

# **Xcode + Simulator**

LAB 01: Creating a project

# Objective

The purpose of this workshop is to familiarize you with the process of creating a very simple app. You'll use the Xcode Mac app to design and build the world's simplest (and most useless) app.

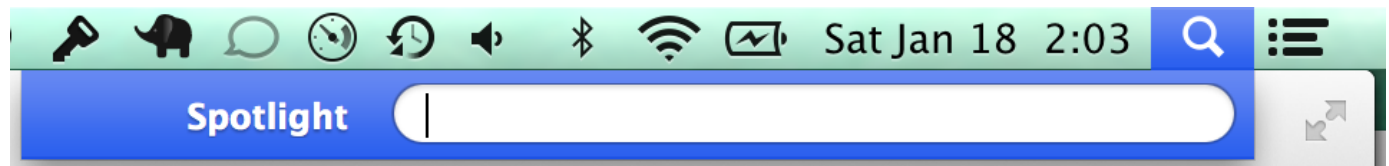
But, the process you go through will be far from useless. This is the same process you'll use over and over again when creating apps.

After you create your app in Xcode you'll run it in the simulator. This allows you to see your app running on your laptop.

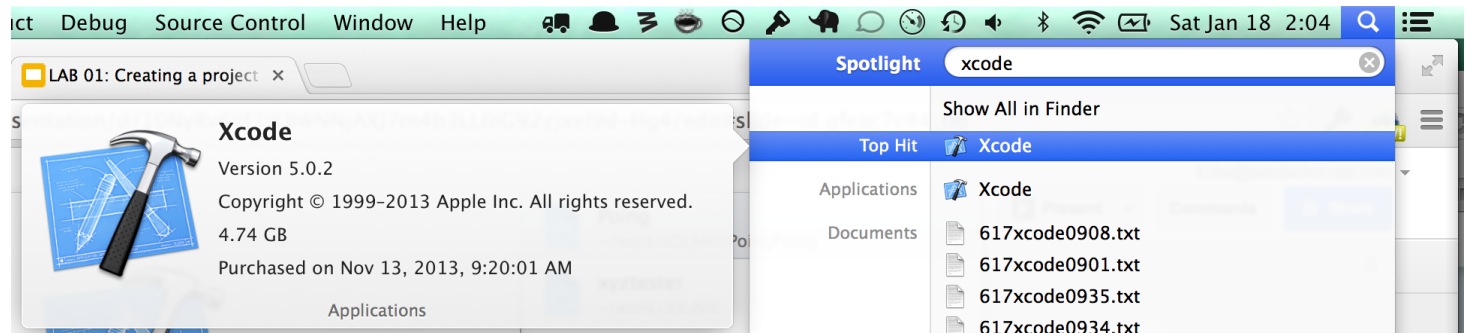
Okay, ready? Let's get started.

# Launch Xcode

Hit  $\text{⌘}$ -SPACEBAR to bring up the Spotlight search box.



Type **xcode** and the listed options should narrow until you see it. Hit enter to launch Xcode.



# Welcome to Xcode

Xcode should welcome you with a screen like this.

Yours will look about the same, except it won't have any projects listed on the right-hand side.

This is where you might start from an existing project. But, since you're new here we don't have anything to start from.

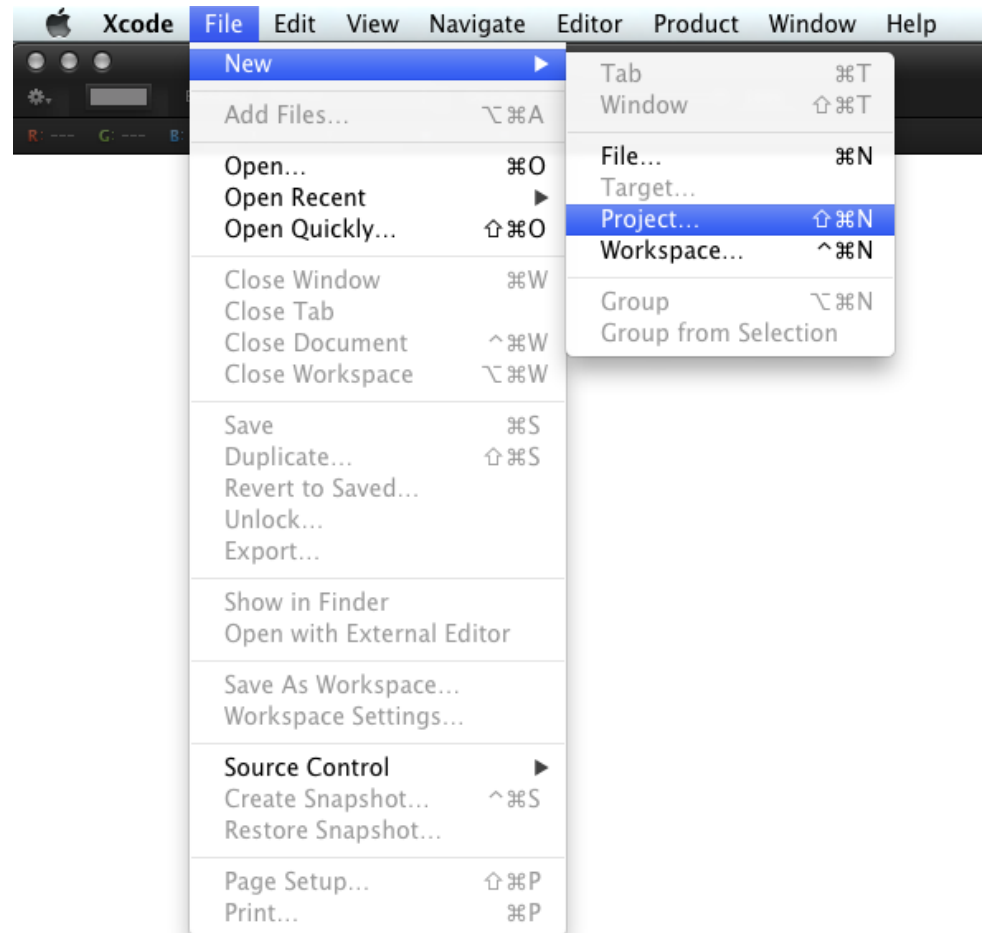
Hit **Cancel** to dismiss this window.



