

MOBILE DEVELOPMENT PRACTICE – PASSING DATA WITH SEGUES

William Martin
Head of Product, Floored

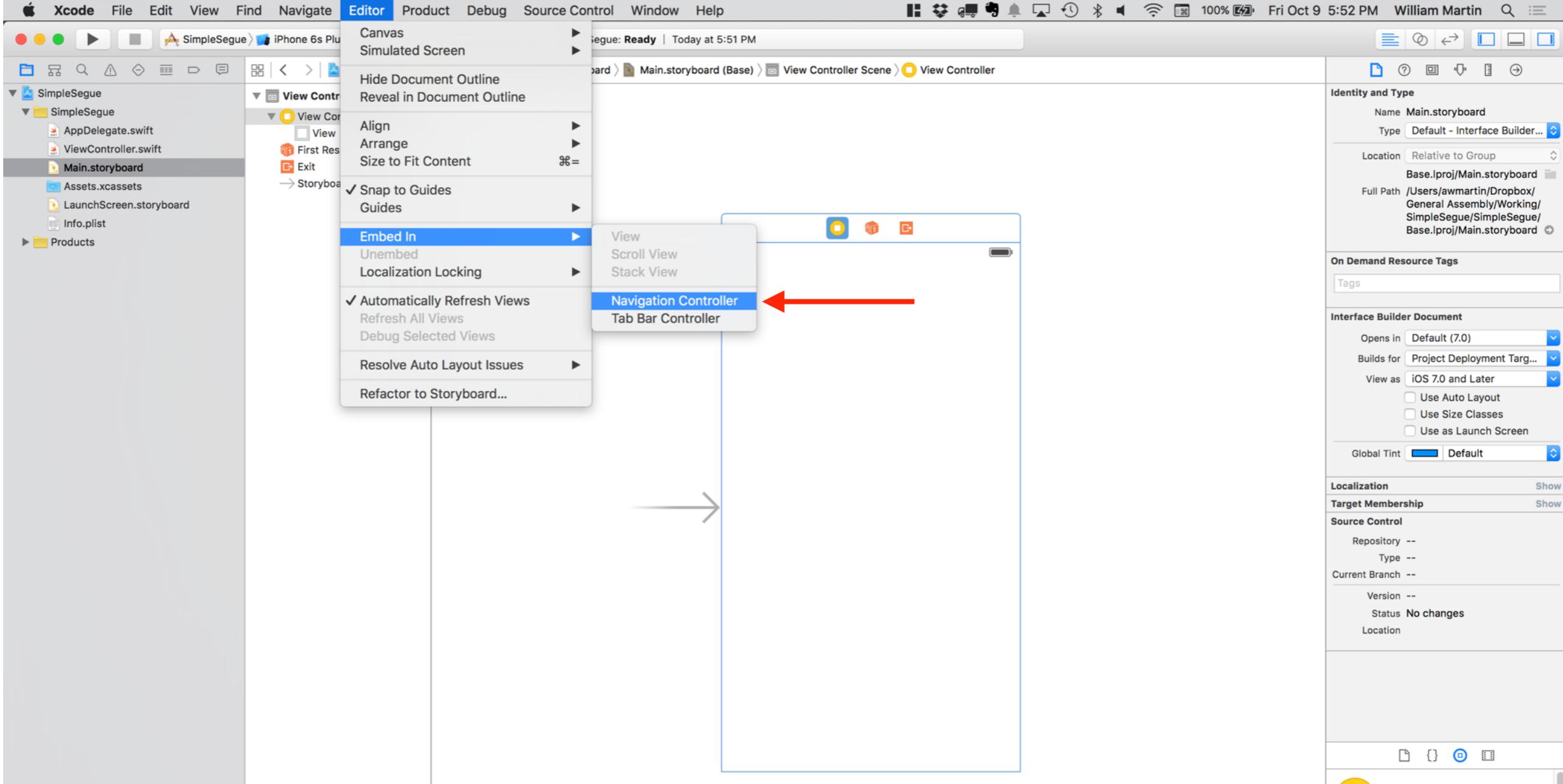
PASSING DATA WITH SEGUES

LEARNING OBJECTIVES

- Produce an app that sends data from one View Controller to another via a Segue instance.

PASSING DATA WITH SEGUES

SIMPLESEGUE APP



After making a new app called SimpleSegue, go to Main.storyboard and embed the ViewController in a Navigation Controller. This enables "push" segues.

SimpleSegue | iPhone 6s Plus SimpleSegue: Ready | Today at 5:52 PM

SimpleSegue

Main.storyboard

View Controller Scene

Navigation Controller Scene

Navigation Controller

Show greeting...

Identity and Type

Name Main.storyboard

Type Default - Interface Builder...

Location Relative to Group

Base.lproj/Main.storyboard

Full Path /Users/awmartin/Dropbox/General Assembly/Working/SimpleSegue/SimpleSegue/Base.lproj/Main.storyboard

On Demand Resource Tags

Tags

Interface Builder Document

Opens in Default (7.0)

Builds for Project Deployment Target...

View as iOS 7.0 and Later

Use Auto Layout

Use Size Classes

Use as Launch Screen

Global Tint Default

Localization

Target Membership

Source Control

Repository --

Type --

Current Branch --

Version --

Status No changes

Location

Drag a UIButton onto the ViewController and label it "Show greeting..."

Navigation Controller

Show greeting...

Button - Intercepts touch events and sends an action message to a target object when it's tapped.

Bar Button Item - Represents an item on a UIToolbar or UINavigationItem object.

Fixed Space Bar Button Item - Represents a fixed space item on a UIToolbar object.

SimpleSegue Ready | Today at 5:53 PM

SimpleSegue Main.storyboard View Controller Show greeting...

