

# Creating Great Mobile Libraries

Daniel Tull

# What is a library?

- \* A collection of code to do a particular task
  - \* Better to do one thing well
- \* Often stand-alone, sometimes has dependencies

# Doesn't have to be big



<http://novelideasmanly.blogspot.co.uk/2007/03/library-afloat-sets-sail.html>

# Fit for purpose



<http://www.eifl.net/ghana-library-board-mobile-library-service>

# Make it stand out



<http://en.wikipedia.org/wiki/File:NSPublicMobileLibrary.jpg>

# Wait for Apple to replace it



<http://www.hdelectriccompany.com/latest-news/hd-electric-demo-van-becomes-bookmobile.htm>

# Wait for Apple to replace it



It's aerodynamic

A little bit shiny

It runs on  
electric!

<http://www.hdelectriccompany.com/latest-news/hd-electric-demo-van-becomes-bookmobile.htm>

# Version Control

- \* For this I will assume git
- \* Bring in libraries with git submodules, svn externals etc

# Drag & Drop Files

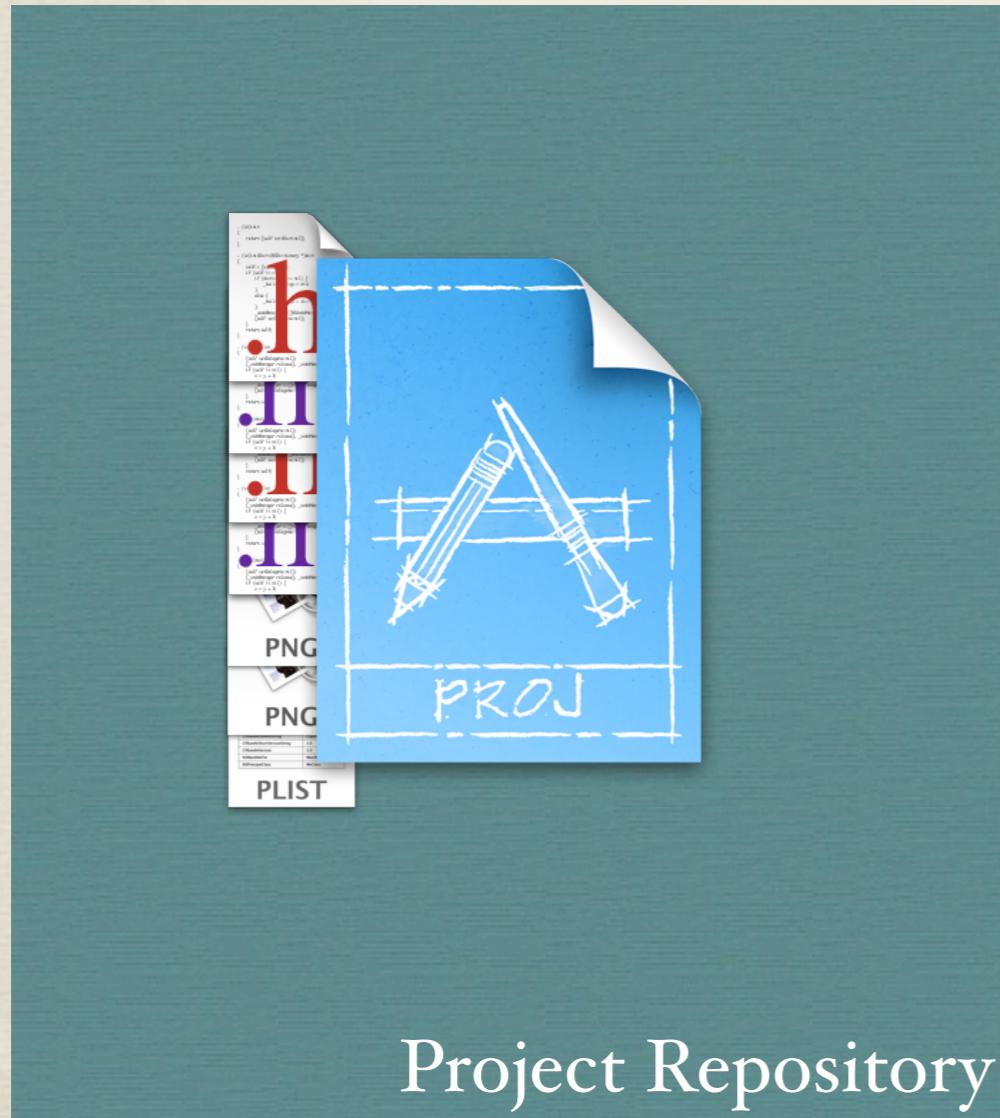
# Drag & Drop Files

Create a repository and add files

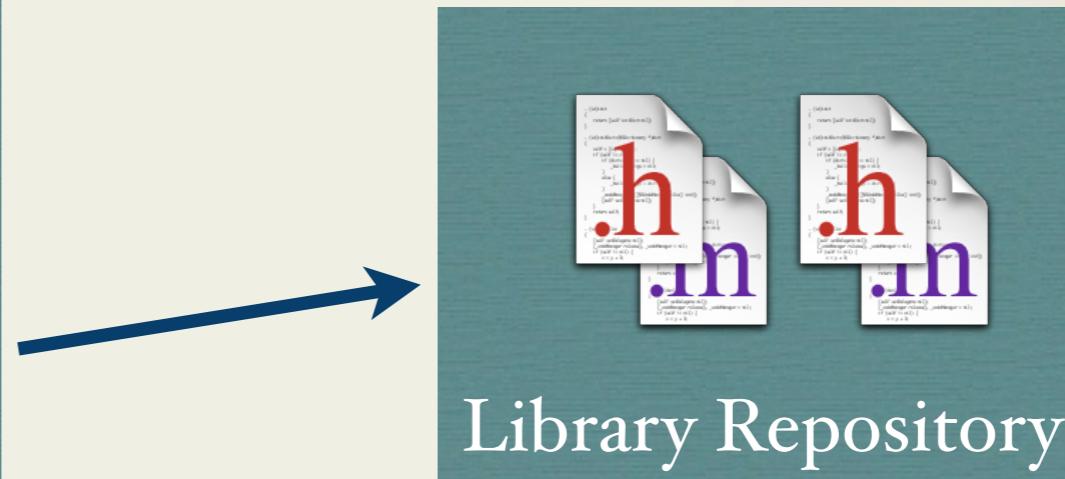
Add submodule reference to library repository