# Create your first project.

With Xcode still active, go to the top menu bar and select:

**File > New > Project**



# Select a project template.

We'll start with one of the simplest project templates, the **Single View Application**.

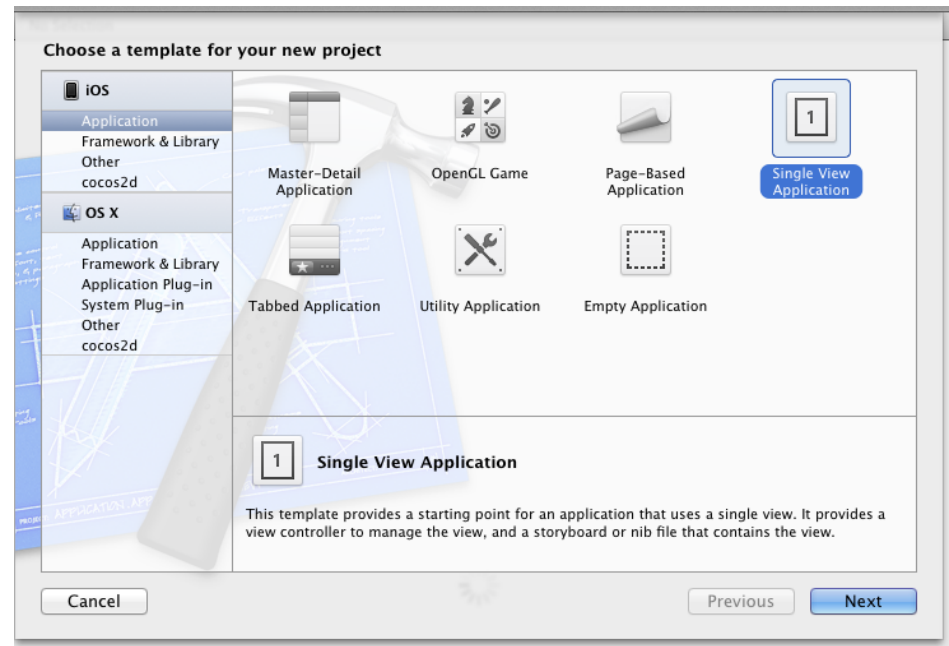
As you might expect, this project starts you off with an iPad app that displays a single screen (or "View"). We'll get more into this vocabulary later.

Make sure that the **iOS > Application** menu item is selected on the left.

Then, make sure that the **Single View Application** is selected on the right.

You should see a description of the template at the bottom. Again, don't be concerned with the vocabulary. We'll learn more about that later.

Press the **Next** button to create your project.



# Configure your project

What does that mean exactly? Well every project needs a name. The **Product Name** is the name that means something to humans.

Company Identifier + Product Name = Bundle Identifier

And, the **Bundle Identifier** is used by computers (including the iPad) to uniquely identify your app.

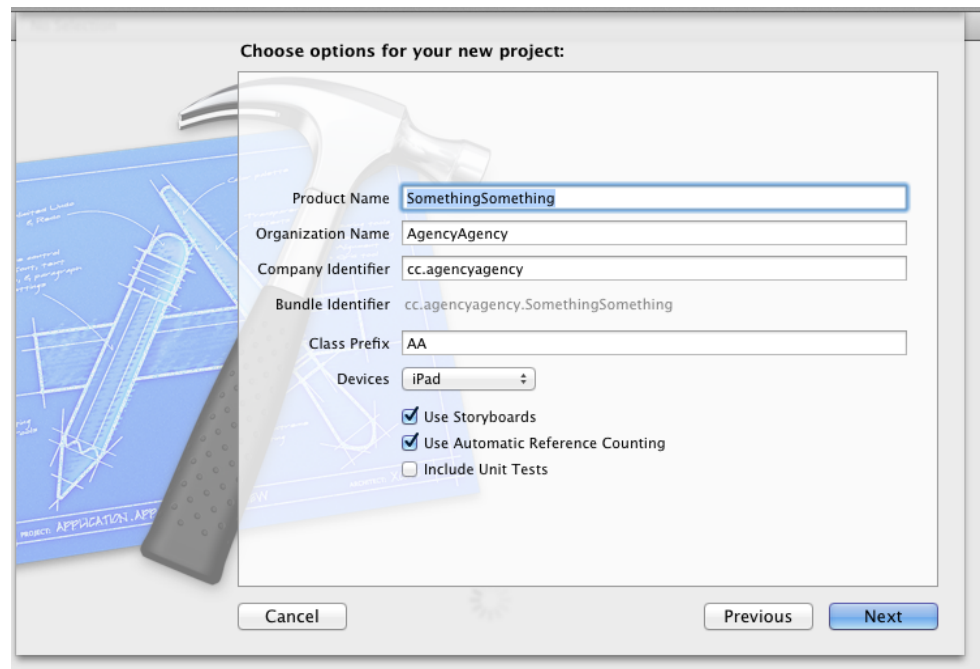
Since this is just a demo app, no need to worry too much about this. Just make sure that you have **iPad** selected under **Devices**. And, be sure that the **Use Storyboards** check box \*IS\* checked.

Storyboards are a big deal and we'll use them a lot.

A lot. A lot. Like for everything.

Also, you ALWAYS want to have **Use Automatic Reference Counting** checked.

Hit **Next** to continue.



