



# iOS apps development

## Bootcamp

### Day 2



Lead by Armands Berzins

# Possible agenda

	Monday	Tuesday	Wednesday	Thursday	Friday
9:00-12:00 Lecture time	Swift language	Xcode and iOS development essentials	FireBase and MapKit	WebKit, CameraKit	Freestyle app development
12:00-13:00			Lunch time		
13:00-18:00 Practical time	Swift Task	Traffic light app	Map Task	MyFiles App	Freestyle app development and demonstration

```
var optional: Int? = nil
```

```
optional = 1
print(optional)
```

**Optional(1)**

```
var condition: Bool?
```

```
if condition {  
    // c  
}
```

✖ Value of optional type 'Bool?' must be unwrapped to a value of type 'Bool'

Coalesce using '??' to provide a default when the optional value contains 'nil'



Fix

Force-unwrap using '!' to abort execution if the optional value contains 'nil'

Fix



```
var optional: Int?
```

```
var notOptional = optional ?? 0
```

```
var notOptional = optional!
```

```
let author: String? = nil

if author != nil {
    print("Authors name is \(author!)")
} else {
    print("Author unknown")
}
```

```
if let notOptional = optional {  
    print(notOptional) // unwrapped non-optional value  
}  
  
guard let notOptional = optional else {  
    return  
}  
  
print(notOptional) // unwrapped non-optional value
```

```
let optional = optional?.chainedOptional()
```

**Declaration**

```
let optional: Type?
```

**Declared In**

MyPlayground.playground



# Welcome to Xcode

Version 9.2 (9C40b)



## Get started with a playground

Explore new ideas quickly and easily.



## Create a new Xcode project

Create an app for iPhone, iPad, Mac,

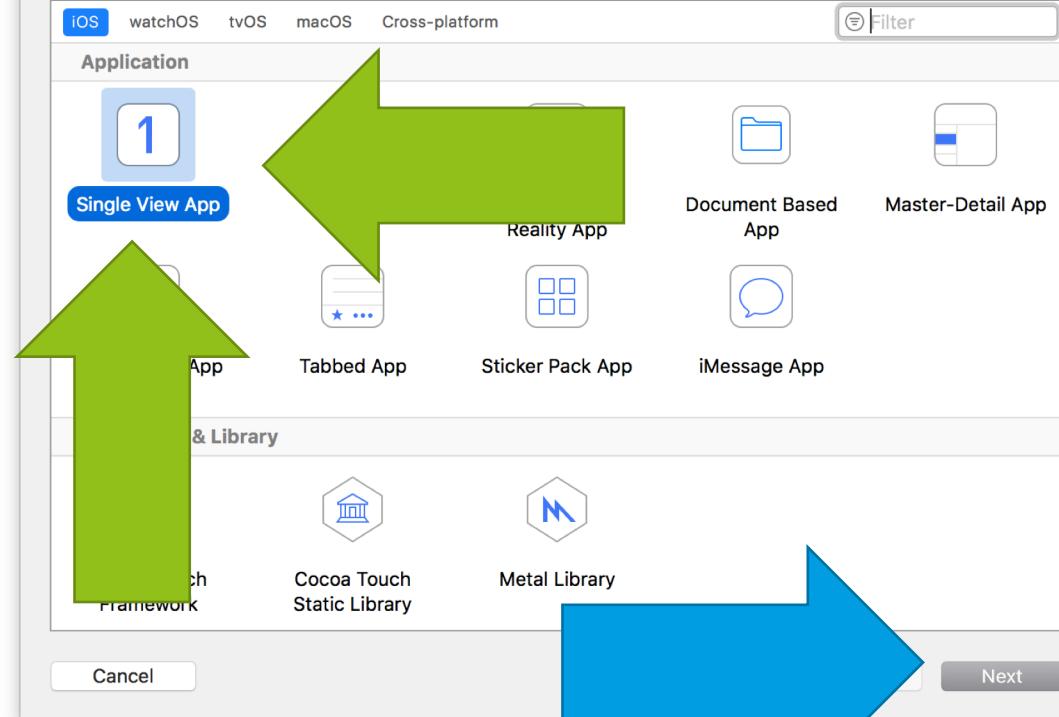


## Clone an existing project

Start working on something from an SCM repository.