Identity and Type
Name Main.storyboard
Type Default - Interface Builder...
Location Relative to Group
Base.lproj/Main.storyboard
Full Path /Users/awmartin/Dropbox/General Assembly/Working/SimpleSegue/SimpleSegue/Base.lproj/Main.storyboard

On Demand Resource Tags

Interface Builder Document
Opens in Default (7.0)
Builds for Project Deployment Target...
View as iOS 7.0 and Later
Use Auto Layout
Use Size Classes
Use as Launch Screen
Global Tint Default

Localization
Target Membership Show

Source Control
Repository --
Type --
Current Branch --
Version --
Status No changes
Location

View Controller - A controller that manages a view.

Storyboard Reference - Provides a placeholder for a view controller in an external storyboard.

Table View Controller - A controller that manages a table view.

view controller

SimpleSegue SimpleSegue AppDelegate.swift ViewController.swift Main.storyboard Assets.xcassets LaunchScreen.storyboard Info.plist Products

View Controller Scene
View Controller View Show greeting... Navigation Item First Responder Exit

Navigation Controller Scene
Navigation Controller Navigation Bar First Responder Exit Storyboard Entry Point Relationship "root view co..."

Navigation Controller

View Controller

Drag a new View Controller onto the canvas.

```
graph LR; Nav[Navigation Controller] --> VC[View Controller];
```

SimpleSegue | iPhone 6s Plus SimpleSegue: Ready | Today at 5:53 PM

SimpleSegue

Main.storyboard

View Controller Scene

View Controller

Show greeting...

Navigation Item

First Responder

Exit

View Controller Scene

View Controller

[Greeting here...]

First Responder

Exit

Navigation Controller Scene

Navigation Controller

Navigation Bar

First Responder

Exit

Storyboard Entry Point

Relationship "root view co..."

View Controller

Show greeting...

[Greeting here...]

Label - A variably sized amount of static text.

uilabel

Identity and Type

Name Main.storyboard

Type Default - Interface Builder...

Location Relative to Group

Base.lproj/Main.storyboard

Full Path /Users/awmartin/Dropbox/General Assembly/Working/SimpleSegue/SimpleSegue/Base.lproj/Main.storyboard

On Demand Resource Tags

Tags

Interface Builder Document

Opens in Default (7.0)

Builds for Project Deployment Targ...

View as iOS 7.0 and Later

Use Auto Layout

Use Size Classes

Use as Launch Screen

Global Tint Default

Localization

Target Membership

Source Control

Repository --

Type --

Current Branch --

Version --

Status No changes

Location

Drag a UILabel onto the second View Controller. Change its text to "[Greeting here...]"

```
graph LR; Start(( )) --> VC1[View Controller]; VC1 --> VC2[View Controller];
```

SimpleSegue | iPhone 6s Plus SimpleSegue: Ready | Today at 5:54 PM

SimpleSegue

Main.storyboard

View Controller Scene

View Controller

Show greeting...

Navigation Item

First Responder

Exit

View Controller Scene

View Controller

[Greeting here...]

First Responder

Exit

Navigation Controller Scene

Navigation Controller

Navigation Bar

First Responder

Exit

Storyboard Entry Point

Relationship "root view co..."

View Controller

[Greeting here...]

View Controller

CTRL-drag from the UIButton to the second View Controller.

Identity and Type

Name Main.storyboard

Type Default - Interface Builder...

Location Relative to Group

Base.lproj/Main.storyboard

Full Path /Users/awmartin/Dropbox/General Assembly/Working/SimpleSegue/SimpleSegue/Base.lproj/Main.storyboard

On Demand Resource Tags

Tags

Interface Builder Document

Opens in Default (7.0)

Builds for Project Deployment Targ...

View as iOS 7.0 and Later

Use Auto Layout

Use Size Classes

Use as Launch Screen

Global Tint Default

Localization

Target Membership

Source Control

Repository --

Type --

Current Branch --

Version --

Status No changes

Location

Label Label - A variably sized amount of static text.

uibutton

A screenshot of the Xcode Interface Builder interface. The left sidebar shows the project structure with 'Main.storyboard' selected. The main canvas displays two view controllers. The first view controller on the left has a button labeled 'Show greeting...'. A blue line is being drawn from this button to the second view controller on the right, which has a label 'Greeting here...'. A callout bubble in the center of the screen contains the text 'CTRL-drag from the UIButton to the second View Controller.'. The right sidebar shows the 'Identity and Type' panel for 'Main.storyboard', detailing its name, type, location, and other document settings. The bottom right corner shows a preview of a 'uibutton' component.

SimpleSegue | iPhone 6s Plus SimpleSegue: Ready | Today at 5:54 PM

SimpleSegue

Main.storyboard

View Controller Scene

View Controller

Show greeting...

Navigation Item

First Responder

Exit

View Controller Scene

View Controller

[Greeting here...]

First Responder

Exit

Action Segue

Push

Modal

Custom

Navigation Controller Scene

Navigation Controller

Navigation Bar

First Responder

Exit

Storyboard Entry Point

Relationship "root view co..."

PickerController

Show greeting...

Pick the "Push" segue.

Identity and Type

Name Main.storyboard

Type Default - Interface Builder...

Location Relative to Group

Base.lproj/Main.storyboard

Full Path /Users/awmartin/Dropbox/General Assembly/Working/SimpleSegue/SimpleSegue/Base.lproj/Main.storyboard

On Demand Resource Tags

Tags

Interface Builder Document

Opens in Default (7.0)

Builds for Project Deployment Targ...