Choose options for your new project:

Product Name	SomethingSomething
Organization Name	AgencyAgency
Company Identifier	cc.agencyagency
Bundle Identifier	cc.agencyagency.SomethingSomething
Class Prefix	AA
Devices	iPad
<input checked="" type="checkbox"/> Use Storyboards	
<input checked="" type="checkbox"/> Use Automatic Reference Counting	
<input type="checkbox"/> Include Unit Tests	

Cancel Previous Next

# Put your project somewhere

Xcode is now ready to spit out your project. But, it needs to know where to put it. You have to give it a location on your computer to use.

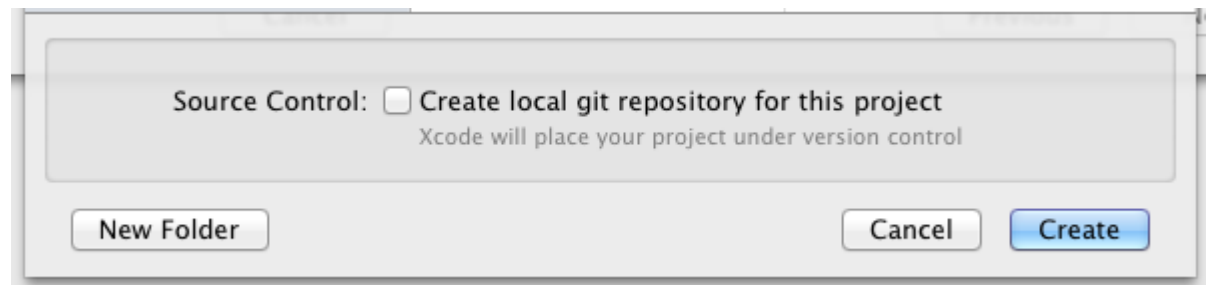
I suggest creating a “work” folder under your user’s home directory.

Other good options are **Documents** and **Desktop**.

It’s really up to you. But, once you find a good place. You’ll probably want to stick to it, so as not to have projects “all over the place.” That said, you can change your mind about this later. It’s just a folder.

You’ll notice a **Source Control** checkbox on this screen. You can leave that unchecked for now. We’ll learn more about how to use this “git” feature more later.

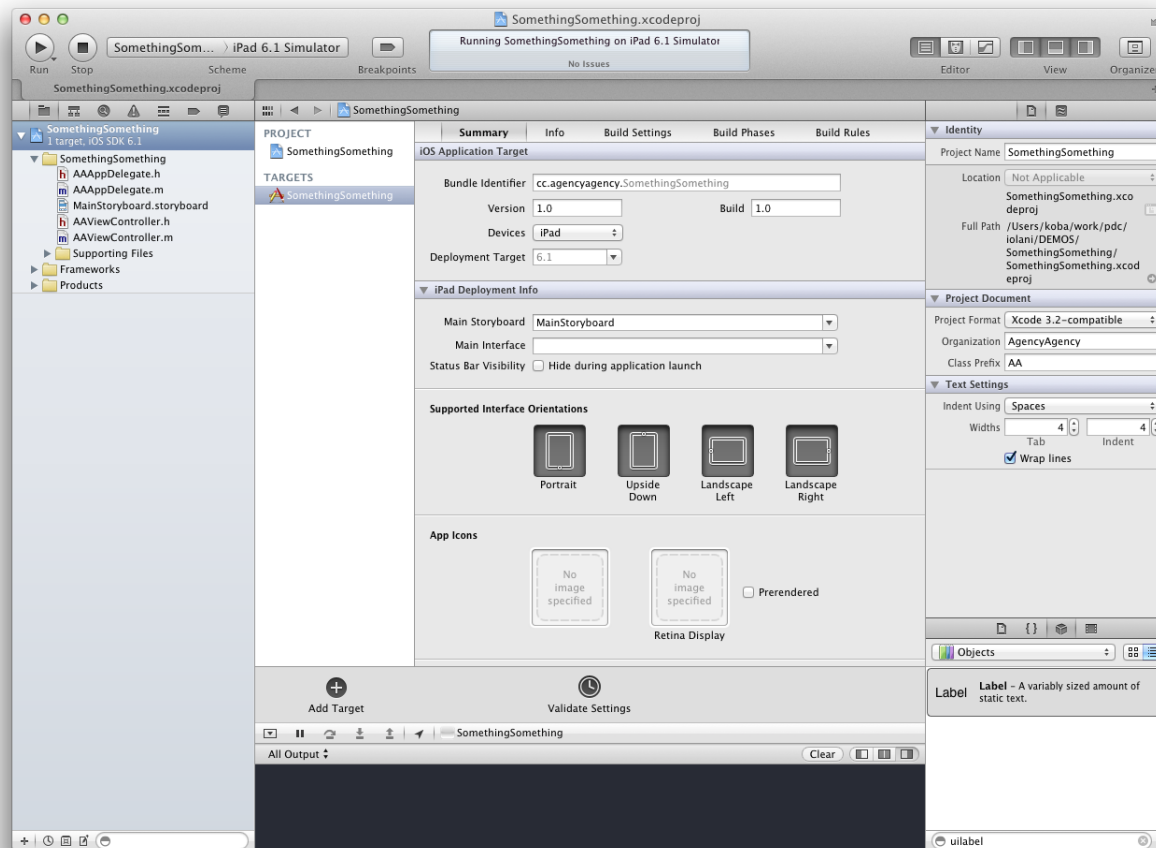
Hit **Create** to \*really\* create your project now.





