iContinuousIntegration

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Dnepropetrovsk,
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Introduce yourselves please

I came to iOS from C++ and was disappointed

All code in a single project

Hard to reuse common functionality

No unit tests

No build automation

All other developers solved these problems years ago

IOS developers do not use modern engineering practices

Only 10% do unit testing

33% use nothing but Apple supplied components

28% copy-paste third-parties to their projects

Copy-paste style libraries

Regex Kit Lite

Touch XML

Touch JSON

Magical Record

Cocoa Lumberjack

and many more ...

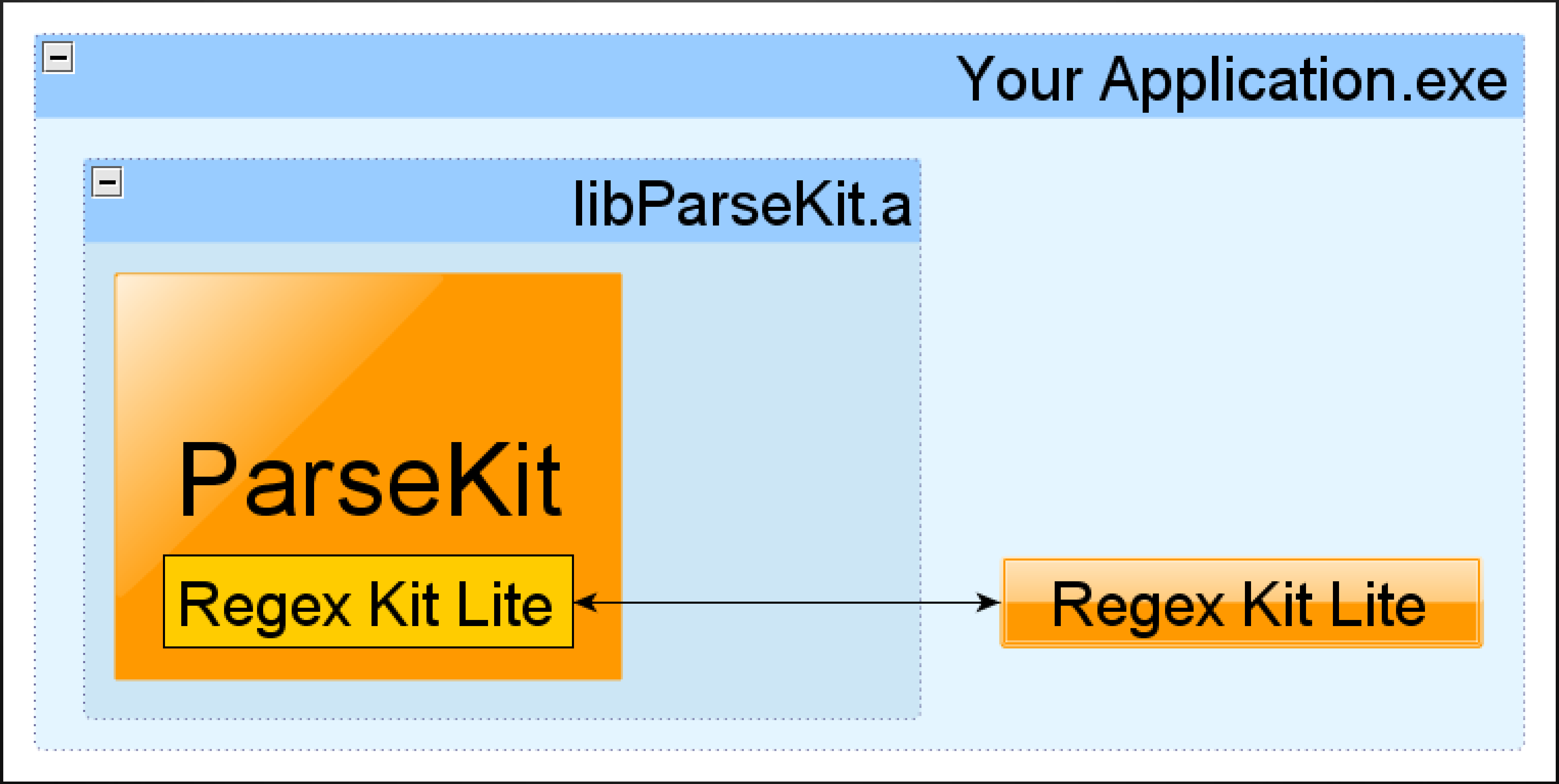
WHY ?

