# Parallel UI Testing of IOS App

**Solution 1) Parallel Calabash:**

<https://github.com/rajdeepv/parallel_calabash>

<https://techblog.badoo.com/blog/2015/10/22/parallel-calalabash-testing-on-iOS/>

Limitation:

Parallel calabash gem only works with calabash-ios interface. Since we are using frank to interface the cucumber tests in IOS, this gem is not a useful choice.

Also, the git repo for IOS is no longer maintained by Raj Verma (The creator of this gem) and as per the short email exchange I had with him, It was pretty clear that the current support for this gem is in question.

Even if the Gem is working, the solution provided by Mr. Tim Baverstock (At Badoo) only works with simulating multiple VMs/User logins using tightVNC, which is not an elegant solution to perform.

<https://www.youtube.com/watch?v=D0i7i2hnoHk&t=627s>

**Solution 2) FB Simulator Control and Web Driver Agent:**

<https://github.com/facebook/FBSimulatorControl>

<https://github.com/facebook/FBSimulatorControl/blob/master/fbsimctl/README.md>

<https://github.com/facebook/WebDriverAgent>

Limitation:

Both gems, if used together, can be used to simulate multiple cucumber tests multiple simulator. However, the setup instructions provided by these repositories are not quite easy to understand and after several days of setup efforts, I am still stuck with an error while installing fbsimctl.

Exp>

Class \_TtC10Foundation15NSSimpleCString is implemented in both /usr/local/Cellar/fbsimctl/HEAD-063478a/Frameworks/FBSimulatorControlKit.framework/Versions/A/Frameworks/libswiftFoundation.dylib (0x1071e87e8) and /Applications/Xcode.app/Contents/Frameworks/libswiftFoundation.dylib (0x107ad57e8). One of the two will be used. Which one is undefined.

Such kind of errors are reported on so many online portals and blogs by Users, but no one has found the definite solution for that. I have tried with latest version of XCode (8) and it doesn’t work.

Apart from that, I couldn’t find any online tutorial where I can find a way to use these two to run the parallel UI tests. Mr. Viktar Karenevich (At Badoo) has explained how he came up entirely different approach to parallelize UI testing using calabash and Facebook.

However, any kind of concrete explanation is not given on the net. After scouring internet for a week, all I could find about these two gems are their repositories.

Facebook+ Calabash:

<https://www.slideshare.net/badootech/ios-parallel-automation-run-faster-than-fast>

<https://www.youtube.com/watch?v=bAH4hky-1Ac&t=139s>

Even if we somehow figure out the way to do it, again it’s a collaboration with calabash and since we are using frank, that would have been a roadblock.

So, for cucumber tests, I think we have explored all our options

Below are the viable options for XCtest UI testing in IOS. These solutions can run the UI tests in parallel.

**Solution 3) PXCTest, and XCTool:**

PXCTest: Parallel testing in IOS using multiple simulators

<https://github.com/plu/pxctest>

FB XCtool: An extension for Apple's xcodebuild that makes it easier to test iOS and macOS apps. This can run tests parallel on multiple cores and thus increases the efficiency and decreases the time taken.

<https://github.com/facebook/xctool>

But wait, why not merge those two and get something good out of both. We don’t have to, as LinkedIn has already done it and made it open source so that everyone can use it. Have a look:

<http://opensourceforu.com/2017/01/linkedin-ios-ui-testing-tool-bluepill/>

**Solution 4) Bluepill:**

Reliable iOS testing tool that runs UI tests using multiple simulators on a single machine

<https://github.com/linkedin/bluepill>

Only problem with bluepill is that it doesn’t have any formula for homebrew and setting up is difficult. Luckily, I found a post which helped me ease the process by using Fastlane.

## <https://medium.com/@shashikant.jagtap/running-xcuitests-in-parallel-with-fastlane-and-bluepill-370e8ba90958>

I am still stuck at one place with this solution, and I am trying to figure out the error that is shown. But it triggers the multiple simulators and test runs are happening simultaneously.

This would be the best possible solution if you are using XCode 8. But thanks to Apple, XCode 9 now supports multiple simulators and facilitates parallel UI testing.

**Solution 5) XCode 9 – Beta:**

<https://medium.com/@t.camin/parallelizing-ui-tests-28c16000f141>

<https://developer.apple.com/videos/play/wwdc2017/409/>

Limitation: Not much research has been done on this by me, but major limitation as of now is to wait till XCode 9 official release since it is not supported in xCode 8.