# Behold, Xcode

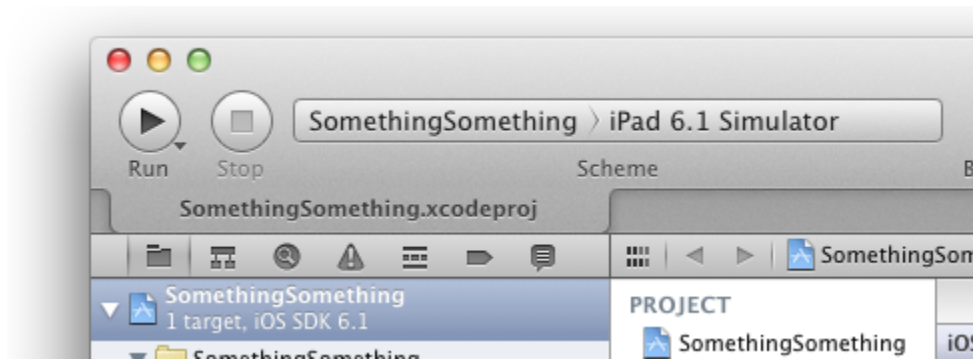
Xcode is now showing your first project. Get excited.



# Play!

Hit the **Run** button in the upper left-hand corner. It looks like a “play” button.

This will launch the Simulator (a fake iPad that runs on your computer).

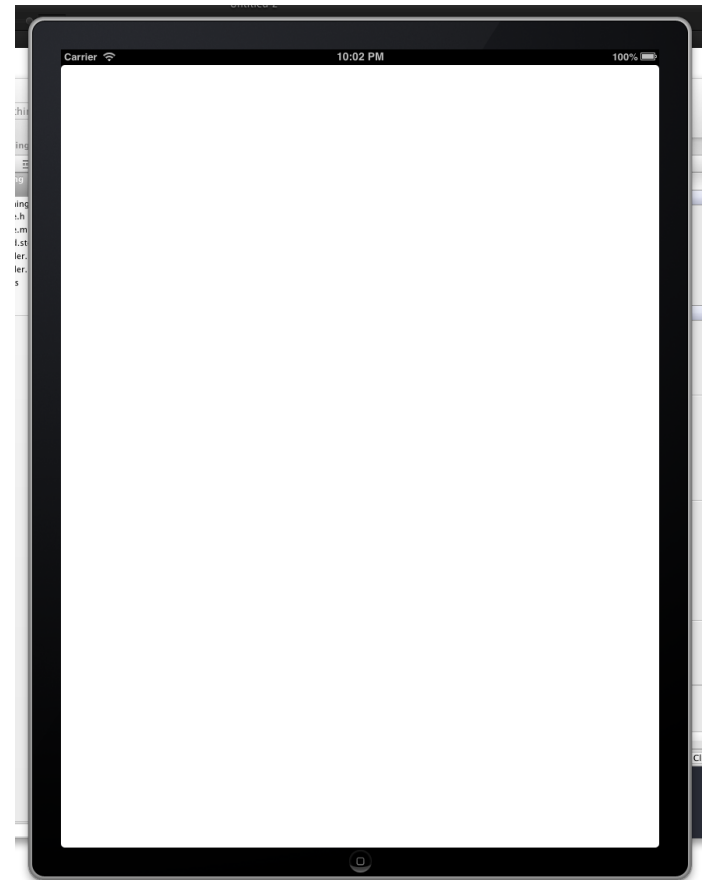


# Uh, wow.

Okay. So, your first app is pretty unexciting.

What *\*is\** exciting though, is that you now know how to create projects and get them to run in the Simulator.

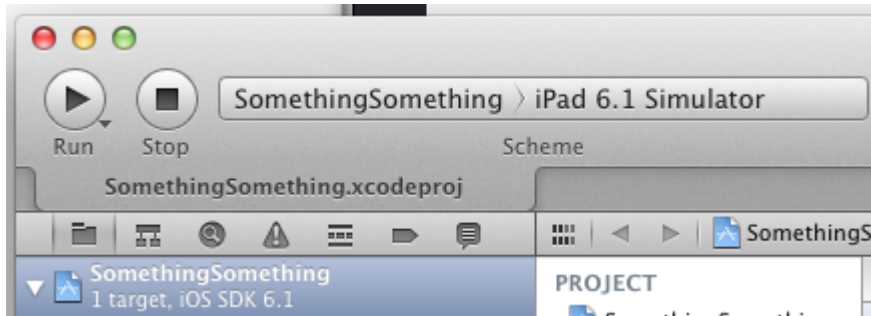
Yes, it's a big white screen. But, it's *\*your\** big white screen.



# Stop the madness.

All good things must come to the end. And so must this simulation.

Hit the **Stop** button, next to the **Run** button to kill the running application.



# Hello Storyboard

Now it's time to get this party started. Let's add a custom message to your app. So, when you show your friends and family your new iPad app, you can customize what it tells them.

