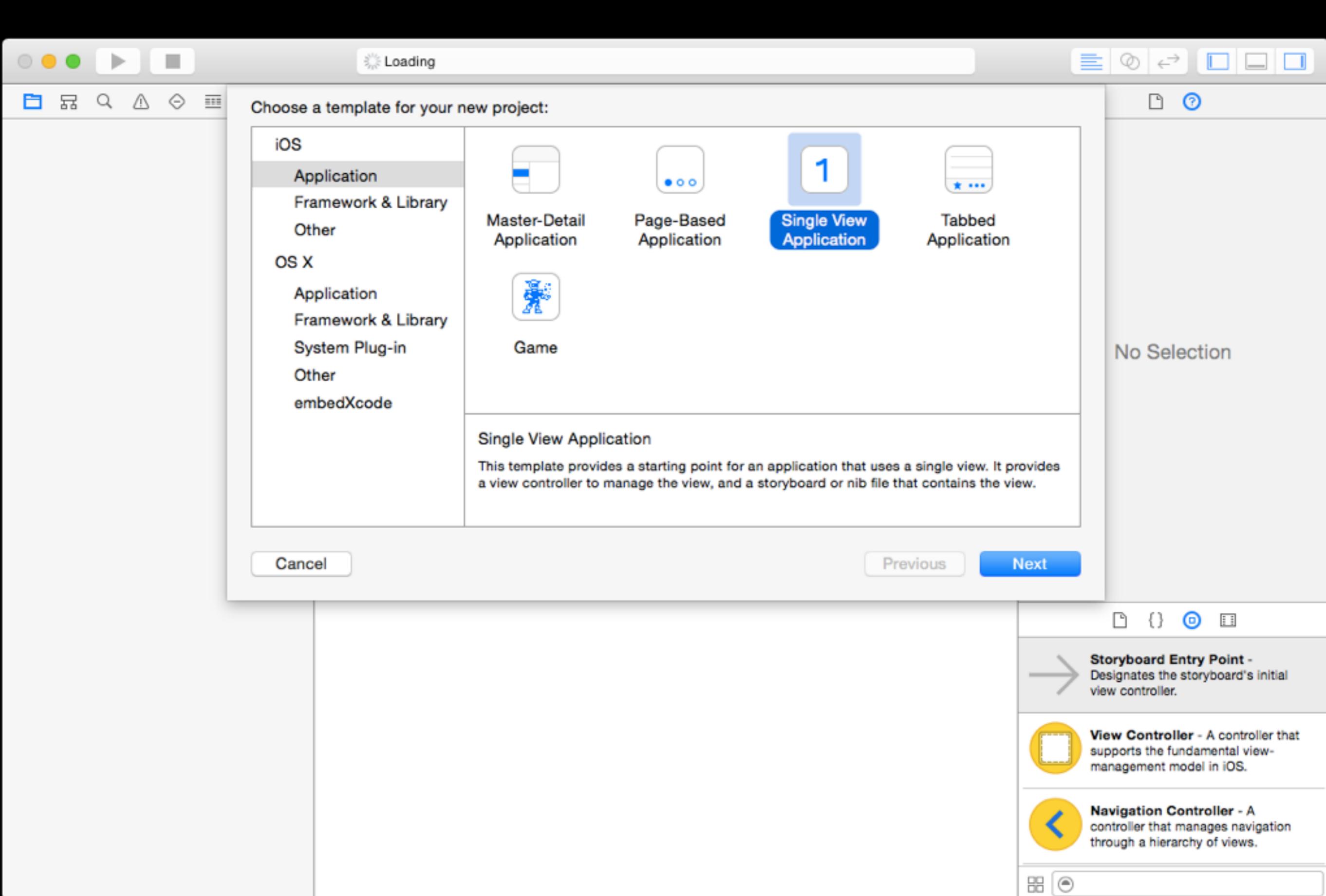
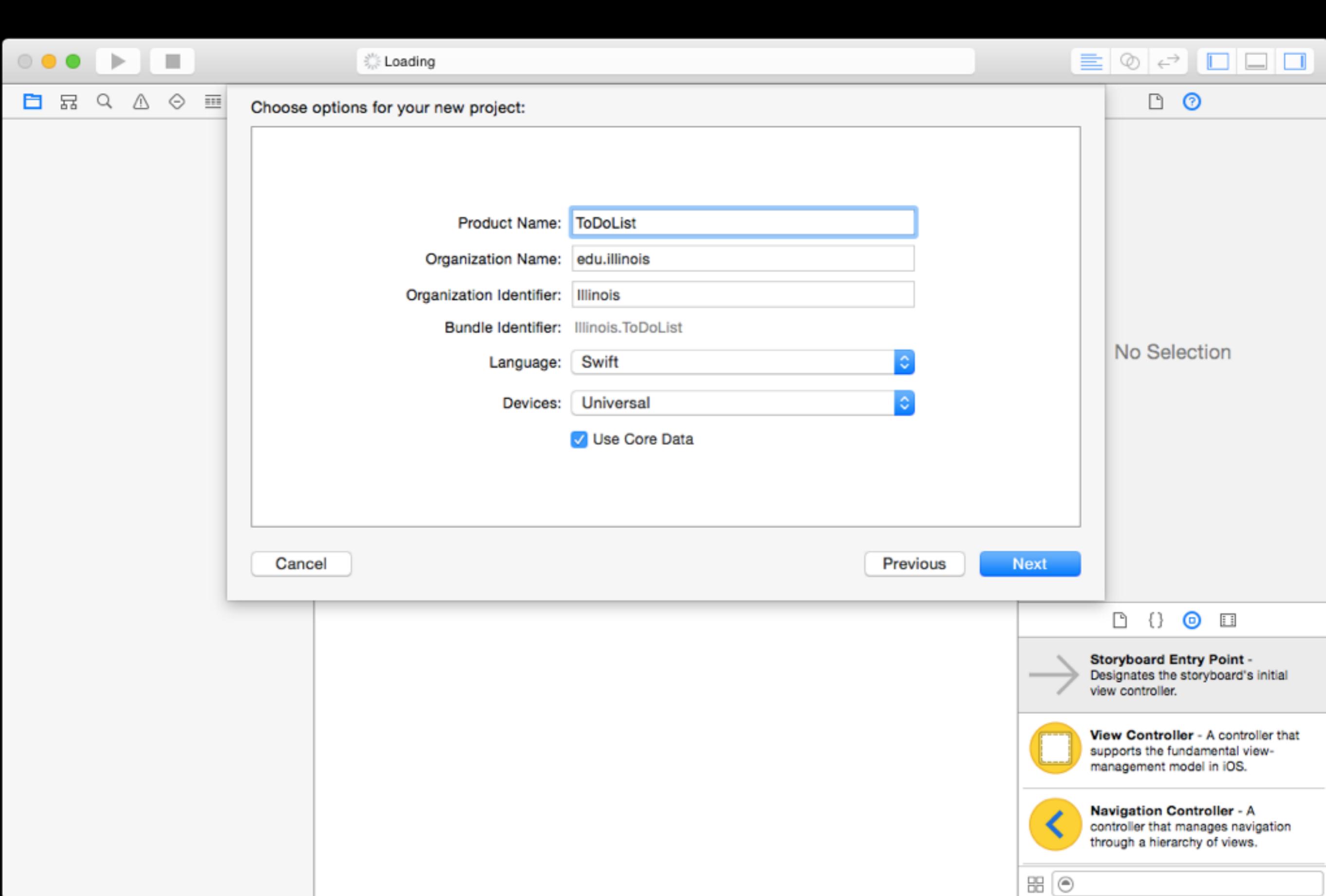


To Do List: MVC

Create a new project on Xcode. I selected Single-View Application as a template so a storyboard and view controller is already created. Name the project and select Swift as the language.





iPhone 6 | ToDoList: Ready | Today at 9:18 AM

General Capabilities Info Build Settings Build Phases Build Rules

Quick Help
No Quick Help

Bundle Identifier: Illinois.ToDoList

Version: 1.0

Build: 1

Team: None

Deployment Target: 8.2

Devices: Universal

Main Interface: Main

Device Orientation:

- Portrait
- Upside Down
- Landscape Left
- Landscape Right

Status Bar Style: Default

Hide status bar

App Icons and Launch Images

App Icons Source: AppIcon

Launch Images Source: Use Asset Catalog

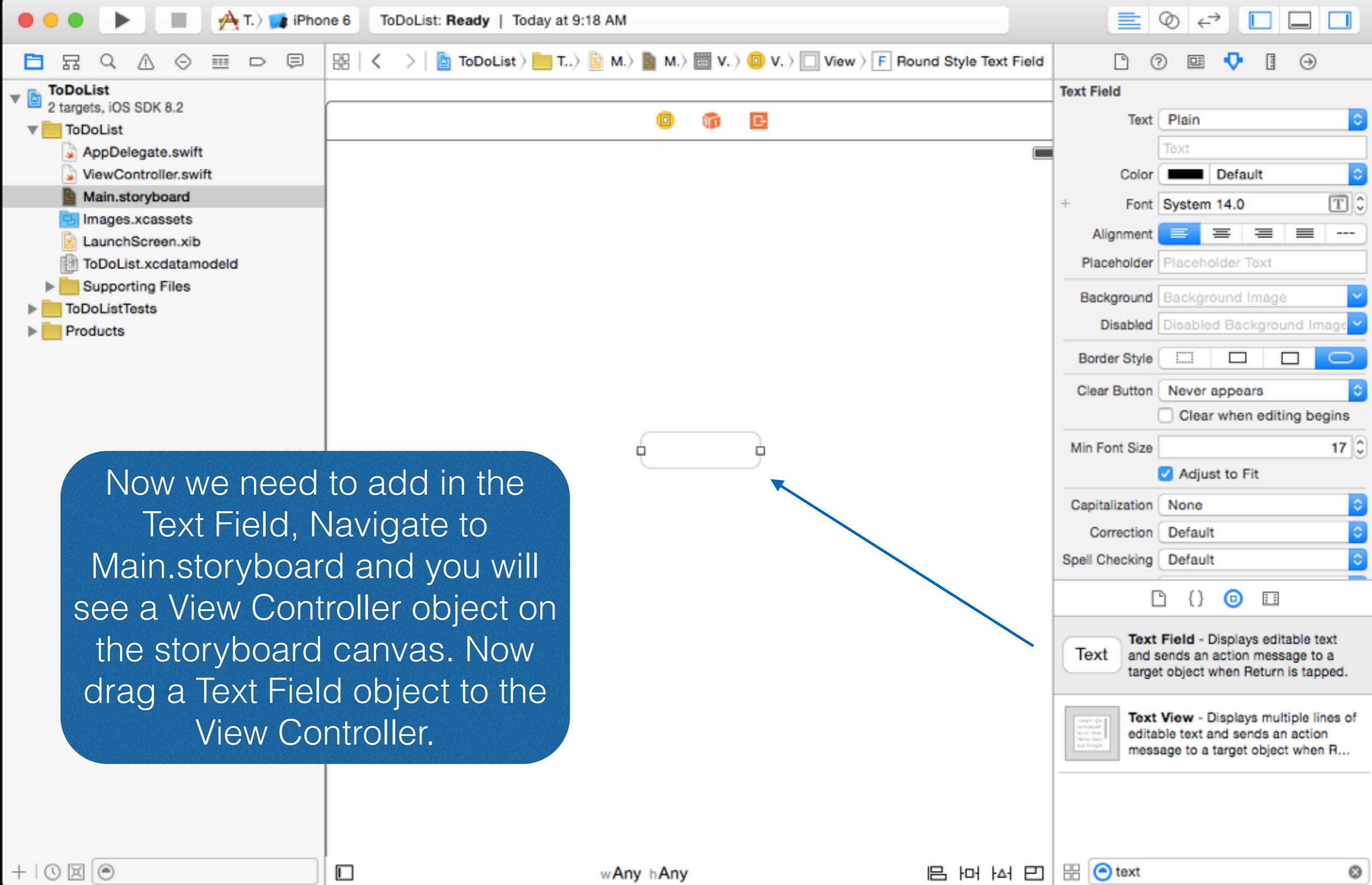
Launch Screen File: LaunchScreen

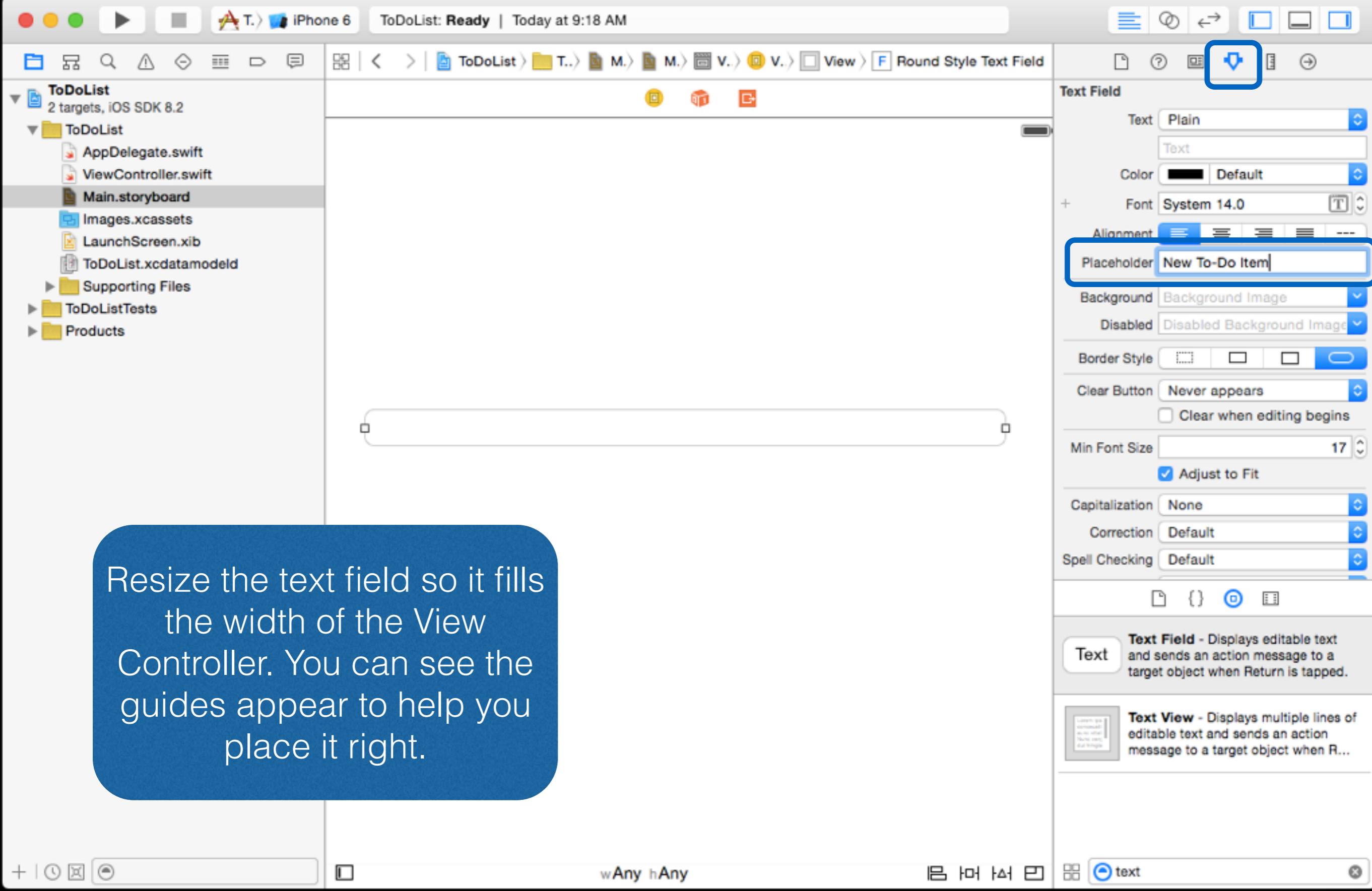
Storyboard Entry Point - Designates the storyboard's initial view controller.