Choose a template for your new project:



No Selection

No Matches

Choose options for your new project:

Product Name: theBestAppEver

Team: Armands Berzins

Organization Name: Accenture

Organization Identifier: com.developer.lcc

Bundle Identifier: com.developer.lcc.theBestAppEver

Language: Swift

Use Core Data

Include Unit Tests

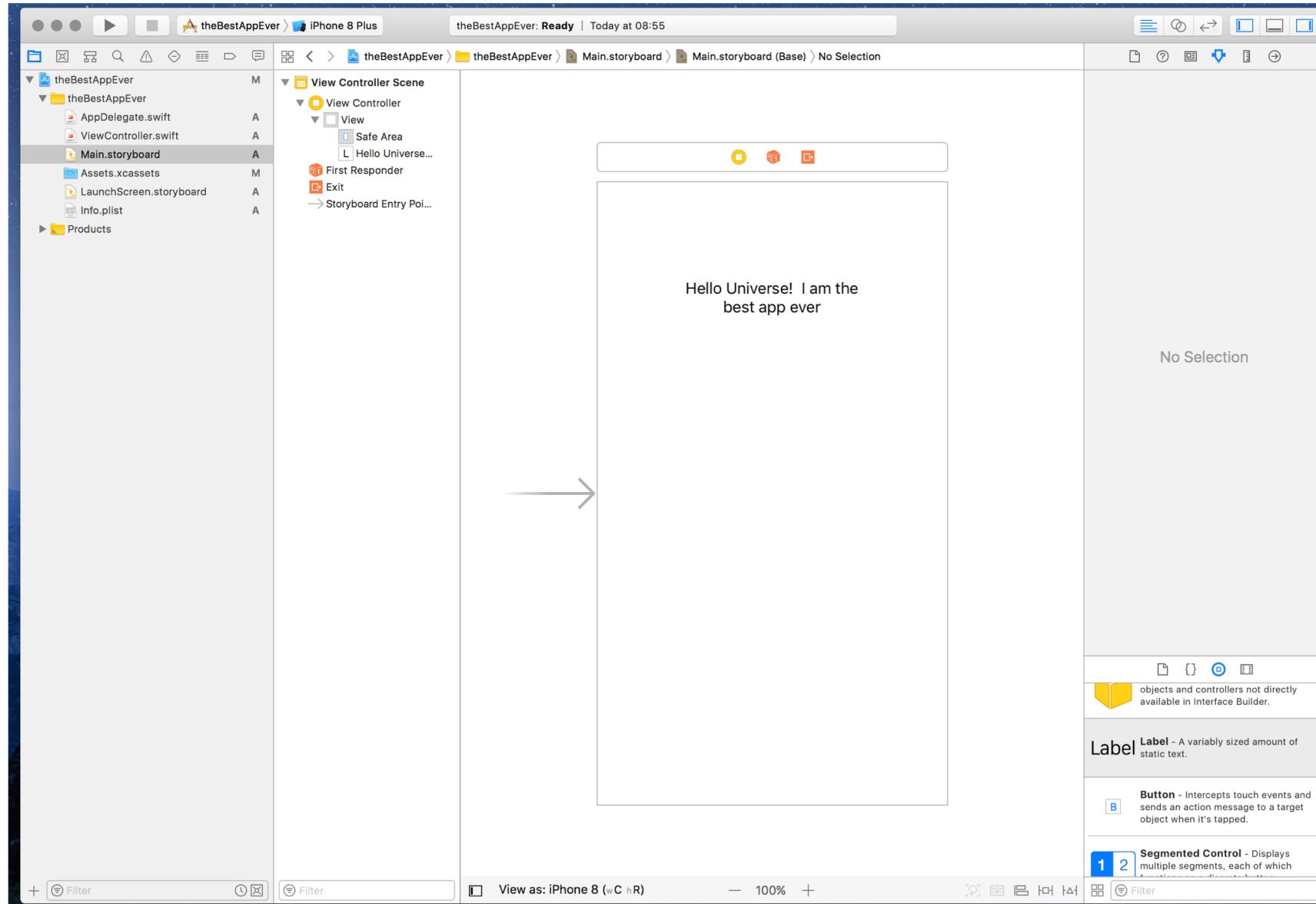
Include UI Tests

Cancel

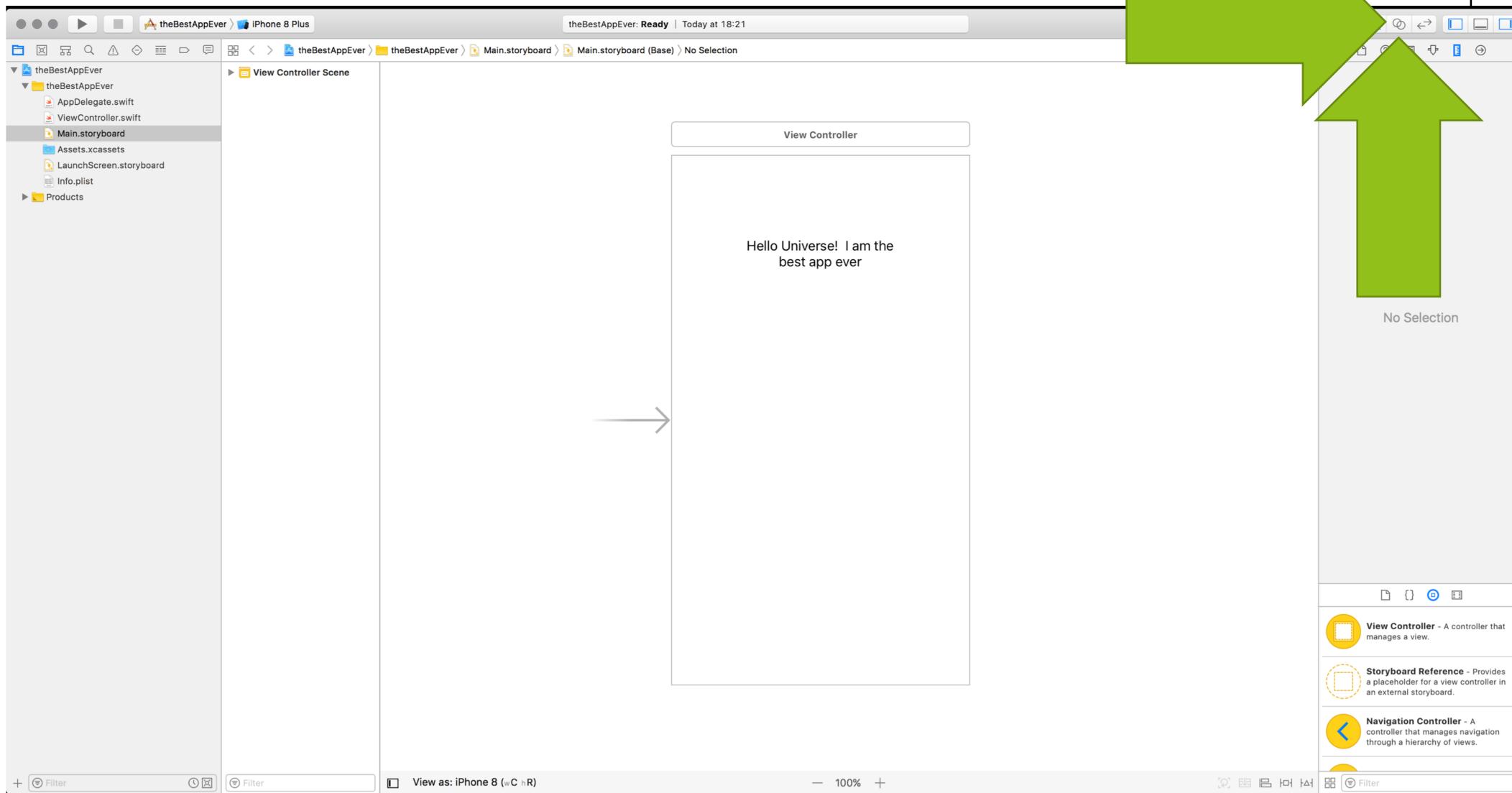