Magicalpanda : “I'm not sure what the benefits are to everyone...”

tonyxiao : “I don't really care to compile from source”

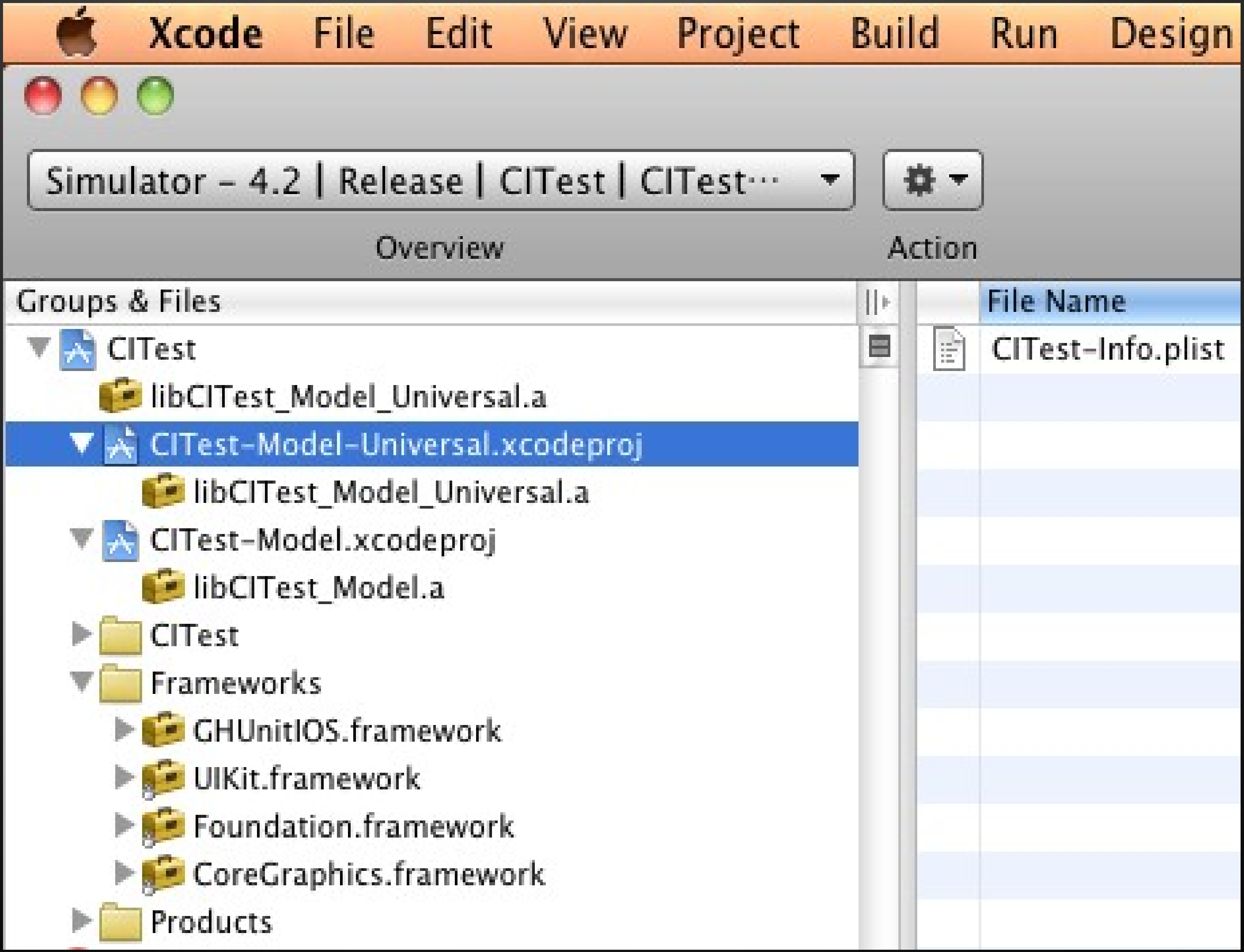
Magicalpanda : “as long as I can still use the Source Code approach, I'm ok with having a separate target in the project that dumps out a static library”

Ok. Why should we care?



