iPhone App Dev

Lesson 5

Source Codes

https://github.com/makzan/ios-dev-course-example-2013

Contact

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Exercise

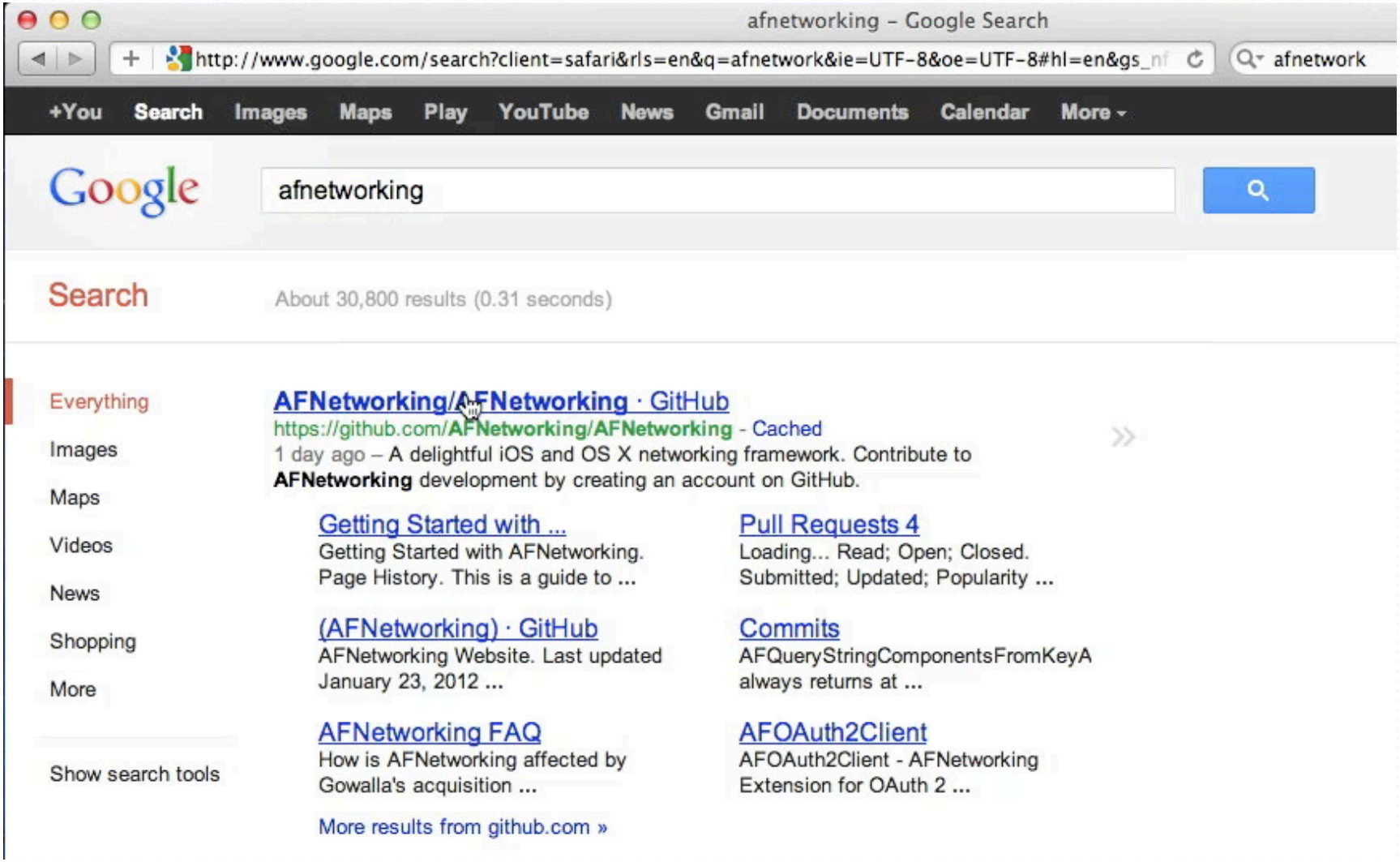
- What app are you developing?
- Any ideas worth discussing?
- Any great app design worth sharing?

Summary

- Loading network image with AFNetworking
- Introducing Category
- Declaring Category methods
- Querying Facebook profile pic
- Accessing NSDictionary
- UIScrollView
- Arranging Elements with UIScrollView

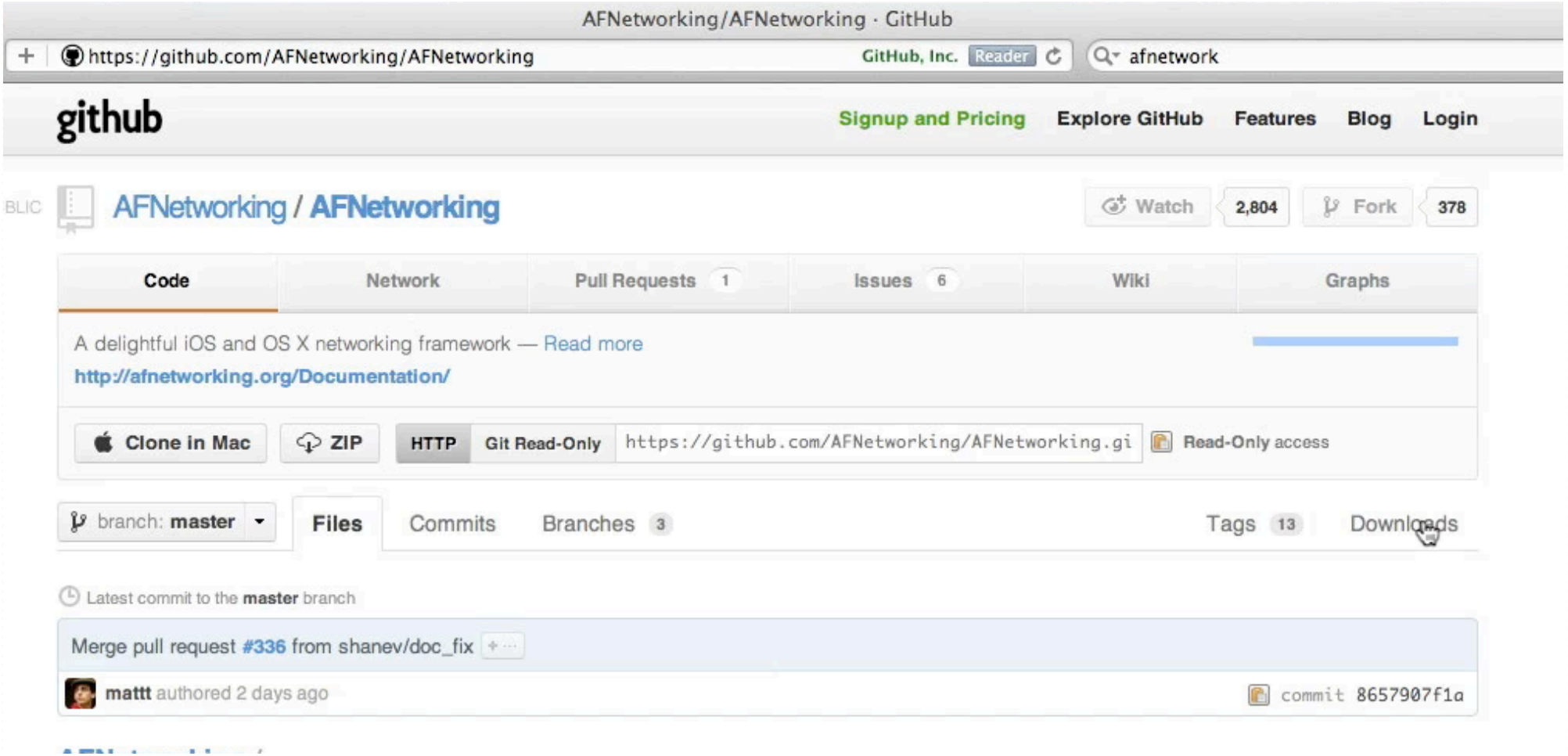
Loading Network Image with AFNetworking

Including AFNetworking



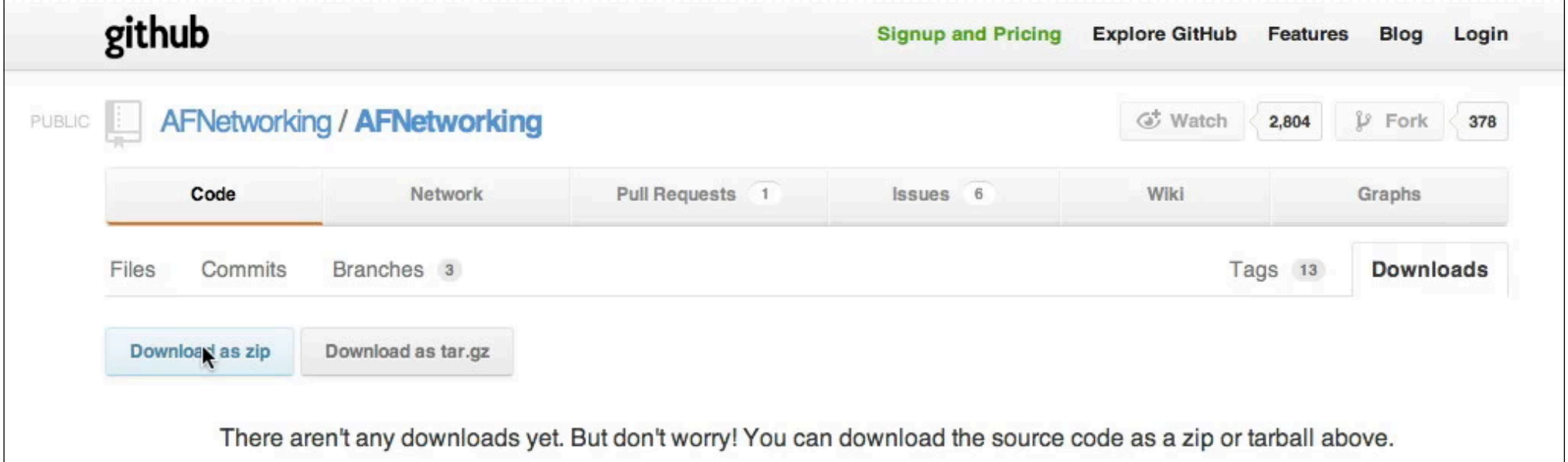
Search the **AFNetworking** code in github.