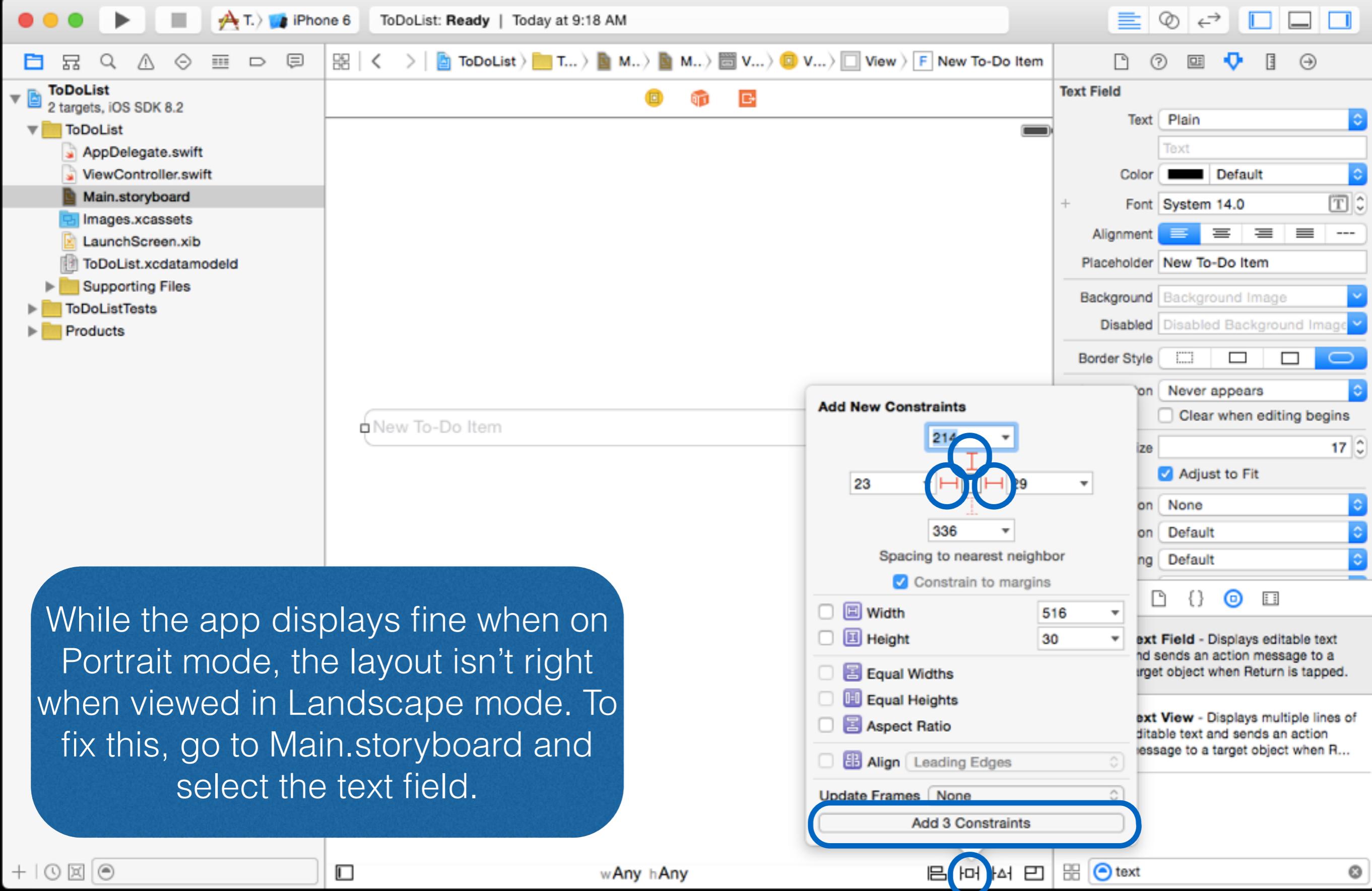
View Controller - A controller that supports the fundamental view-management model in iOS.

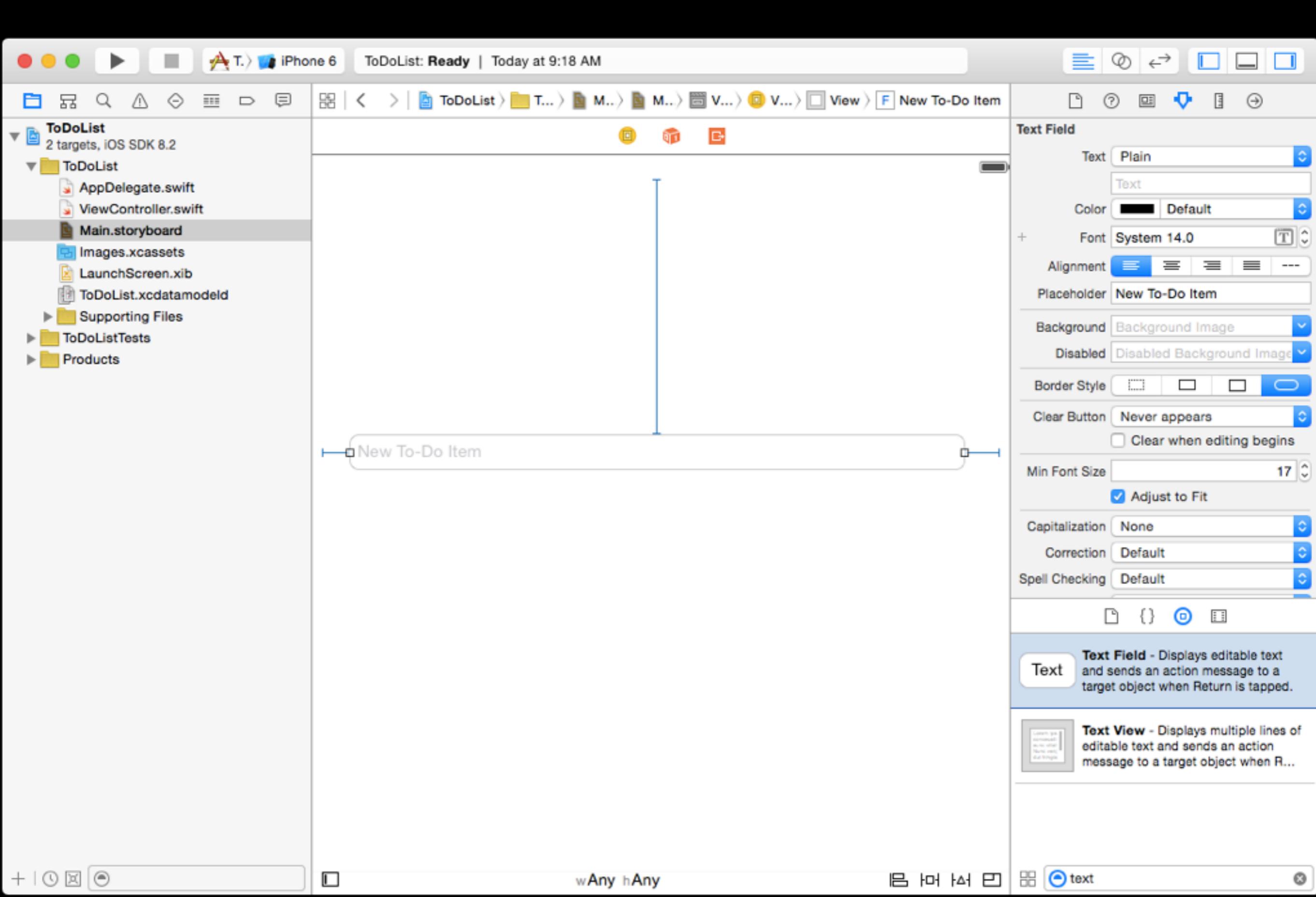
Navigation Controller - A controller that manages navigation through a hierarchy of views.

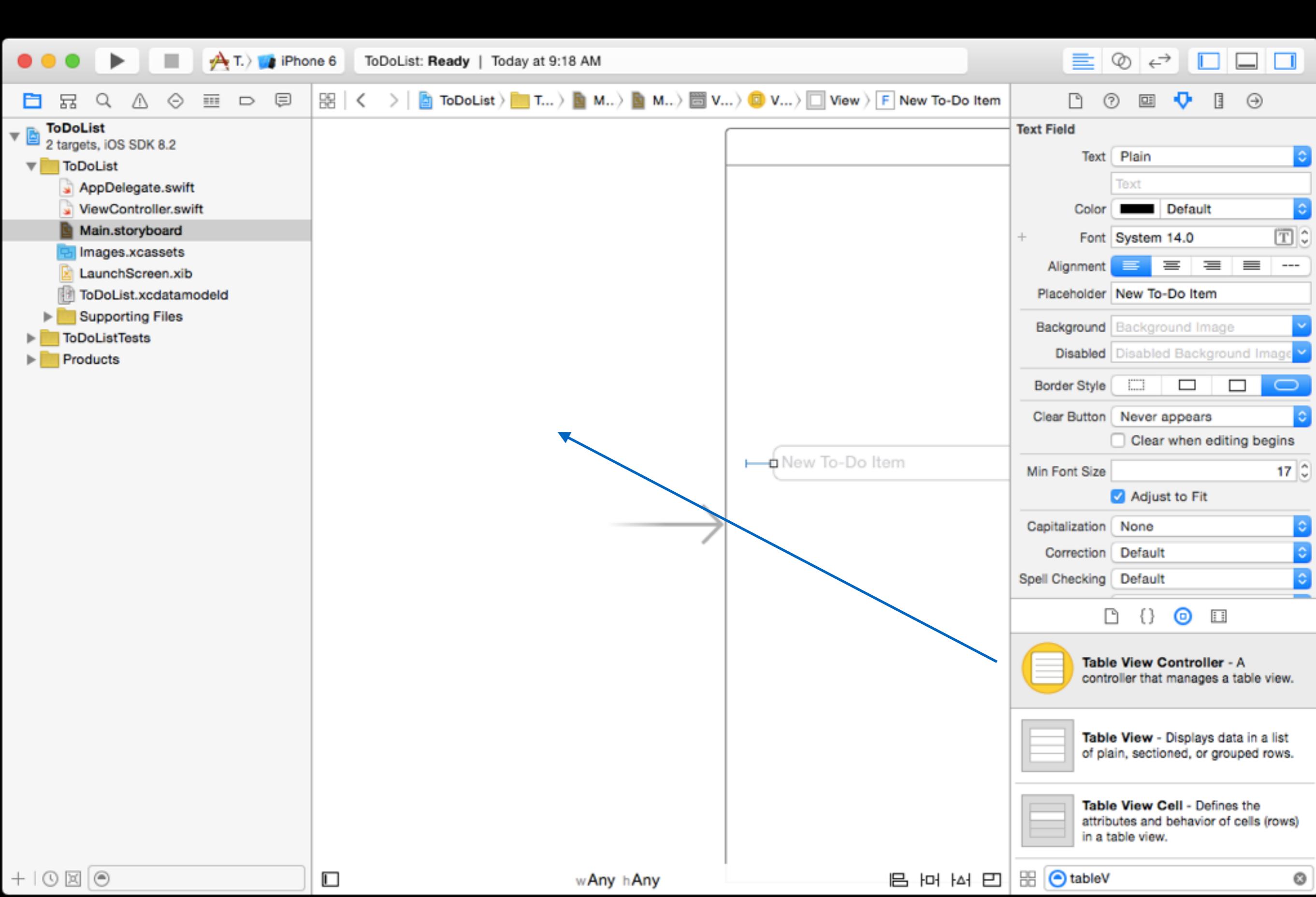
Embedded Binaries











iPhone 6 | ToDoList: Ready | Today at 9:18 AM

2

Simulated Metrics

- Size Inferred
- Orientation Inferred
- Status Bar Inferred
- Top Bar Inferred
- Bottom Bar Inferred

Table View Controller

- Selection Clear on Appearance
- Refreshing Disabled

View Controller

- Title
- Layout Adjust Scroll View Insets
- Hide Bottom Bar on Push
- Resize View From NIB
- Use Full Screen (Deprecated)
- Extend Edges Under Top Bars
- Under Bottom Bars
- Under Opaque Bars

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

Table View - Displays data in a list of plain, sectioned, or grouped rows.

Table View Cell - Defines the attributes and behavior of cells (rows) in a table view.