Use Static Libraries

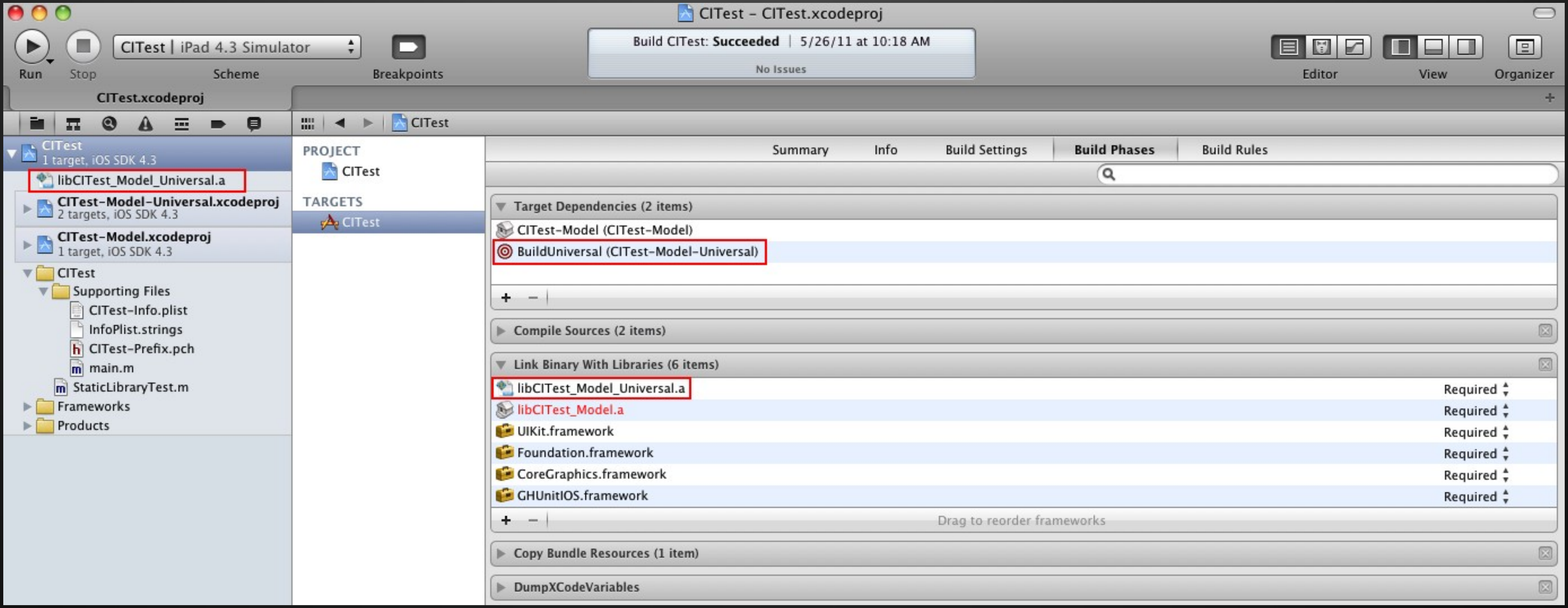
Add a Library Sub-project


Xcode File Edit View Project Build Run Design
Simulator – 4.2 | Release | CITest | CITest…
Overview
Action
Groups & Files
File Name

- CITest
  - libCITest_Model_Universal.a
  - CITest-Model-Universal.xcodeproj
    - libCITest_Model_Universal.a
  - CITest-Model.xcodeproj
    - libCITest_Model.a
  - CITest
  - Frameworks
    - GHUnitIOS.framework
    - UIKit.framework
    - Foundation.framework
    - CoreGraphics.framework
  - Products

CITest-Info.plist

Set up Dependencies



CITest
1 target, iOS SDK 4.3
libCITest_Model_Universal.a
CITest-Model-Universal.xcodeproj
2 targets, iOS SDK 4.3
CITest-Model.xcodeproj
1 target, iOS SDK 4.3
CITest
Supporting Files
CITest-Info.plist
InfoPlist.strings
CITest-Prefix.pch
main.m
StaticLibraryTest.m
Frameworks
Products

Target Dependencies (2 items)
- CITest-Model (CITest-Model)
- BuildUniversal (CITest-Model-Universal)

Compile Sources (2 items)

Link Binary With Libraries (6 items)