Including AFNetworking



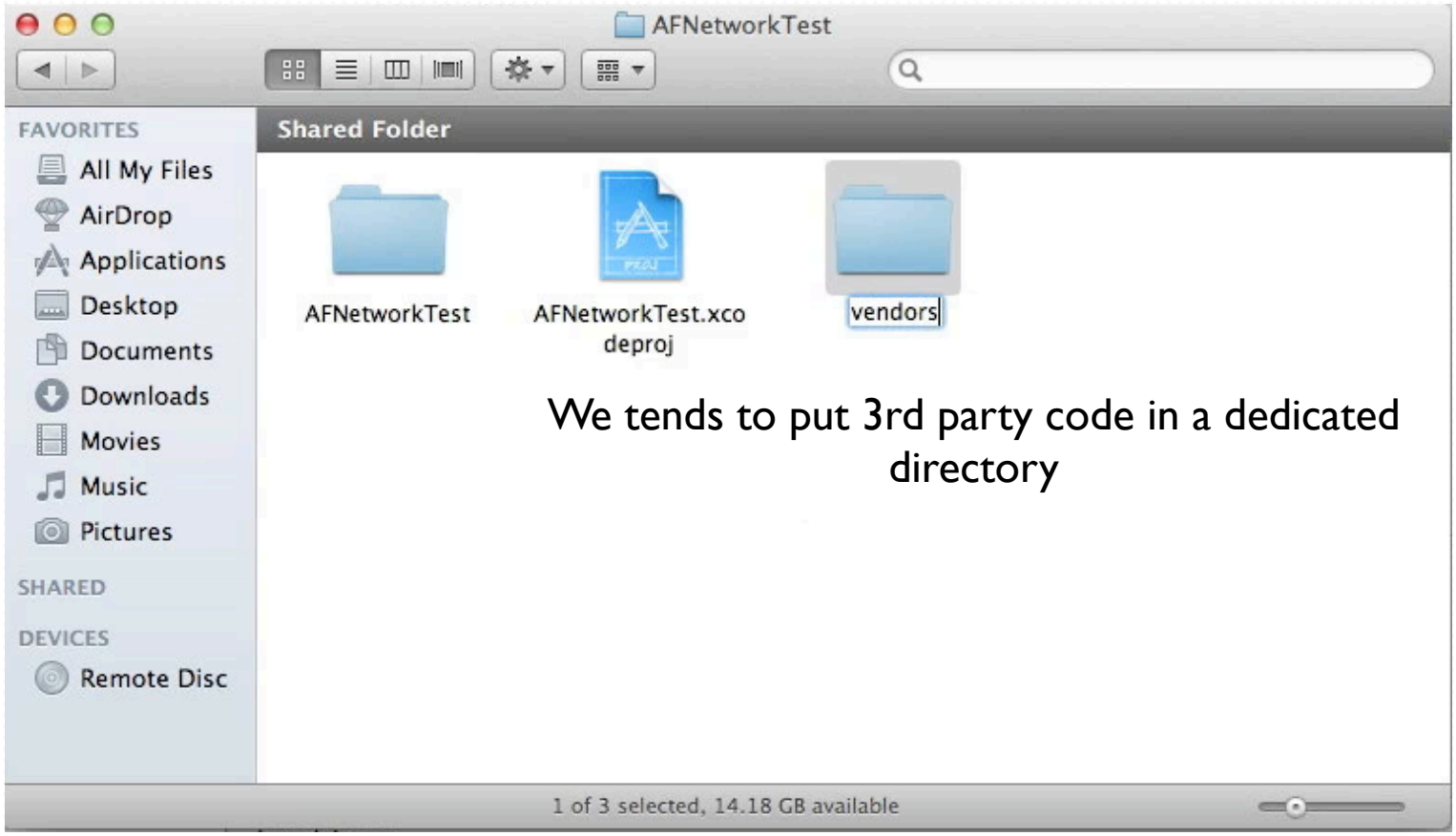
Click in the download button

Including AFNetworking



Download the code in either zip or tar

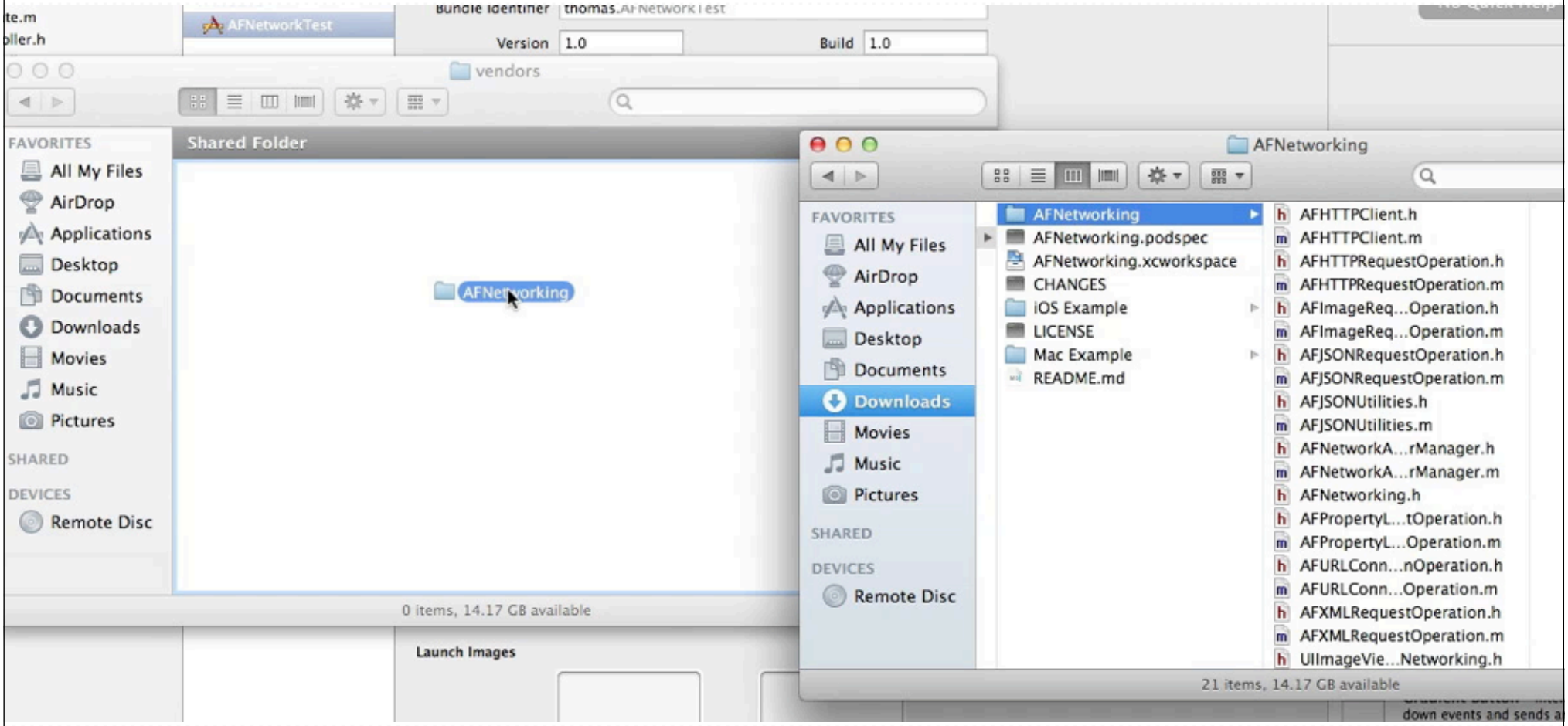
Including AFNetworking



We tends to put 3rd party code in a dedicated directory

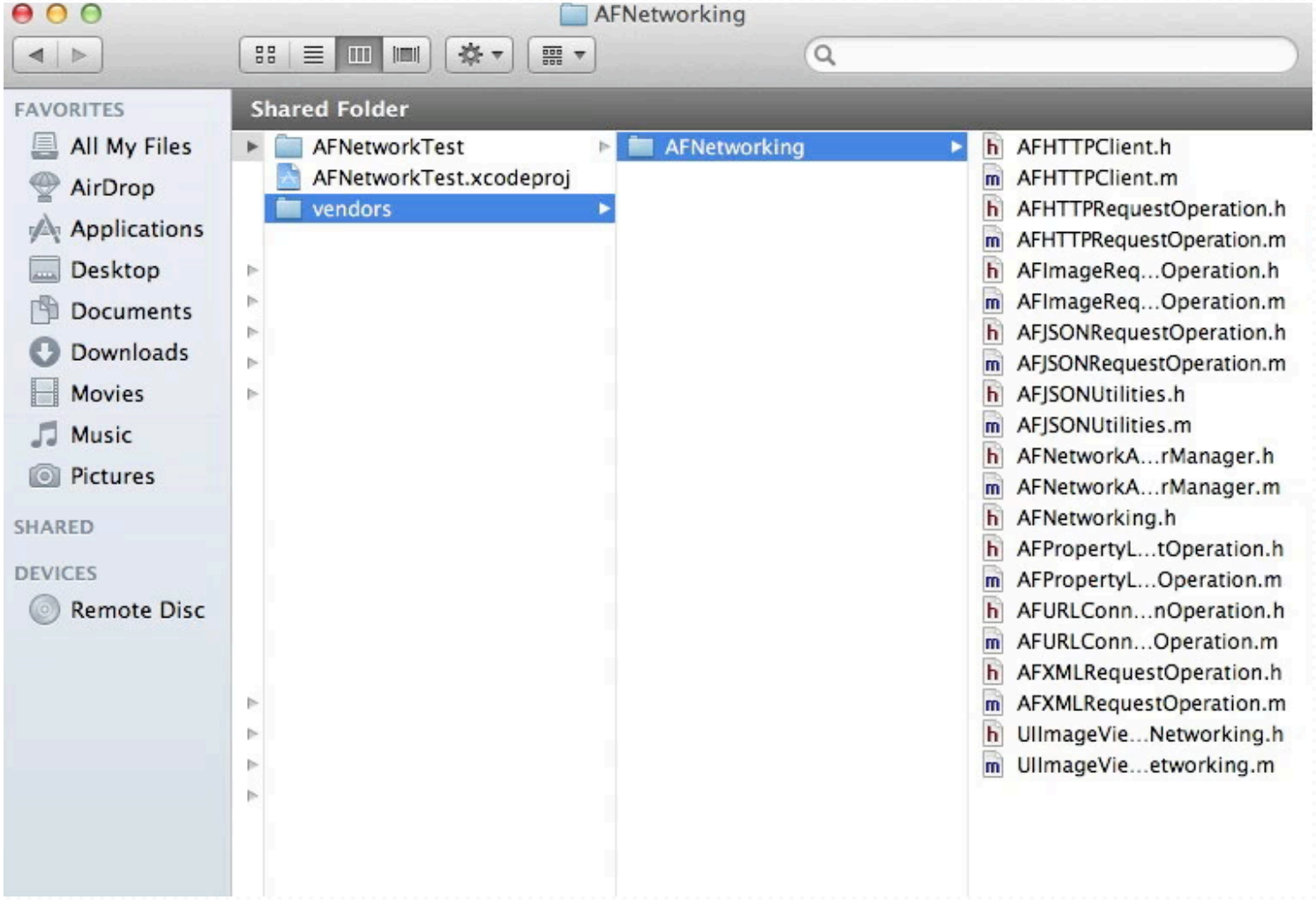
Prepare a folder named vendors for 3rd party code

Including AFNetworking



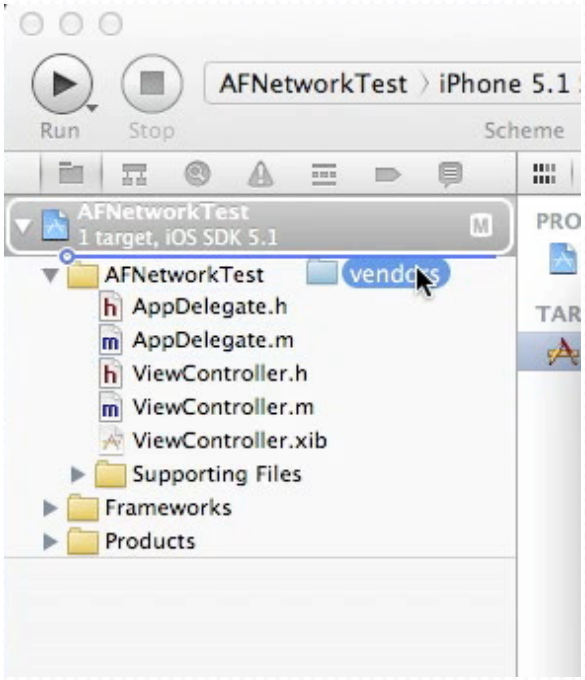
Put the AFNeteorking source code into vendors