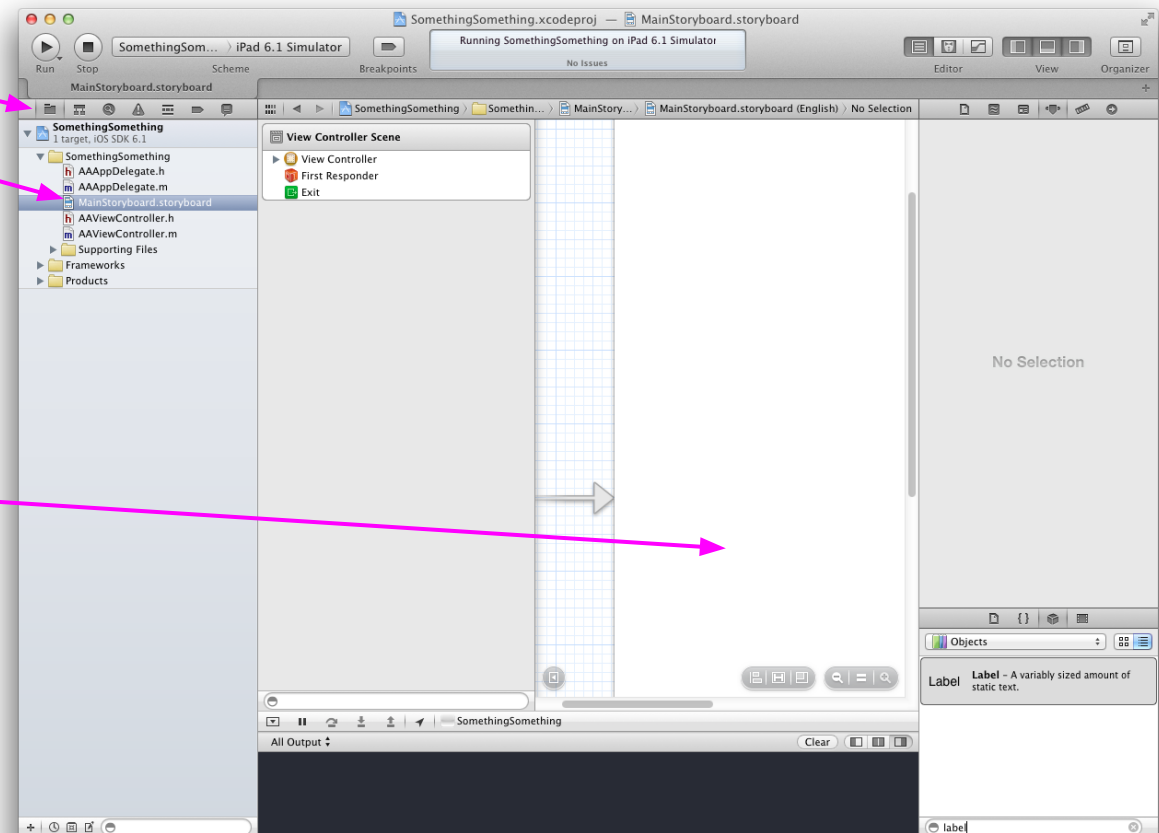
Find the Project Navigator pane. It should already be open.

Select the **MainStoryboard.storyboard**.

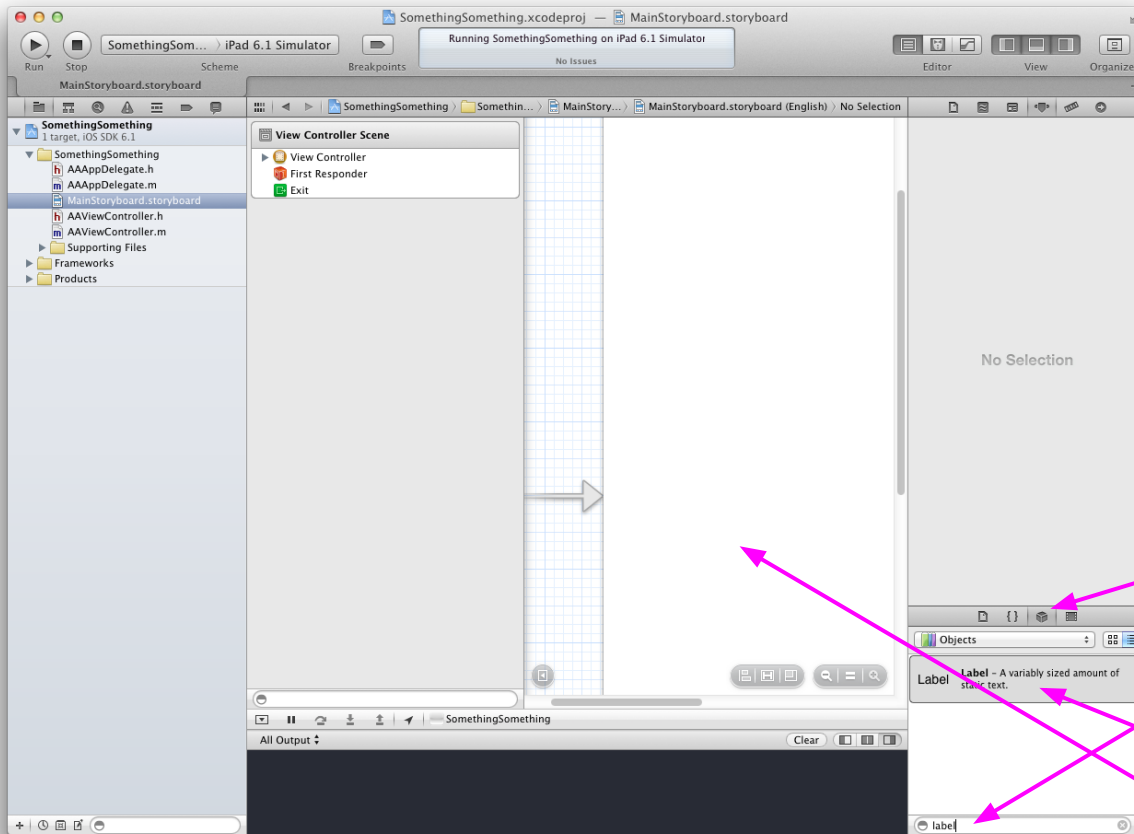
A storyboard is like a visual representation of your applications graphical user interface (or GUI).

There's a lot going on here. But, just stick to the things you need right now and you'll be fine.

The storyboard itself is just barely visible in that central pane.



# Add a label.



Find the Object library.

Then, search for "label" in Object library's search bar.

You should see that only the **Label** object remains in the list.