Referencing projects drag the required files in

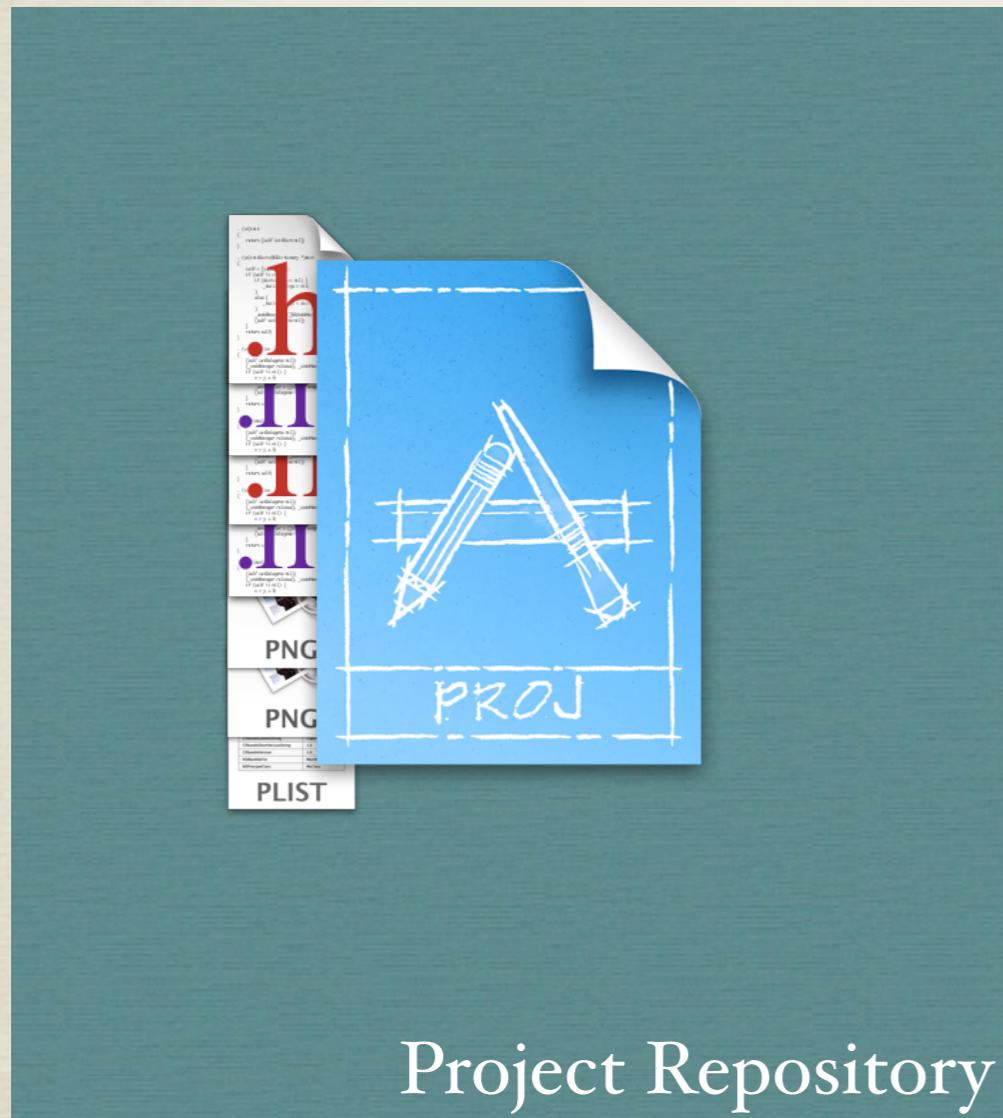
# Drag & Drop Files



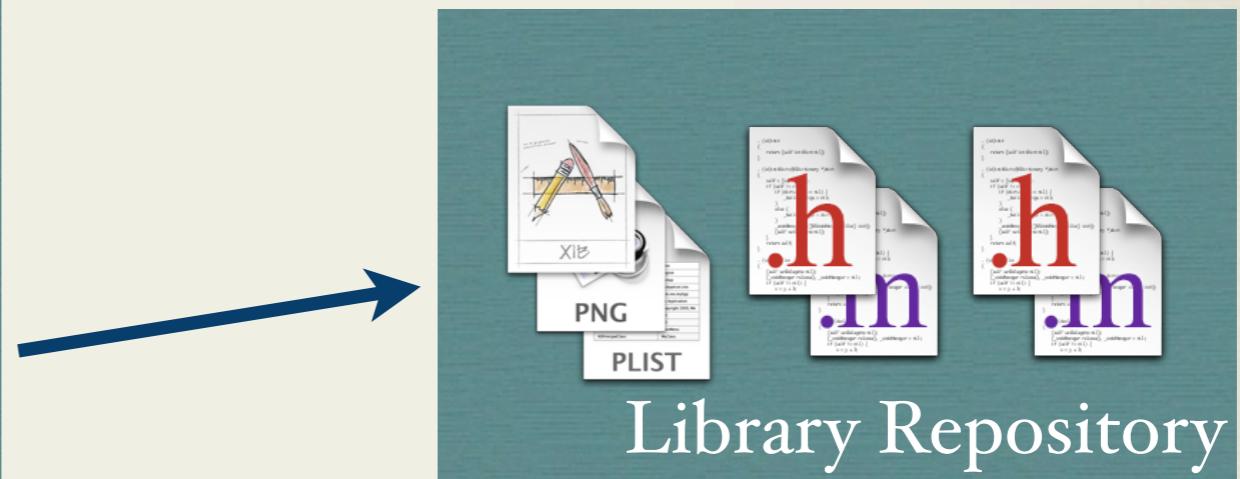
Project Repository



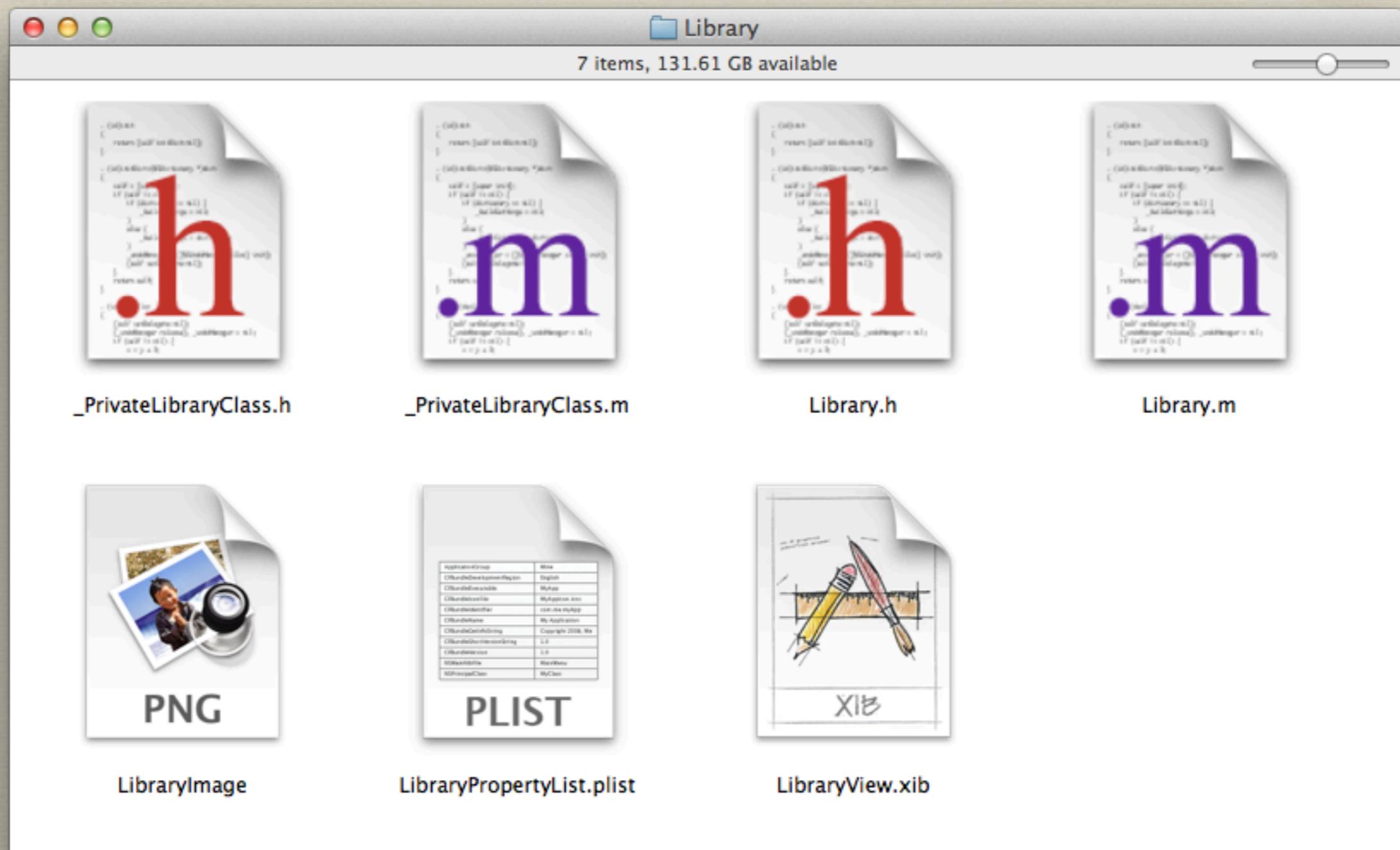
# Drag & Drop Files

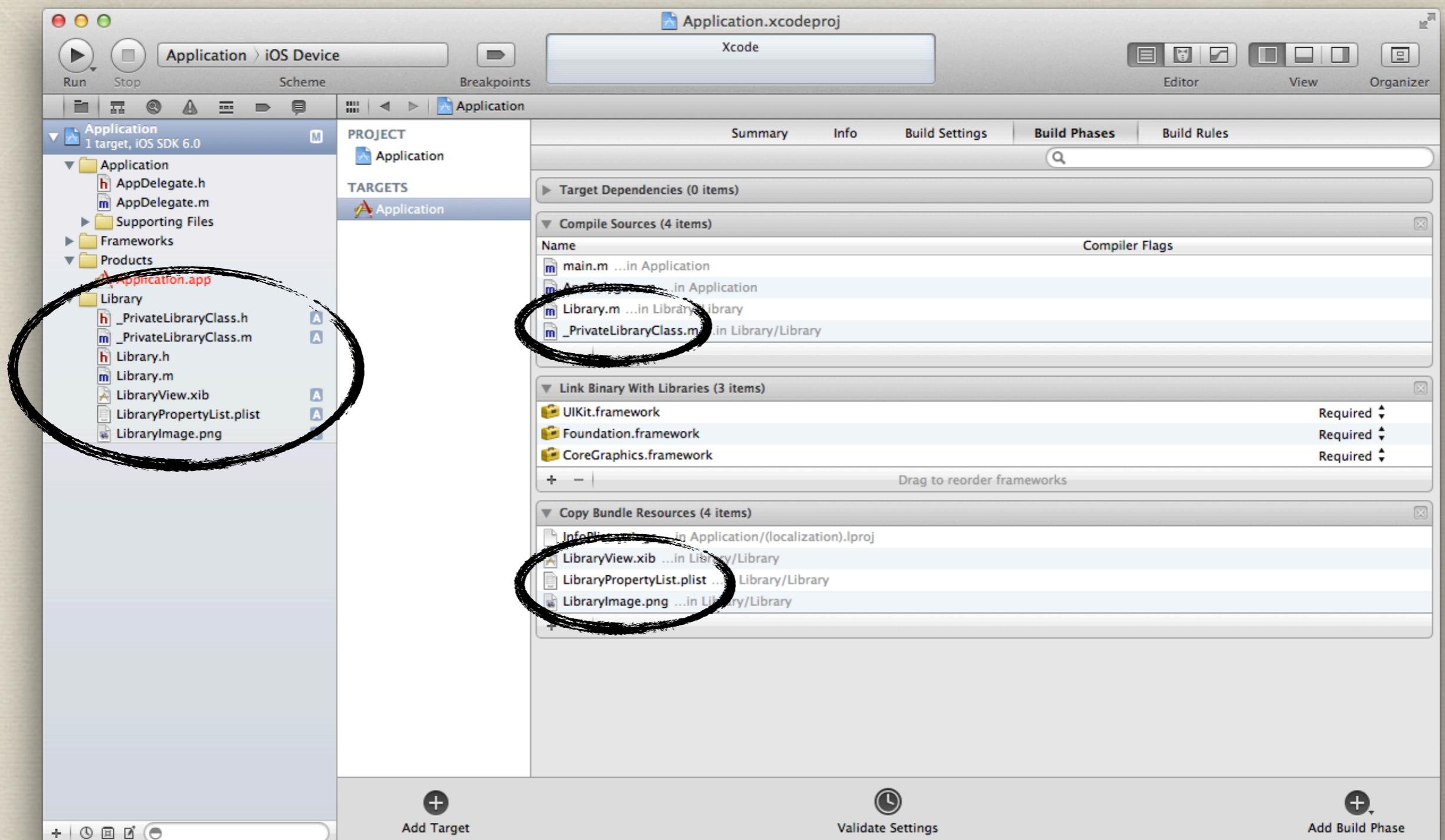


Project Repository



Library Repository





# Drag & Drop Files

- ✓ Really simple to create
- ✓ Easy to drop in for the user