Including AFNetworking



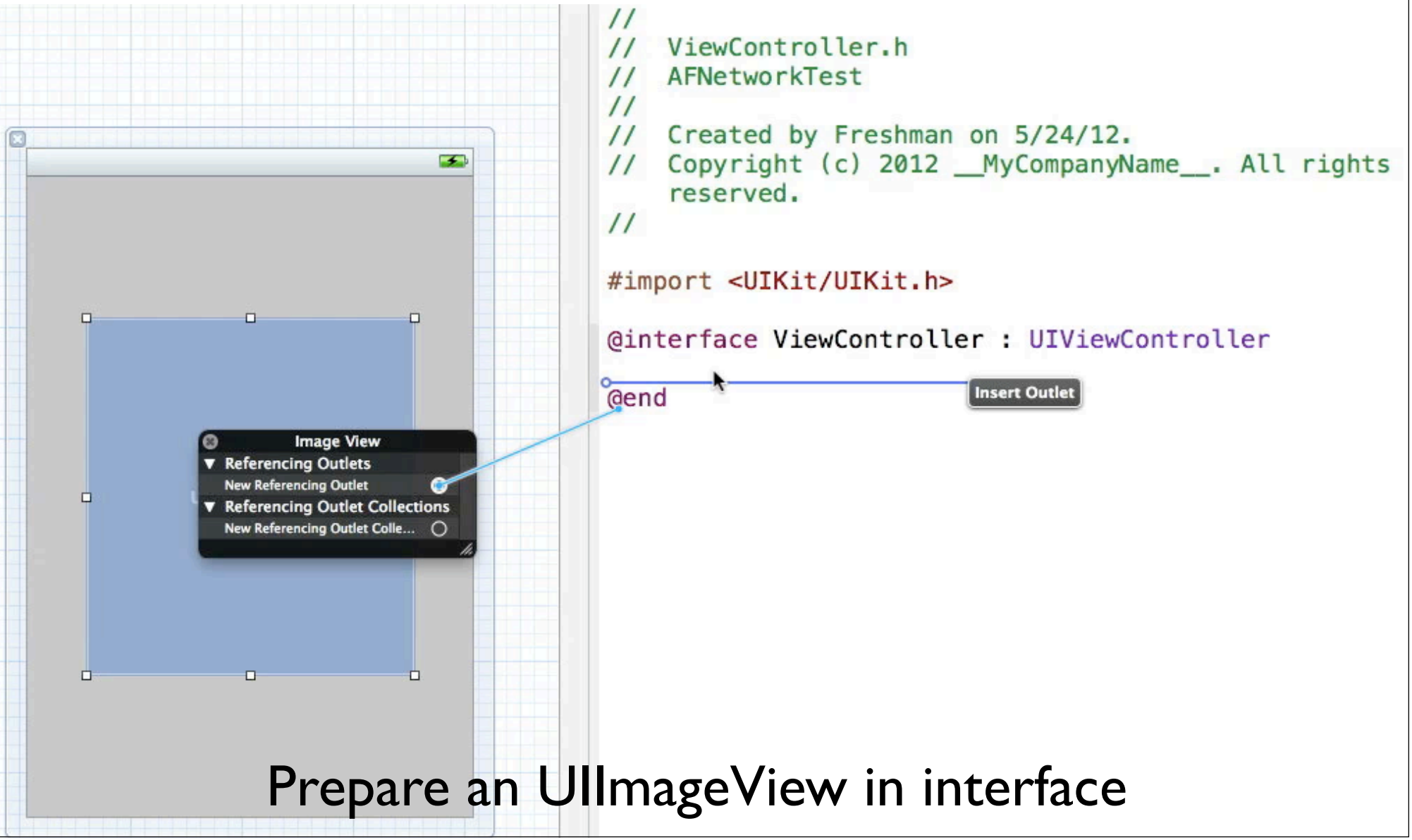
This is what our vendors folder looks like

Including AFNetworking



Add the vendors to XCode project tree

Loading Network Images



Prepare an UIImageView in interface

Loading Network Images

```
#import <UIKit/UIKit.h>

@interface ViewController : UIViewController
@property (retain, nonatomic) IBOutlet UIImageView *
    networkImageView;

@end
```

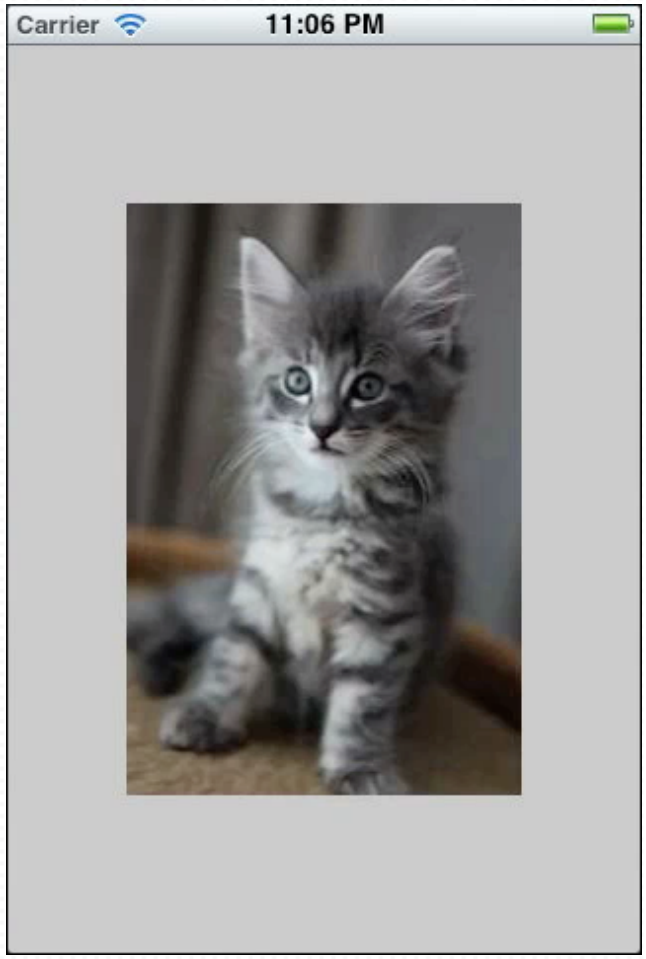
In this example, we named it networkImageView

