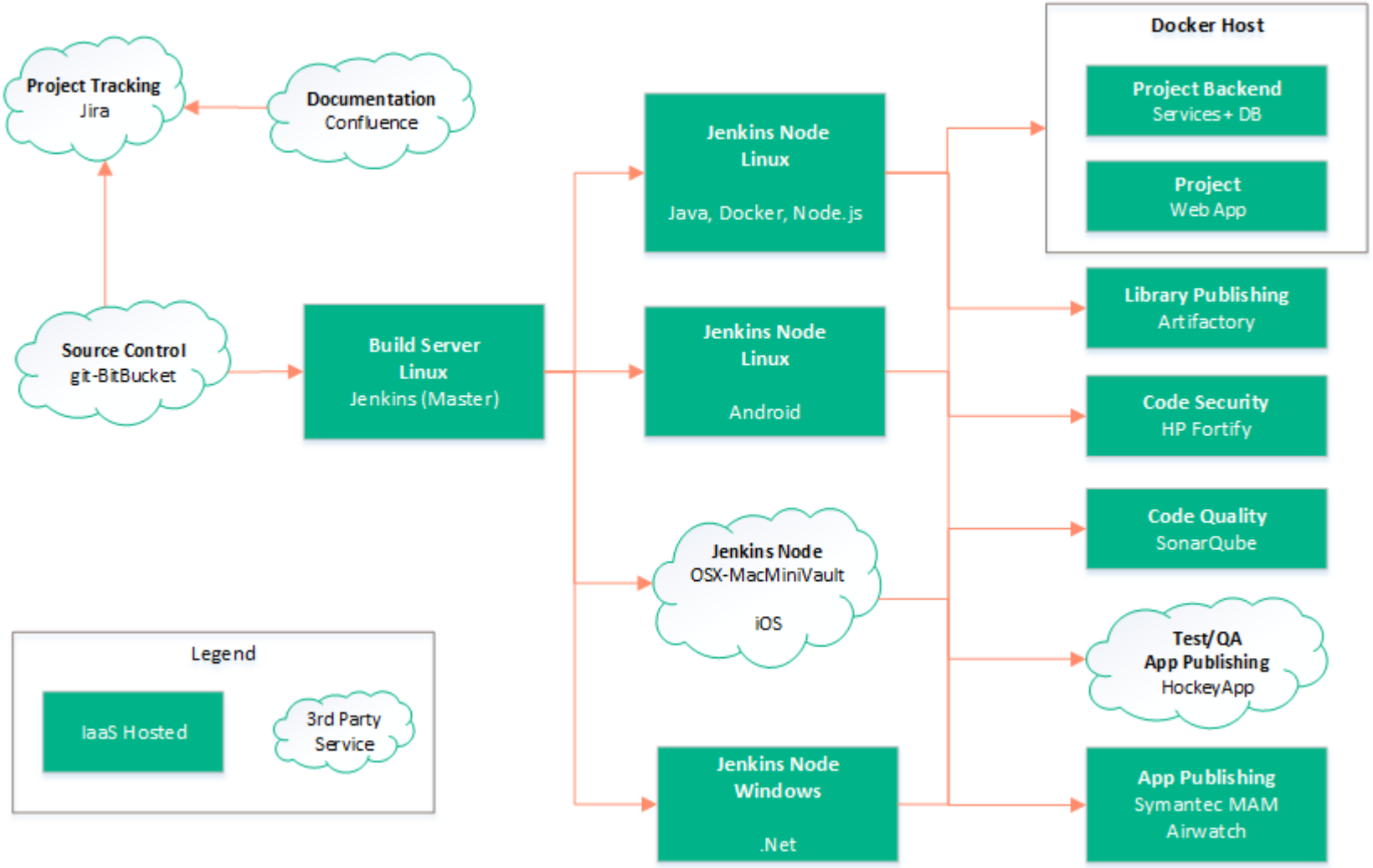
Source: https://xebialabs.com/periodic-table-of-devops-tools/

Continuous Integration Server

Jenkins

Build Scripts

Jenkins Tour


Project Tracking
Jira
Documentation
Confluence
Source Control
git-BitBucket
Build Server
Linux
Jenkins (Master)
Jenkins Node
Linux
Java, Docker, Node.js
Jenkins Node
Linux
Android
Jenkins Node
OSX-MacMiniVault
iOS
Jenkins Node
Windows
.Net
Docker Host
Project Backend
Services + DB
Project
Web App
Library Publishing
Artifactory
Code Security
HP Fortify
Code Quality
SonarQube
Test/QA
App Publishing
HockeyApp
App Publishing
Symantec MAM
Airwatch
Legend
IaaS Hosted
3rd Party
Service