View as iOS 7.0 and Later

Use Auto Layout

Use Size Classes

Use as Launch Screen

Global Tint Default

Localization

Target Membership

Source Control

Repository --

Type --

Current Branch --

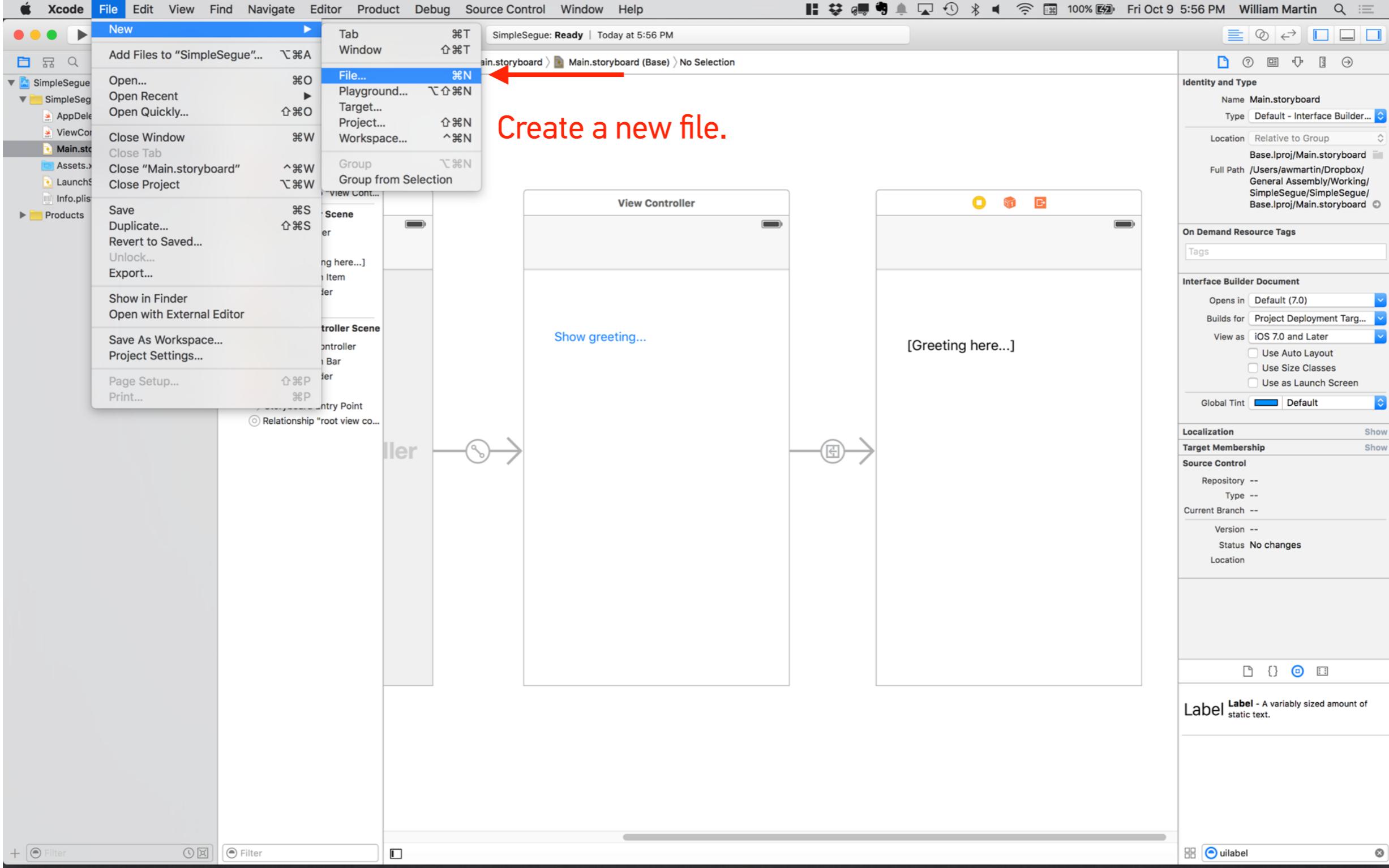
Version --

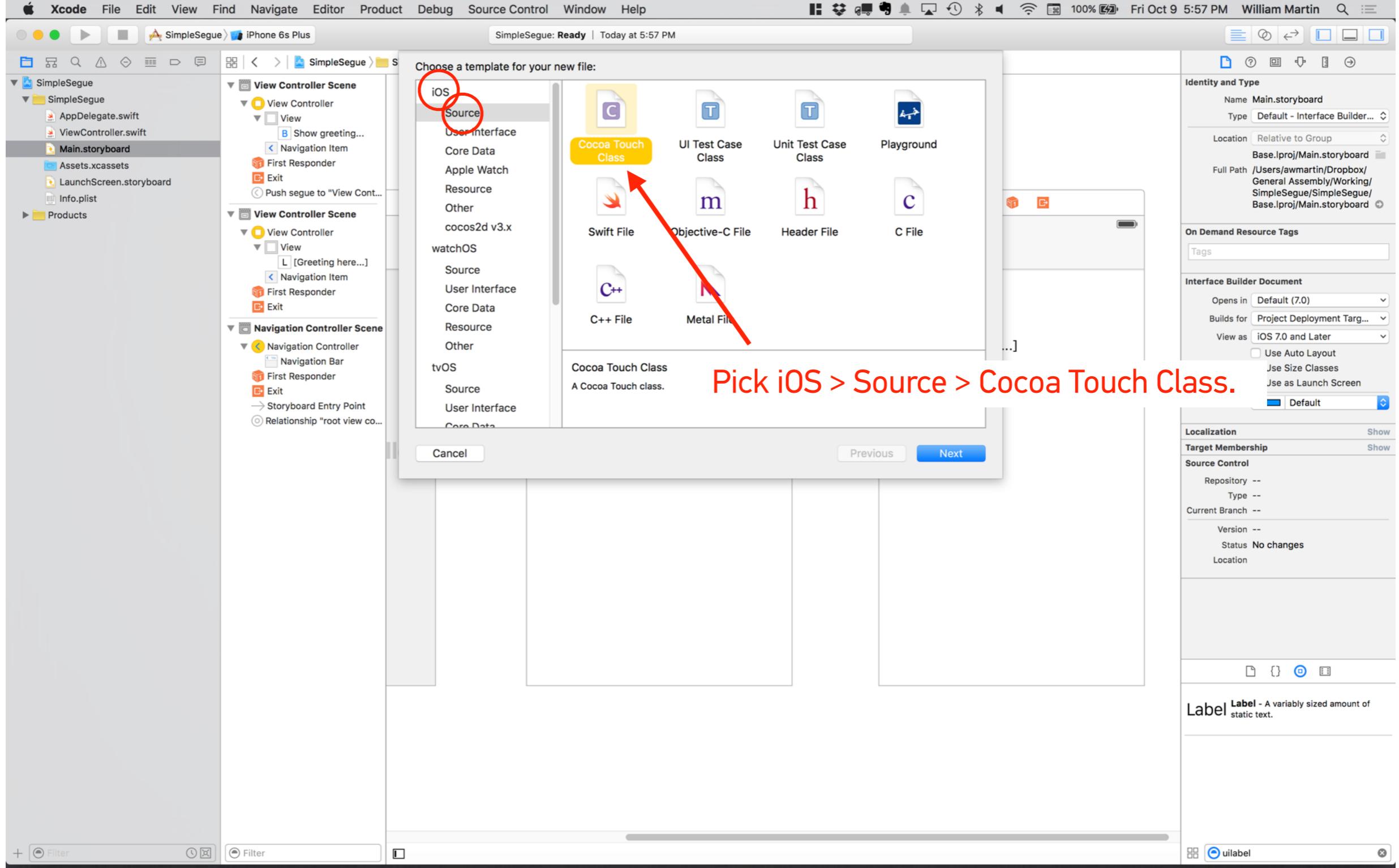
Status No changes

Location

Label Label - A variably sized amount of static text.

uibl





SimpleSegue Ready | Today at 5:57 PM

Choose options for your new file:

Class: **GreetingViewController**

Subclass of: **UIViewController**

Also create XIB file

iPhone

Language: Swift

Name the class GreetingViewController

Subclass of UIViewController

Cancel

Identity and Type

Name Main.storyboard

Type Default - Interface Builder...

Location Relative to Group

Base.lproj/Main.storyboard

Full Path /Users/awmartin/Dropbox/General Assembly/Working/SimpleSegue/SimpleSegue/Base.lproj/Main.storyboard

On Demand Resource Tags

Tags

Interface Builder Document

Opens in Default (7.0)

Builds for Project Deployment Targ...

View as iOS 7.0 and Later

Use Auto Layout

Use Size Classes

Use as Launch Screen

Global Tint Default

Show

Repository --

Type --

Current Branch --

Version --

Status No changes

Location

Label Label - A variably sized amount of static text.