+ | () []

wAny hAny

tableV

Main.storyboard

Prototype Cells

Table View
Prototype Content

ToDoList

2 targets, iOS SDK 8.2

ToDoList

AppDelegate.swift

ViewController.swift

Images.xcassets

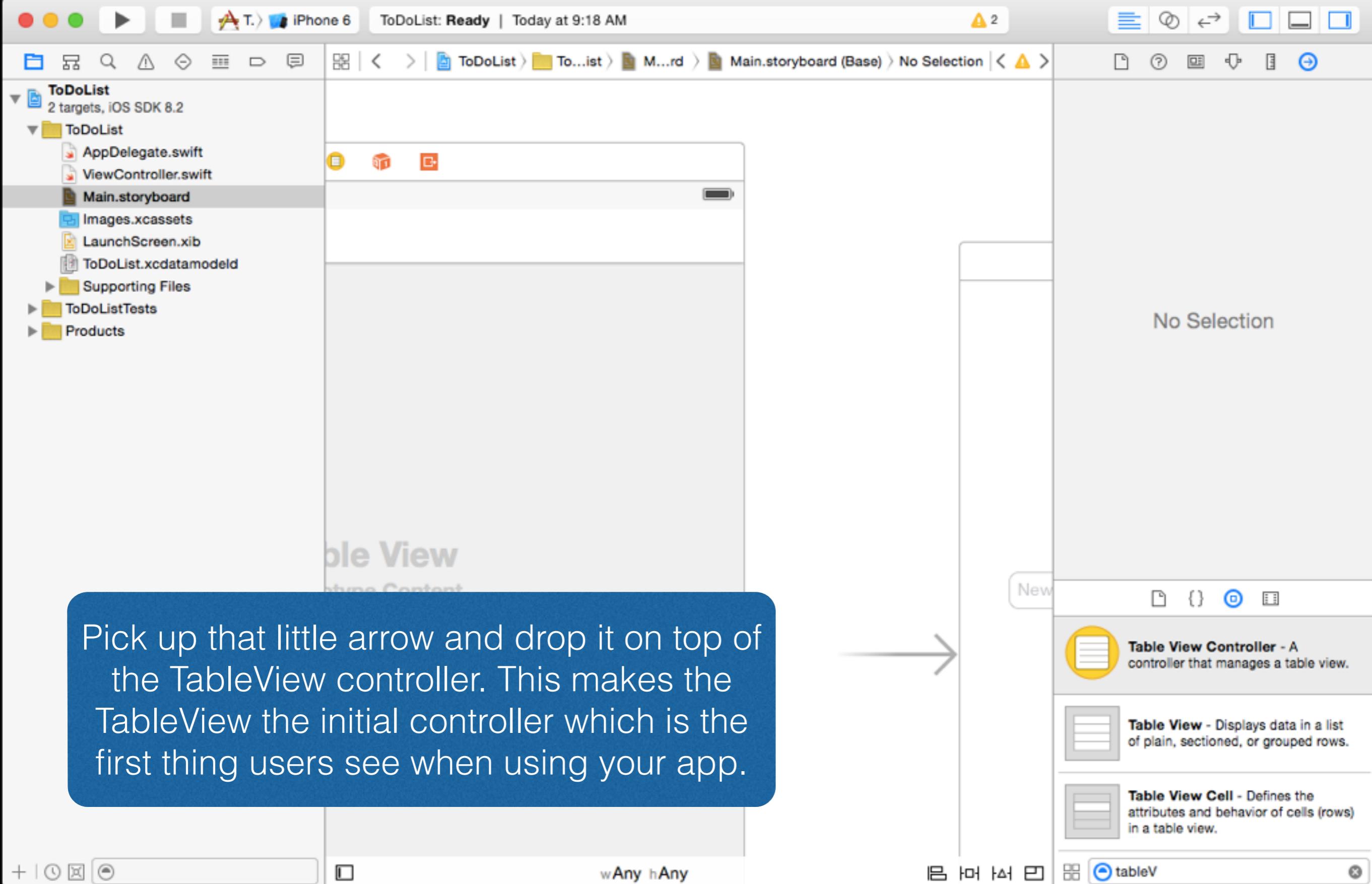
LaunchScreen.xib

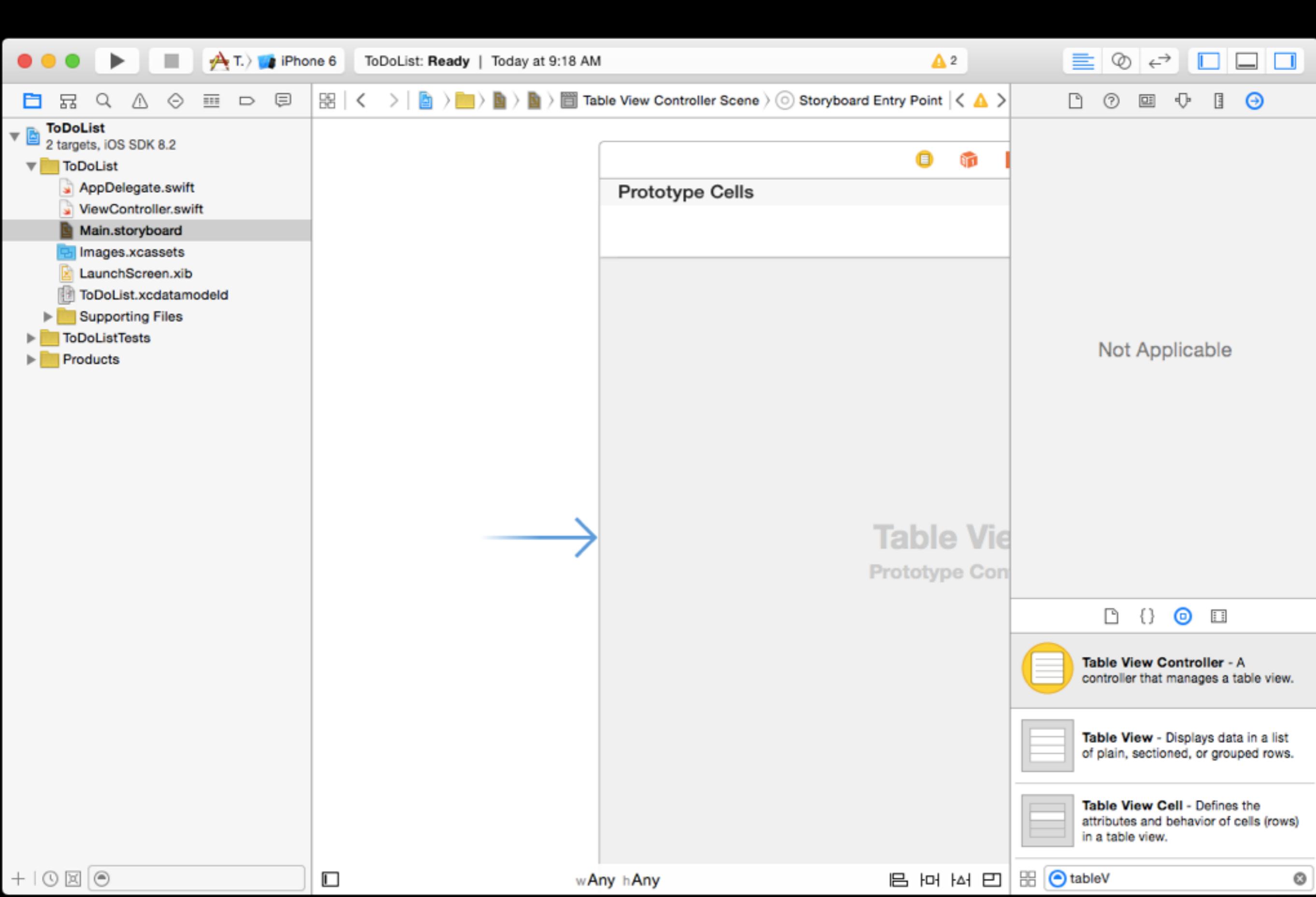
ToDoList.xcdatamodeld

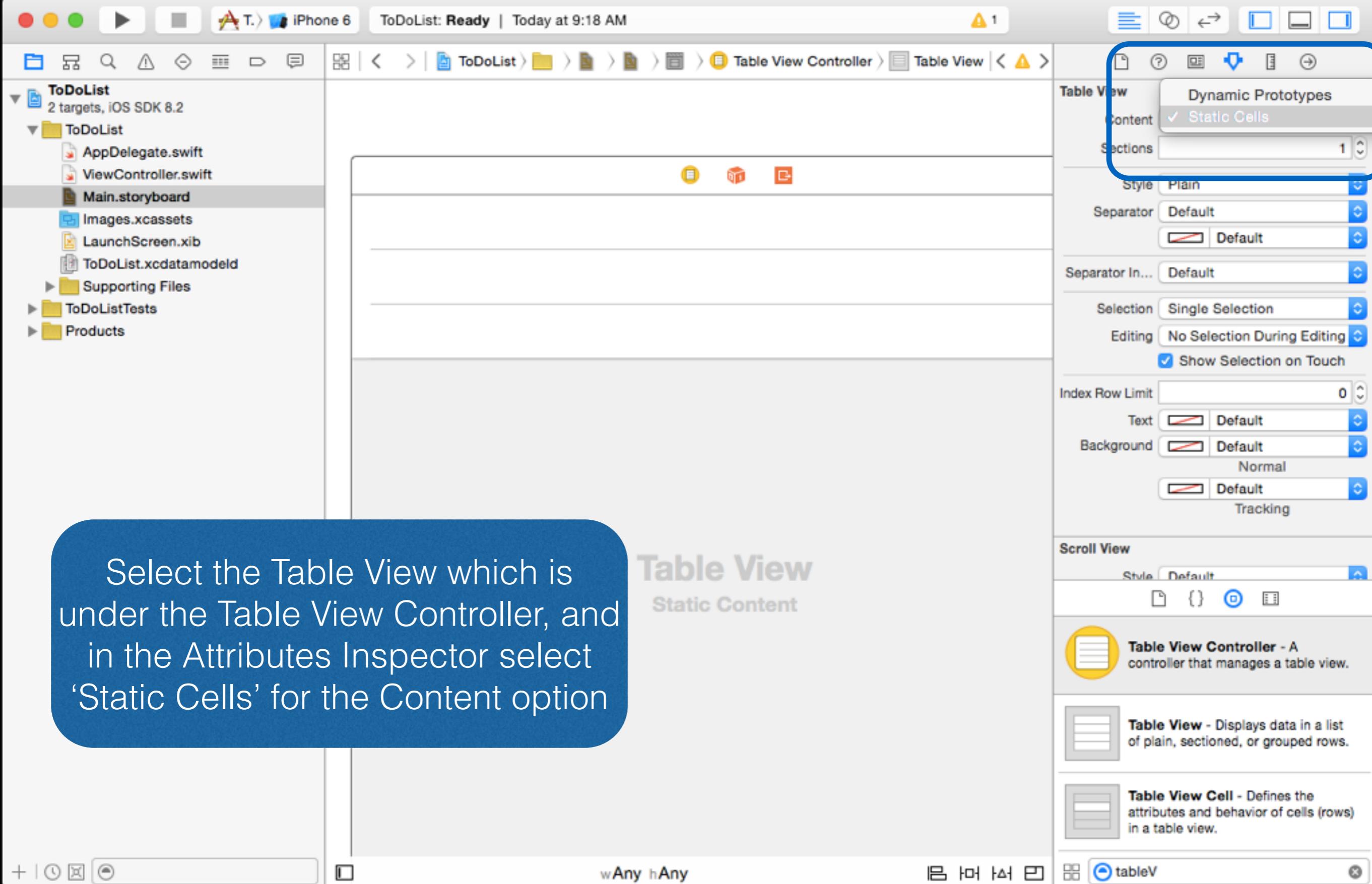
Supporting Files

ToDoListTests

Products







Select the top cell and select 'Basic' for the Style option.