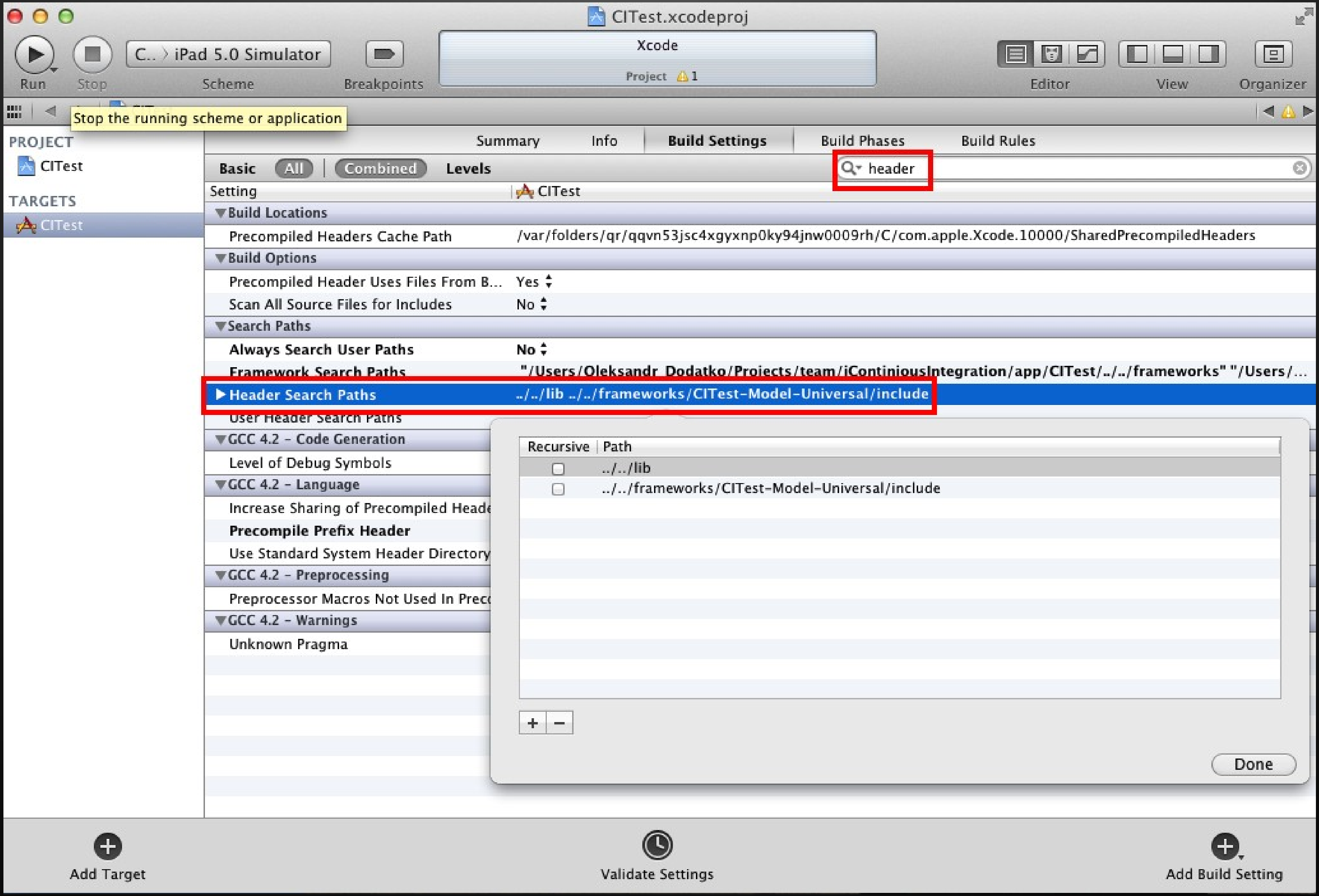
libCITest_Model_Universal.a	Required
libCITest_Model.a	Required
UIKit.framework	Required
Foundation.framework	Required
CoreGraphics.framework	Required
GHUnitIOS.framework	Required

Drag to reorder frameworks

Copy Bundle Resources (1 item)

DumpXCodeVariables

Do not forget about the header path



Setting	CITest
▼Build Locations	
Precompiled Headers Cache Path	/var/folders/qr/qqvn53jsc4xgyxnp0ky94jnw0009rh/C/com.apple.Xcode.10000/SharedPrecompiledHeaders
▼Build Options	
Precompiled Header Uses Files From B...	Yes
Scan All Source Files for Includes	No
▼Search Paths	
Always Search User Paths	**No**
Framework Search Paths	**"/Users/Oleksandr_Dodatko/Projects/team/iContiniousIntegration/app/CITest/../../frameworks" "/Users/...**
▶Header Search Paths	**../../lib ../../frameworks/CITest-Model-Universal/include**
User Header Search Paths	
▼GCC 4.2 - Code Generation	
Level of Debug Symbols	
▼GCC 4.2 - Language	
Increase Sharing of Precompiled Heade	
Precompile Prefix Header	
Use Standard System Header Directory	
▼GCC 4.2 - Preprocessing	
Preprocessor Macros Not Used In Prec	
▼GCC 4.2 - Warnings	
Unknown Pragma	