Previous

Next

# New project



# Storyboard connection



# Storyboard connection

theBestAppEver > iPhone 8 Plus

theBestAppEver: Ready | Today at 18:21

Main.storyboard (Base) > No Selection

Automatic > ViewController.swift > No Selection

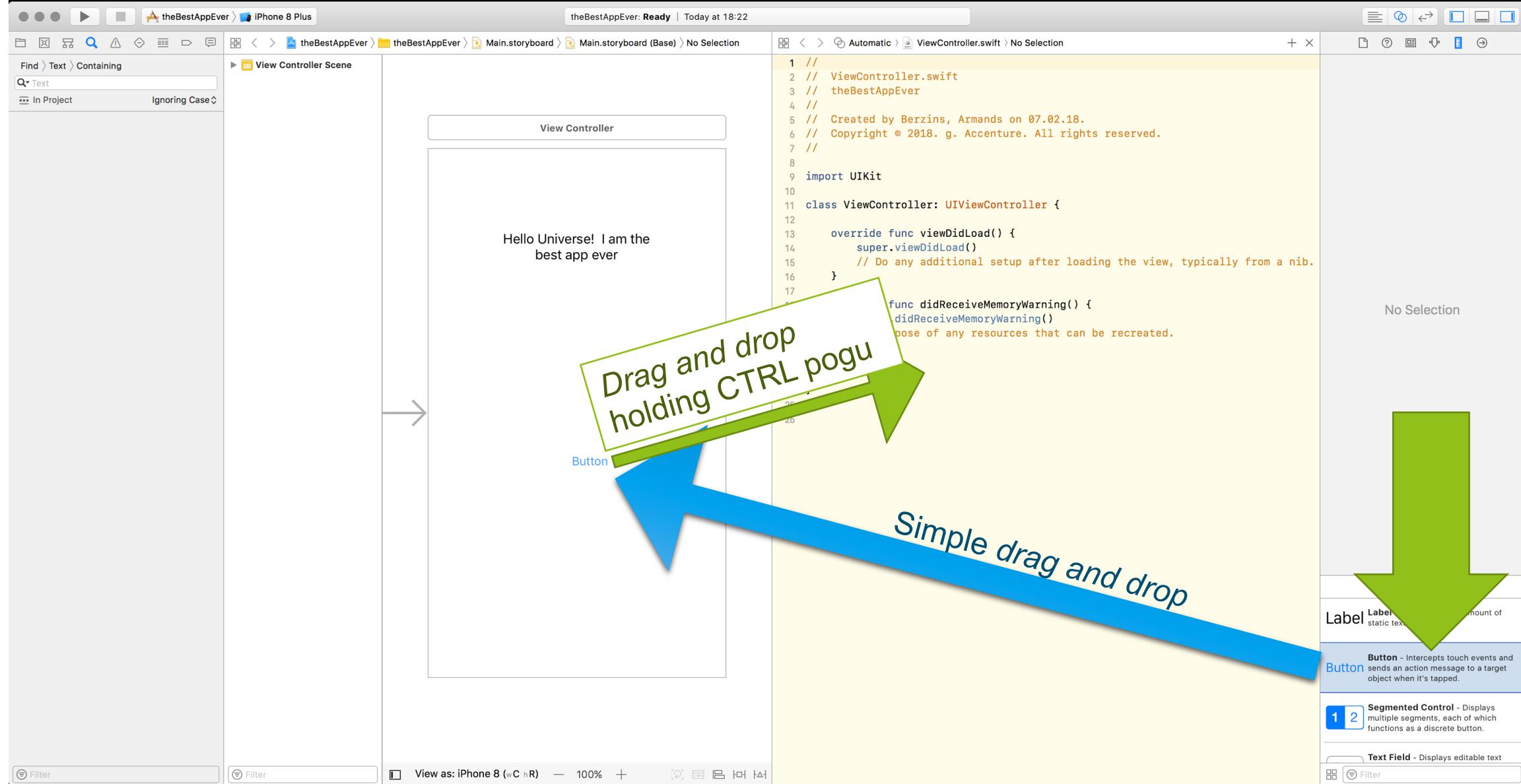
```
1 // ViewController.swift
2 // theBestAppEver
3 // Created by Berzins, Armands on 07.02.18.
4 //
5 // Copyright © 2018. g. Accenture. All rights reserved.
6 //
7 //
8 import UIKit
9
10 class ViewController: UIViewController {
11
12     override func viewDidLoad() {
13         super.viewDidLoad()
14         // Do any additional setup after loading the view, typically from a nib.
15     }
16
17     override func didReceiveMemoryWarning() {
18         super.didReceiveMemoryWarning()
19         // Dispose of any resources that can be recreated.
20     }
21
22
23
24 }
25
26 }
```