Table View
Static Content

Table View Cell

Style Basic

Image

Identifier Reuse Identifier

Selection Default

Accessory None

Editing Acc. None

Indentation Level 0 Width 10

Indent While Editing

Shows Re-order Controls

Separator Default Insets

View

Mode Scale To Fill

Tag 0

Interaction User Interaction Enabled

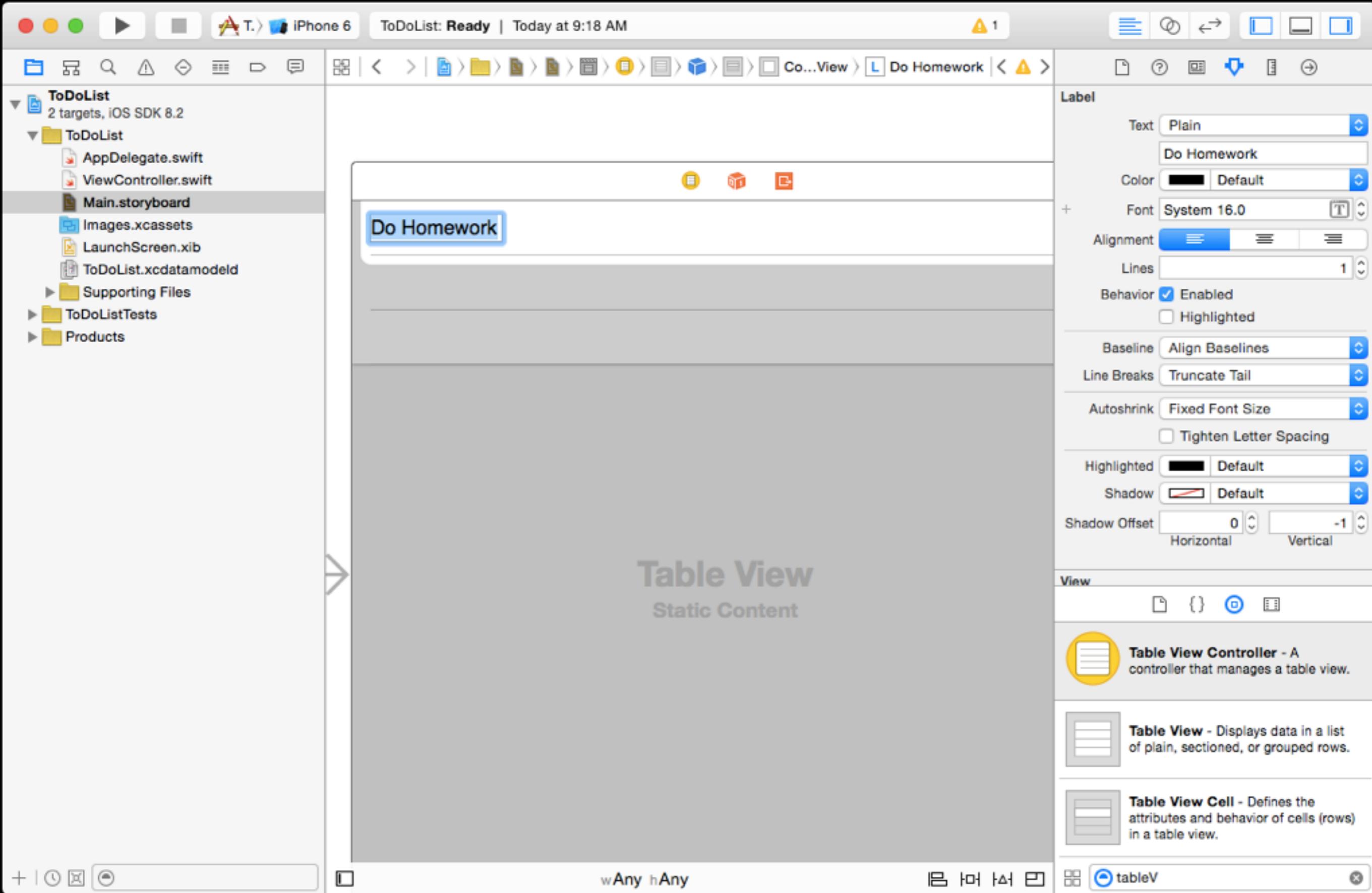
Multiple Touch

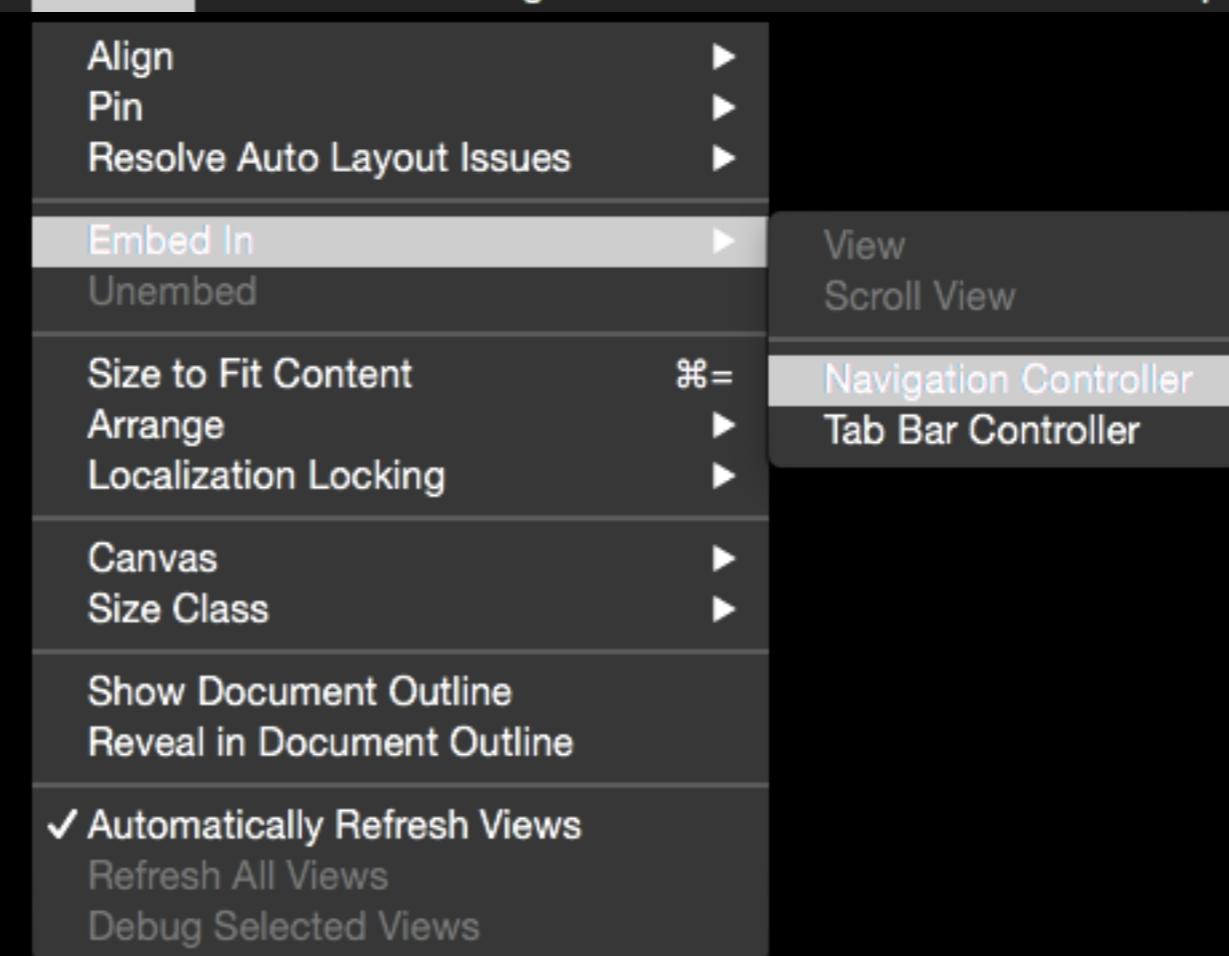
Table View Controller - A controller that manages a table view.

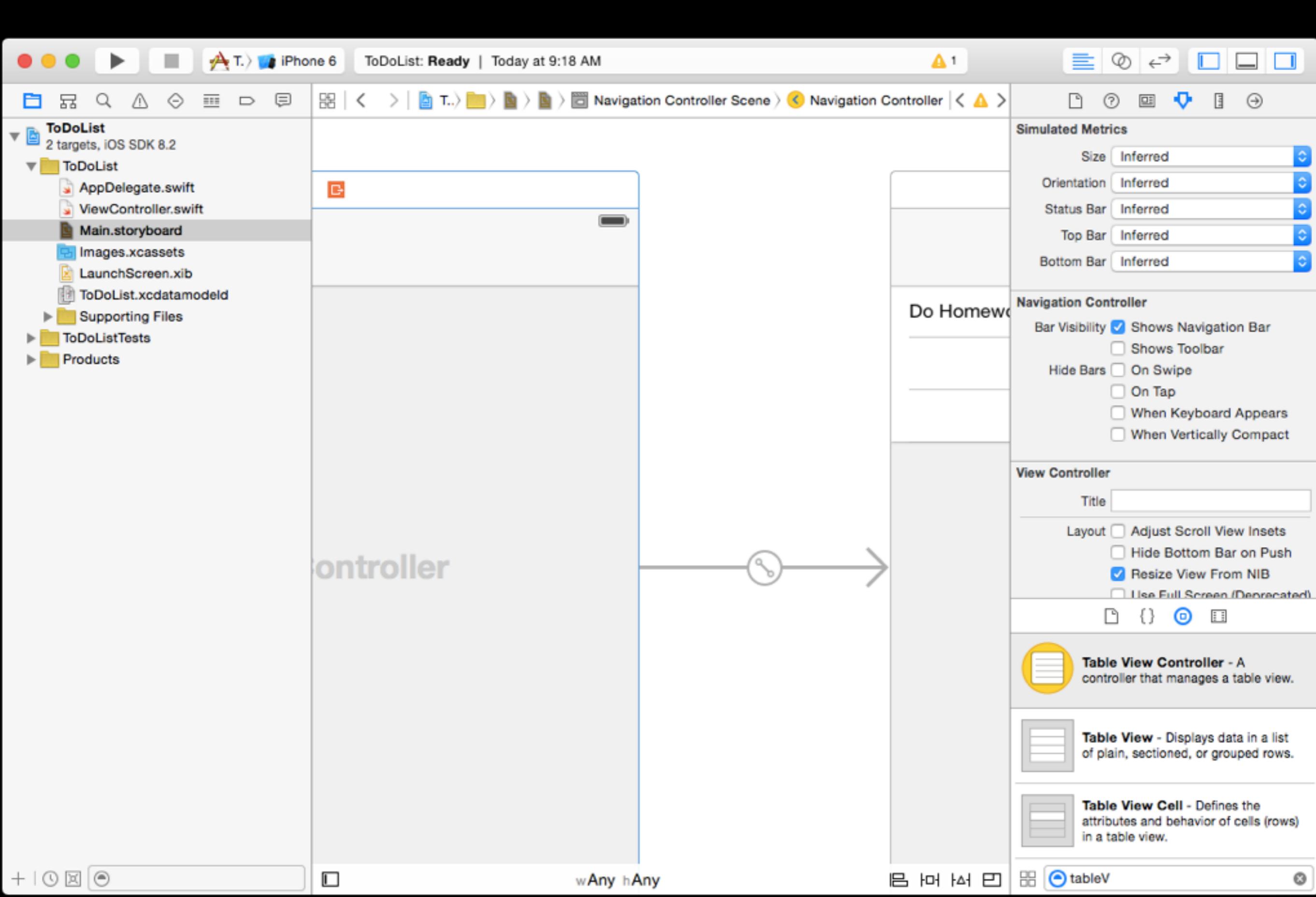
Table View - Displays data in a list of plain, sectioned, or grouped rows.

Table View Cell - Defines the attributes and behavior of cells (rows) in a table view.

tableV







iPhone 6 | ToDoList: Ready | Today at 9:18 AM | 1

ToDoList

2 targets, iOS SDK 8.2

ToDoList

- AppDelegate.swift
- ViewController.swift
- Main.storyboard
- Images.xcassets
- LaunchScreen.xib
- ToDoList.xcdatamodeld

Supporting Files

ToDoListTests

Products

Navigation Item

Title:

Prompt:

Back Button:

My To-Do List

Do Homework

Table View

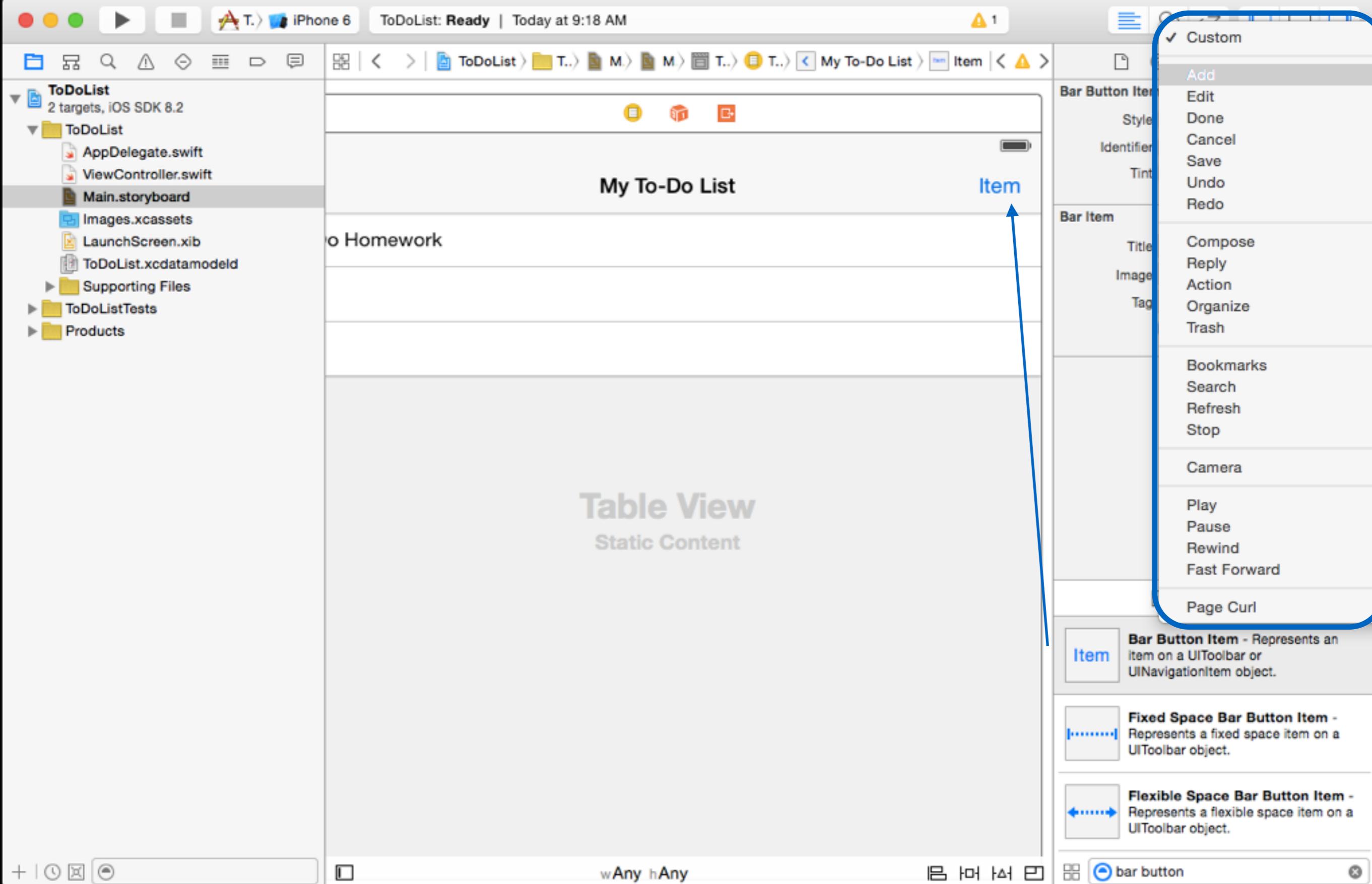
Static Content

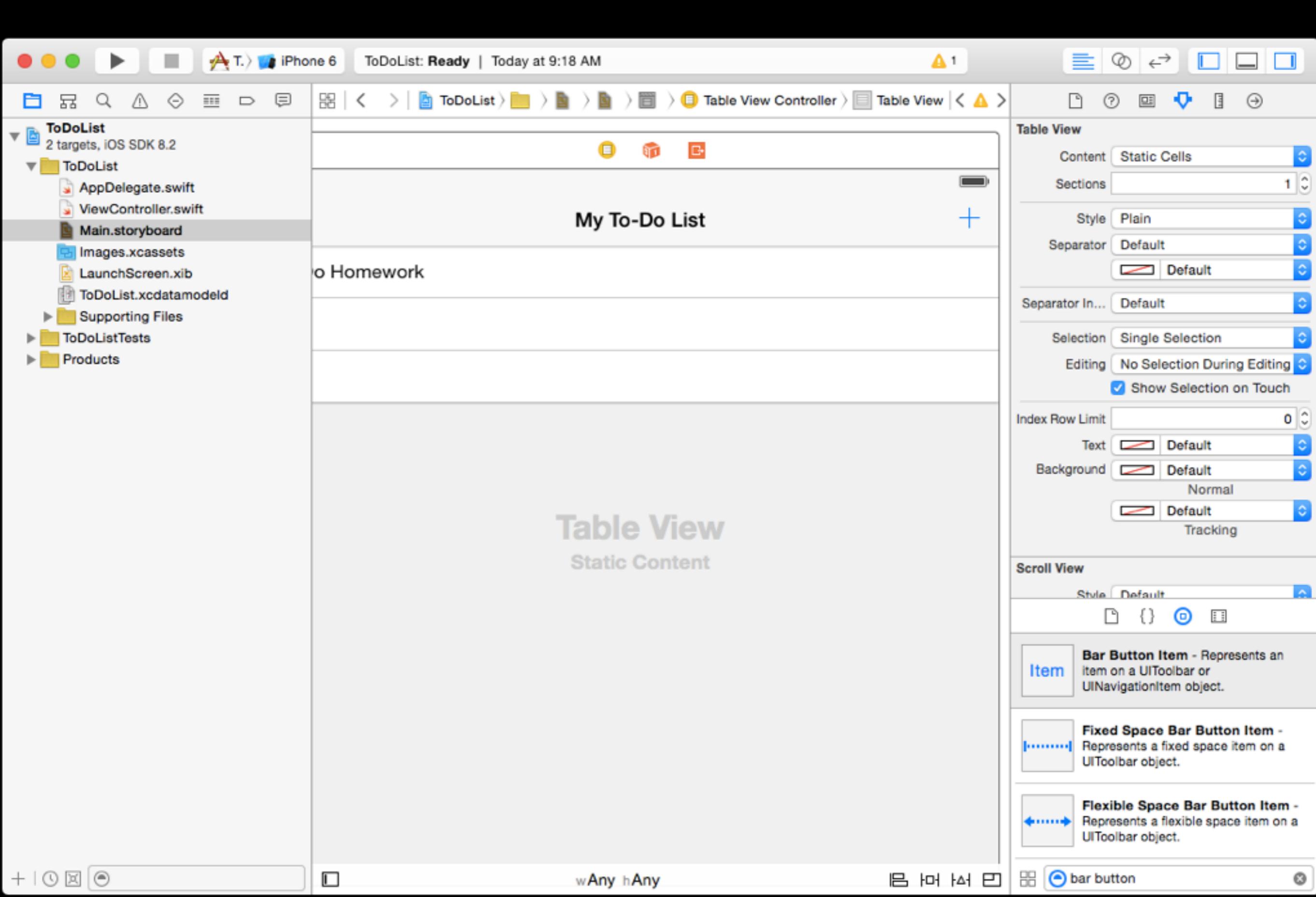
Table View Controller - A controller that manages a table view.