Recursive	Path
☐	../../lib
☐	../../frameworks/CITest-Model-Universal/include

Library Usage Benefits

Clear design

No linker conflicts

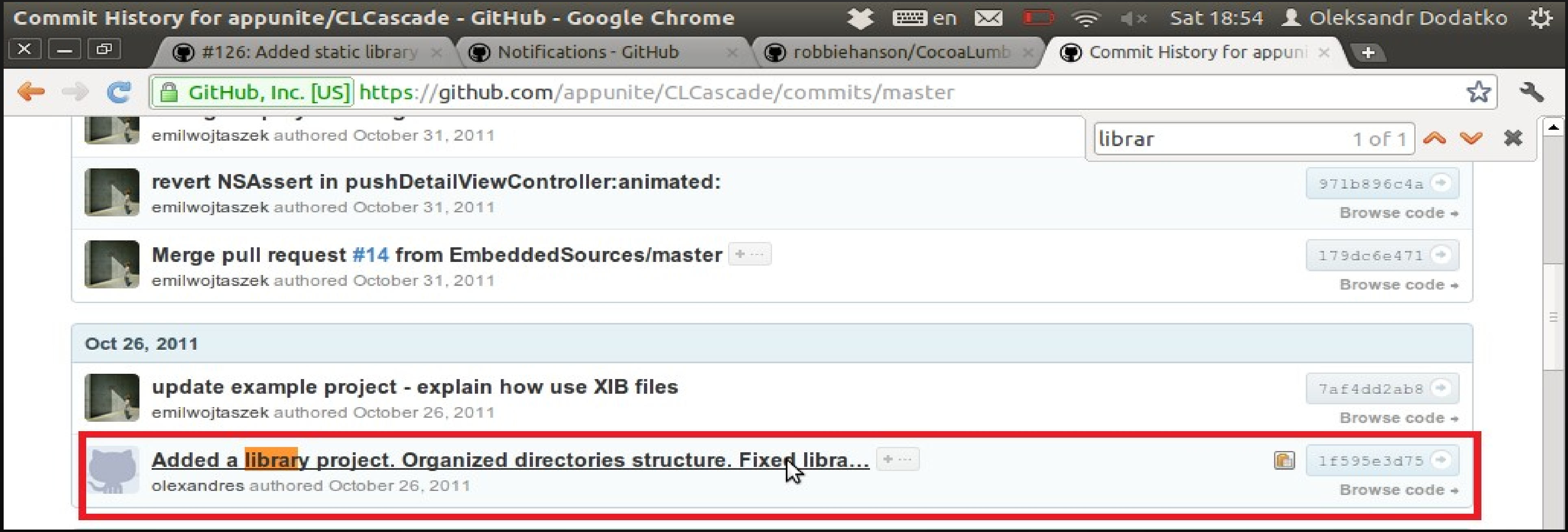
A better way to reuse code

Yes. It works!

“ BTW, thanks for your pull request. I have't had time to review it all yet, but most of it looks good. “

Saul Mora. Founding Panda. saul@magicalpanda.com

appunite / CLCascade has accepted our patch



Commit History for appunite/CLCascade - GitHub - Google Chrome

#126: Added static library | Notifications - GitHub | robbiehanson/CocoaLumb | Commit History for appuni

GitHub, Inc. [US] https://github.com/appunite/CLCascade/commits/master

librar 1 of 1

emilwojtaszek authored October 31, 2011

revert NSAssert in pushDetailViewController:animated:
emilwojtaszek authored October 31, 2011 — 971b896c4a — Browse code

Merge pull request #14 from EmbeddedSources/master
emilwojtaszek authored October 31, 2011 — 179dc6e471 — Browse code

Oct 26, 2011

update example project - explain how use XIB files
emilwojtaszek authored October 26, 2011 — 7af4dd2ab8 — Browse code

Added a library project. Organized directories structure. Fixed libra...
olexandres authored October 26, 2011 — 1f595e3d75 — Browse code

Find our forks at github.com/EmbeddedSources

Let's discuss unit tests

I recommend ...

Easy to debug failed tests

Easy to use files with test data bundles

Generates jUnit compatible reports

GHUnit : unit test is an iOS application

Unit test life cycle

Pass test data files to the test program

Launch the test program

Publish test reports

iOS sandbox makes things complicated

Application Launch Demo

Launching app without xCode

```
iphonesim launch
 "$DEPLOYMENT_DIR/CITest.app"
 4.2
 ipad
```

NOTE : Use only FULL PATH to the app as shown above

Collecting Test Results

```
TEMP_DIR=$(/usr/bin/getconf DARWIN_USER_TEMP_DIR)
```

All Test results are here :

$TEMP_DIR/test-results

Requires sudo under Lion

Before you run a test...

```
killall -KILL -c "iphonesim"
killall -KILL -c "iPhone Simulator"
```

```
GHUNIT_AUTORUN
WRITE_JUNIT_XML
GHUNIT_AUTOEXIT
```