# Drag & Drop Files

- ✗ Need to know whether it's written for ARC
- ✗ Need to know about file changes
- ✗ Library unit tests not run
- ✗ Warnings show up in app build
- ✗ Users can see and use private library classes

# Static Libraries

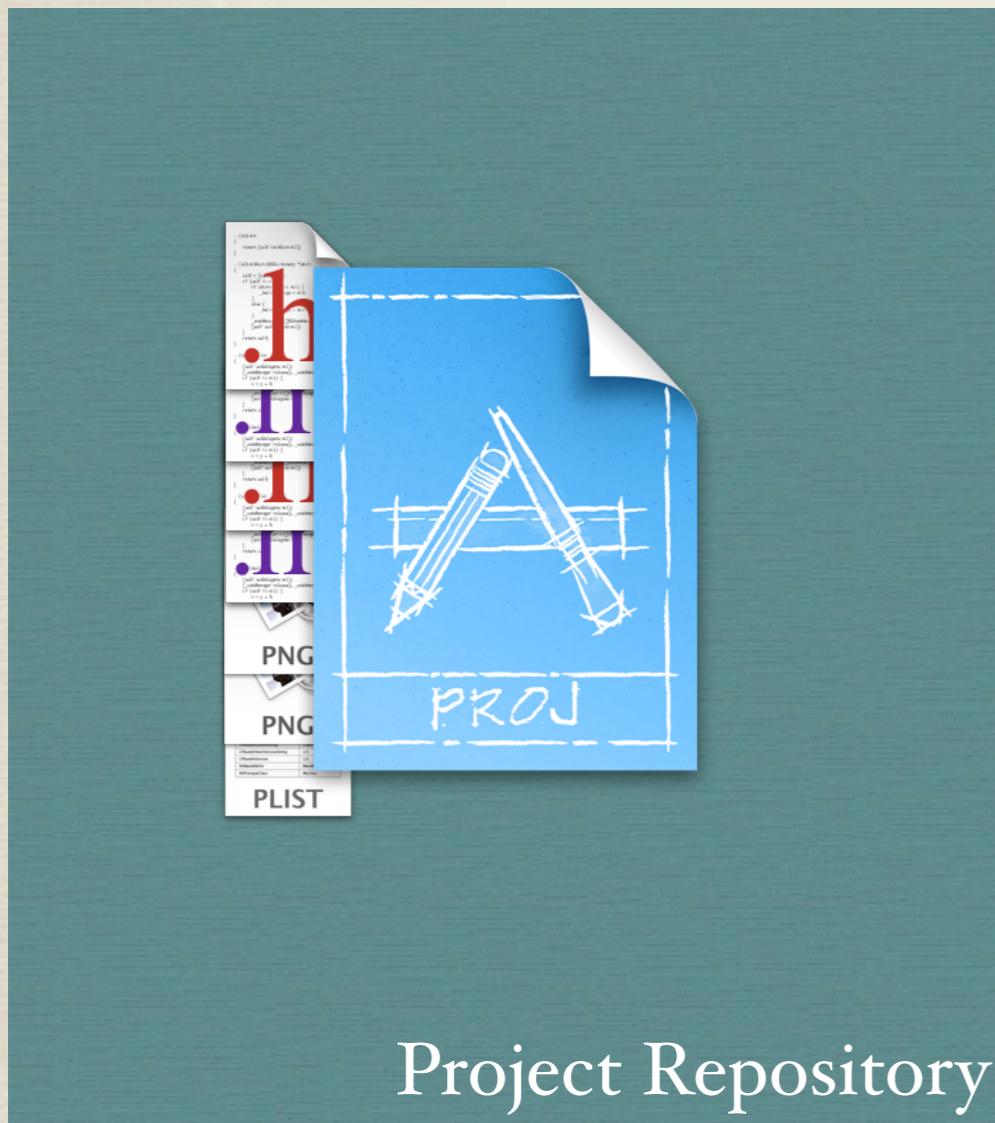
# Static Libraries

Create a new static library project

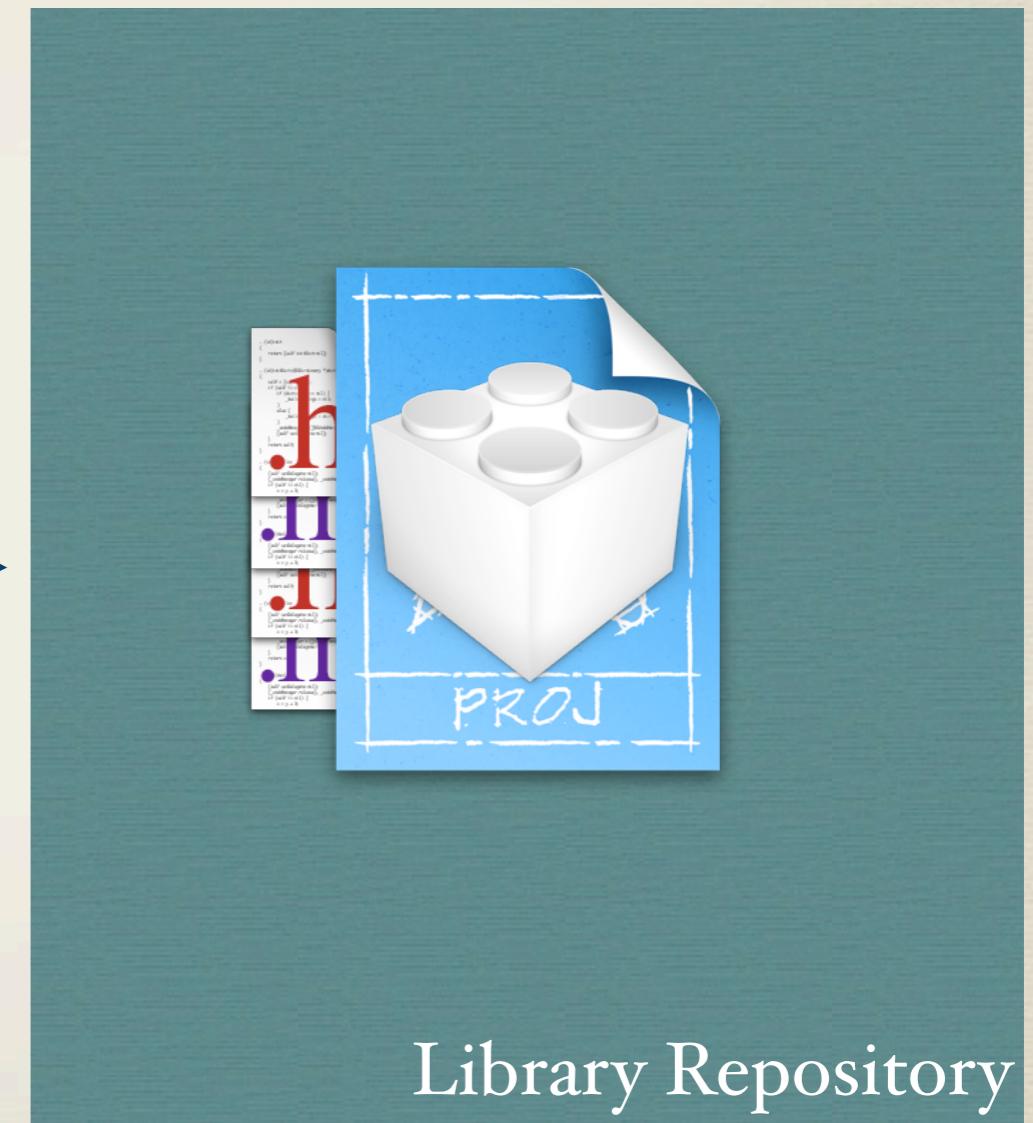
Add classes to the static library target