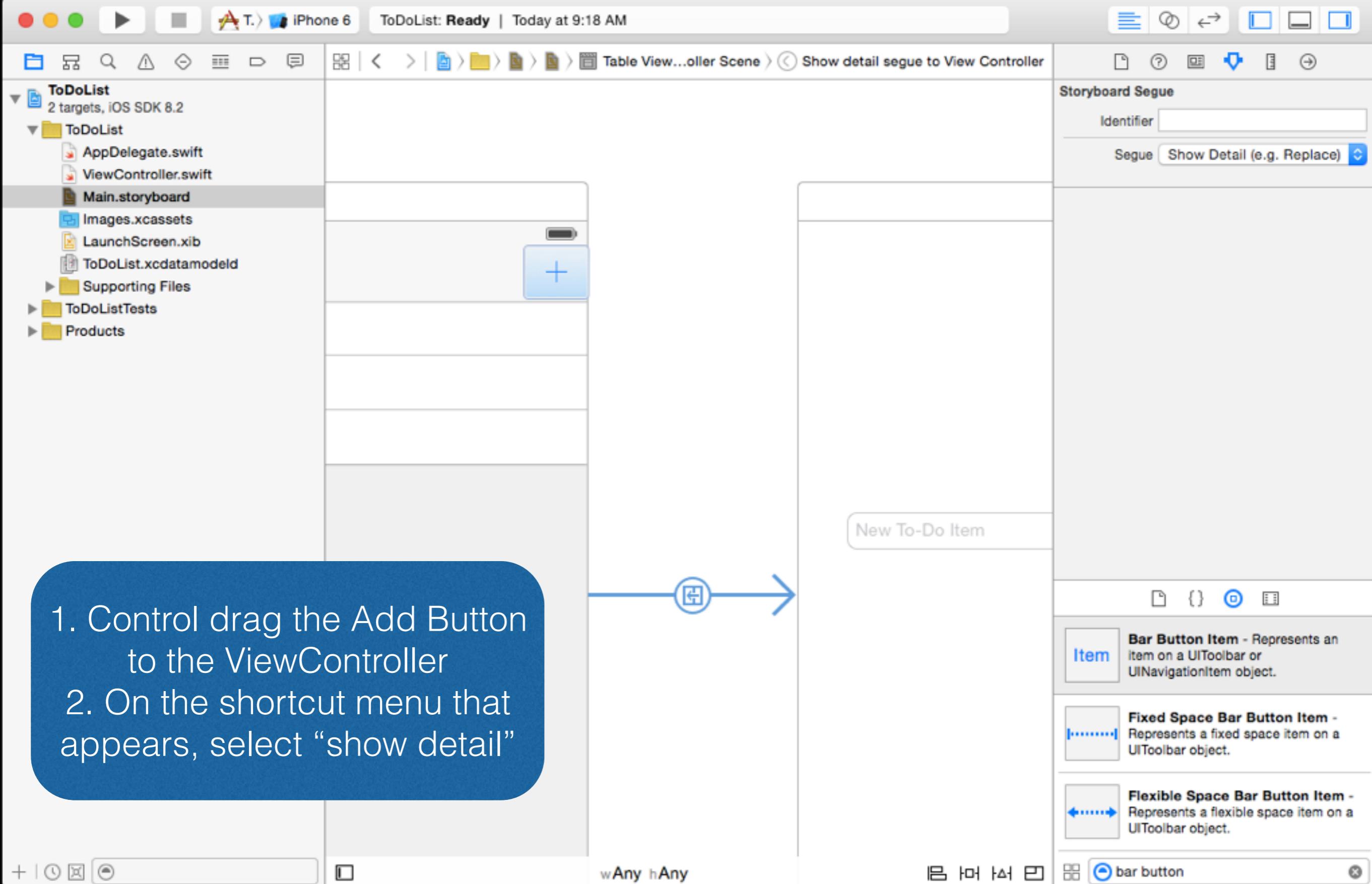
Table View - Displays data in a list of plain, sectioned, or grouped rows.

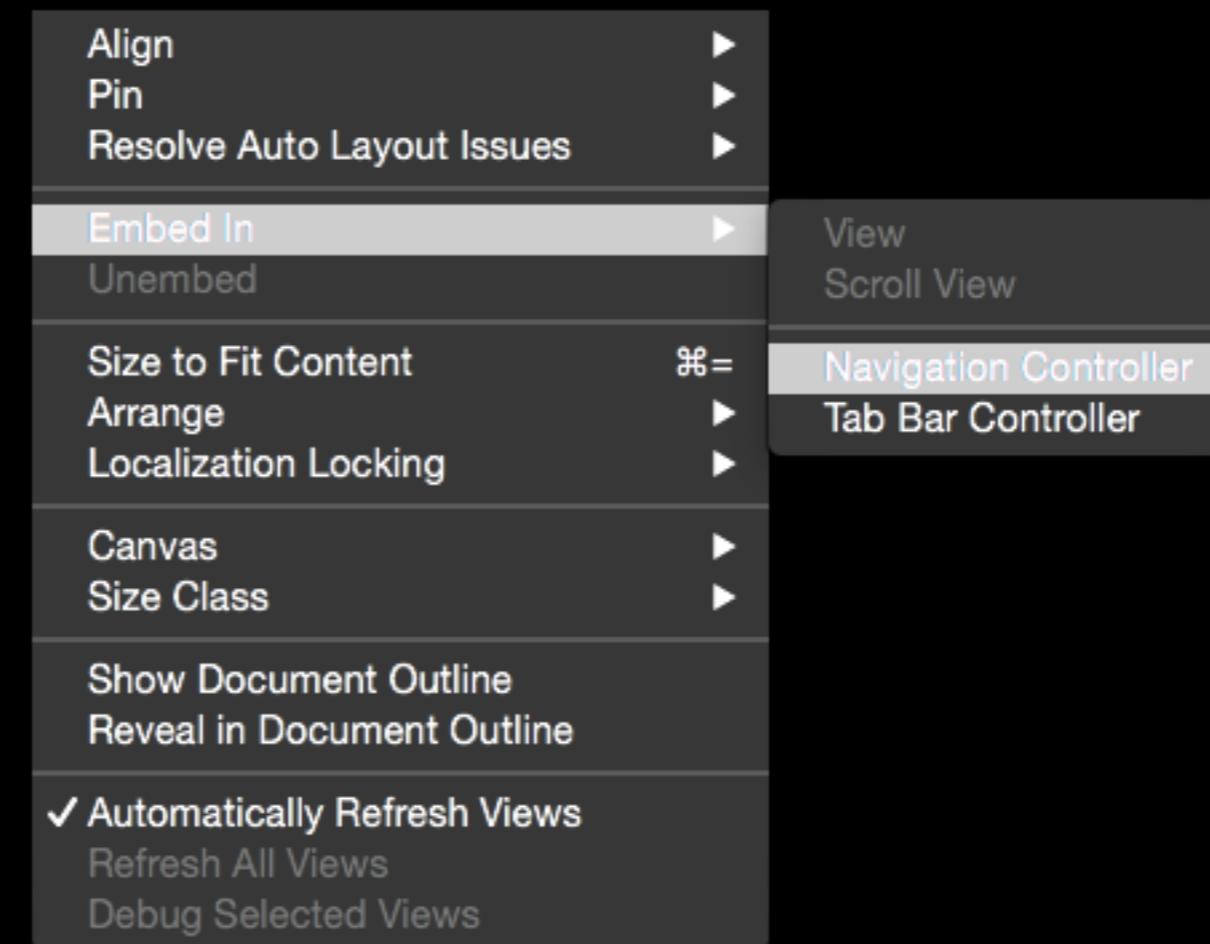
Table View Cell - Defines the attributes and behavior of cells (rows) in a table view.