No Selection

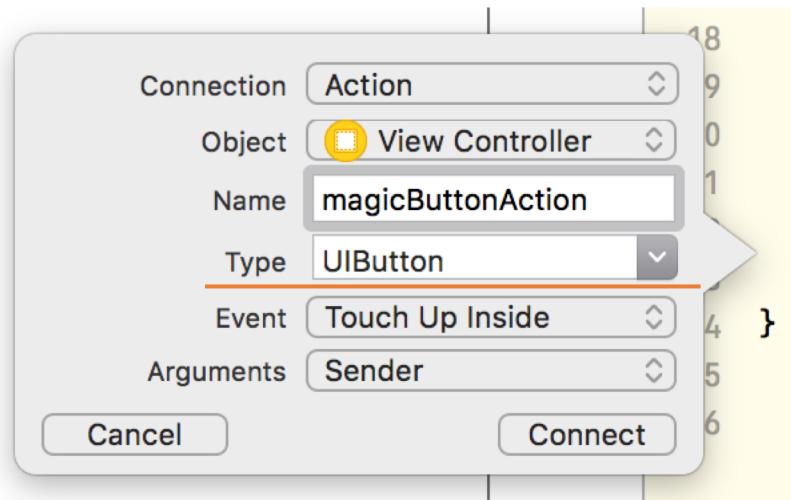
View Controller - A controller that manages a view.

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

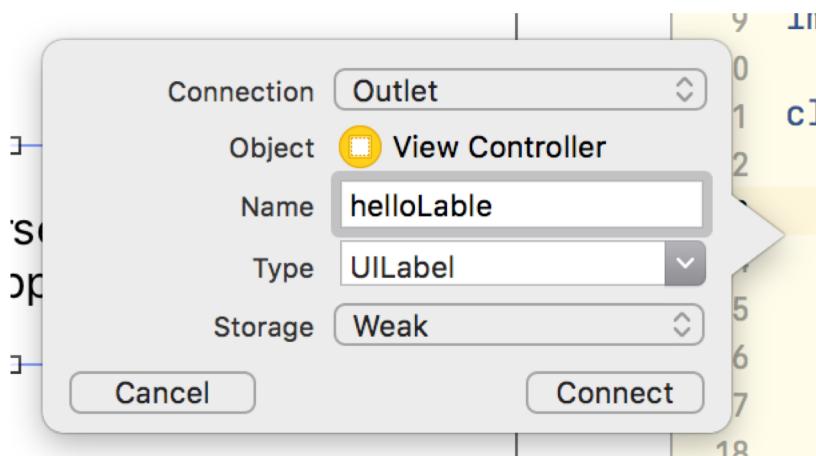
Navigation Controller - A controller that manages navigation through a hierarchy of views.



# Storyboard connection



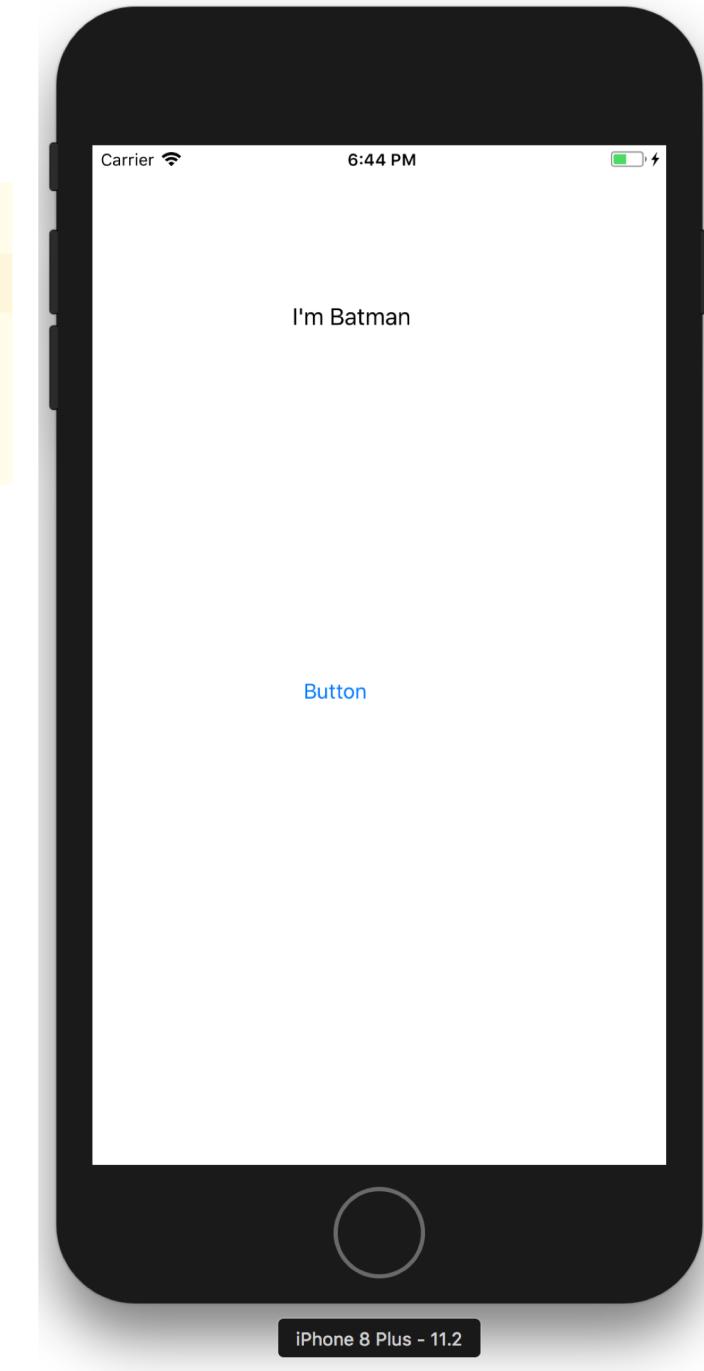
Connection: Action – Make a function place