Loading Network Images

```objc
#import "ViewController.h"

#import "UIImageView+AFNetworking.h"

@interface ViewController ()

@end

@implementation ViewController
@synthesize networkImageView;

- (void)viewDidLoad
{
    [super viewDidLoad];
   // Do any additional setup after loading the view, typically from a nib.

    NSURL *imageURL = [NSURL URLWithString:@"http://placekitten.com/200/300"];
    [networkImageView setImageWithURL:imageURL];
}
```

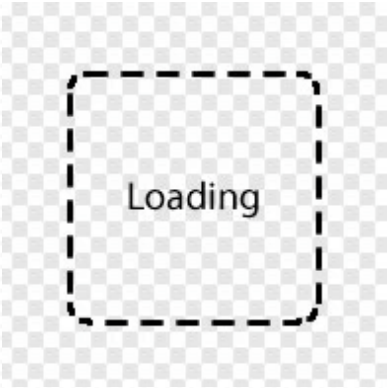
Import the UIImage+Network.h and set the image URL

Loading Network Images



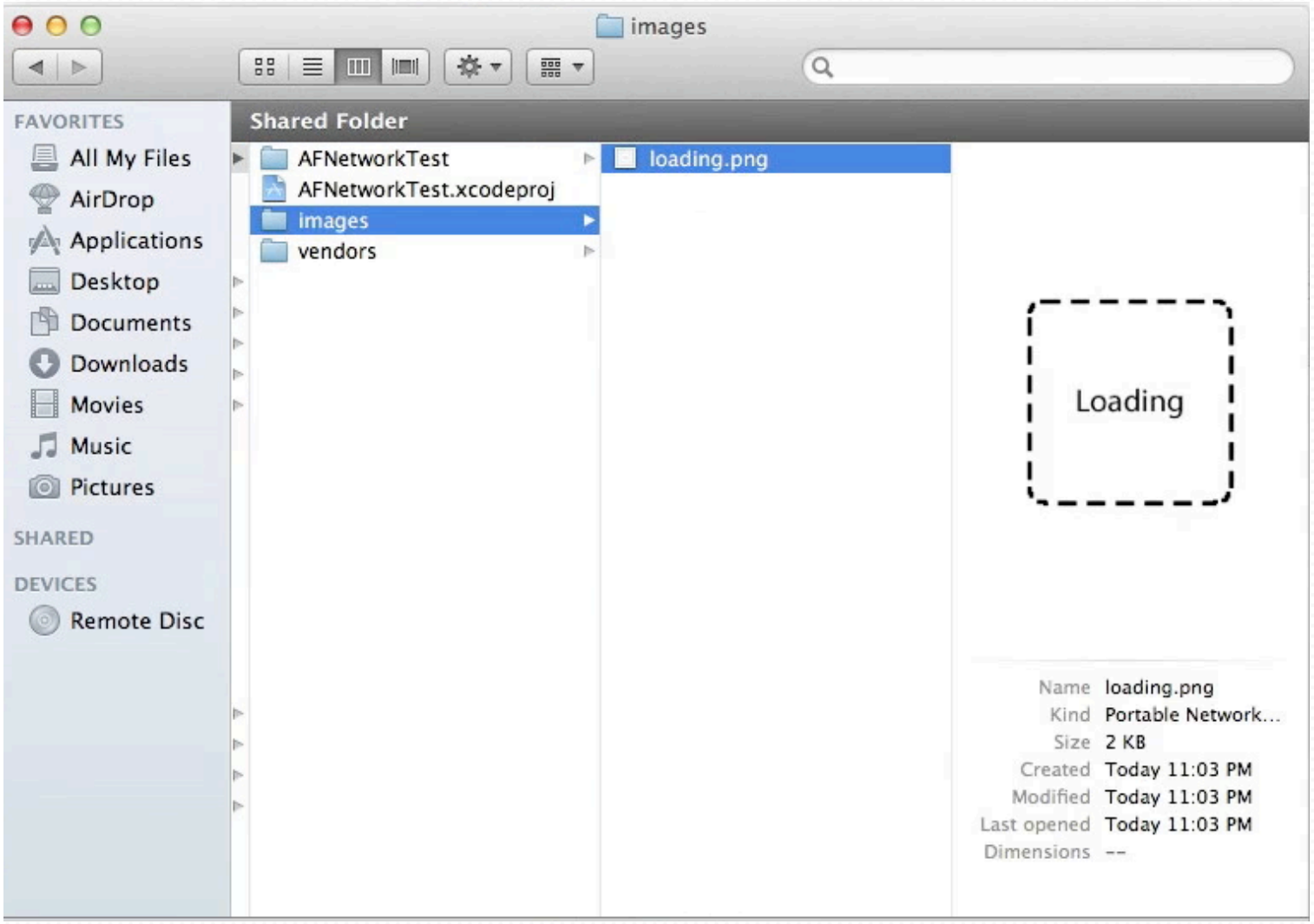
Run it in simulator and we get the image from network.

Loading Placeholder



Prepare an image to show before the target image is loaded

Loading Placeholder



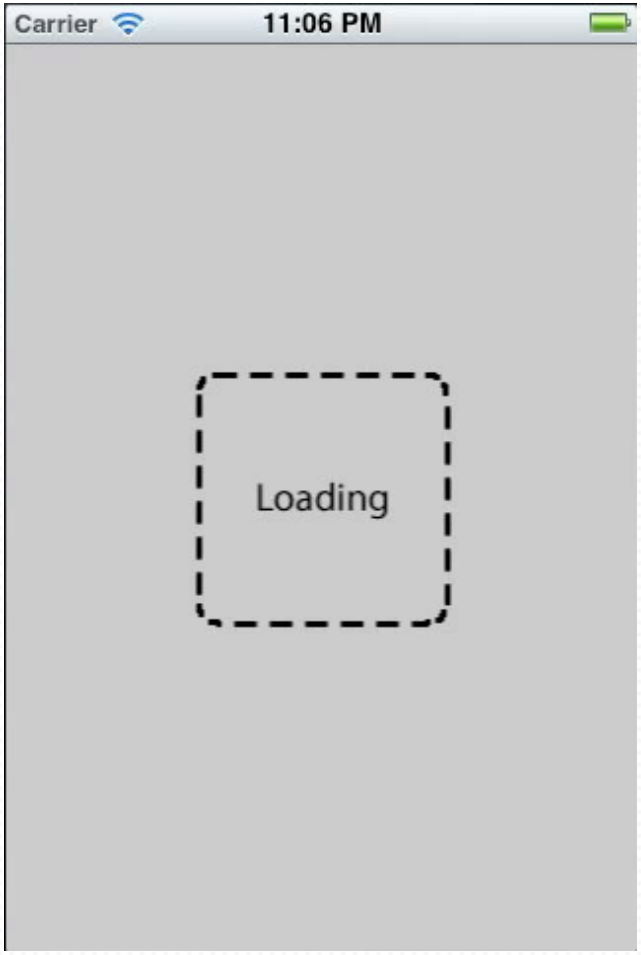
Put the placeholder image into project

Loading Placeholder

```
- (void)viewDidLoad
{
    [super viewDidLoad];
   // Do any additional setup after loading the view, typically from a nib.

    NSURL *imageURL = [NSURL URLWithString:@"http://placekitten.com/200/300"];
    [networkImageView setImageWithURL:imageURL placeholderImage:[UIImage imageNamed:@"loading.png"]];
}
```

Modify the network image code with placeholder option

Loading Placeholder



The placeholder show up before the image loaded in simulator.