Link the library into the app project

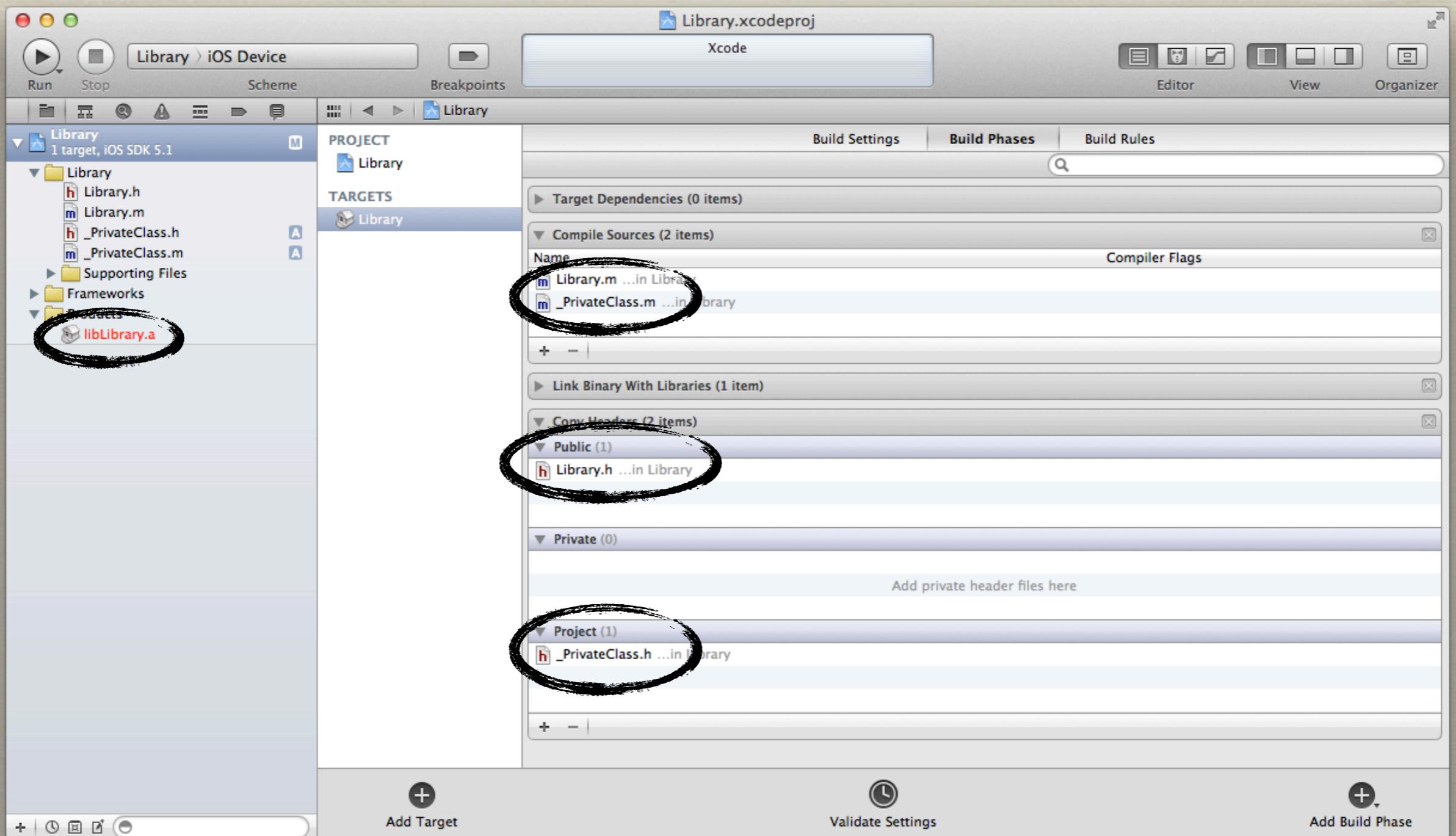
# Static Libraries

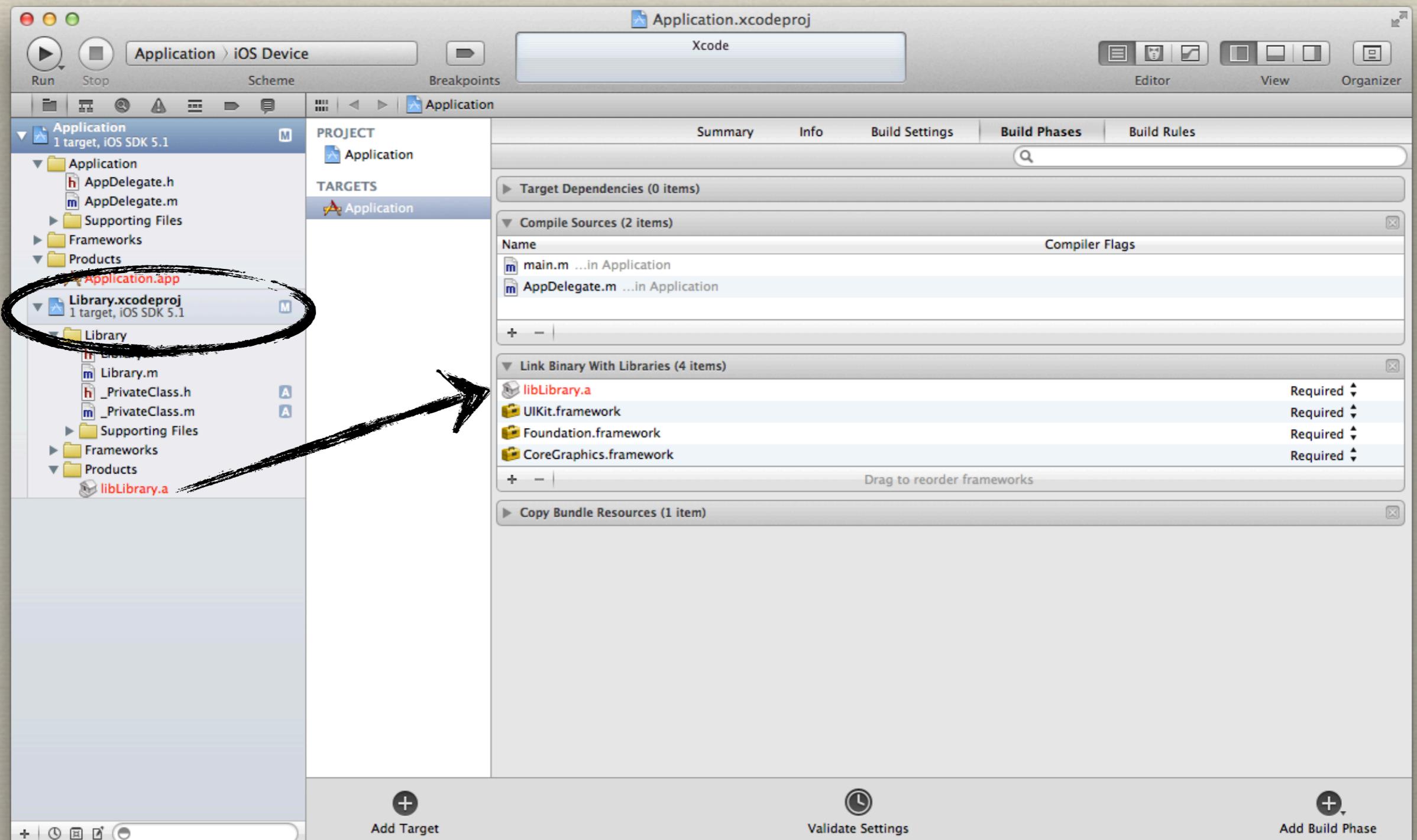


Project Repository

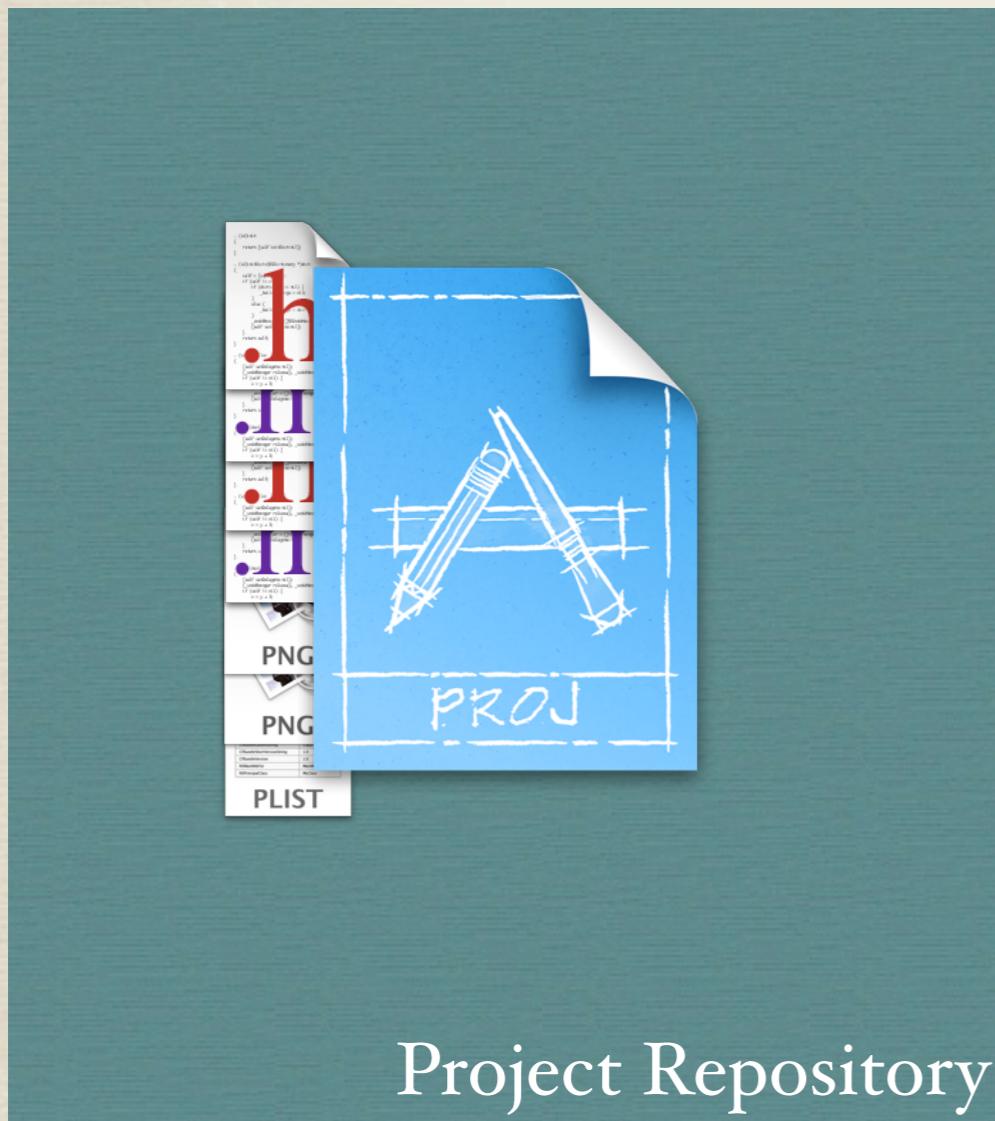


Library Repository

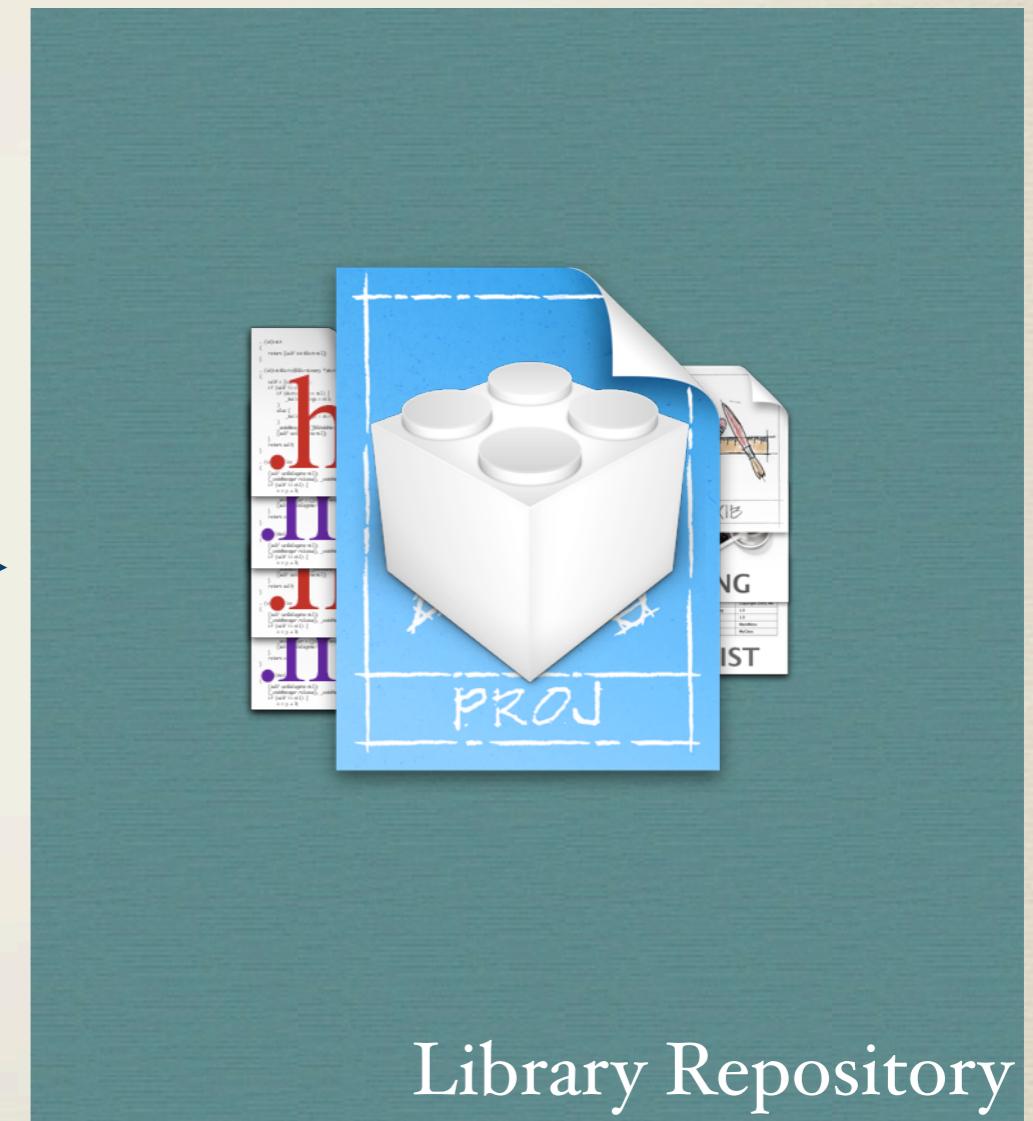




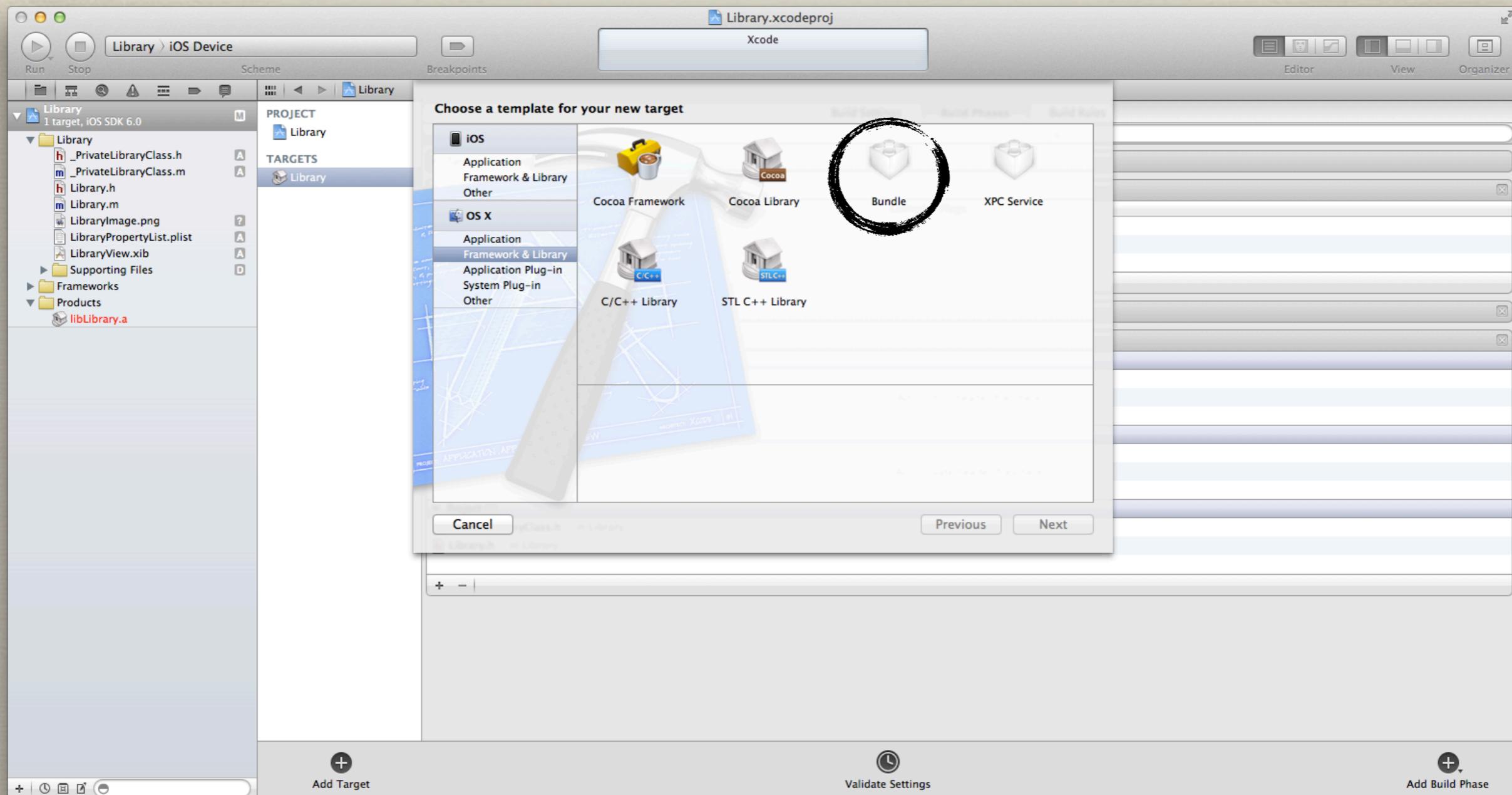
# Static Libraries

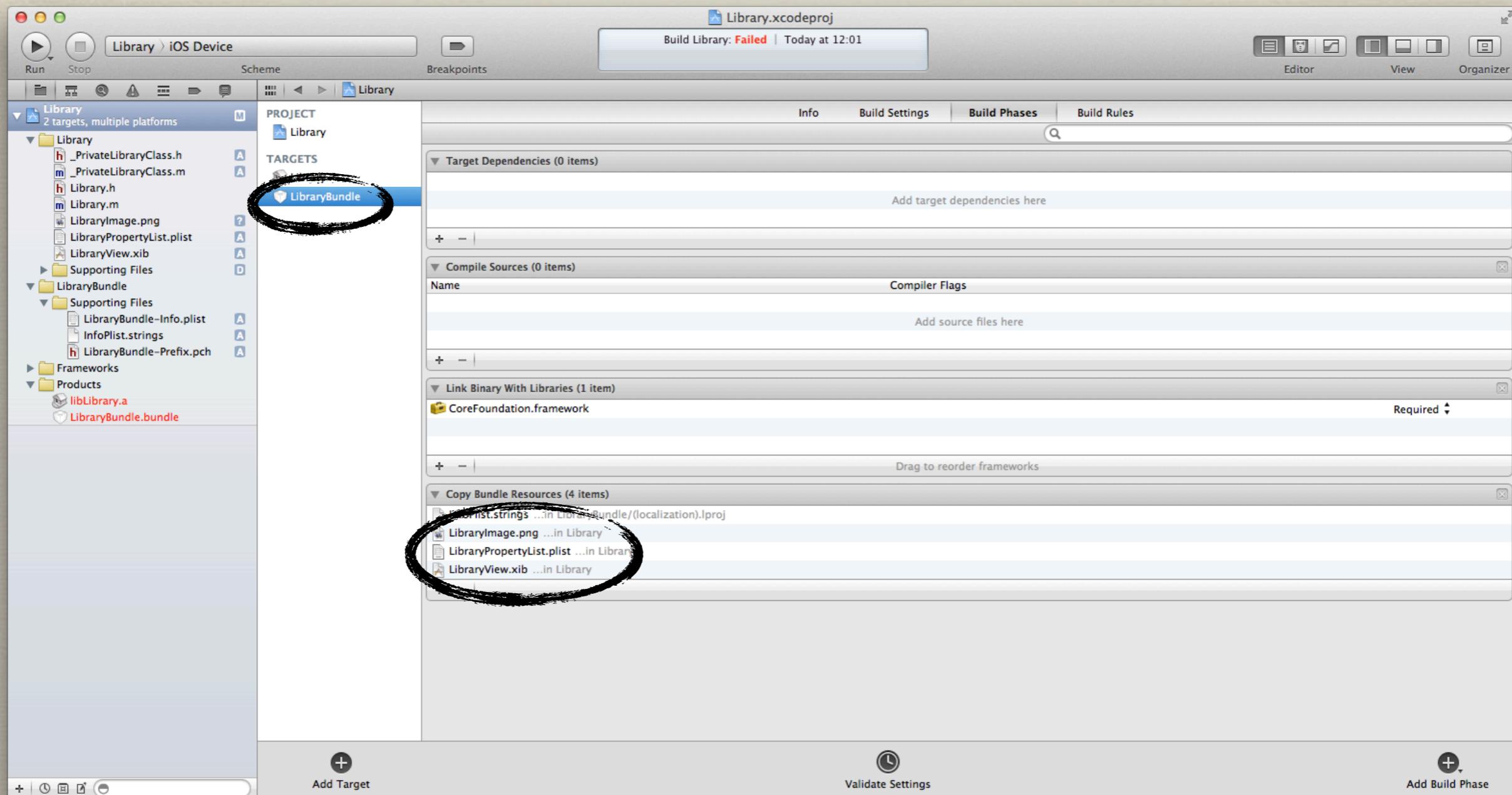