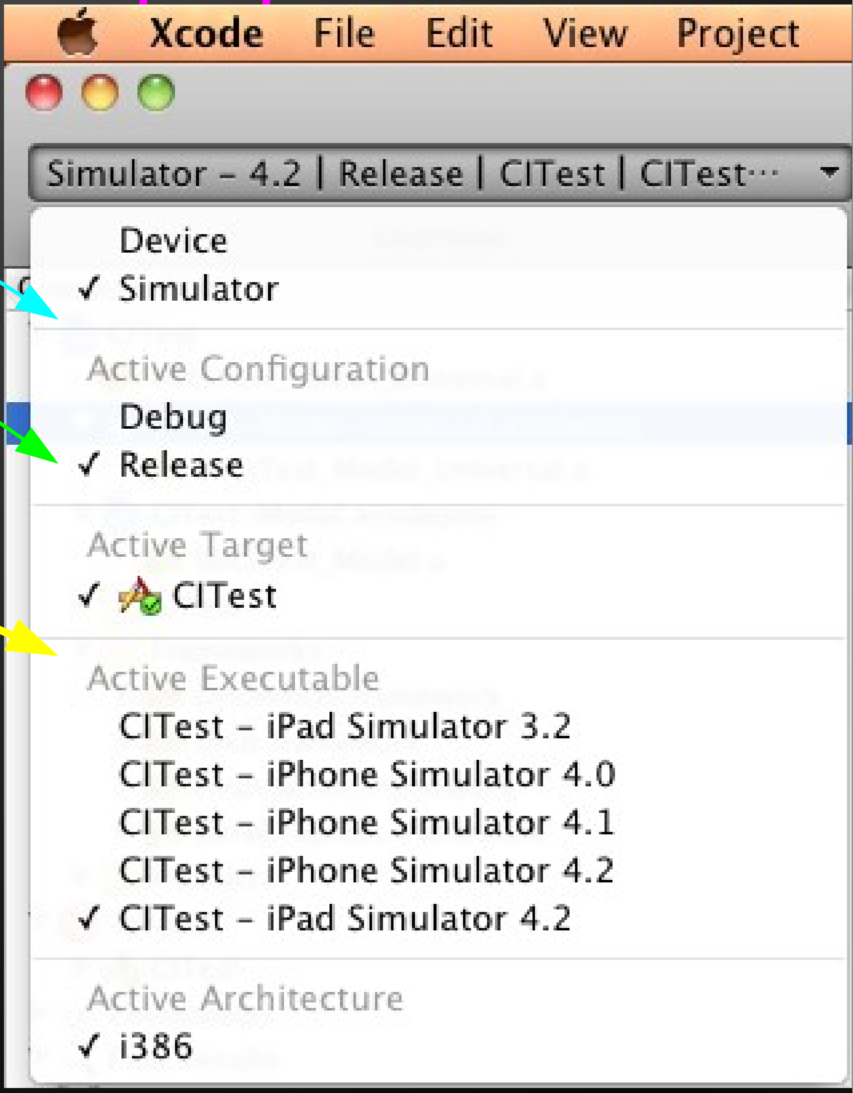
Unit tests reduce risks due to early error discovery

Jenkins job should build and deploy in one click

There should be no interaction with the user

Building without xCode

```
xcodebuild -project CITest.xcodeproj
-sdk iphonesimulator4.3
-configuration Release
-target CITest
-parallelizeTargets
clean build
```



Xcode File Edit View Project

Simulator – 4.2 | Release | CITest | CITest···

Device
✓ Simulator

Active Configuration
Debug
✓ Release

Active Target
✓ CITest

Active Executable
CITest – iPad Simulator 3.2
CITest – iPhone Simulator 4.0
CITest – iPhone Simulator 4.1
CITest – iPhone Simulator 4.2
✓ CITest – iPad Simulator 4.2