Mobile Nodes

iOS Jenkins Node

- Be reachable from the master
- Create a Jenkins user
- Install Java
  - Install Gradle
- Install Xcode
- Configure SSH
- Set Permissions

Gradle and iOS

OpenBakery Gradle Xcode Plugin

http://openbakery.org/gradle.html

iOS Demo

Android Jenkins Node

- Be reachable from master
- Install Java
- Install Android SDK
- Configure SSH
- Set Permissions

Android and Gradle

- Build Variants

Android Demo

Testing

Automated Testing

- Unit Tests
- Functional Tests

Automated Test Demo

Static Code Analysis

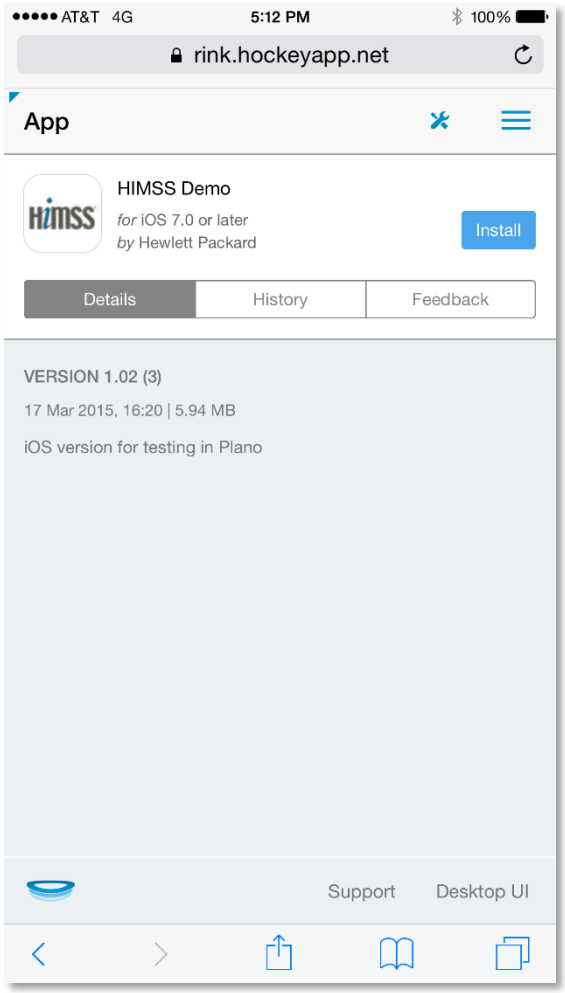
- FindBugs
- Lint tools
  - http://developer.android.com/tools/help/lint.html
  - https://github.com/realm/SwiftLint
  - https://github.com/jshint/jshint
- SonarQube