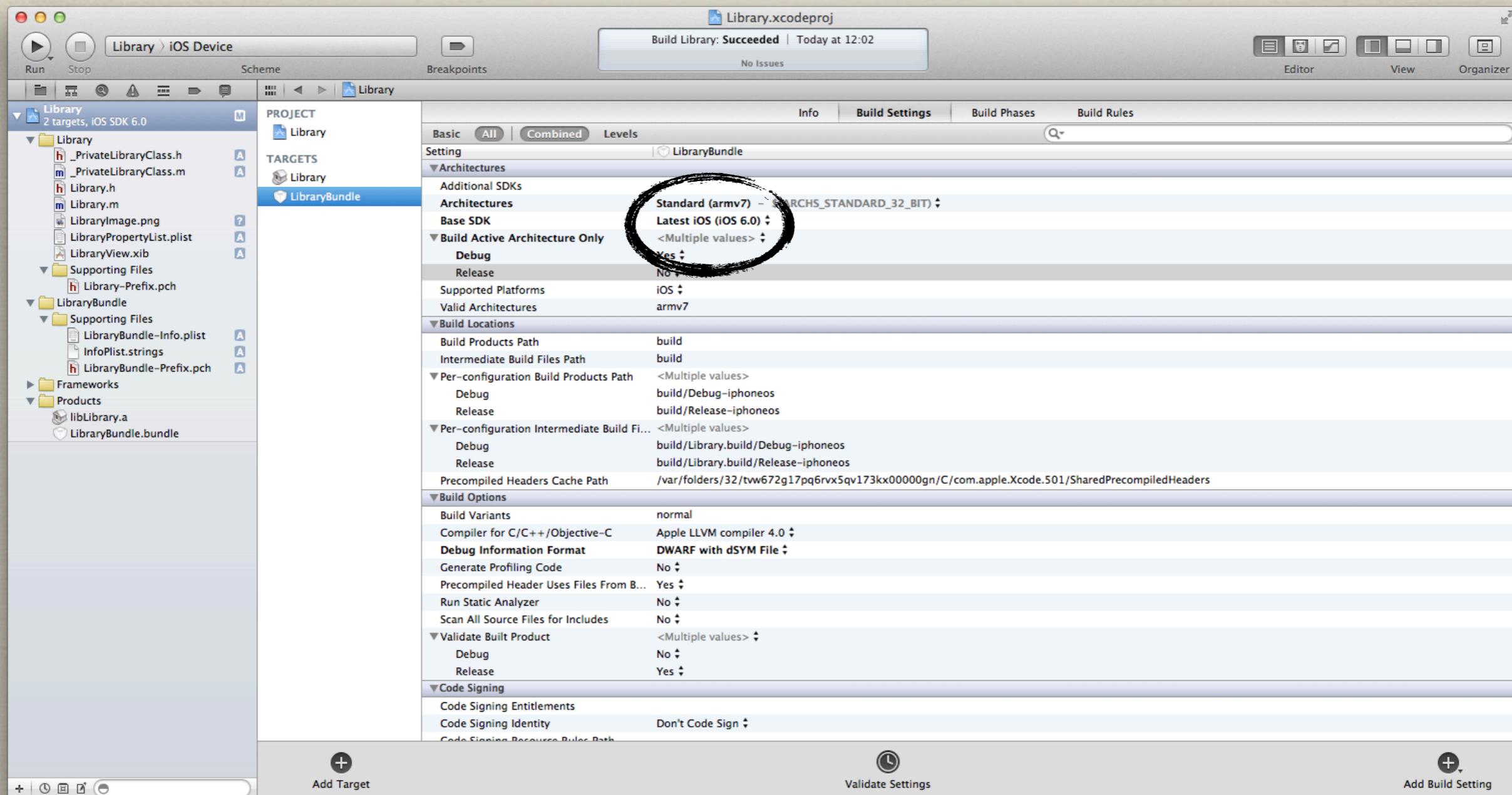
Project Repository

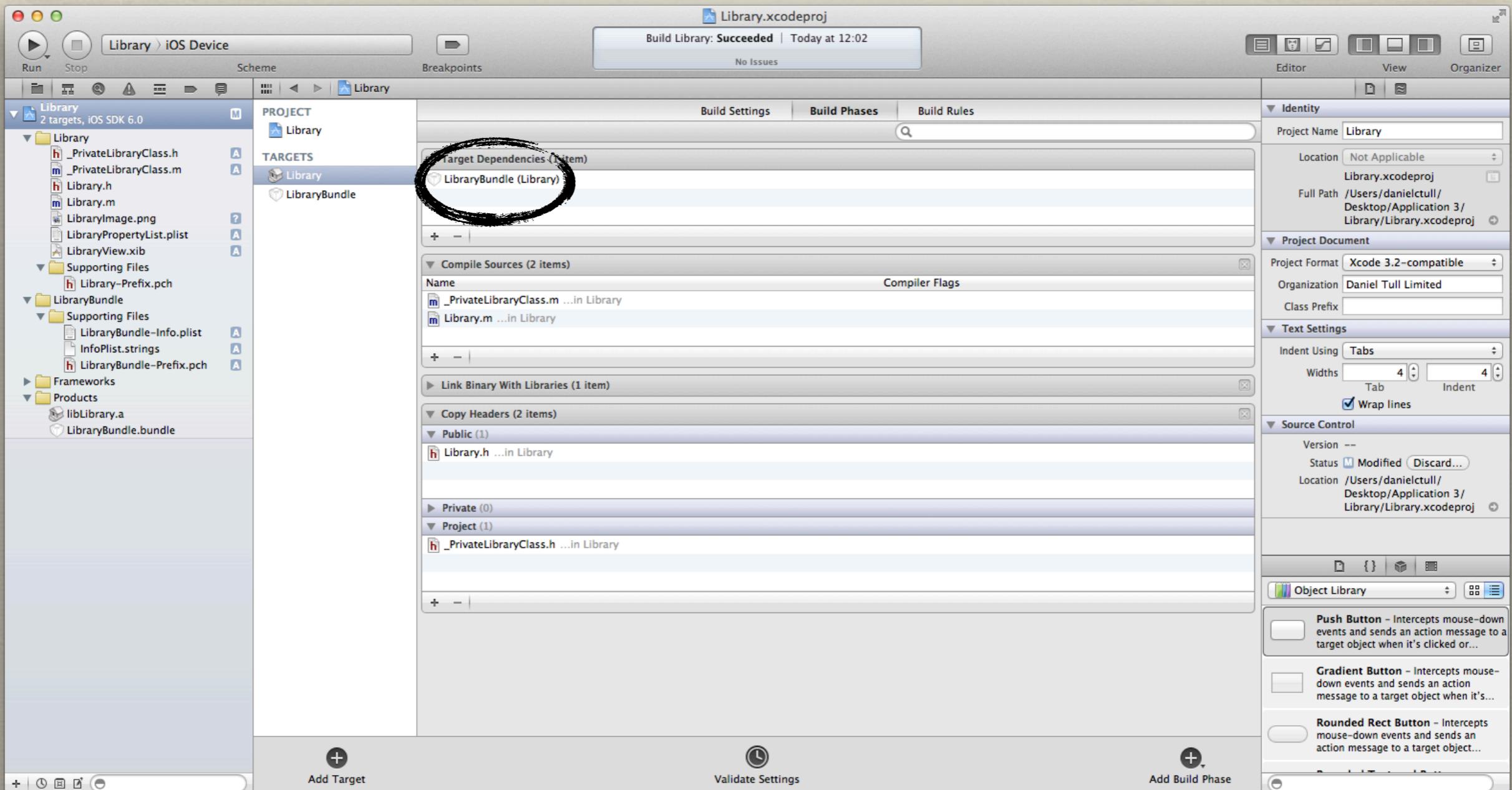


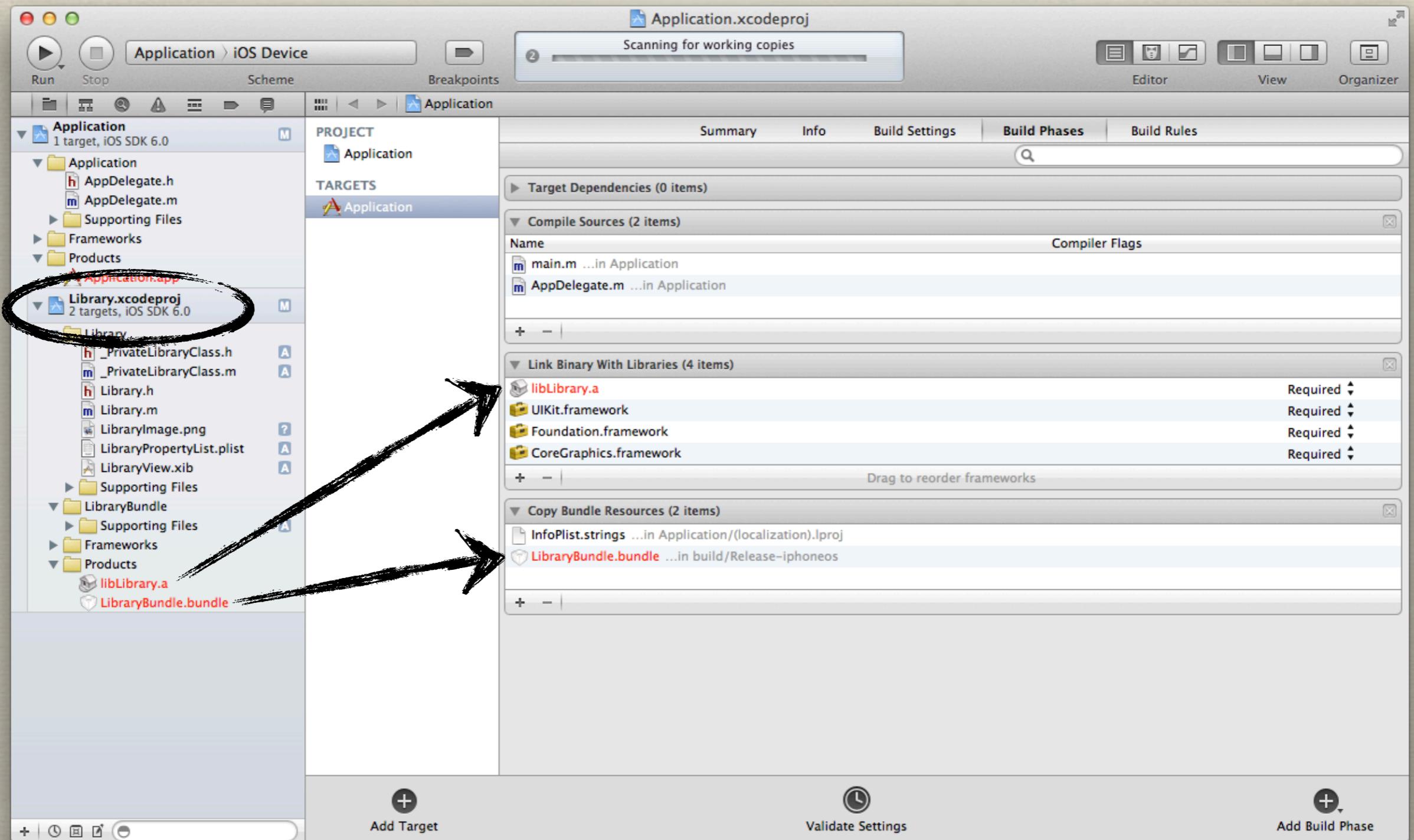
Library Repository











# Static Libraries

```
+ (NSBundle *)bundle {

    NSFileManager *fm = [NSFileManager new];
    NSURL *mainBundleURL = [[NSBundle mainBundle] bundleURL];
    NSDirectoryEnumerator *enumerator = [fm enumeratorAtURL:mainBundleURL
                                                includingPropertiesForKeys:nil
                                                options:NSDirectoryEnumerationSkipsHiddenFiles
                                                errorHandler:NULL];

    for (NSURL *URL in enumerator)
        if ([[URL lastPathComponent] isEqualToString:@"LibraryBundle.bundle"])
            return [NSBundle bundleWithURL:URL];

    return nil;
}
```

# Static Libraries

- ✓ New files will be pulled in
- ✓ Guaranteed to work with ARC **and** MRR
- ✓ Library unit tests are run when you build the app
- ✓ Warnings are contained to library target
- ✓ Private classes are hidden

# Static Libraries

- ✗ A little overhead to set up
- ✗ Recursive dependencies can be a little tricky