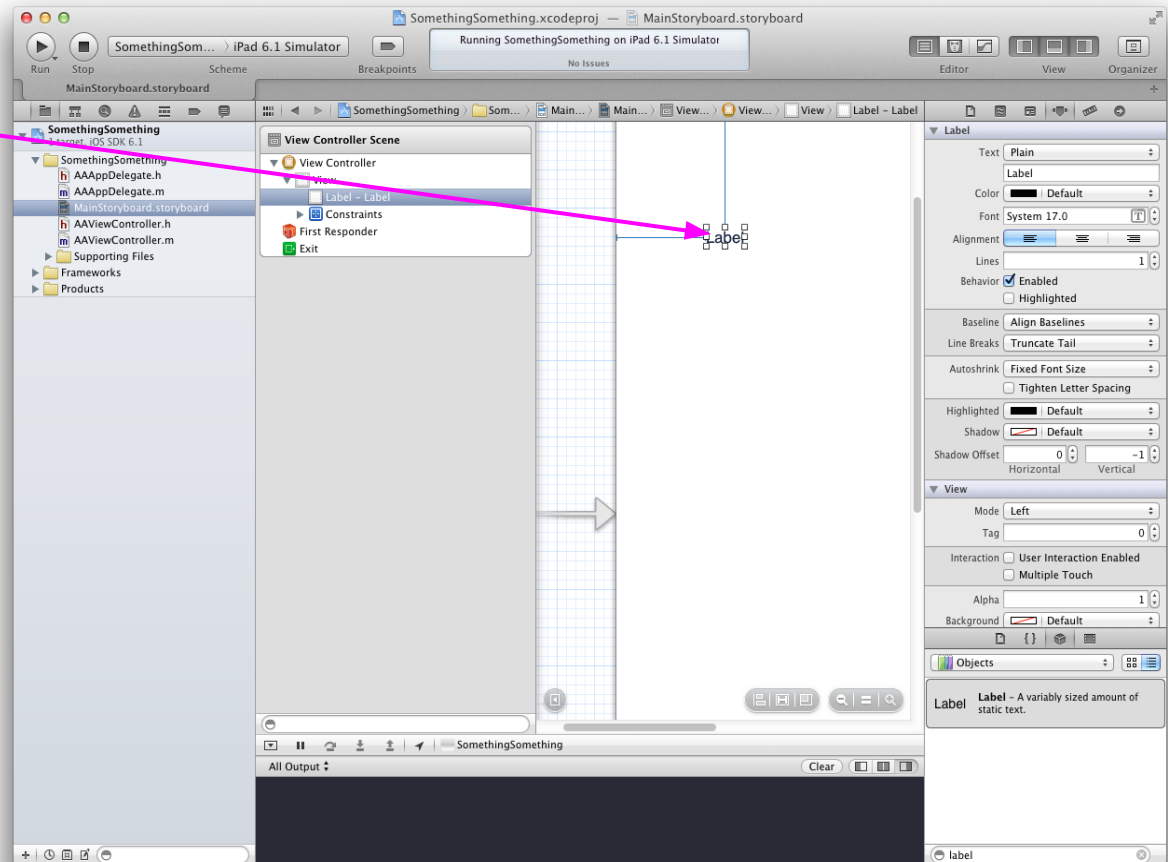
Drag it onto the white (view) portion of the storyboard.

# Customize the label.

Your label should now be in the storyboard.

Double click on the label to edit it.

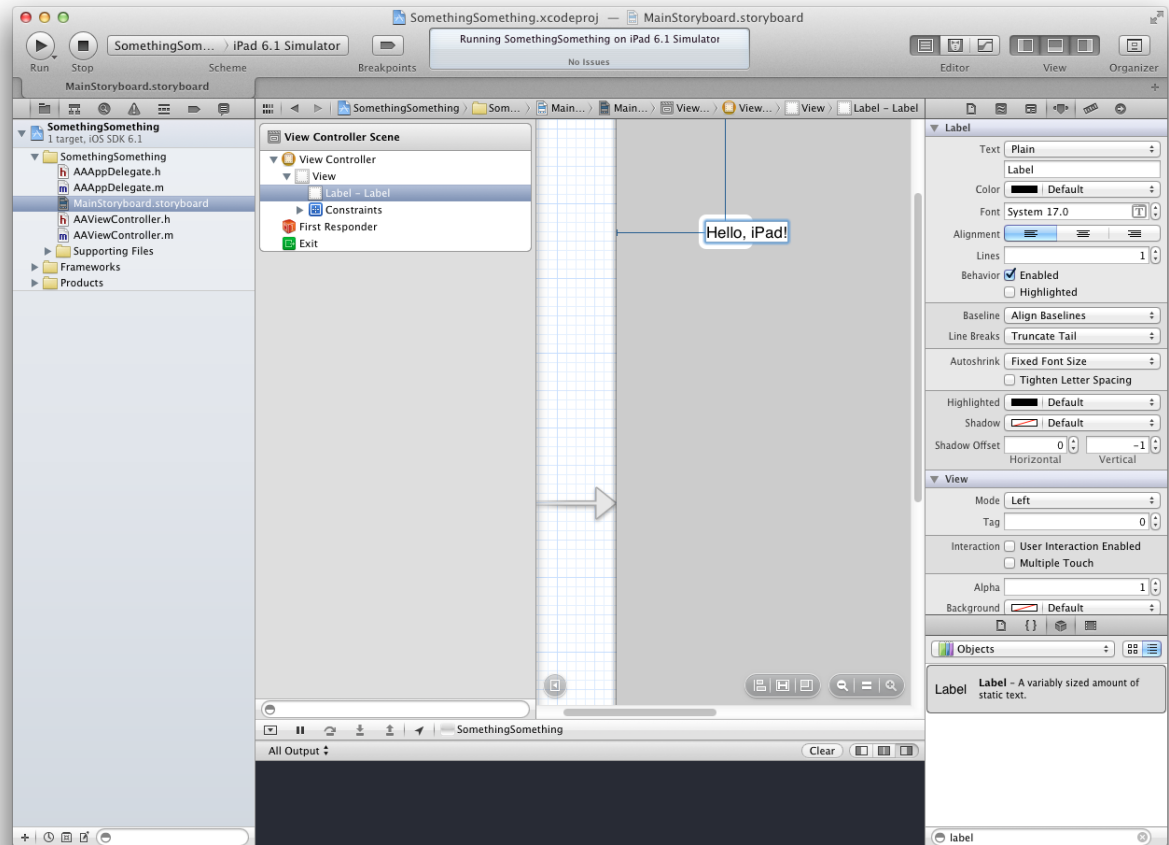
Change it to say whatever you like.