Introducing Category

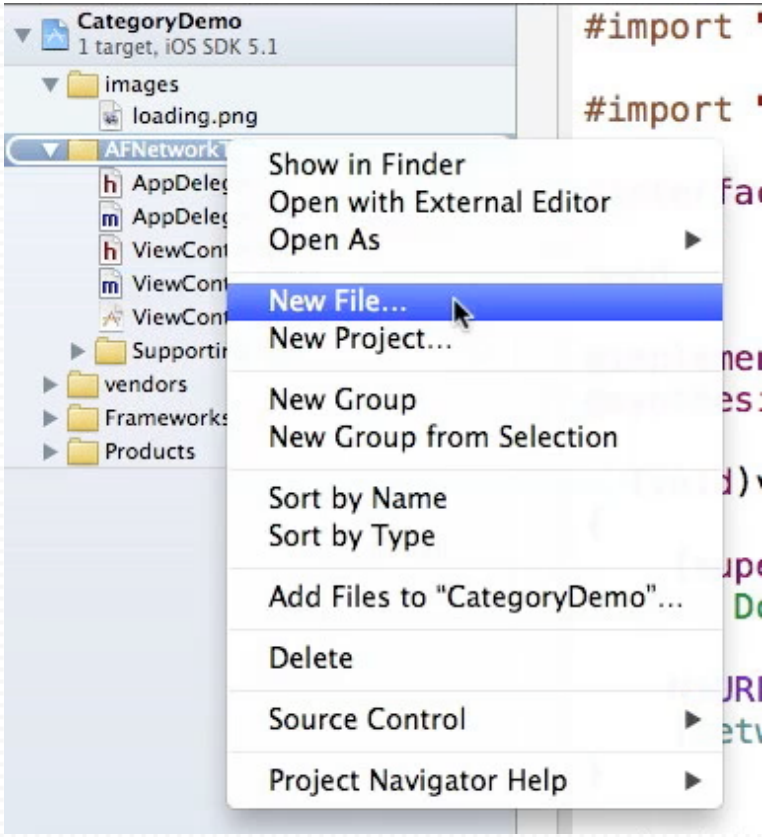
What is Category

- It adds methods behaviors to Class at Run Time
- It is usually named in following format:

  UIView+Position
- and the interface and implementation is

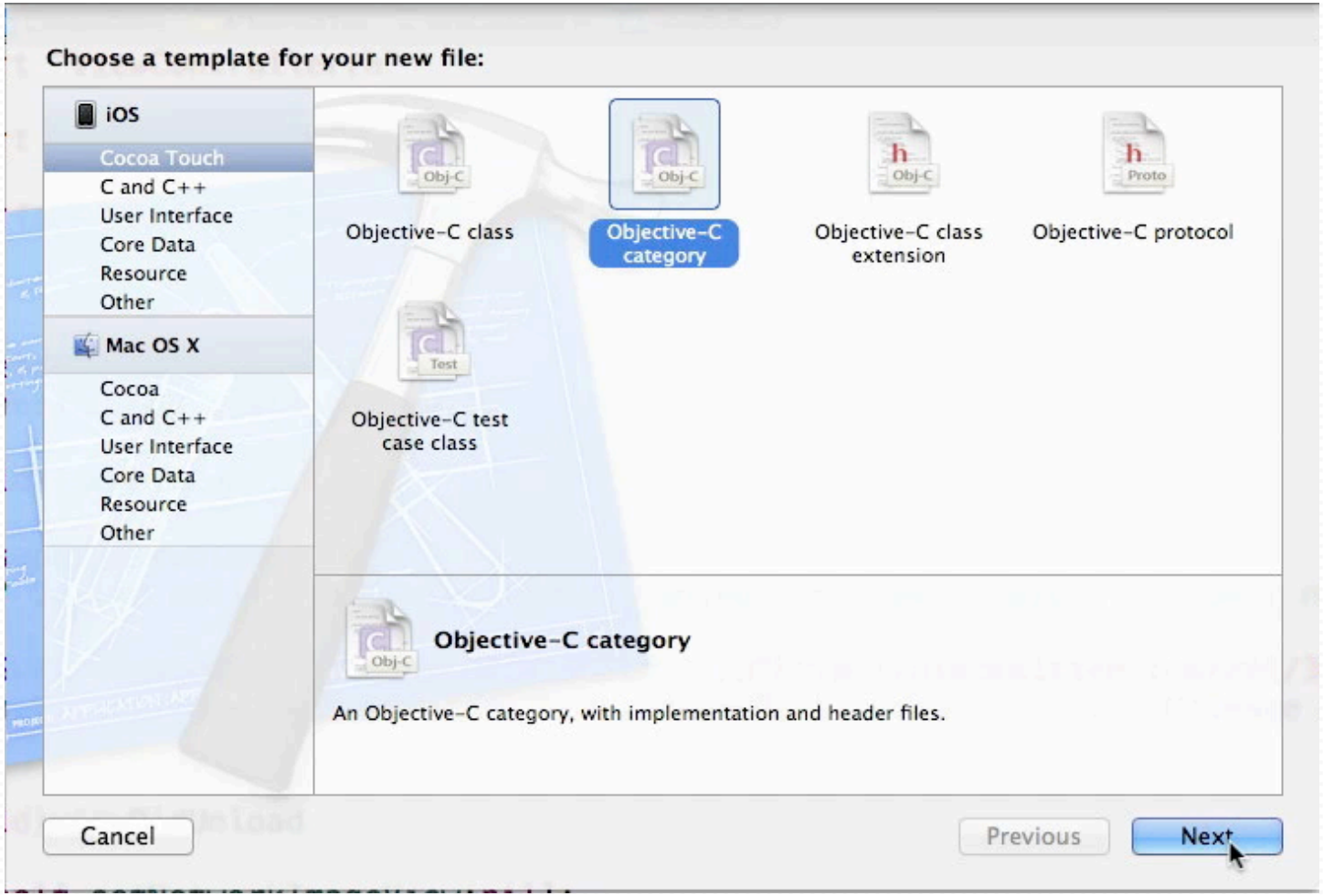
  @interface UIView (Position)
-

Category Example



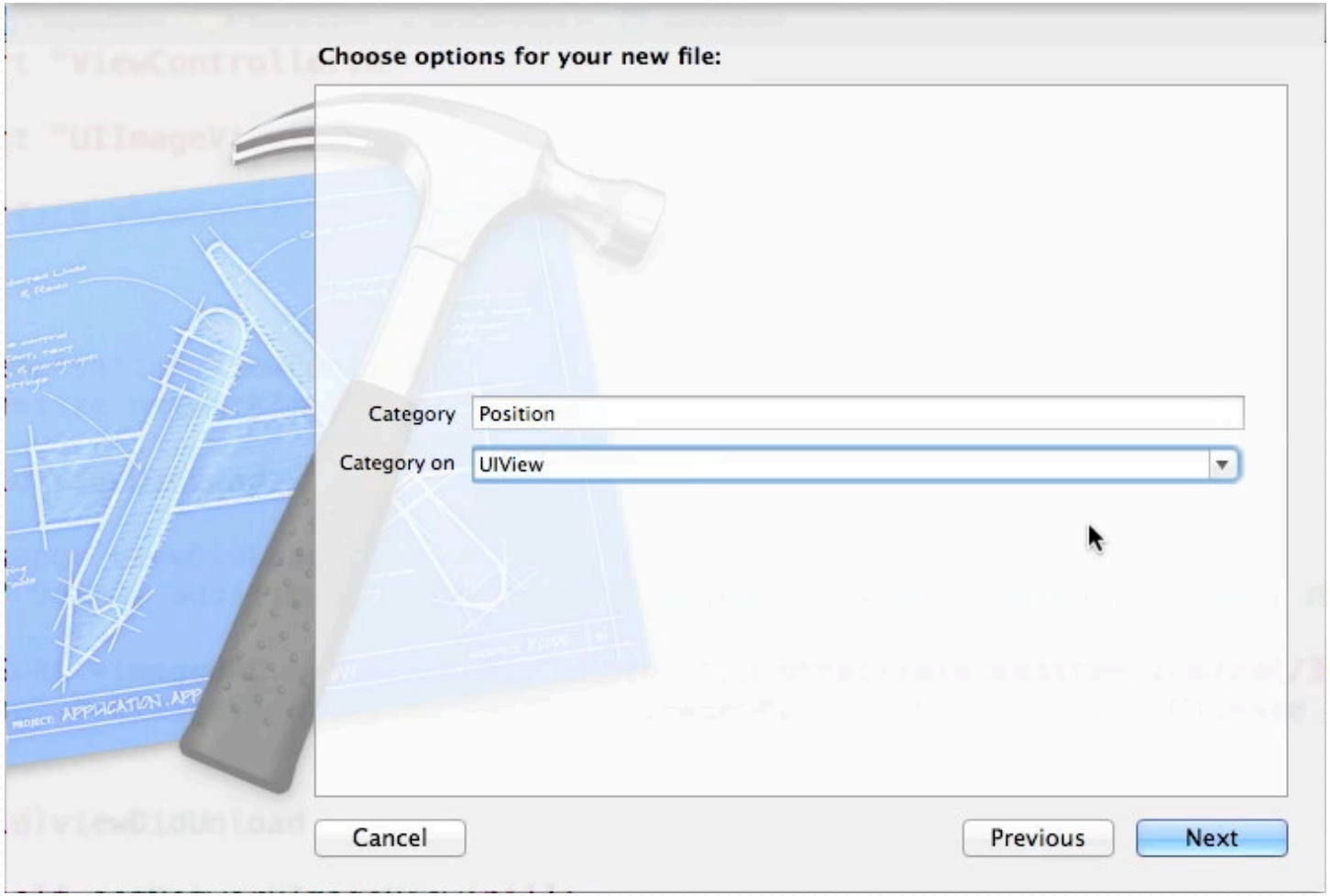
Create a new file in project

Category Example



Choose Category file

Category Example



Name the category Position on class UIView

Category Example

```
//
//  UIView+Position.m
//  CategoryDemo
//
//  Created by Freshman on 5/24/12.
//  Copyright (c) 2012 __MyCompanyName__. All
    rights reserved.
//

#import "UIView+Position.h"

@implementation UIView (Position)

- (void)setX:(float)x andY:(float)y
{
    CGRect frame = self.frame;
    frame.origin.x = x;
    frame.origin.y = y;
    self.frame = frame;
}

@end
```

```
//
//  UIView+Position.h
//  CategoryDemo
//
//  Created by Freshman on 5/24/12.
//  Copyright (c) 2012 __MyCompanyName__. All
    rights reserved.
//

#import <UIKit/UIKit.h>

@interface UIView (Position)

// set the position of the UIView to (x,y)
- (void)setX:(float)x andY:(float)y;

@end
```

Put above code in the category files

Category Example

```
#import "UIImageView+AFNetworking.h"
#import "UIView+Position.h"
```