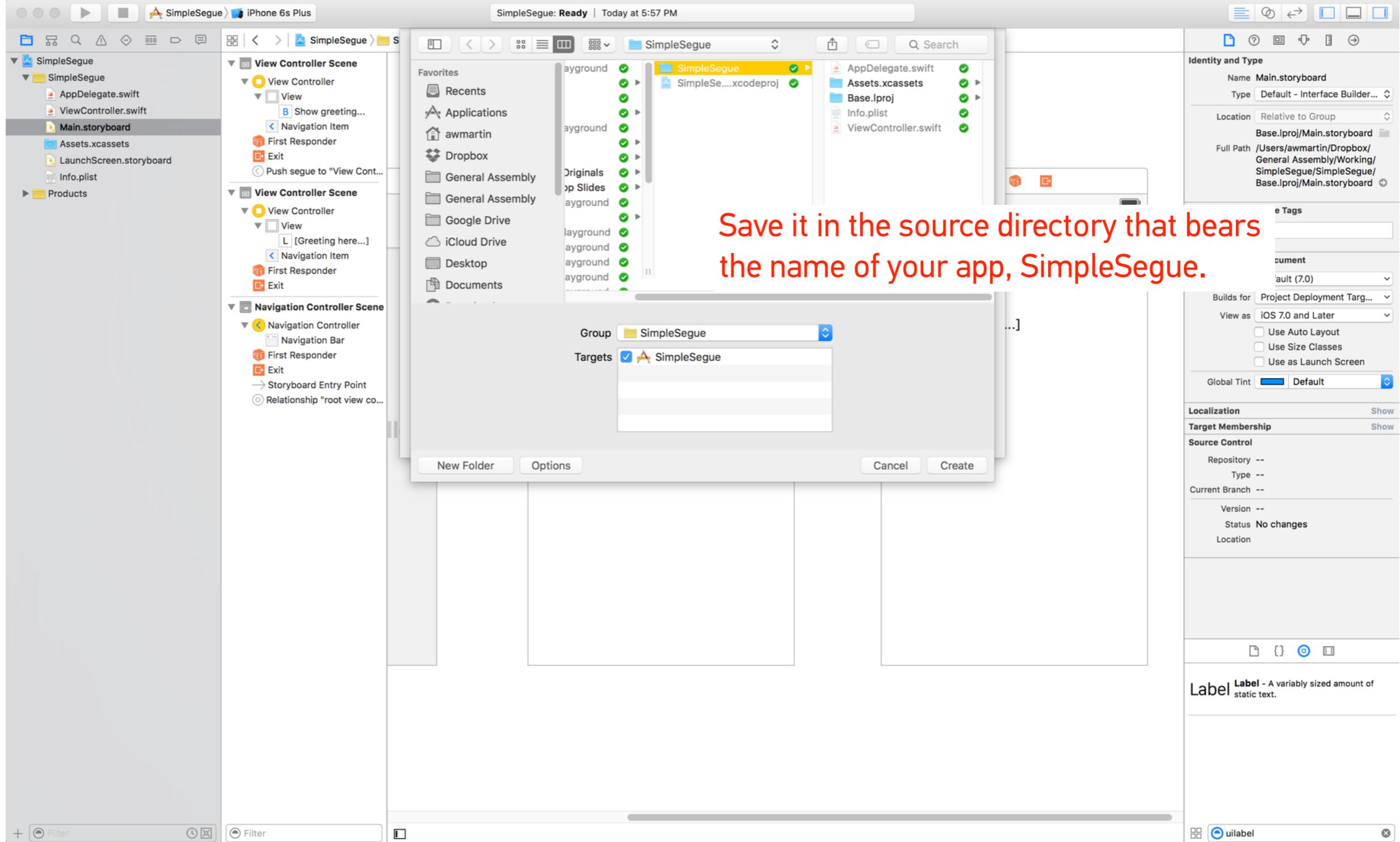
uibl

+ Filter

Filter

Filter

uibl



SimpleSegue > iPhone 6s Plus SimpleSegue: Ready | Today at 5:57 PM

SimpleSegue > SimpleSegue > GreetingViewController.swift > No Selection

```
// GreetingViewController.swift
// SimpleSegue
//
// Created by William Martin on 10/9/15.
// Copyright © 2015 Anomalus. All rights reserved.
//
import UIKit
class GreetingViewController: UIViewController {
    override func viewDidLoad() {
        super.viewDidLoad()
        // Do any additional setup after loading the view.
    }
    override func didReceiveMemoryWarning() {
        super.didReceiveMemoryWarning()
        // Dispose of any resources that can be recreated.
    }
    /*
    // MARK: - Navigation
    // In a storyboard-based application, you will often want to do a little preparation before navigation