tableV

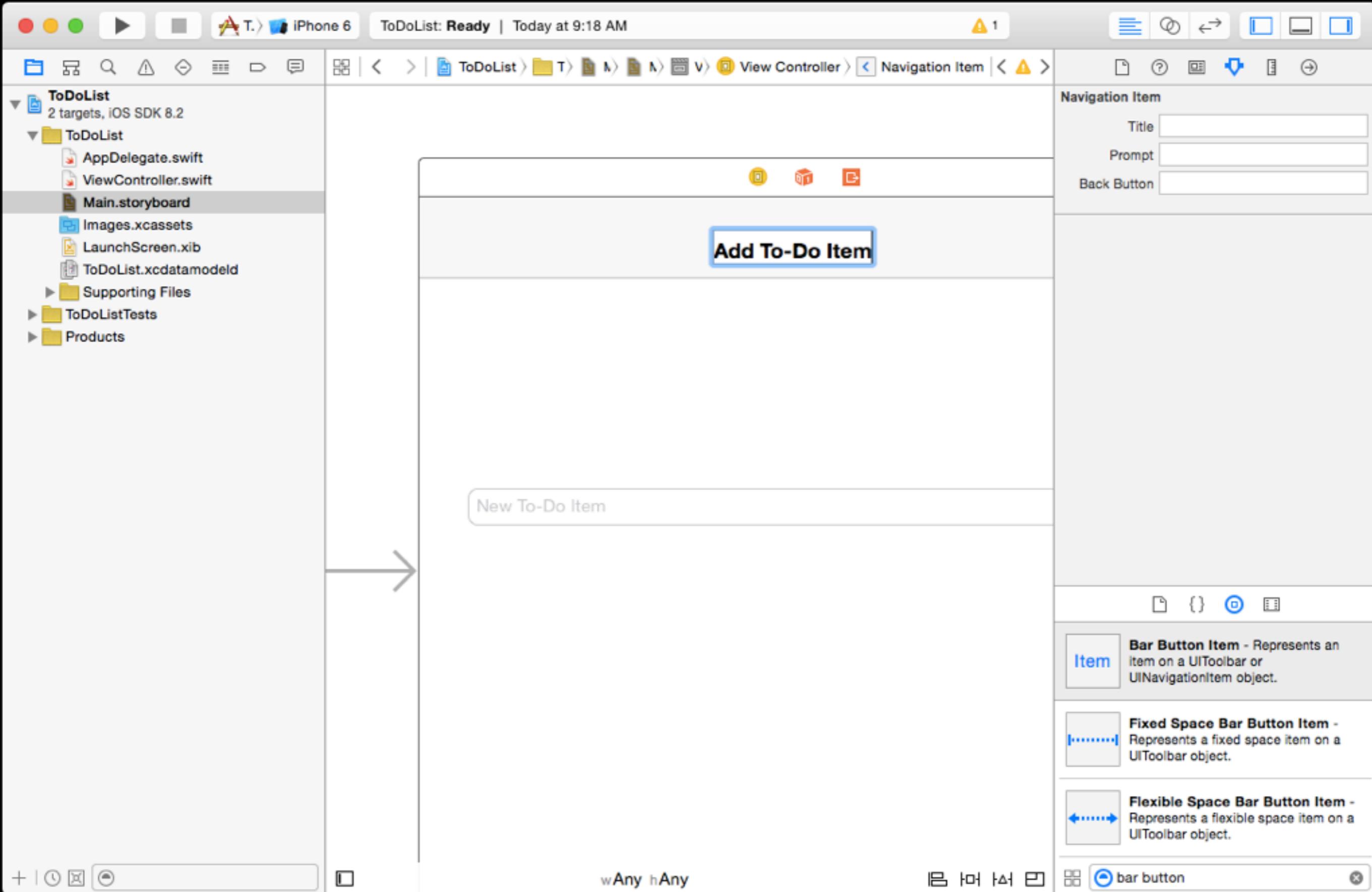


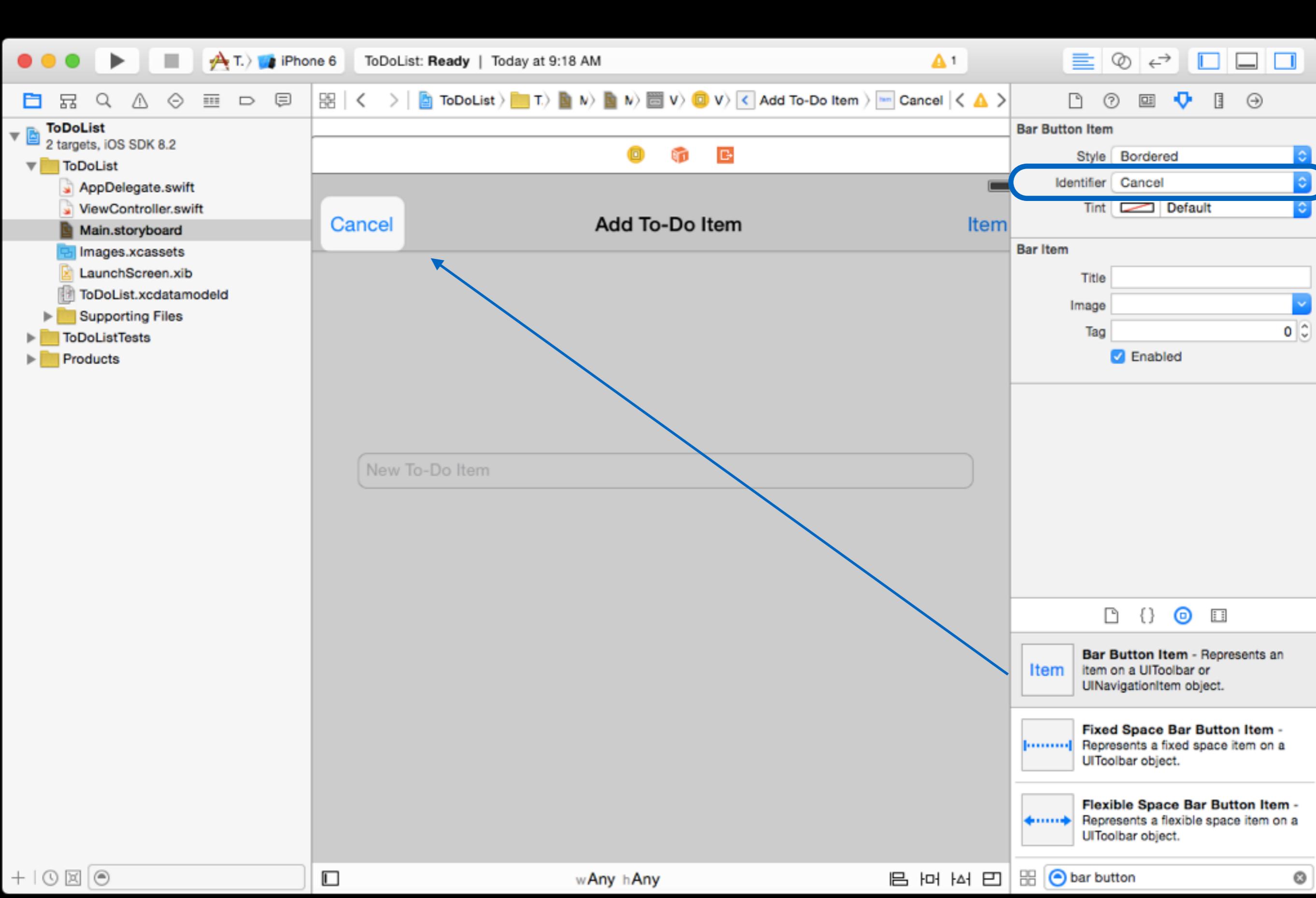


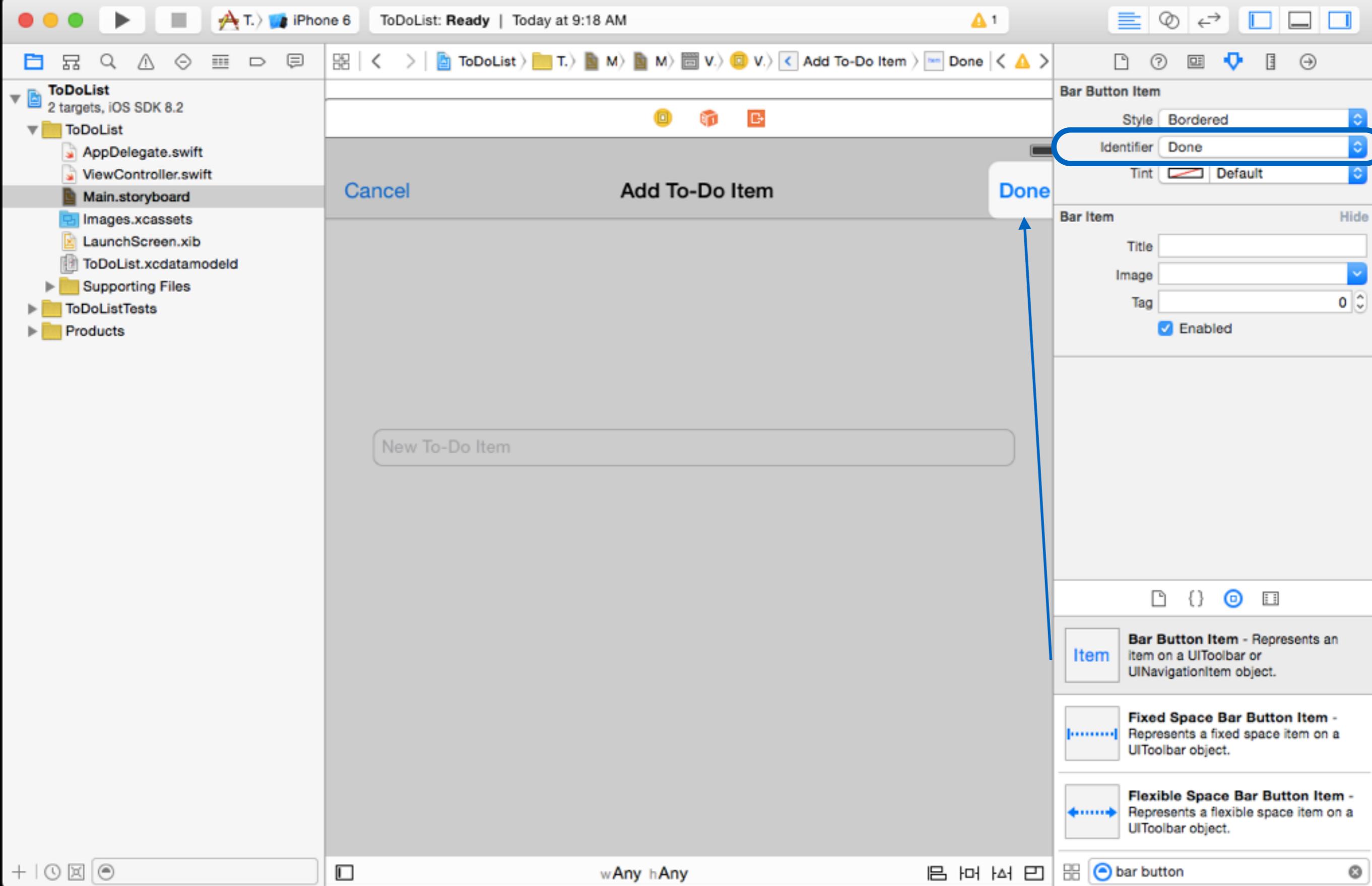




Select the other ViewController
and in the menu go to Editor >
Embed > Navigation Controller