Back to ViewController class and import our category

Category Example

```
- (void)viewDidLoad
{
    [super viewDidLoad];
    // Do any additional setup after loading the view, typically from a nib.

    NSURL *imageURL = [NSURL URLWithString:@"http://placekitten.com/200/300"];
    [networkImageView setImageWithURL:imageURL placeholderImage:[UIImage imageNamed:@"loading.png"]];


    [networkImageView setX:0 andY:0];
}
```

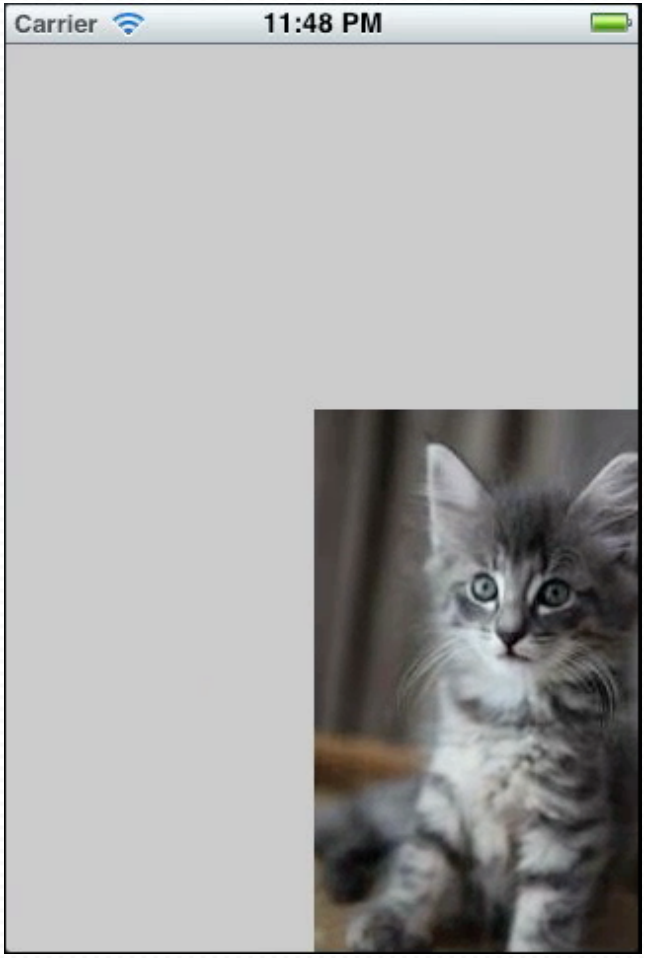
Add our defined UIView position method

Category Example

```
- (void)viewDidLoad
{
    [super viewDidLoad];
    // Do any additional setup after loading the view, typically from a nib.

    NSURL *imageURL = [NSURL URLWithString:@"http://placekitten.com/200/300"];
    [networkImageView setImageWithURL:imageURL placeholderImage:[UIImage imageNamed:@"loading.png"]];

    [networkImageView setX:0 andY:0];

    [UIView animateWithDuration:5 animations:^{
        [networkImageView setX:320 andY:480];
    }];
}
```

It's boring. Let's animate it with animate method

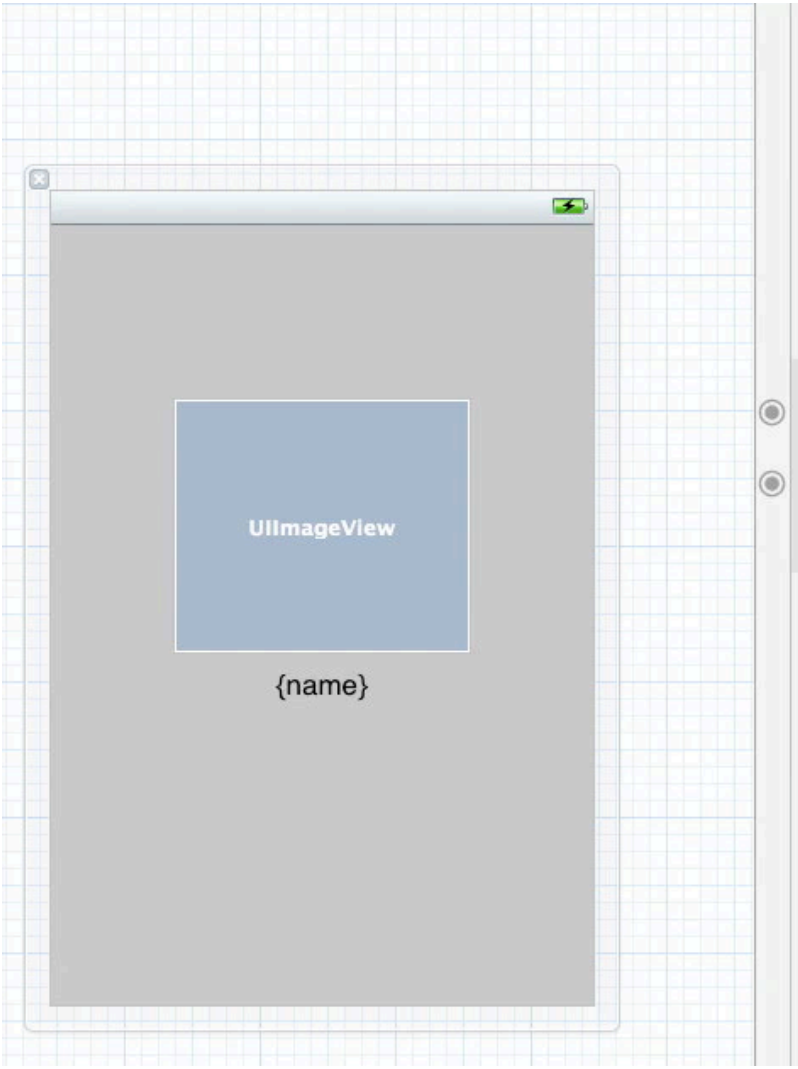
Category Example



The result with the cat moving from top left to bottom right

Querying Facebook Profile Picture

Loading FB Profile Pic




```
//
//  ViewController.h
//  AFNetworkTest
//
//  Created by Freshman on 5/24/12.
//  Copyright (c) 2012 __MyCompanyName__. All rights reserve
//

#import <UIKit/UIKit.h>

@interface ViewController : UIViewController
@property (retain, nonatomic) IBOutlet UIImageView *
    networkImageView;
@property (retain, nonatomic) IBOutlet UILabel *nameLabel;

@end
```

Add a label in interface

Loading FB Profile Pic

```
- (void)viewDidLoad
{
    [super viewDidLoad];
    // Do any additional setup after loading the view, typically from a nib.

    NSURL *imageURL = [NSURL URLWithString:@"http://graph.facebook.com/makzan/picture?type=large"];
    [networkImageView setImageWithURL:imageURL placeholderImage:[UIImage imageNamed:@"loading.png"]];


}
```

Change the image URL to your profile pic. Done.

Facebook Graph API

Loading JSON

```
[super viewDidLoad];
// Do any additional setup after loading the view, typically from a nib.

NSURL *imageURL = [NSURL URLWithString:@"http://graph.facebook.com/makzan/picture?type=large"];
[networkImageView setImageWithURL:imageURL placeholderImage:[UIImage imageNamed:@"loading.png"]];

NSURL *url = [NSURL URLWithString:@"http://graph.facebook.com/makzan"];
NSURLRequest *request = [NSURLRequest requestWithURL:url];
AFJSONRequestOperation *operation = [AFJSONRequestOperation JSONRequestOperationWithRequest:request success:^(NSURLRequest *
    request, NSHTTPURLResponse *response, id JSON) {
    NSLog(@"Result: %@", JSON);
    nameLabel.text = [JSON objectForKey:@"name"];
} failure:^(NSURLRequest *request, NSHTTPURLResponse *response, NSError *error, id JSON) {
    // Handle error here.
}];

[operation start];
```

We use the AFJSONRequestOperation to query API in JSON format.

Accessing NSDictionary

Accessing NSDictionary

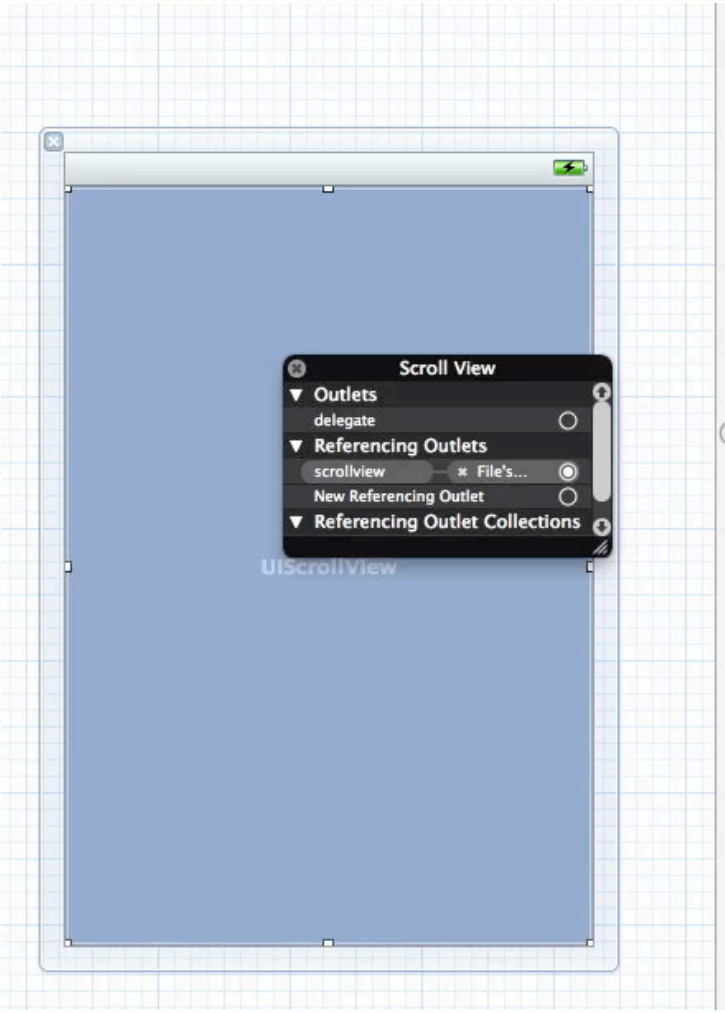
```
// dict is a NSDictionary instance.
[dict objectForKey:@"key"];
```