    override func prepareForSegue(segue: UIStoryboardSegue, sender: AnyObject?) {
        // Get the new view controller using segue.destinationViewController.
        // Pass the selected object to the new view controller.
    }
*/
}

```

Identity and Type

- Name: GreetingViewController.swift
- Type: Default - Swift Source
- Location: Relative to Group
- Full Path: /Users/awmartin/Dropbox/General Assembly/Working/SimpleSegue/SimpleSegue/GreetingViewController.swift

On Demand Resource Tags

Only resources are taggable

Target Membership

SimpleSegue

Text Settings

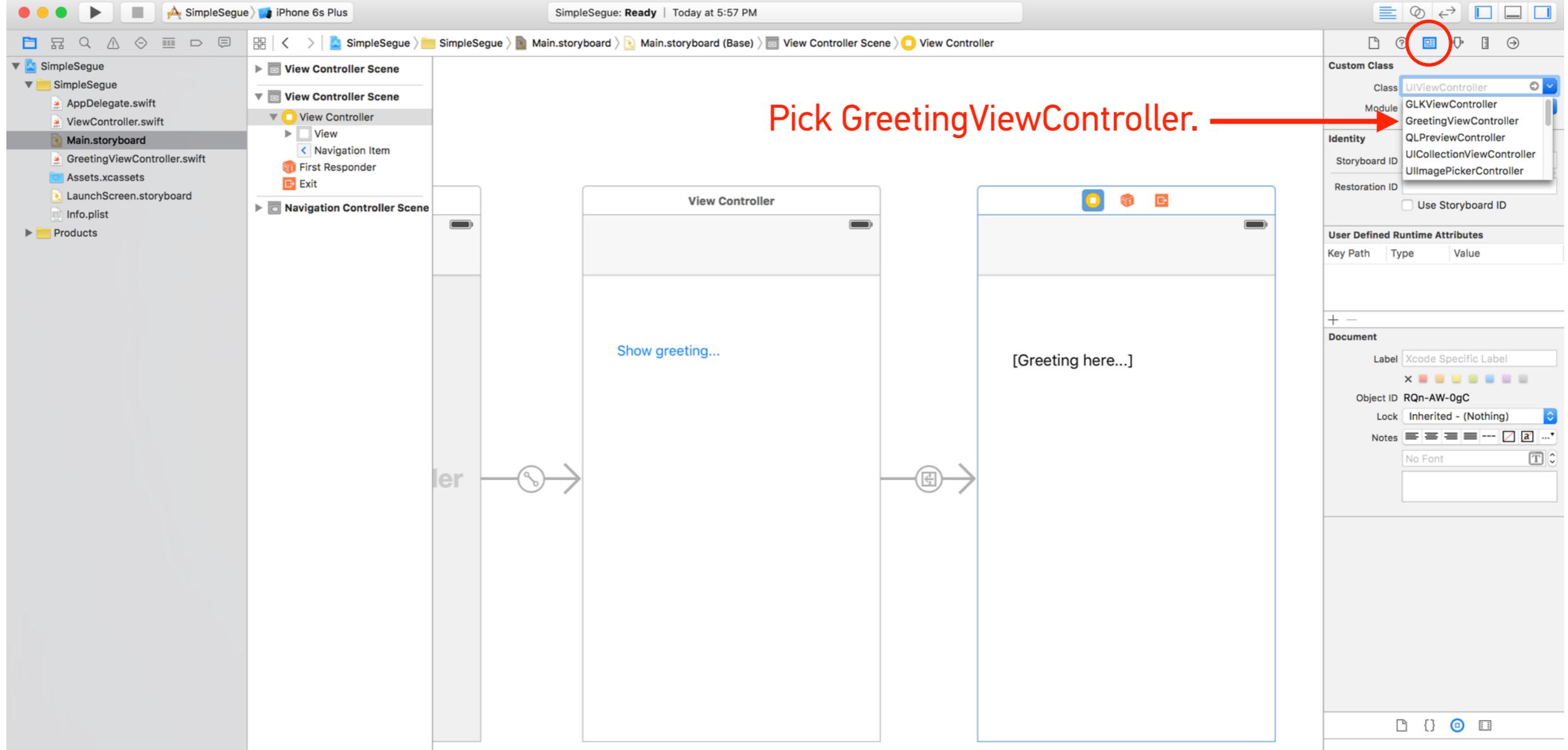
- Text Encoding: Unicode (UTF-8)
- Line Endings: Default - OS X / Unix (LF)
- Indent Using: Spaces
- Widths: 4 Tab 4 Indent
- Wrap lines