Active Architecture
✓ i386

Demo time

Deliver your beta builds as *.ipa files using TestFlight

Free over-the-air beta distribution

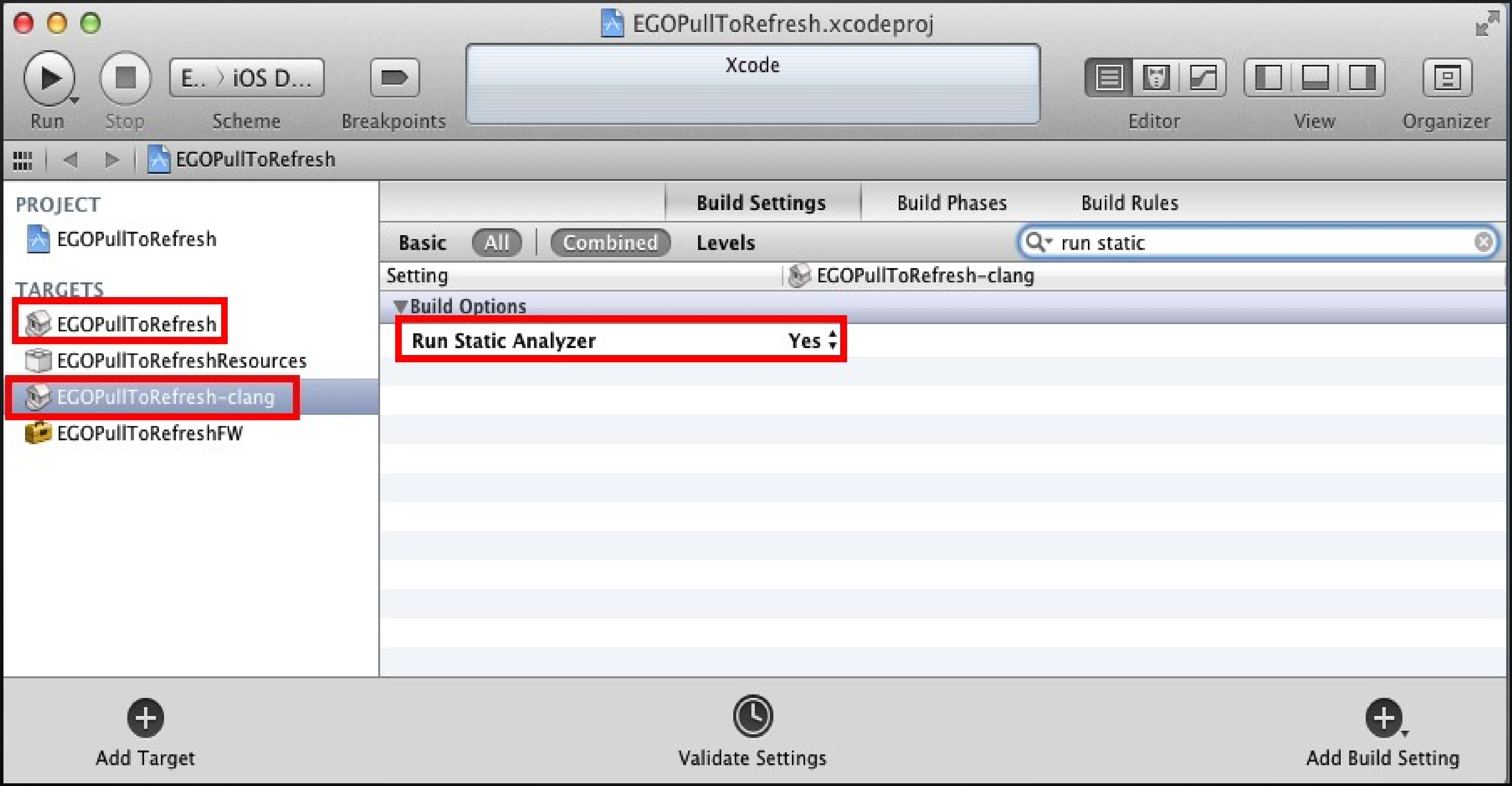
Quick. Painless. Magical*.

Creating Installable *.ipa File

```
/usr/bin/xcrun -sdk iphoneos PackageApplication
-v "${BUILD_DIR}/Release-iphoneos/CITest.app"
-o "${DEPLOYMENT_DIR}/CITest.ipa"
```