Accessing NSDictionary

```
// dict is a NSDictionary instance.

[dict setValue:@”John” forKey:@”name”];
```

Using UIScrollView

UIScrollView




```
//
//  ViewController.h
//  AFNetworkTest
//
//  Created by Freshman on 5/24/12.
//  Copyright (c) 2012 __MyCompanyName__. All rights re
//

#import <UIKit/UIKit.h>

@interface ViewController : UIViewController

@property (retain, nonatomic) IBOutlet UIScrollView *
    scrollview;

@end
```

Drag a UIScrollView into view and put it full screen.
Name it scrollview

UIScrollView

```
- (void)viewDidLoad
{
    [super viewDidLoad];
    // Do any additional setup after loading the view, typically from a nib.

    UIImageView *image = [[UIImageView alloc] initWithImage:[UIImage imageNamed:@"320x460.png"]];
    [scrollview addSubview:image];

    [scrollview setContentSize:CGSizeMake(320*2, 460)];

}
```

We add an image view inside scroll view

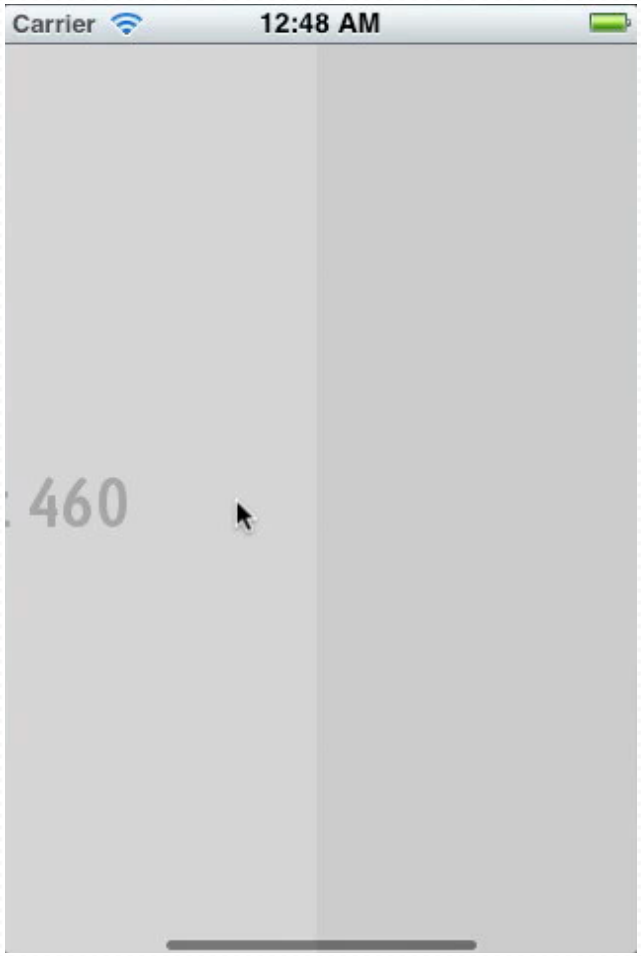
Subview

- Every UIView contains sub views.
- Sub views are also UIView.
- When we move the parent views, all sub views follows.
- You can think UIView is a container of other UIViews.

Adding and Removing Subview

- [view addSubview: view2];
- [view2 removeFromSuperview];
- [view insertSubview:view2 atIndex:2];
- [view insertSubview:view2 aboveSubview: view3];
- [view insertSubview:view2 belowSubview: view3];

UIScrollView



Test it in iPhone and we get the image inside scroll view

UIScrollView

```
- (void)viewDidLoad
{
    [super viewDidLoad];
    // Do any additional setup after loading the view, typically from a nib.

    for (int i=0; i<4; i++)
    {
        UIImageView *image = [[UIImageView alloc] initWithImage:[UIImage imageNamed:@"320x460.png"]];
        [scrollview addSubview:image];

        [image setX:320 * i andY:0];
    }


    [scrollview setContentSize:CGSizeMake(320*4, 460)];

}
```

Let's try add 4 images inside the scroll view

UIScrollView

```
- (void)viewDidLoad
{
    [super viewDidLoad];
    // Do any additional setup after loading the view, typically from a nib.

    for (int i=0; i<4; i++)
    {
        UIImageView *image = [[UIImageView alloc] initWithImage:[UIImage imageNamed:@"320x460.png"]];
        [scrollview addSubview:image];

        [image setX:320 * i andY:0];
    }


    [scrollview setContentSize:CGSizeMake(320*4, 460)];
    scrollview.pagingEnabled = YES;

}
```

We can enable page by page scrolling with pagingEnabled

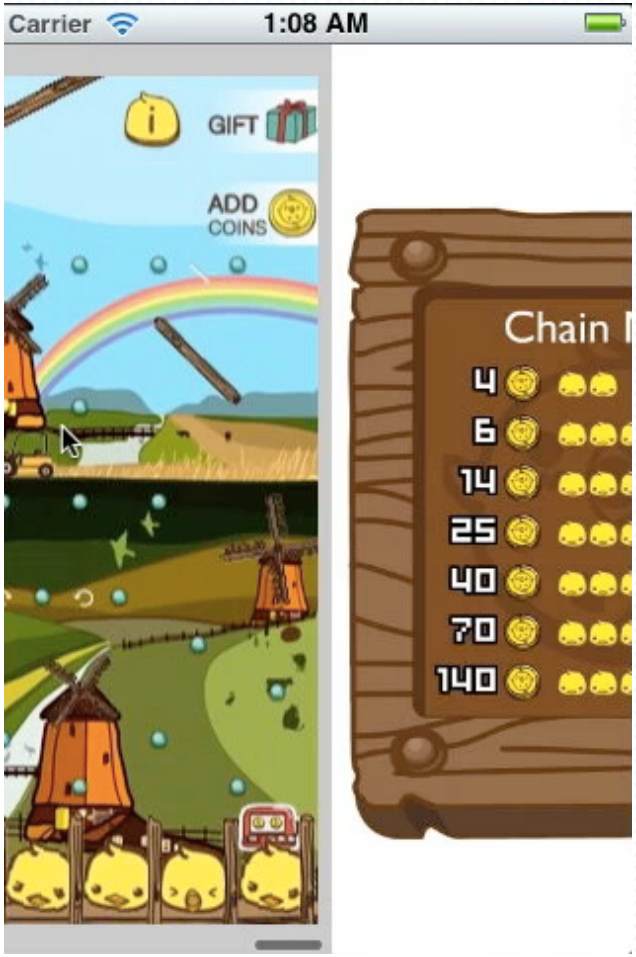
Using Interface Builder with UIScrollView

UIScrollView in Interface Builder

- Easy to accidentally put views inside UIScrollView
- Need to arrange views carefully