Source Control

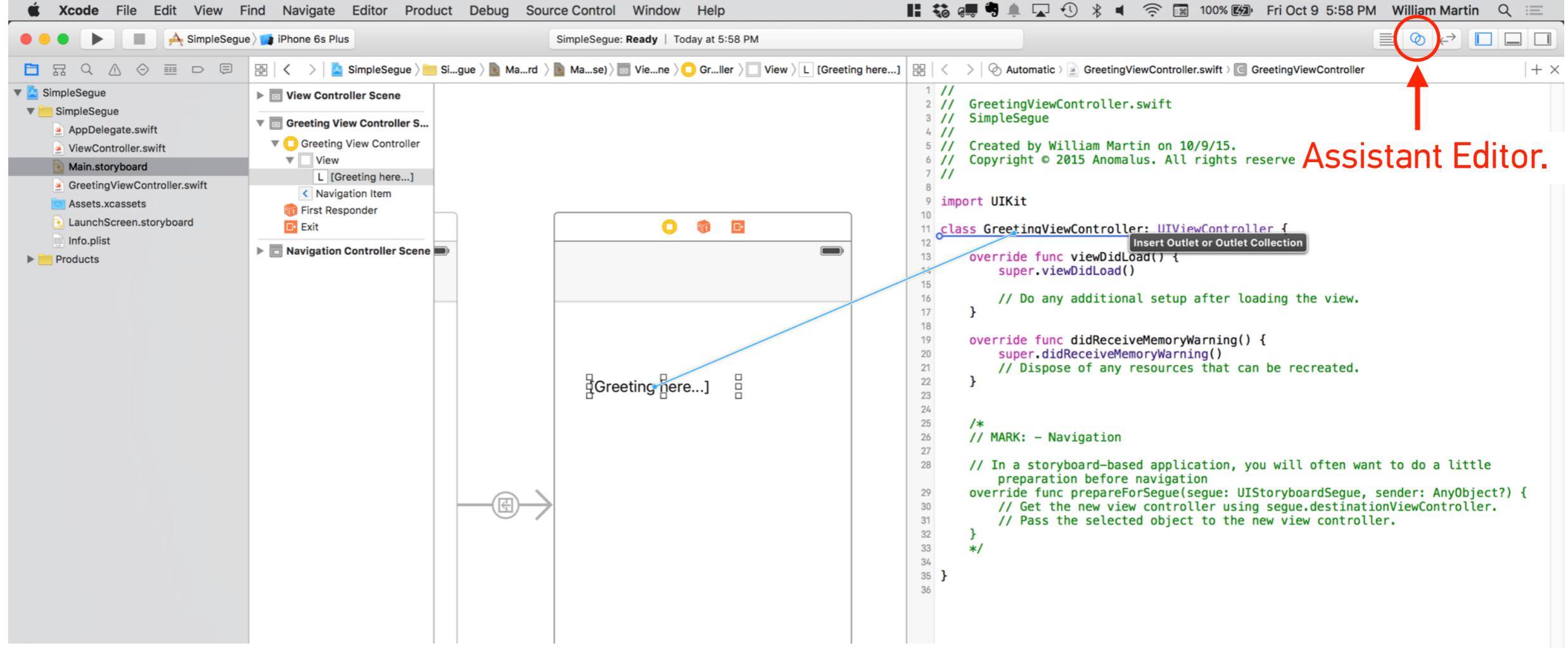
- Repository --
- Type --
- Current Branch --
- Version --
- Status: No changes
- Location

Label Label - A variably sized amount of static text.

The new file should look something like this.