# Hello, iPad!

I made mine say hello. I know, not terribly original.

Now that you've done the customization, press the **Run** button again to launch the new version of your app.





# It runs. It spins.

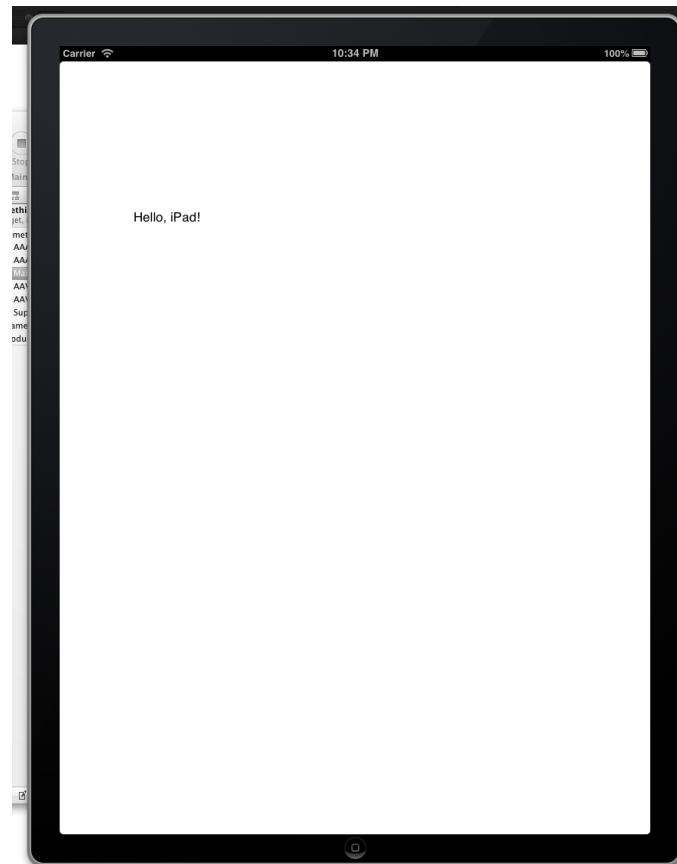
So your app is now running in the Simulator. Congratulations!

Real quick, you can use the Simulator to test an iPad app as though it is running in a real iPad. There are some limitations, but it's still pretty useful.

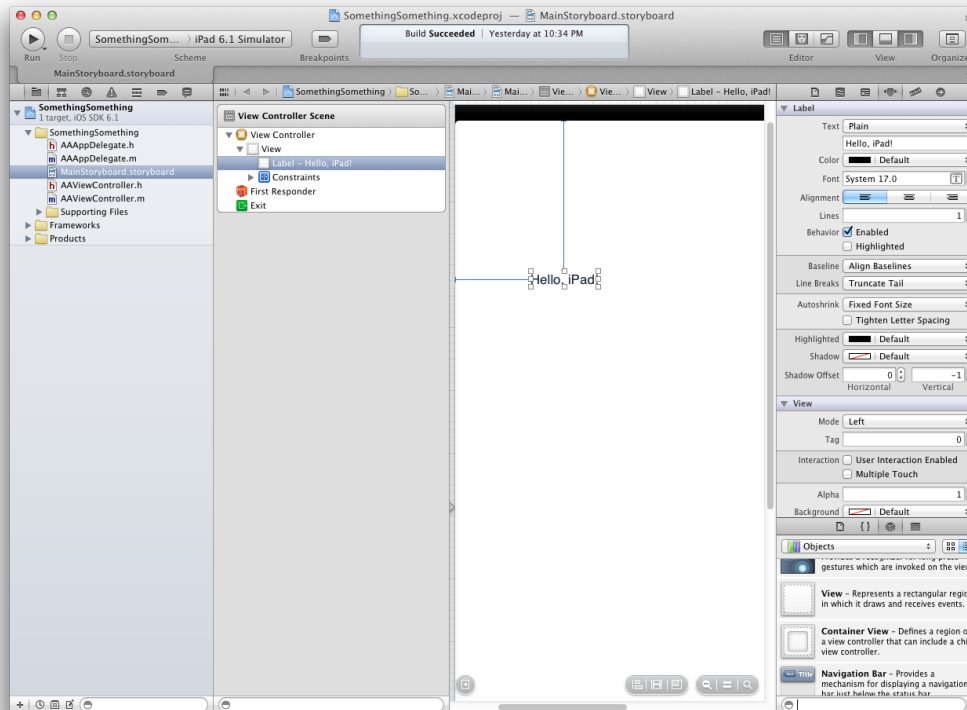
Go to the Simulator's Hardware menu and try rotating left and right.

Try the Home button. What does it do?

You are now an iPad developer.