Exercise

Combining all we learned so far

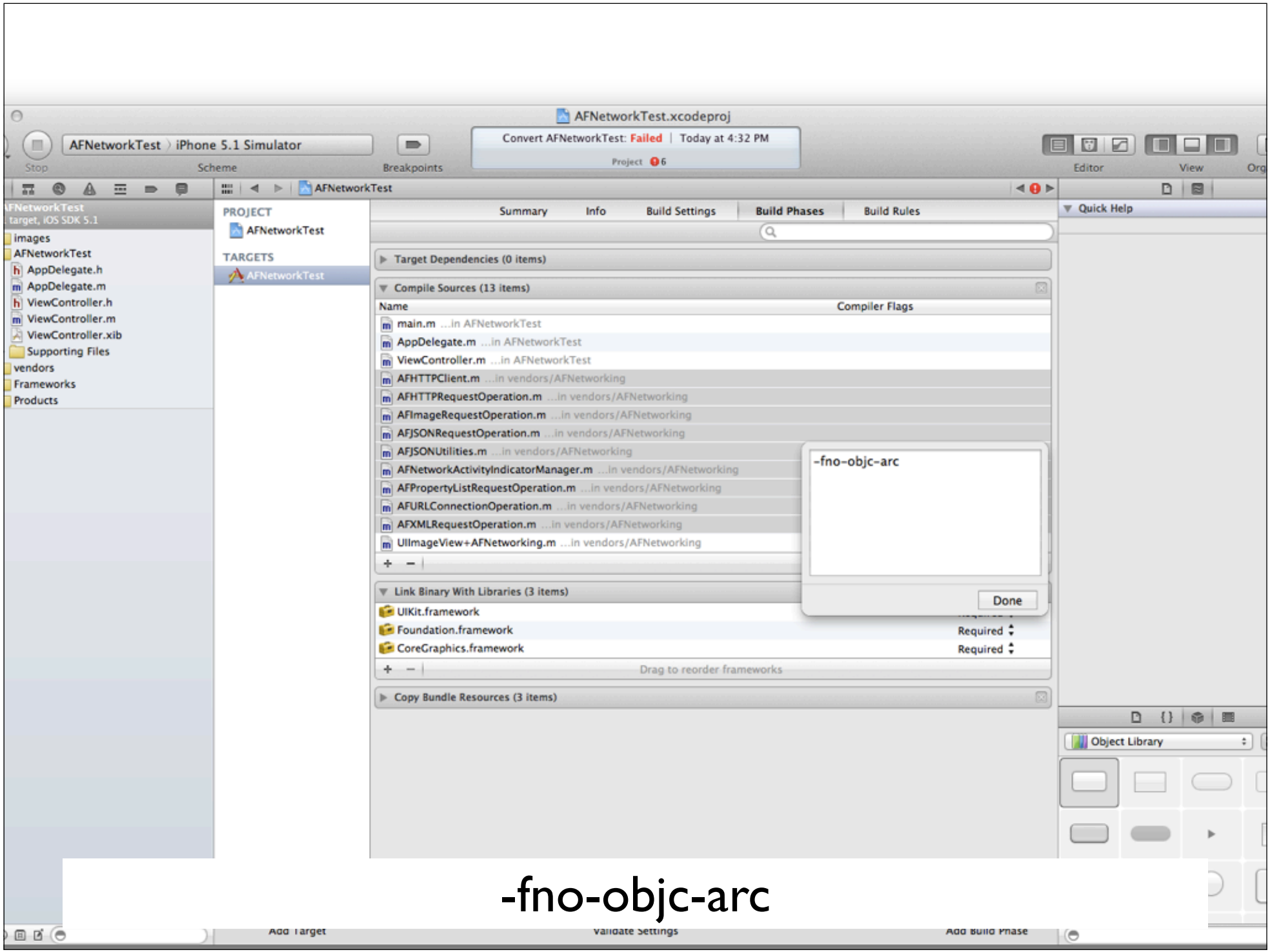


Query Facebook Photos API and display them in scroll view

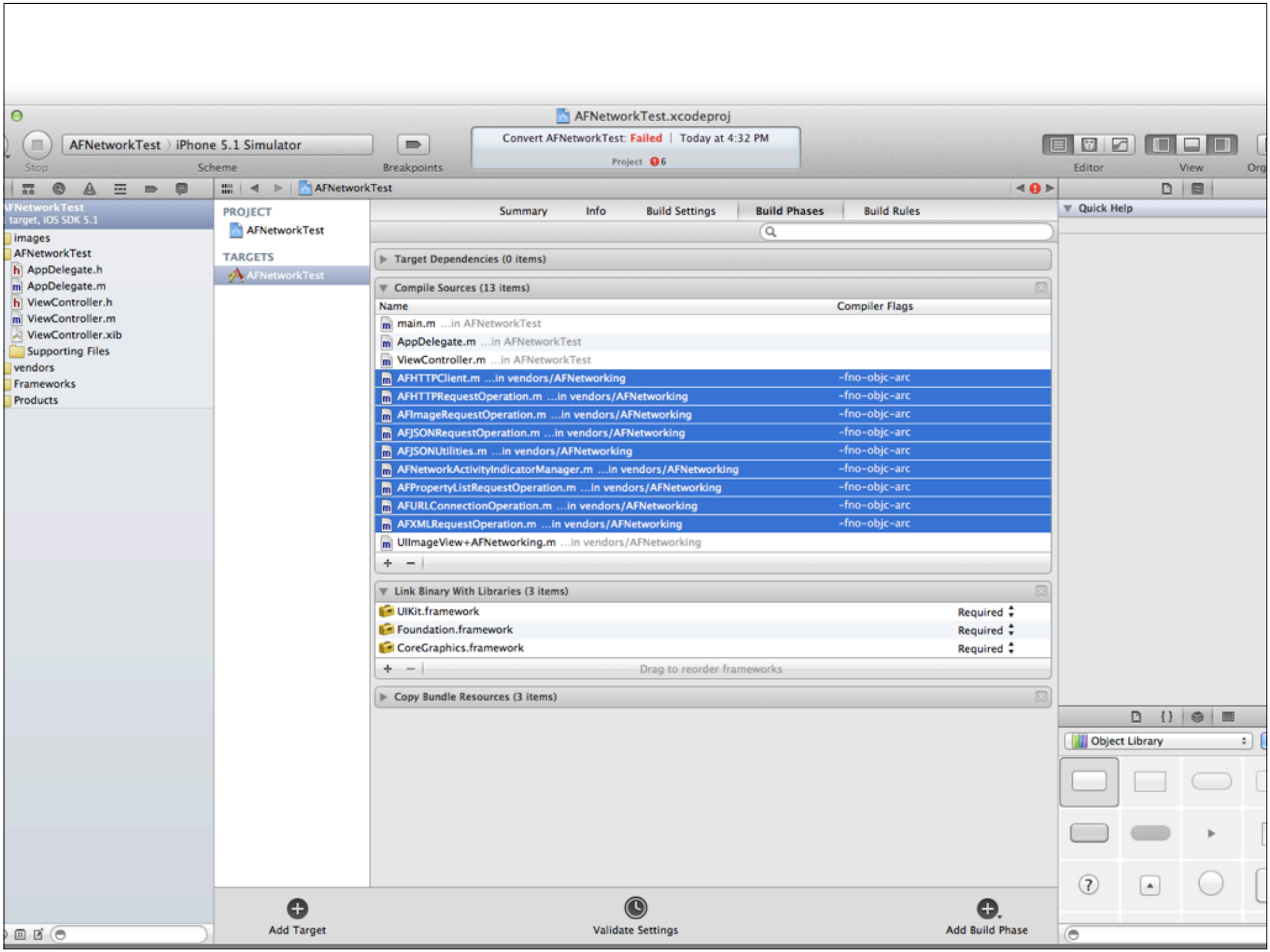
Avoiding files compiling with ARC

No ARC Flag

1. Project Setting
2. Build Phrase
3. Compile Sources
4. Apply -fno-objc-arc


AFNetworkTest.xcodeproj
AFNetworkTest 〉 iPhone 5.1 Simulator
Convert AFNetworkTest: Failed | Today at 4:32 PM
Project 6
Stop
Scheme
Breakpoints
Editor
View
AFNetworkTest
target, iOS SDK 5.1
images
AFNetworkTest
AppDelegate.h
AppDelegate.m
ViewController.h
ViewController.m
ViewController.xib
Supporting Files
vendors
Frameworks
Products
PROJECT
AFNetworkTest
TARGETS
AFNetworkTest
Summary
Info
Build Settings
Build Phases
Build Rules
Target Dependencies (0 items)
Compile Sources (13 items)
Name
Compiler Flags
main.m ...in AFNetworkTest
AppDelegate.m ...in AFNetworkTest
ViewController.m ...in AFNetworkTest
AFHTTPClient.m ...in vendors/AFNetworking
AFHTTPRequestOperation.m ...in vendors/AFNetworking
AFImageRequestOperation.m ...in vendors/AFNetworking
AFJSONRequestOperation.m ...in vendors/AFNetworking
AFJSONUtilities.m ...in vendors/AFNetworking
AFNetworkActivityIndicatorManager.m ...in vendors/AFNetworking
AFPropertyListRequestOperation.m ...in vendors/AFNetworking
AFURLConnectionOperation.m ...in vendors/AFNetworking
AFXMLRequestOperation.m ...in vendors/AFNetworking
UIImageView+AFNetworking.m ...in vendors/AFNetworking
-fno-objc-arc
Done
Link Binary With Libraries (3 items)
UIKit.framework
Foundation.framework
Required
CoreGraphics.framework
Required
Drag to reorder frameworks
Copy Bundle Resources (3 items)
Quick Help
Object Library
Add Target
Validate Settings
Add Build Phase

-fno-objc-arc


AFNetworkTest.xcodeproj
AFNetworkTest 〉 iPhone 5.1 Simulator
Stop
Scheme
Breakpoints
Convert AFNetworkTest: Failed | Today at 4:32 PM
Project 6
Editor
View
AFNetworkTest
target, iOS SDK 5.1
images
AFNetworkTest
AppDelegate.h
AppDelegate.m
ViewController.h
ViewController.m
ViewController.xib
Supporting Files
vendors
Frameworks
Products
PROJECT
AFNetworkTest
TARGETS
AFNetworkTest
Summary
Info
Build Settings
Build Phases
Build Rules
Target Dependencies (0 items)
Compile Sources (13 items)
Name
Compiler Flags
main.m ...in AFNetworkTest
AppDelegate.m ...in AFNetworkTest
ViewController.m ...in AFNetworkTest
AFHTTPClient.m ...in vendors/AFNetworking -fno-objc-arc
AFHTTPRequestOperation.m ...in vendors/AFNetworking -fno-objc-arc
AFImageRequestOperation.m ...in vendors/AFNetworking -fno-objc-arc
AFJSONRequestOperation.m ...in vendors/AFNetworking -fno-objc-arc
AFJSONUtilities.m ...in vendors/AFNetworking -fno-objc-arc
AFNetworkActivityIndicatorManager.m ...in vendors/AFNetworking -fno-objc-arc
AFPropertyListRequestOperation.m ...in vendors/AFNetworking -fno-objc-arc
AFURLConnectionOperation.m ...in vendors/AFNetworking -fno-objc-arc
AFXMLRequestOperation.m ...in vendors/AFNetworking -fno-objc-arc
UIImageView+AFNetworking.m ...in vendors/AFNetworking
Link Binary With Libraries (3 items)
UIKit.framework Required
Foundation.framework Required
CoreGraphics.framework Required
Drag to reorder frameworks
Copy Bundle Resources (3 items)
Quick Help
Object Library
Add Target
Validate Settings
Add Build Phase