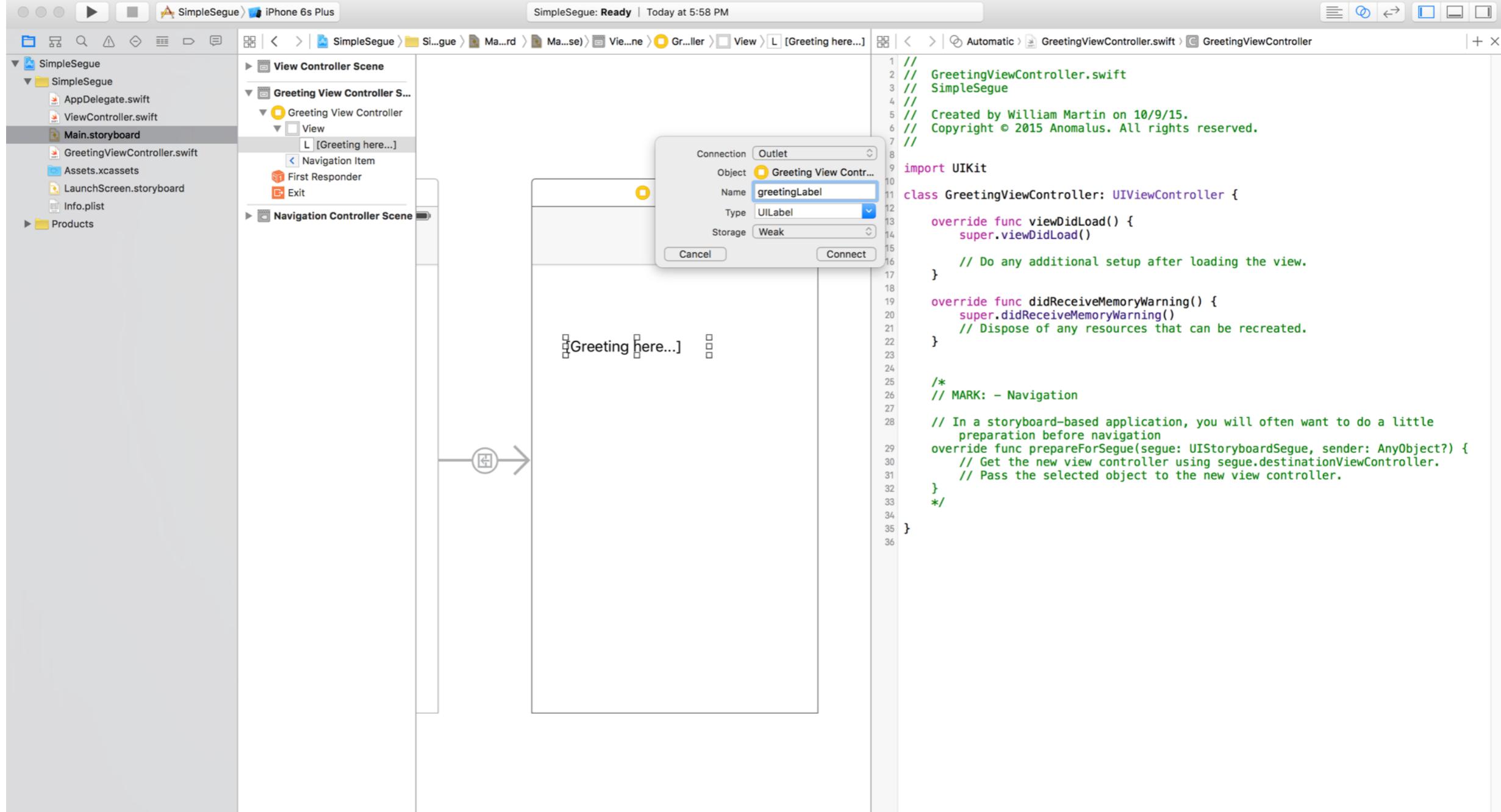


Navigate back to Main.storyboard. Select the second View Controller. In the Identity Inspector, select GreetingViewController from the Class dropdown.



Keep Main.storyboard and the GreetingViewController selected. Select the Assistant Editor from the upper-right toolbar. Make sure the right-hand panel shows GreetingViewController.swift, the same file you just created.

CTRL-drag from the UILabel to the code on the right.



Create an IBOutlet and name it greetingLabel. Click Connect.

The screenshot shows the Xcode interface with the following details:

- Top Bar:** Shows the Xcode menu bar (File, Edit, View, Find, Navigate, Editor, Product, Debug, Source Control, Window, Help), system status icons (battery, signal, etc.), and the date/time (Fri Oct 9 6:00 PM).
- Toolbar:** Standard Xcode toolbar with icons for file operations.
- Project Navigator:** Shows the project structure under "SimpleSegue".
- Editor:** Displays the code for `GreetingViewController.swift`. Two specific lines of code are highlighted with red arrows:
 - Line 14: `var greetingMessage : String!`
 - Line 21: `self.greetingLabel.text = self.greetingMessage`
- Identity and Type:** Inspector panel showing the file's properties: Name (GreetingViewController.swift), Type (Default - Swift Source), Location (Relative to Group), Full Path (/Users/awmartin/Dropbox/General Assembly/Working/SimpleSegue/SimpleSegue/GreetingViewController.swift).
- On Demand Resource Tags:** Inspector panel showing "Only resources are taggable".
- Target Membership:** Inspector panel showing the target is "SimpleSegue".
- Text Settings:** Inspector panel showing Text Encoding (Unicode (UTF-8)), Line Endings (Default - OS X / Unix (LF)), Indent Using (Spaces), Widths (4 Tab, 4 Indent), and Wrap lines checked.
- Source Control:** Inspector panel showing Repository, Type, Current Branch, Version, Status (No changes), and Location.
- Bottom Bar:** Shows a search bar with "Filter" and a search icon, and a "uilabel" entry in the dock.

Go back to the regular editor and view `GreetingViewController.swift`.

Add the two lines of code shown.

- The first is a property `greetingMessage`.
- The other sets the text of the `UILabel` to that message.

The screenshot shows the Xcode interface with the following details:

- Project Navigator:** Shows the project structure with files like ViewController.swift, AppDelegate.swift, Main.storyboard, GreetingViewController.swift, Assets.xcassets, LaunchScreen.storyboard, and Info.plist.
- Editor:** Displays the code for ViewController.swift. The `prepareForSegue` method is highlighted with a yellow background. A callout box provides documentation for the method:

```
Notifies the view controller that a segue is about to be performed. More...
```
- Identity and Type:** Shows the file is named ViewController.swift, type is Default - Swift Source, and location is Relative to Group.
- On Demand Resource Tags:** Shows Only resources are taggable.
- Target Membership:** Shows the target is SimpleSegue.
- Text Settings:** Shows Text Encoding is Default - Unicode (UTF-8), Line Endings is Default - OS X / Unix (LF), Indent Using is Spaces, and Widths are set to 4 for Tab and 4 for Indent. Wrap lines is checked.
- Source Control:** Shows Repository, Type, Current Branch, Version, Status (No changes), and Location.
- Bottom Bar:** Shows a Filter button and a uilabel icon.

Open ViewController.swift. Add the method `prepareToSegue` by typing "prep" then ESC where shown. Type Return.