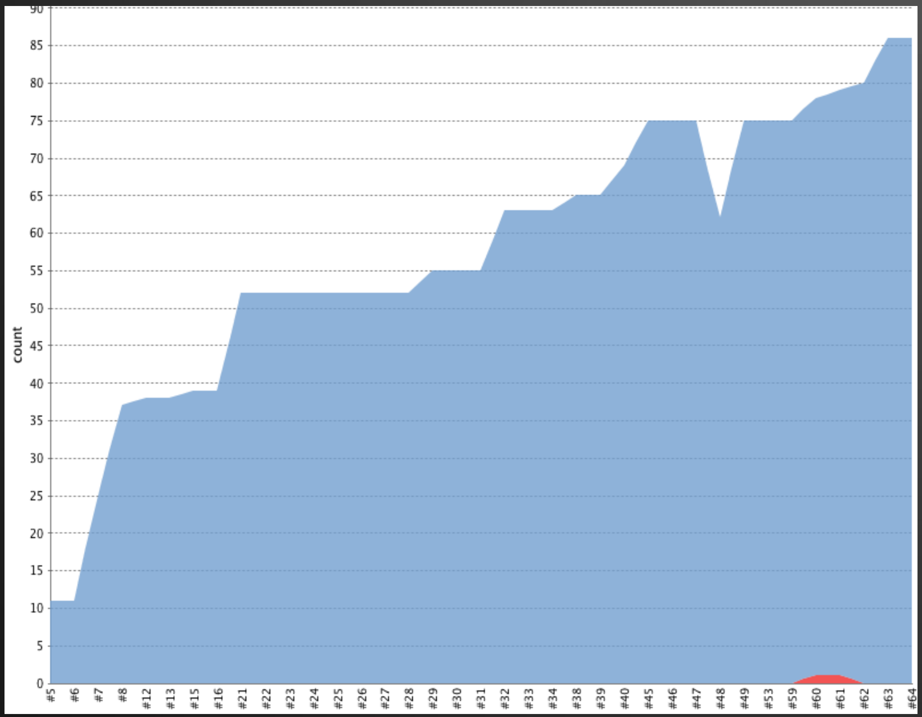
Demo time

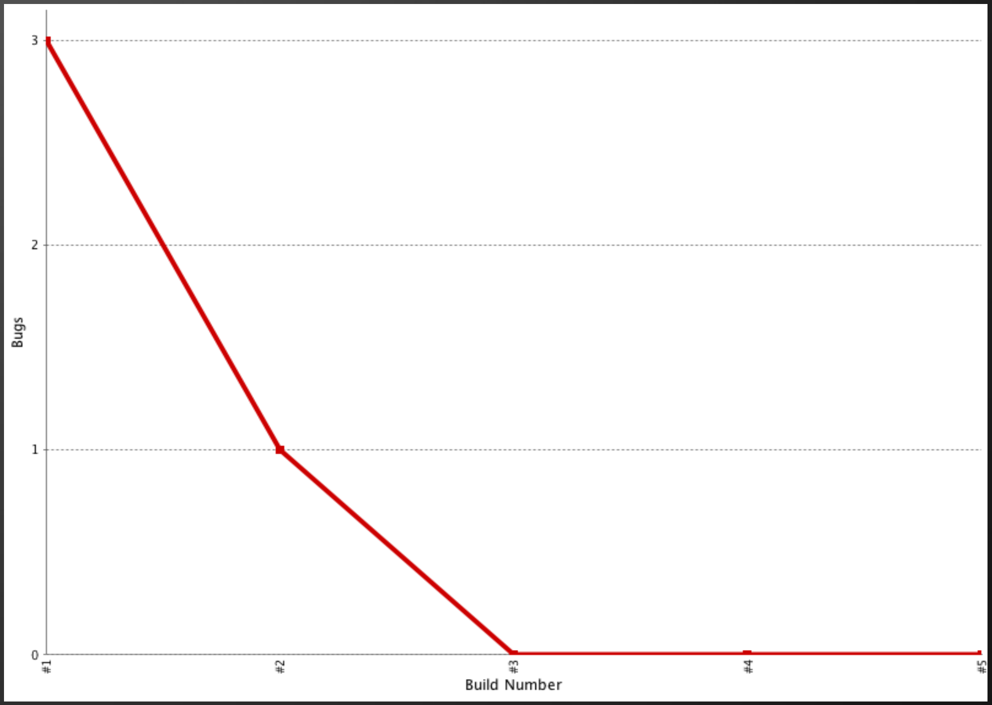
Create one more target for static analyzer in each of your projects



Setting	EGOPullToRefresh-clang
▼Build Options	
Run Static Analyzer	Yes

You'll get


count
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
#5 #6 #7 #8 #12 #13 #15 #16 #21 #22 #23 #24 #25 #26 #27 #28 #29 #30 #31 #32 #33 #34 #38 #39 #40 #45 #46 #47 #48 #49 #53 #59 #60 #61 #62 #63 #64


Bugs
3
2
1
0
#1
#2
#3
#4
#5
Build Number

The freedom to build better apps
FREE
A free testing service for mobile developers, managers and testers.

Custom iOS frameworks – a more native way to reuse the code

A framework is

A special kind of NSBundle

A directory with a special structure

A fat universal binary for BOTH the device AND the simulator

Framework directory structure

```
MyFramework.framework
|--------> MyFramework  (universal static library)
|-------->Headers        (symlink)
|-------->Resources      (symlink, optional)
|-------->Versions       Actual files should be here
|------------|
|------------|--->A      (all symlinks lead here)
```

Creating a universal binary

lipo -create

-output <OUTPUT_PATH>

Thank you for your time

You apply	You receive
Unit tests	Early errors discovery
Automated builds	Reduced project risks
TestFlight deployment	High application quality

Contacts

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Github page :

https://github.com/dodikk

https://github.com/EmbeddedSources