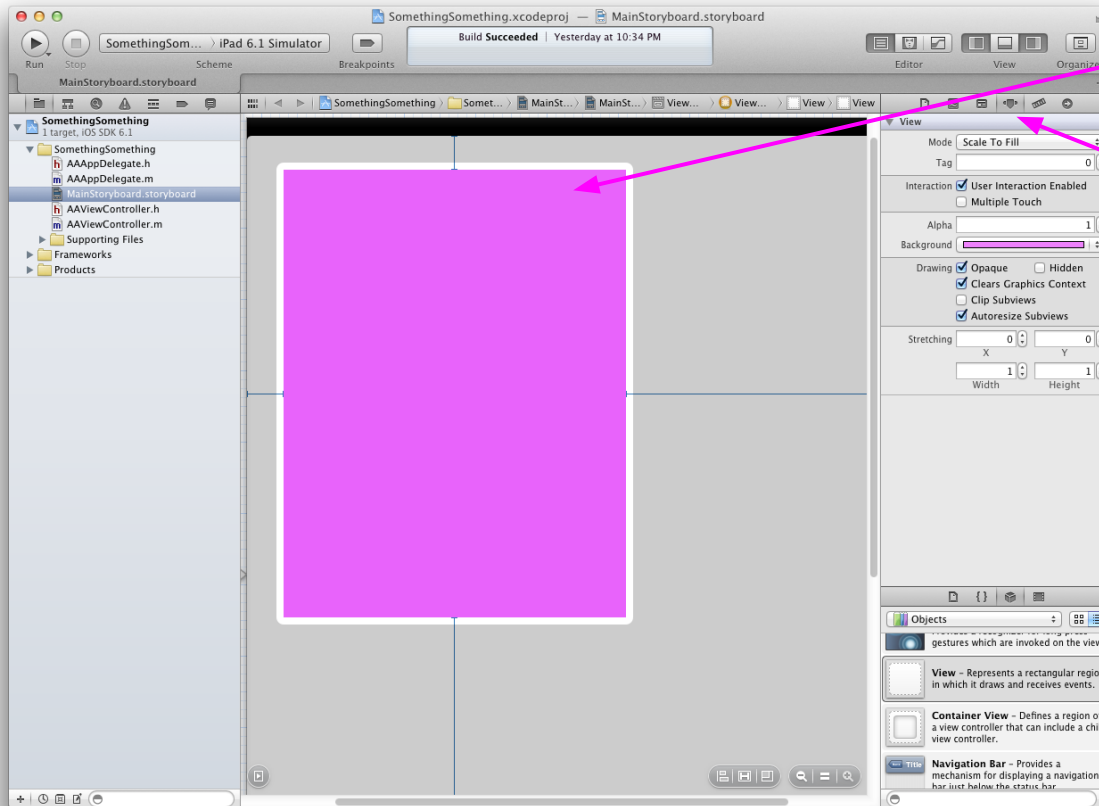


# Find the UIView



Find the Object library again and search for the **UIView** object (it's called "View").

# Add some color



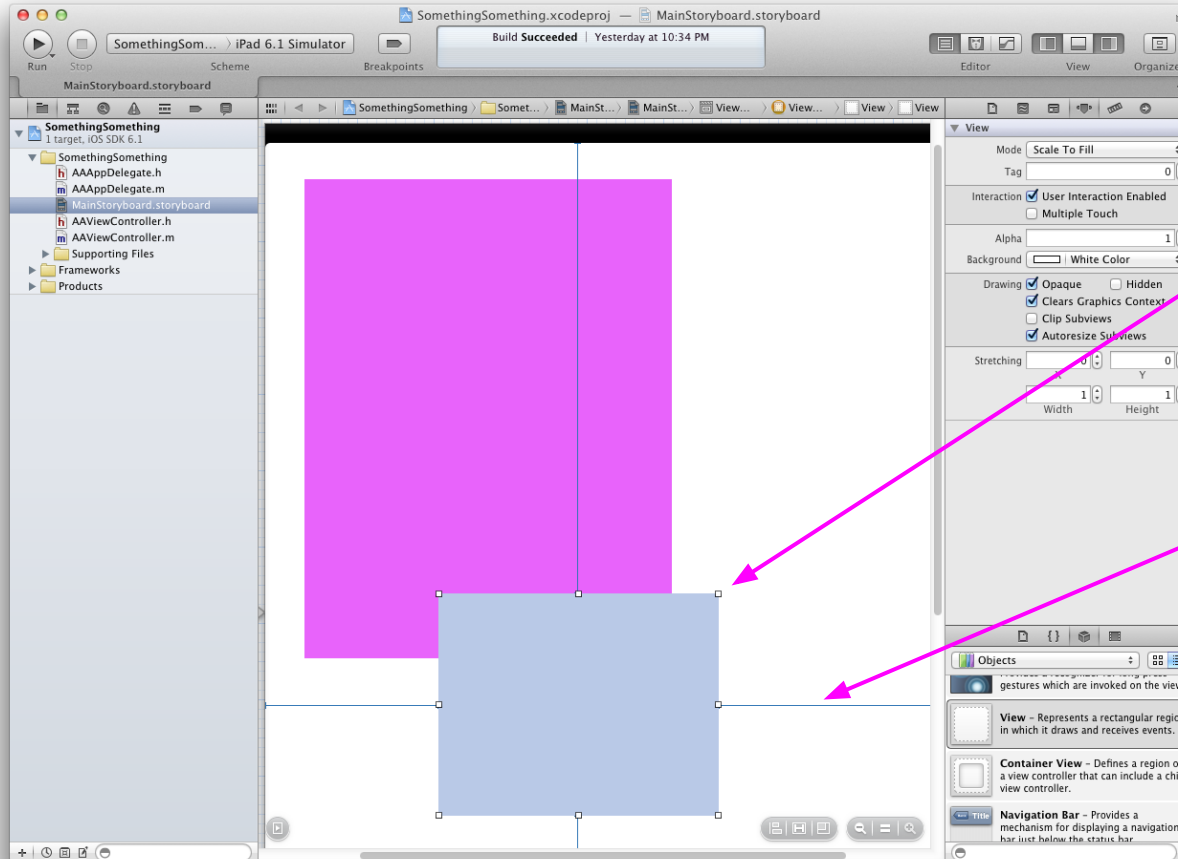
Drag and drop the view onto the storyboard.

Make sure the view you just added is selected.

Select the Attributes inspector pane.

Change the background color to whatever (not white).

# Add more



Drag and drop another view onto the storyboard.

Make sure the view you just added is selected.

Resize the view using the corner handle thingies (squares).

Change the background color like you did for the other view.

Keep adding views (the smaller, the better) until the screen is entirely full. Make it look interesting.

See the bars connecting the sides of the view to the outside of the storyboard scene? Those are **layout constraints**.

Run your app in the Simulator. Rotate the device from the **Hardware** menu. What do you think those constraints do?

Experiment with other objects. Add more labels. Run it some more.