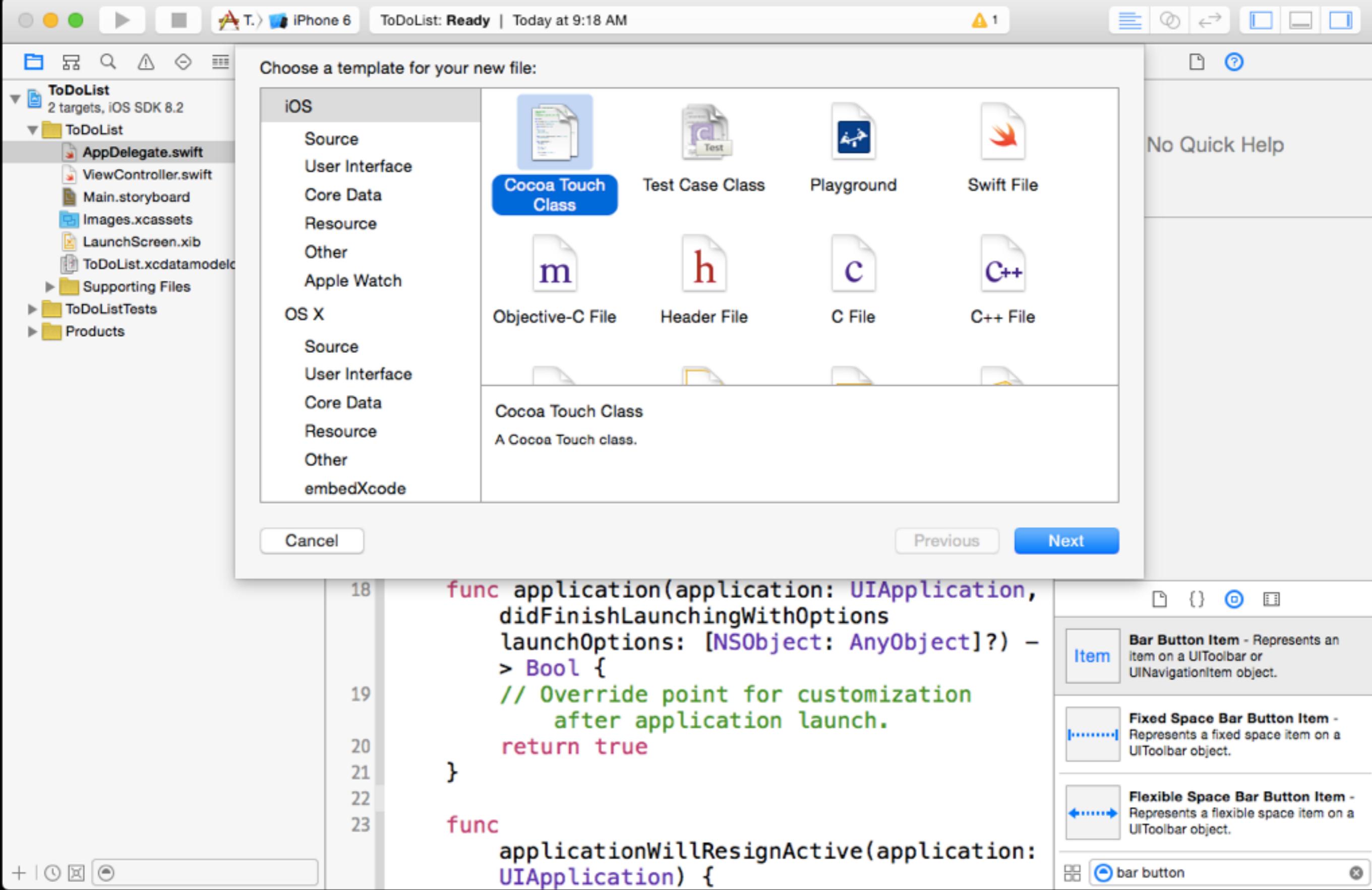


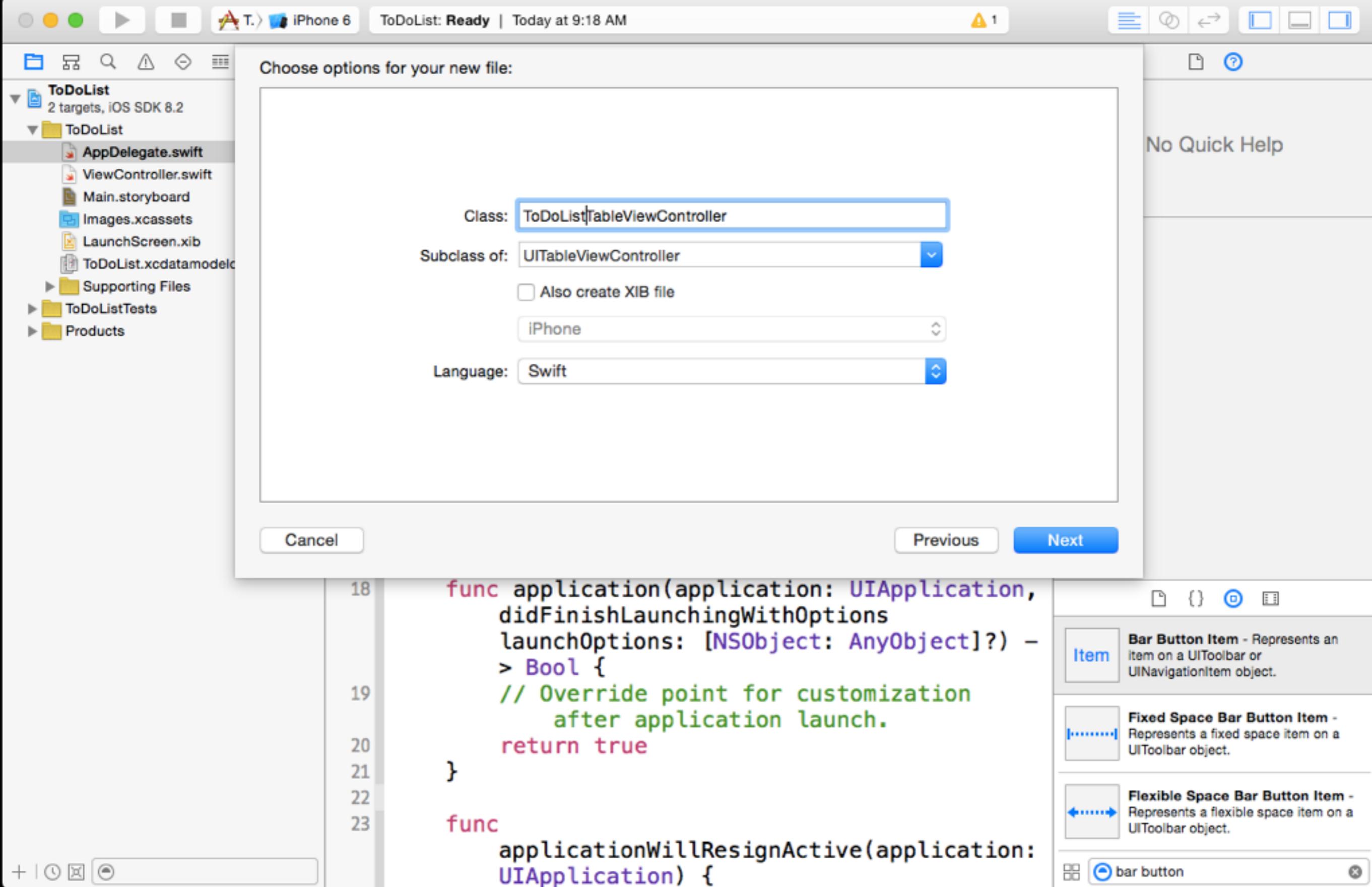


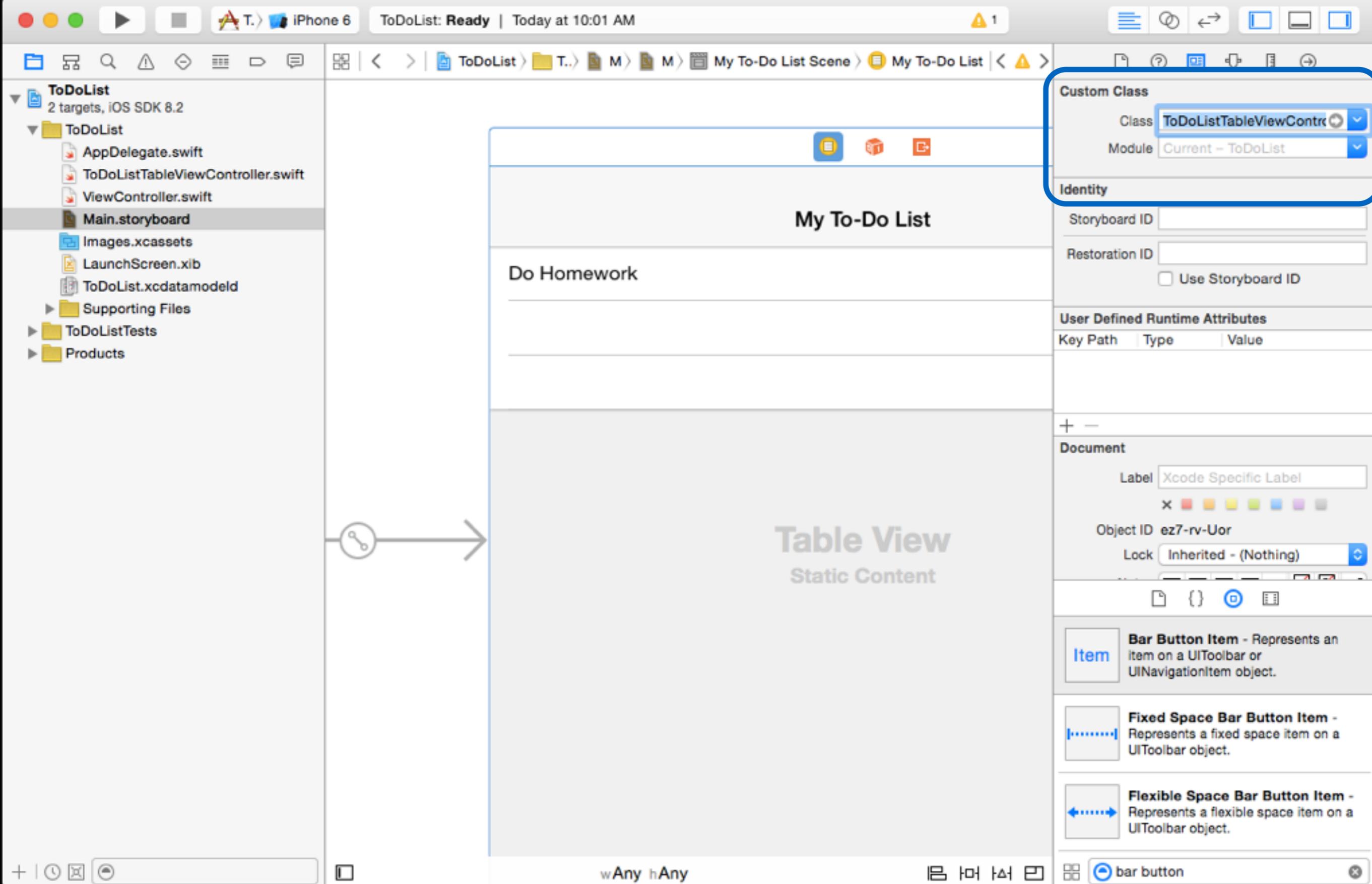


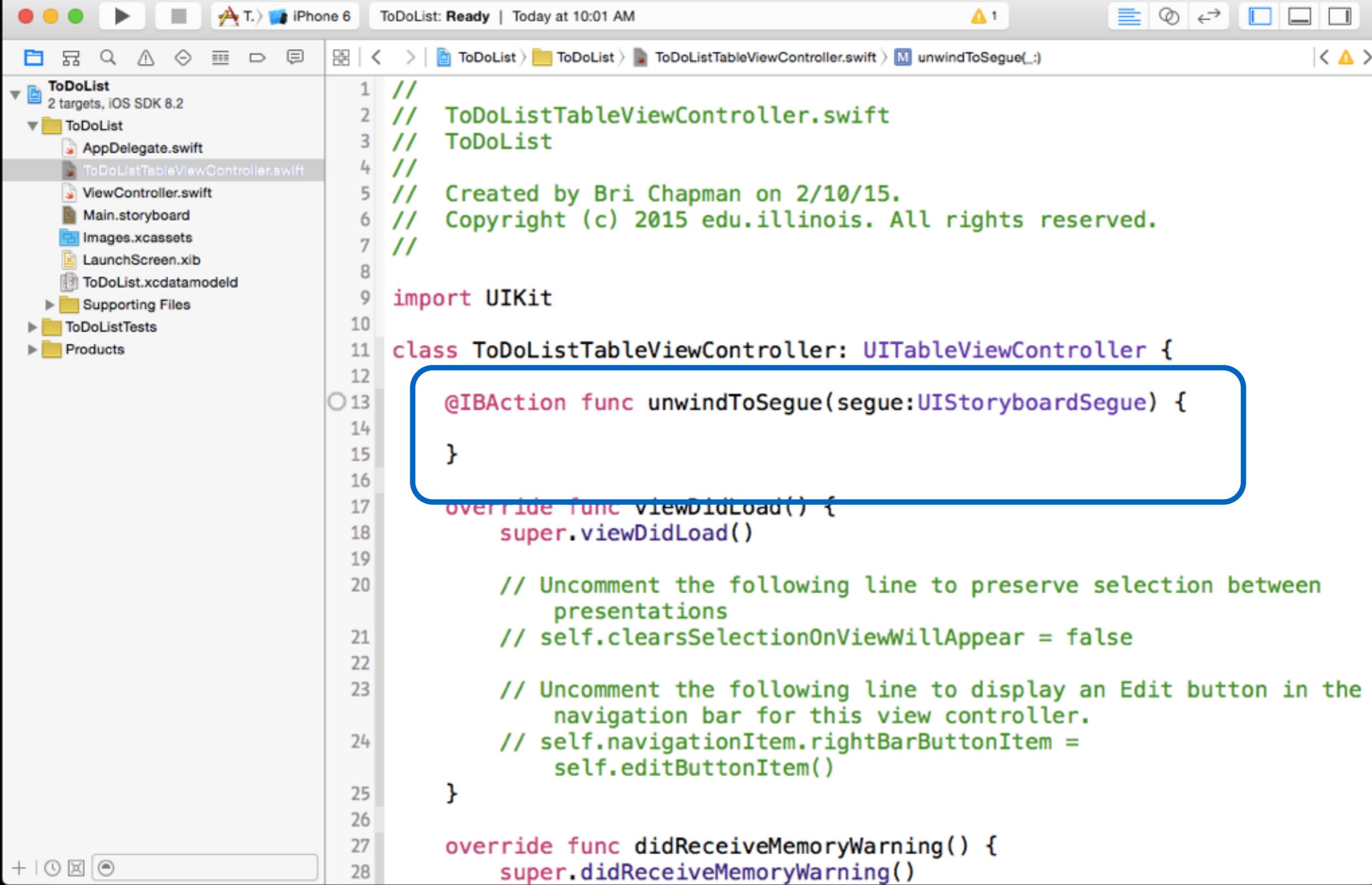


- New ►
 - Add Files to “ToDoList”... ⌘A
 - Open... ⌘O
 - Open Recent ►
 - Open Quickly... ⌘O
 - Close Window ⌘W
 - Close Tab
 - Close “AppDelegate.swift” ⌘W
 - Close Project ⌘W
 - Save ⌘S
 - Duplicate... ⌘S
 - Revert to Saved...
 - Unlock...
 - Export...
 - Show in Finder
 - Open with External Editor
 - Save As Workspace...
 - Project Settings...
 - Create Snapshot... ⌘S
 - Restore Snapshot...
 - Page Setup... ⌘P
 - Print... ⌘P
- File... ⌘N
 - Playground... ⌘⇧N
 - Target...
 - Project... ⌘N
 - Workspace... ⌘N
 - Group ⌘⌘N
 - Group from Selection





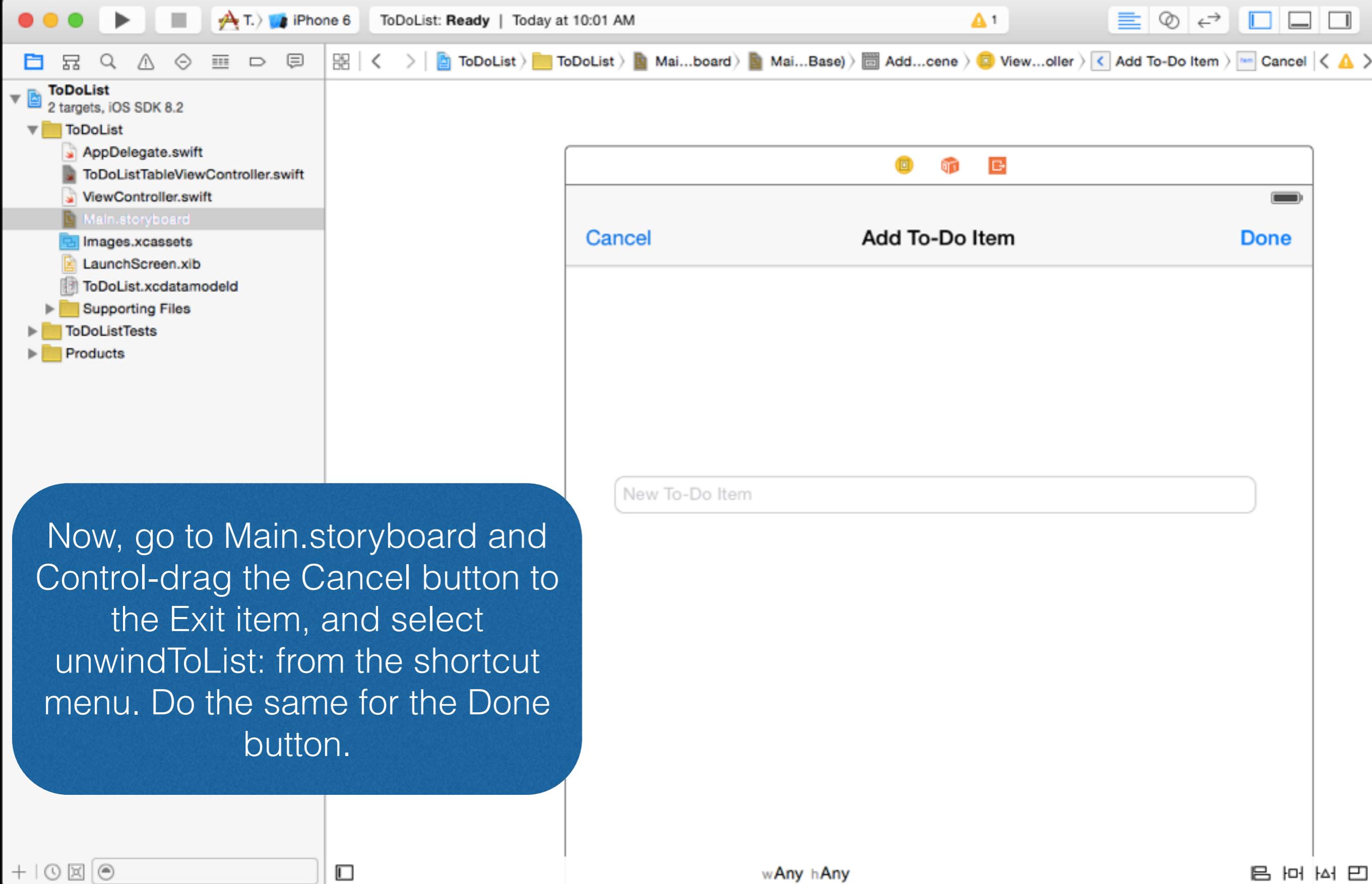




The screenshot shows the Xcode interface with the following details:

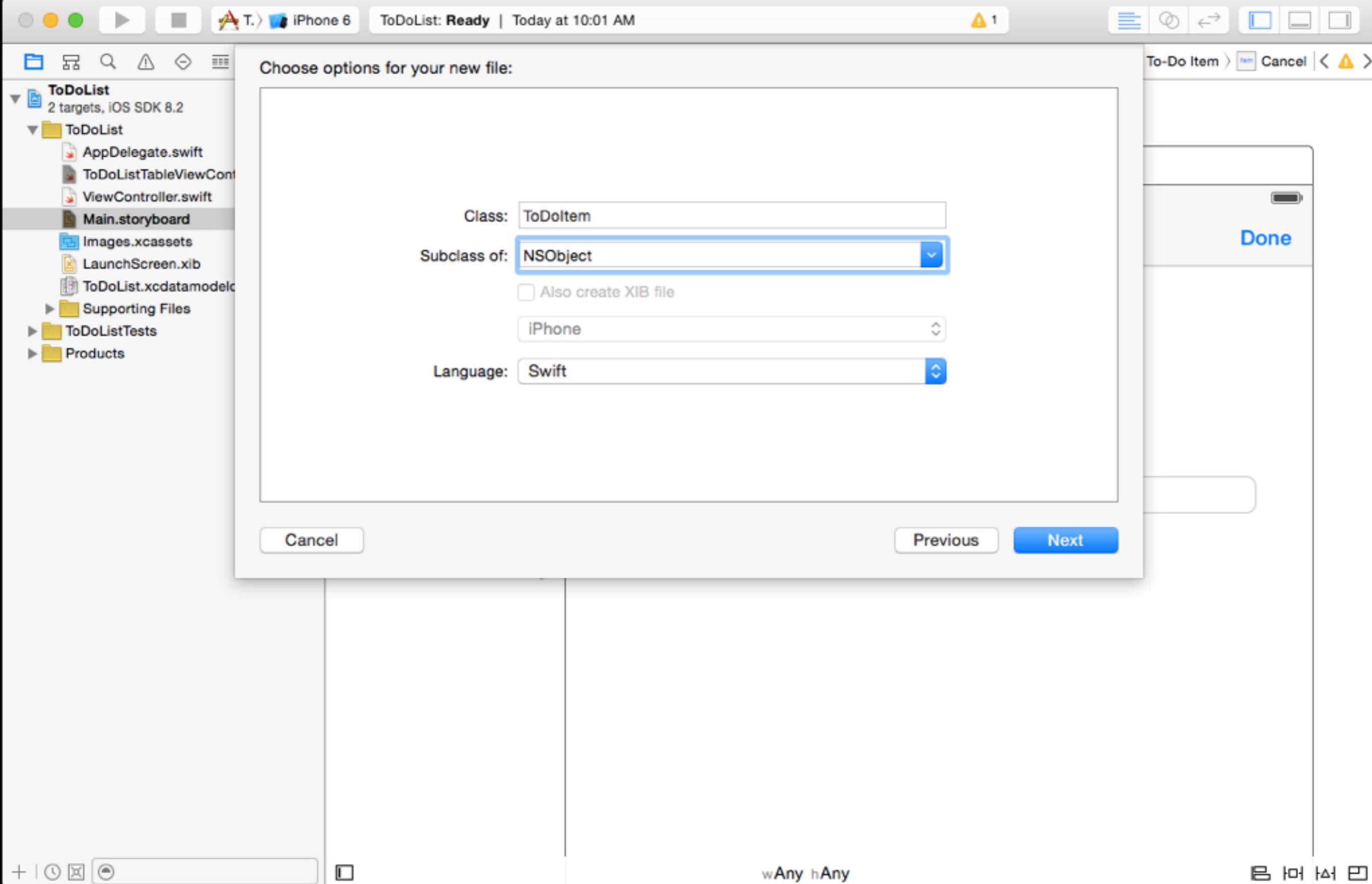
- Project Navigator:** Shows the project structure under "ToDoList". The "ToDoListTableViewController.swift" file is selected.
- Editor:** Displays the Swift code for "ToDoListTableViewController".
- Annotations:** A blue rounded rectangle highlights the first two lines of the "unwindToSegue" method definition.

```
//  
//  ToDoListTableViewController.swift  
//  ToDoList  
//  
//  Created by Bri Chapman on 2/10/15.  
//  Copyright (c) 2015 edu.illinois. All rights reserved.  
  
import UIKit  
  
class ToDoListTableViewController: UITableViewController {  
  
    @IBAction func unwindToSegue(segue: UIStoryboardSegue) {  
  
    }  
  
    override func viewDidLoad() {  
        super.viewDidLoad()  
  
        // Uncomment the following line to preserve selection between  
        // presentations  
        // self.clearsSelectionOnViewWillAppear = false  
  
        // Uncomment the following line to display an Edit button in the  
        // navigation bar for this view controller.  
        // self.navigationItem.rightBarButtonItem =  
        // self.editButtonItem()  
    }  
  
    override func didReceiveMemoryWarning() {  
        super.didReceiveMemoryWarning()  
    }  
}
```





- New ►
 - Add Files to “ToDoList”... ⌘A
 - Open... ⌘O
 - Open Recent ►
 - Open Quickly... ⌘O
 - Close Window ⌘W
 - Close Tab
 - Close “AppDelegate.swift” ⌘W
 - Close Project ⌘W
 - Save ⌘S
 - Duplicate... ⌘S
 - Revert to Saved...
 - Unlock...
 - Export...
 - Show in Finder
 - Open with External Editor
 - Save As Workspace...
 - Project Settings...
 - Create Snapshot... ⌘S
 - Restore Snapshot...
 - Page Setup... ⌘P
 - Print... ⌘P
- File... ⌘N
 - Playground... ⌘⇧N
 - Target...
 - Project... ⌘N
 - Workspace... ⌘N
 - Group ⌘⌘N
 - Group from Selection



The screenshot shows the Xcode interface with the following details:

- Project Navigator:** Shows the project structure for "ToDoList".
- File Navigator:** Shows the file structure: ToDoList (2 targets, iOS SDK 8.2) containing ToDoList (AppDelegate.swift, ToDoListTableViewController.swift, ViewController.swift, Main.storyboard, ToDoItem.swift), Images.xcassets, LaunchScreen.xib, ToDoList.xcdatamodeld, Supporting Files, ToDoListTests, and Products.
- Editor:** Displays the contents of the "ToDoItem.swift" file.

```
1 //  
2 //  ToDoItem.swift  
3 //  ToDoList  
4 //  
5 //  Created by Bri Chapman on 2/10/15.  
6 //  Copyright (c) 2015 edu.illinois. All rights reserved.  
7 //  
8  
9 import UIKit  
10  
11 class ToDoItem: NSObject {  
12     var itemName: NSString = ""  
13     var completed: Bool = false  
14     var creationDate: NSDate = NSDate()  
15  
16     init(name:String){  
17         self.itemName = name  
18     }  
19 }  
20
```

A blue rounded rectangle highlights the entire class definition from line 11 to line 19.