# CocoaPods

# CocoaPods

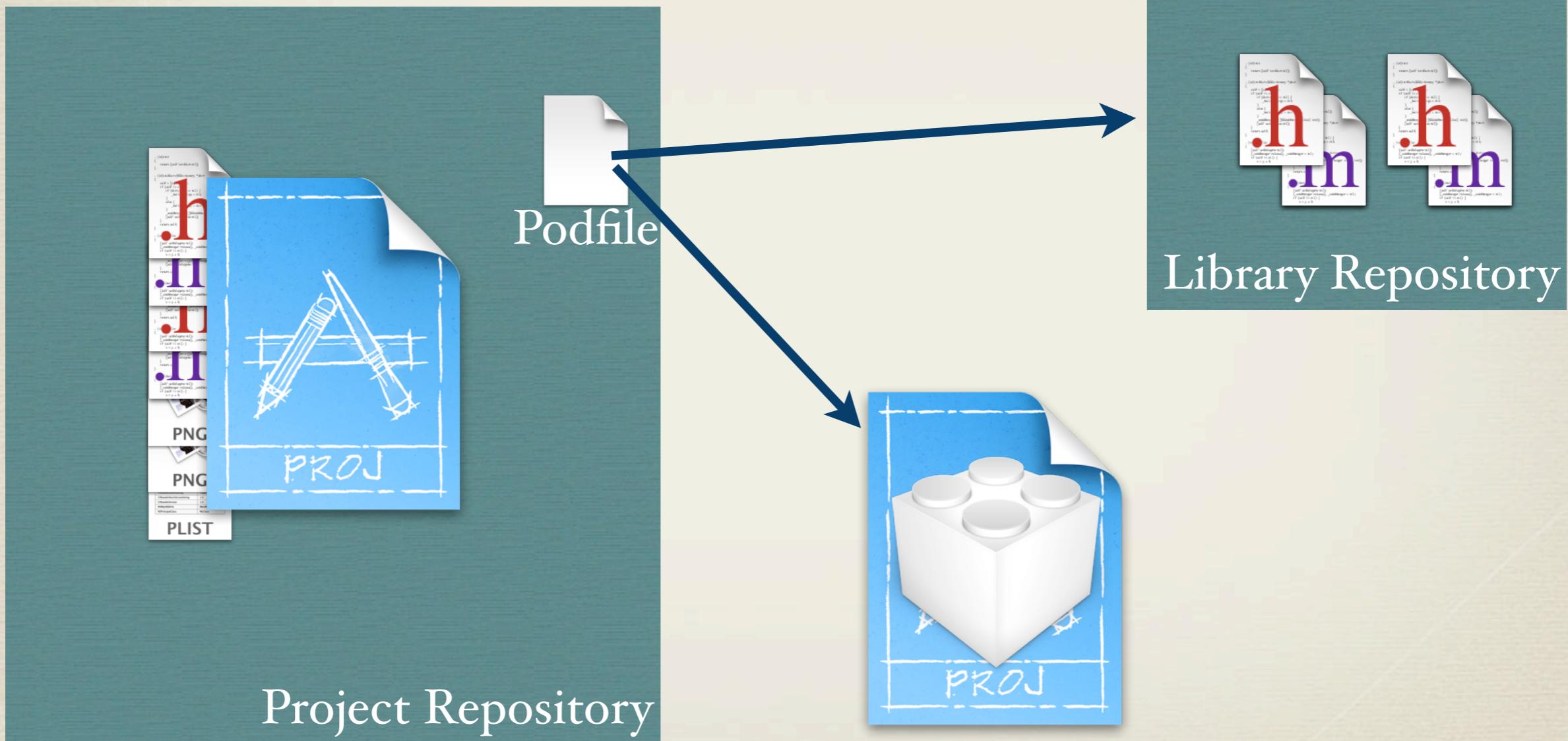
Install CocoaPods

Create a Podfile to specify the libraries

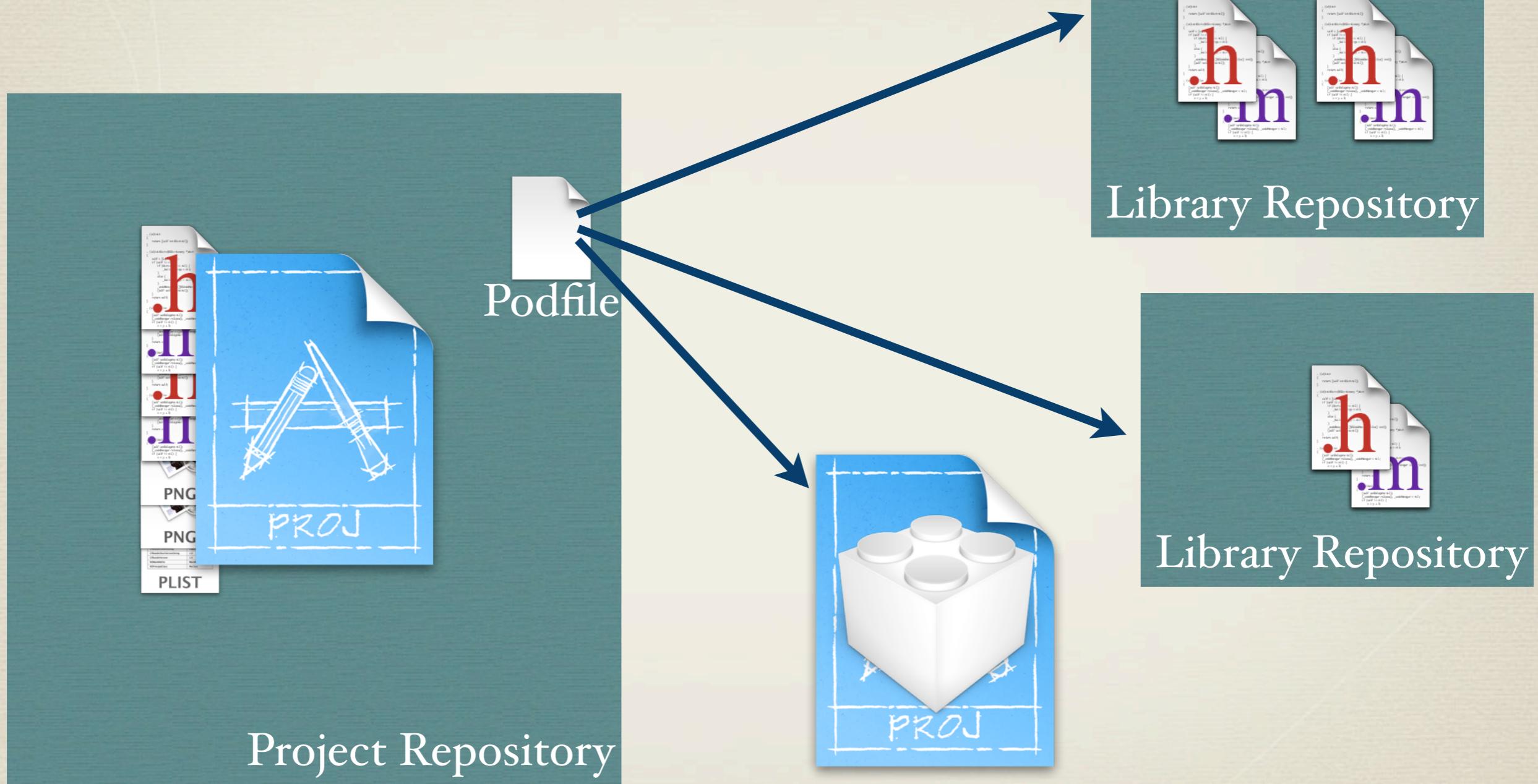
Run cocoapods

Use the created workspace instead of your app project

# CocoaPods



# CocoaPods



# CocoaPods

- ✓ Independent of version control
- ✓ Link to mercurial repositories from git
- ✓ Handles dependencies
- ✓ Warnings are contained to CocoaPods static library target

# CocoaPods

- ✗ Complex to setup
- ✗ Requires knowledge of Ruby
- ✗ All members need CocoaPods to build and run app
- ✗ Unit tests likely not brought in with library code

	Drag and Drop	Static Library	CocoaPods
Contained warnings	✗	✓	✓
Build with unit tests	✗	✓	✗
Build upon clone	✓	✓	✗
VCS independent	✗	✗	✓
Dependencies	✗	✗	✓
Hidden classes	✗	✓	✗
File handling	✗	✓	✓
Resources	✓	✗ ( ✓ )	✓

[github.com/danielctull/DCTConnectionController/tree/develop](https://github.com/danielctull/DCTConnectionController/tree/develop)

[github.com/danielctull/DCTImageSizing](https://github.com/danielctull/DCTImageSizing)

[github.com/danielctull/DCTCoreDataStack](https://github.com/danielctull/DCTCoreDataStack)

[github.com/danielctull/DCTNetworkActivityIndicatorController](https://github.com/danielctull/DCTNetworkActivityIndicatorController)

[github.com/danielctull/DCTTextFieldValidator](https://github.com/danielctull/DCTTextFieldValidator)

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