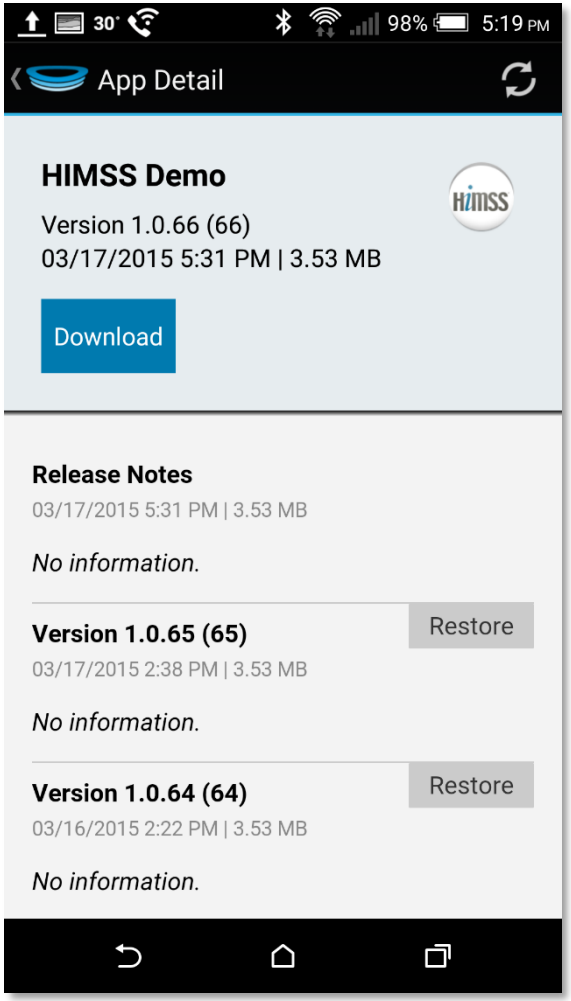
SonarQube Demo

Deployment

Deployment

HockeyApp - Install





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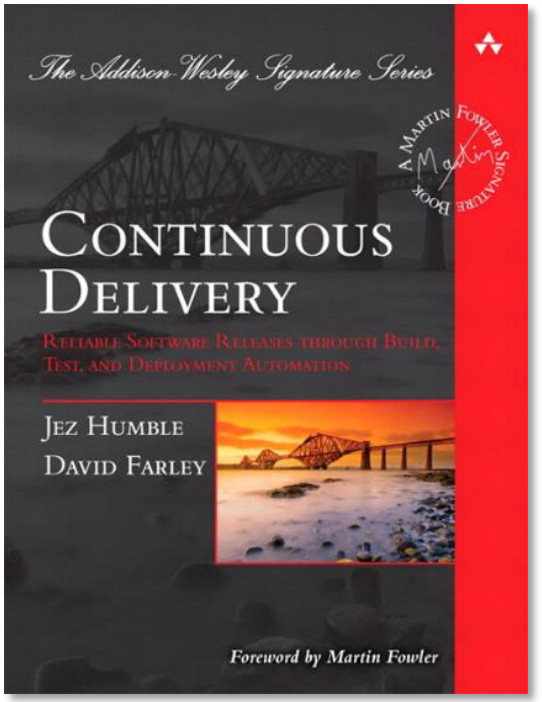
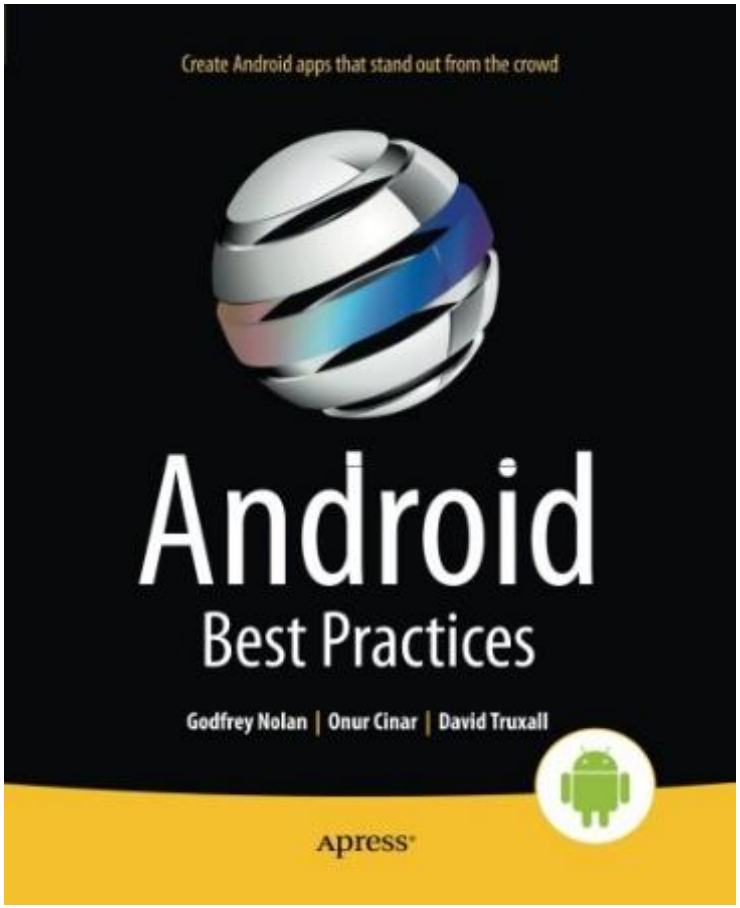
iOS Deployment

Resources

- http://hockeyapp.net
- https://aws.amazon.com/device-farm/
- https://github.com/bmuschko/gradle-cargo-plugin
- http://calaba.sh/
- http://gradle.org/
- https://jenkins-ci.org/
- https://github.com/bmuschko/gradle-cargo-plugin
- http://appfoundry.be/blog/2014/07/04/Xcode-Env-Configuration/
- https://dzone.com/articles/the-state-of-continuous-integration-in-2015
- https://xebialabs.com/the-ultimate-devops-tool-chest/



Shameless Plug #2



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