Xcode File Edit View Find Navigate Editor Product Debug Source Control Window Help

SimpleSegue > iPhone 6s Plus SimpleSegue: Ready | Today at 6:01 PM

SimpleSegue SimpleSegue AppDelegate.swift ViewController.swift Main.storyboard GreetingViewController.swift Assets.xcassets LaunchScreen.storyboard Info.plist Products

```
// ViewController.swift
// SimpleSegue
//
// Created by William Martin on 10/9/15.
// Copyright © 2015 Anomalus. All rights reserved.

import UIKit

class ViewController: UIViewController {

    override func viewDidLoad() {
        super.viewDidLoad()
        // Do any additional setup after loading the view, typically from a nib.
    }

    override func didReceiveMemoryWarning() {
        super.didReceiveMemoryWarning()
        // Dispose of any resources that can be recreated.
    }

    override func prepareForSegue(segue: UIStoryboardSegue, sender: AnyObject?) {
        let greetingVC = segue.destinationViewController as! GreetingViewController
    }
}
```

This method is called when a segue begins. We get access to the segue instance itself, and we can extract a reference to the GreetingViewController at the end of the segue using this line:

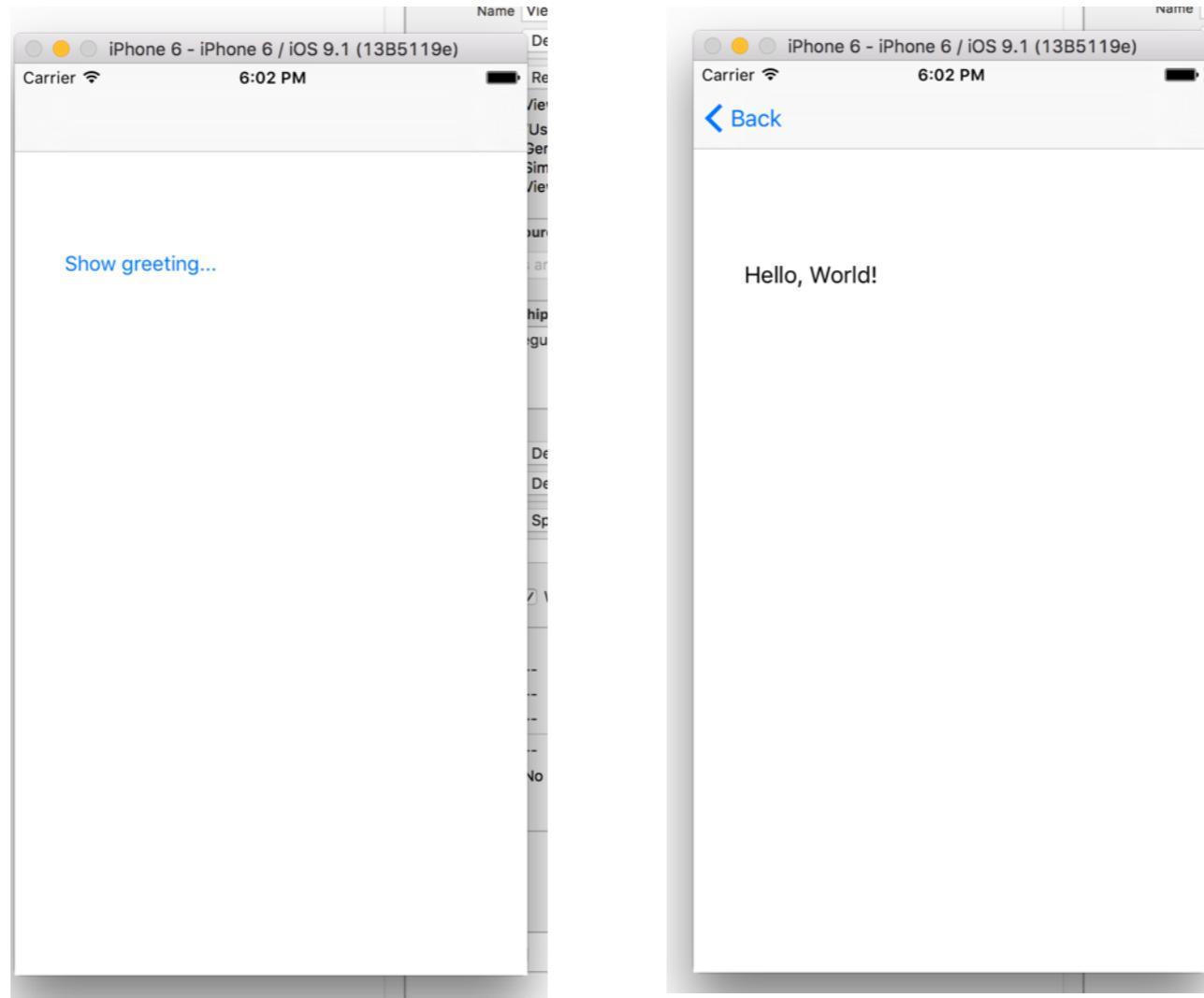
```
let greetingVC = segue.destinationViewController as! GreetingViewController
```

The screenshot shows the Xcode interface with the project navigation bar at the top. The left sidebar lists project files: SimpleSegue, AppDelegate.swift, ViewController.swift (which is selected), Main.storyboard, GreetingViewController.swift, Assets.xcassets, LaunchScreen.storyboard, and Info.plist. The main editor area displays the ViewController.swift code:

```
1 // ViewController.swift
2 // SimpleSegue
3 // Created by William Martin on 10/9/15.
4 // Copyright © 2015 Anomalous. All rights reserved.
5
6 import UIKit
7
8 class ViewController: UIViewController {
9
10    override func viewDidLoad() {
11        super.viewDidLoad()
12        // Do any additional setup after loading the view, typically from a nib.
13    }
14
15    override func didReceiveMemoryWarning() {
16        super.didReceiveMemoryWarning()
17        // Dispose of any resources that can be recreated.
18    }
19
20    override func prepareForSegue(segue: UIStoryboardSegue, sender: AnyObject?) {
21        let greetingVC = segue.destinationViewController as! GreetingViewController
22
23        greetingVC.greetingMessage = "Hello, World!"
24    }
25
26 }
```

A red arrow points to the line of code `greetingVC.greetingMessage = "Hello, World!"`, which is underlined in red.

Finally, this final line of code actually transfers the data from ViewController to GreetingViewController. Once we know the type of the destination View Controller, we can access its property, greetingMessage, and set it to the new value: "Hello, World!"



When running the app, tapping the button takes you to the GreetingViewController, but the UILabel should say "Hello, World!"