Connection: Outlet – Adds UI object, so you can change its properties

# Storyboard connection

```
①     @IBAction func magicButtonAction(_ sender: UIButton) {  
27         helloLabel.text = "I'm Batman"  
28     }  
29  
30 }
```



# Debugging: Breakpoints and print()

The screenshot shows the Xcode interface during a debugging session. The top navigation bar indicates "Running theBestAppEver on iPhone 8 Plus". The left sidebar shows the project structure and various threads. The main editor area displays Swift code for a ViewController. A red arrow points from the line number 39 in the code to the "Breakpoint" button in the bottom-left corner of the editor. Another red arrow points from the printed output to the "Print" button in the bottom-left corner of the editor. The bottom panel shows the "Variables" and "Output" panes. In the Variables pane, there are several variables listed, including `sender` and `self` (both of type UIButton). In the Output pane, the result of the `print` statement is displayed: "I am: Bruce Wayne".

```
import UIKit
class ViewController: UIViewController {
    @IBOutlet weak var helloLabel: UILabel!
    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.
    }
    @IBAction func magicButtonAction(_ sender: UIButton) {
        let myName = "Bruce"
        let mySurname = "Wayne"
        let friendsName = "Clark"
        let friendsSurname = "Kent"
        var secretCode = 2
        let whoAmI = myName + " " + mySurname
        print("I am: \(whoAmI)")
        let whoIsHe = friendsName + friendsSurname
        for index in 1...whoIsHe.count {
            secretCode = 234 * (112 * index) + 4357639 / index - 2018
        }
        print(secretCode)
        helloLabel.text = "I'm Batman"
    }
}
```

No Selection

Thread 1: breakpoint 1.1

Variables

- sender = (UIButton) 0x00007fb6c8506760
- self = (theBestAppEver.ViewController) 0x00007fb6c8506400
- myName = (String) "Bruce"
- mySurname = (String) "Wayne"
- friendsName = (String) "Clark"
- friendsSurname = (String) "Kent"
- secretCode = (Int) 4382063
- whoAmI = (String) "Bruce Wayne"
- wholsHe = (String) "ClarkKent"
- index = (String.IndexDistance) 1

Output

I am: Bruce Wayne  
(lldb)

# Traffic light task

- Traffic light turns on every morning at 6:00 and turns off at 23:59;
- Since turning on it is working by constant cycle – 2 minutes green, 1 minute yellow and 3 minutes red and then 1 minute yellow.
- User is using UIDatePicker in Time mode to select time to check.
- When time picker has ended scrolling, traffic light view changes its color.
- It should not be possible for traffic light to reach *turned off* state

## Optional requirements

- App saves last selected time, and I can see it when I reopen the app (Look for Swift User Defaults)
- App looks good on all screen sizes and orientation (Layout Constraints)
- Save history and view history on second view on table view controller



# Traffic light task