The screenshot shows the Xcode IDE interface with the following details:

- Project Navigator:** Shows the project structure for "ToDoList".
- File Navigator:** Shows files like AppDelegate.swift, ViewController.swift, Main.storyboard, ToDoItem.swift, Images.xcassets, LaunchScreen.xib, and ToDoList.xcdatamodeld.
- Editor:** Displays the code for `ToDoListTableViewController.swift`. The code initializes three todo items: "Buy milk", "Buy eggs", and "Read a book". It also contains an unwind segue method and overrides `viewDidLoad()` to call `loadInitialData()`.
- Build Bar:** Shows the target as "iPhone 6" and the status "ToDoList: Ready | Today at 4:14 PM".
- Top Bar:** Shows the Xcode logo, file name, and a warning icon.

```
// Created by Brian Chapman on 2/10/15.
// Copyright (c) 2015 edu.illinois. All rights reserved.

import UIKit

class ToDoListTableViewController: UITableViewController {
    var ToDoItems: NSMutableArray = []

    func loadInitialData(){
        var item1 = ToDoItem(name: "Buy milk")
        self.toDoItems.addObject(item1)

        var item2 = ToDoItem(name: "Buy eggs")
        self.toDoItems.addObject(item2)

        var item3 = ToDoItem(name: "Read a book")
        self.toDoItems.addObject(item3)
    }

    @IBAction func unwindToSegue(segue: UIStoryboardSegue) {

    }

    override func viewDidLoad() {
        super.viewDidLoad()
        loadInitialData()
        // Uncomment the following line to preserve selection between
        // presentations
        // self.clearsSelectionOnViewWillAppear = false
    }
}
```

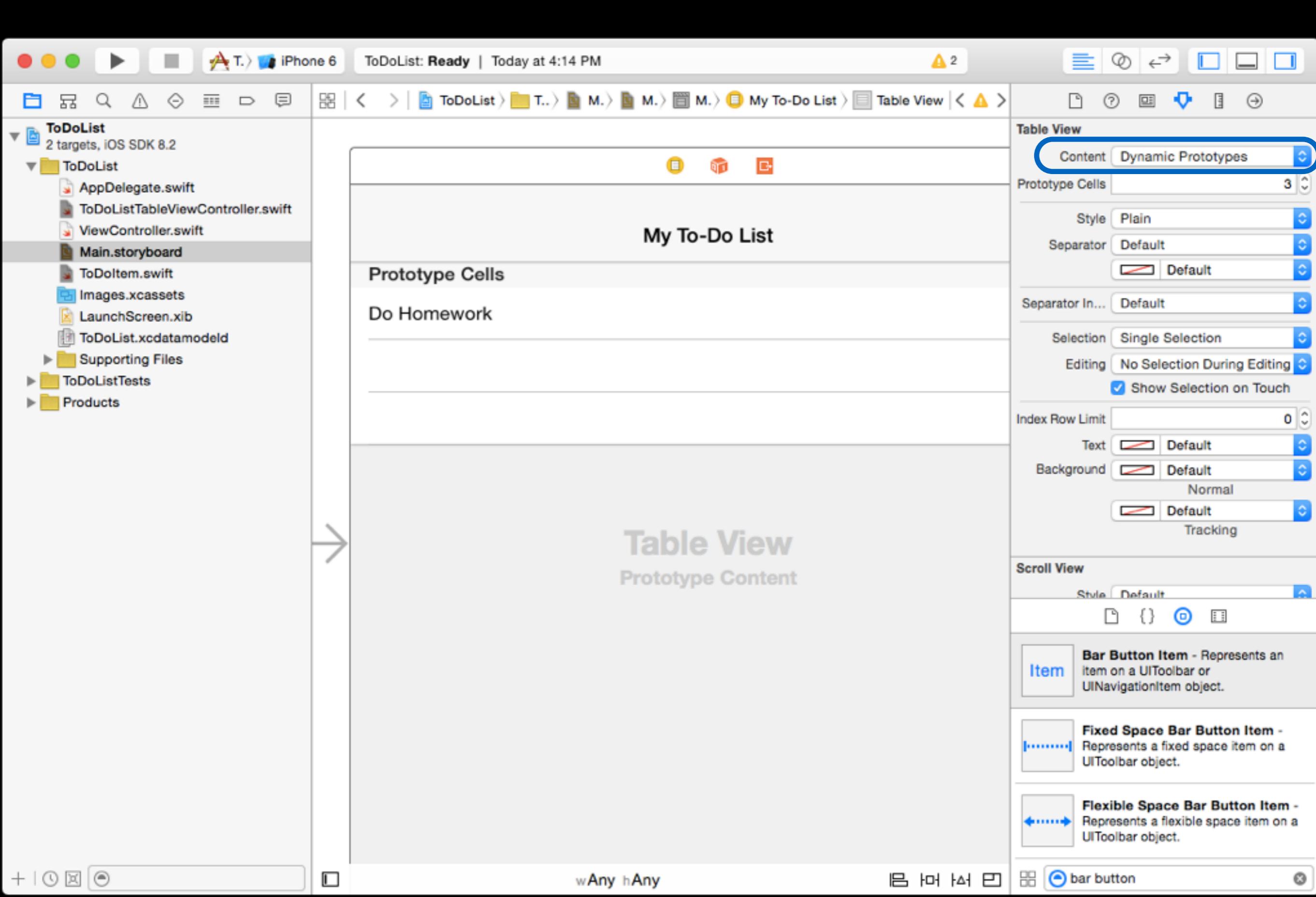
The screenshot shows the Xcode IDE interface with the following details:

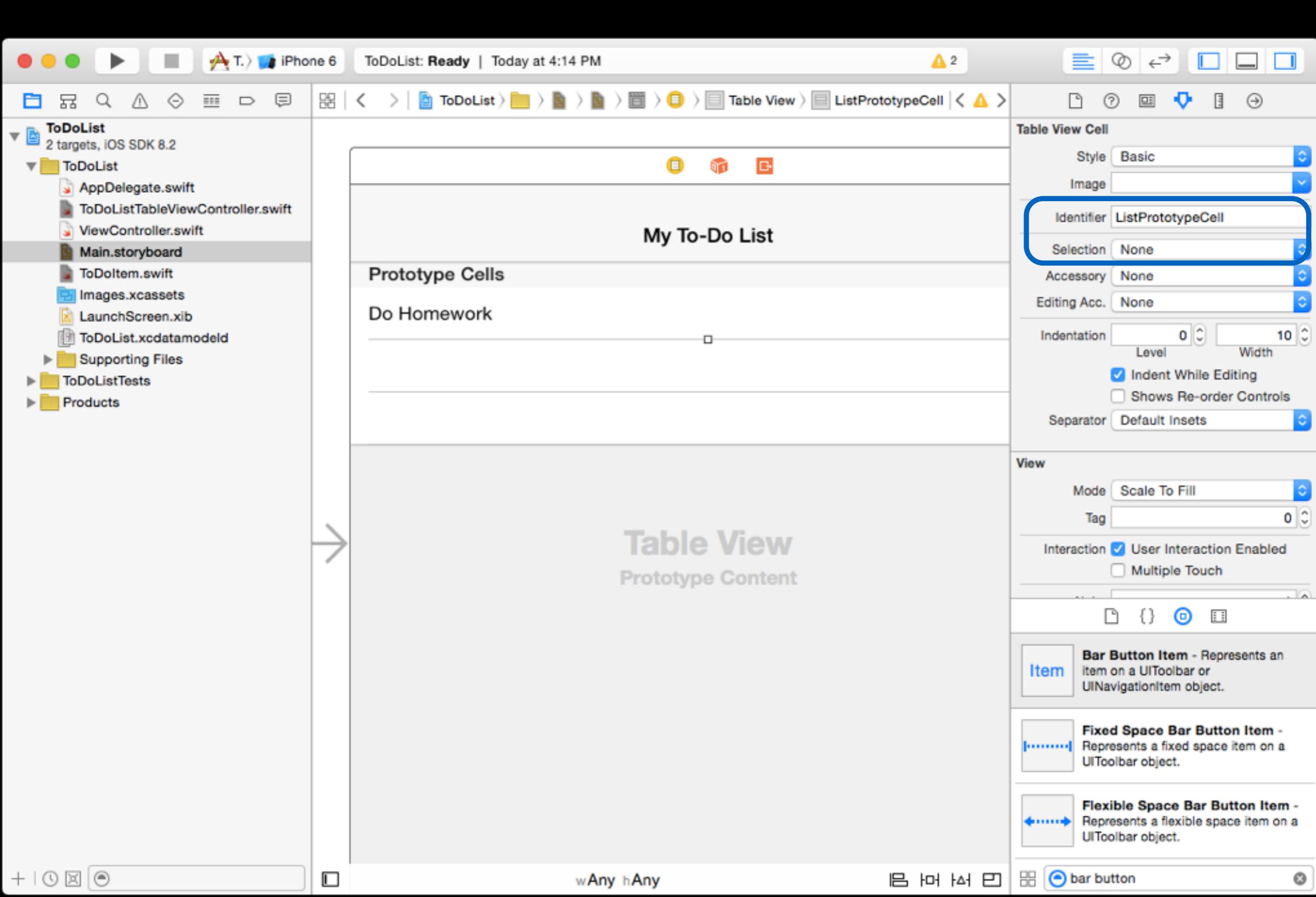
- Project Navigator:** Shows the project structure for "ToDoList".
- File Navigator:** Shows files like AppDelegate.swift, ViewController.swift, Main.storyboard, ToDoltem.swift, Images.xcassets, LaunchScreen.xib, ToDoList.xcdatamodeld, Supporting Files, ToDoListTests, and Products.
- Editor:** Displays the code for `ToDoListTableViewController.swift`. The code is annotated with several comments and warnings:
 - Line 38: `// self.navigationItem.rightBarButtonItem = self.editButtonItem()`
 - Line 41: `override func didReceiveMemoryWarning() { super.didReceiveMemoryWarning() // Dispose of any resources that can be recreated. }`
 - Line 46: `// MARK: - Table view data source`
 - Line 48: `override func numberOfSectionsInTableView(tableView: UITableView) -> Int { // #warning Potentially incomplete method implementation. // Return the number of sections. return 1 }` This line is highlighted with a blue rounded rectangle.
 - Line 54: `override func tableView(tableView: UITableView, numberOfRowsInSection section: Int) -> Int { // #warning Incomplete method implementation. // Return the number of rows in the section. return 0 }`
 - Line 61: `/* override func tableView(tableView: UITableView, cellForRowAtIndexPath indexPath: NSIndexPath) -> UITableViewCell { let cell = ... } */`
- Build Bar:** Shows 1 warning and 1 error.
- Toolbar:** Standard Xcode toolbar with icons for file operations.

The screenshot shows the Xcode IDE interface with the following details:

- Project Navigator:** Shows the project structure for "ToDoList".
- File Navigator:** Shows files like AppDelegate.swift, ViewController.swift, Main.storyboard, ToDoItem.swift, Images.xcassets, LaunchScreen.xib, ToDoList.xcdatamodeld, Supporting Files, ToDoListTests, and Products.
- Editor:** Displays the code for `ToDoListTableViewController.swift`. The code is color-coded for syntax.
- Callouts:** A blue rounded rectangle highlights the implementation of `tableView(_:numberOfRowsInSection:)`.
- Build Status:** Top right shows 1 warning and 1 error.

```
39
40
41 override func didReceiveMemoryWarning() {
42     super.didReceiveMemoryWarning()
43     // Dispose of any resources that can be recreated.
44 }
45
46 // MARK: - Table view data source
47
48 override func numberOfSectionsInTableView(tableView: UITableView) ->
49     Int {
50     // #warning Potentially incomplete method implementation.
51     // Return the number of sections.
52     return 1
53 }
54
55 override func tableView(tableView: UITableView,
56     numberOfRowsInSection section: Int) -> Int {
57     // #warning Incomplete method implementation.
58     // Return the number of rows in the section.
59     return ToDoItems.count
60 }
61
62 /*
63 override func tableView(tableView: UITableView,
64     cellForRowAtIndexPath indexPath: NSIndexPath) -> UITableViewCell {
65     let cell =
66         tableView.dequeueReusableCellWithIdentifier("reuseIdentifier",
67             forIndexPath: indexPath) as UITableViewCell
68
69     // Configure the cell
70 }
```





iPhone 6 | ToDoList: Ready | Today at 4:37 PM | 2

```
section.  
return ToDoItems.count  
}  
  
override func tableView(tableView:  
    UITableView, cellForRowAtIndexPath  
    indexPath: NSIndexPath) ->  
    UITableViewCell {  
    let CellIdentifier: NSString =  
        "ListPrototypeCell"  
  
    var cell : UITableViewCell = tableView.  
        dequeueReusableCellWithIdentifier(CellIdentifier) as UITableViewCell  
  
    var todoitem: ToDoItem = self.toDoItems.  
        objectAtIndex(indexPath.row) as  
        ToDoItem  
  
    cell.textLabel!.text = todoitem.itemName  
  
    return cell  
}  
  
/*  
// Override to support conditional editing  
// of the table view.  
override func tableView(tableView:  
    UITableView, canEditRowAtIndexPath
```

The screenshot shows the Xcode IDE interface with the following details:

- Project Navigator:** Shows the project structure for "ToDoList" with files like AppDelegate.swift, ToDoListTableViewController.swift, ViewController.swift, Main.storyboard, ToDoItem.swift, Images.xcassets, LaunchScreen.xib, and ToDoList.xcdatamodeld.
- Editor:** Displays the code for `ToDoListTableViewController.swift`. A specific section of the code is highlighted with a blue rounded rectangle:

```
    return cell
}

override func tableView(tableView: UITableView, didSelectRowAtIndexPath indexPath: NSIndexPath) {
    tableView.deselectRowAtIndexPath(indexPath, animated: false)
    var tappedItem: ToDoItem = self.toDoItems.objectAtIndex(indexPath.row) as
        ToDoItem
    tappedItem.completed = !tappedItem.completed
    tableView.reloadData()
}
```
- Search Bar:** Located at the top of the editor, it includes a "String Matching" field and navigation buttons.
- Quick Help:** A panel on the right indicates "No Quick Help" and provides a "Search Documentation" button.
- Assistant Editor:** A sidebar on the right lists items for a UIToolbar, including "Bar Button Item", "Fixed Space Bar Button Item", "Flexible Space Bar Button Item", and "bar button".

The screenshot shows the Xcode IDE interface with the following details:

- Project Navigator:** Shows the project structure for "ToDoList".
- Editor:** Displays the code for `ToDoListTableViewController.swift`. The code implements the `tableView(_:cellForRowAtIndexPath:)` method to return a `UITableViewCell` for each row.
- Search Bar:** A search bar at the top right contains the text "String Matching".
- Quick Help:** A panel on the right is titled "No Quick Help".
- Callout:** A blue rounded rectangle highlights the conditional logic in lines 70-74, which sets the `accessoryType` based on the `completed` status of the `ToDoItem`.
- Assistant View:** On the right side, there is a sidebar titled "Bar Button Item - Represents an item on a UIToolbar or UINavigationItem object." It lists four items:
 - Item**: Represented by a square icon.
 - Fixed Space Bar Button Item**: Represented by a dotted rectangle icon.
 - Flexible Space Bar Button Item**: Represented by a double-headed arrow icon.
 - bar button**: Represented by a circle with a dot icon.

```
override func tableView(tableView: UITableView, cellForRowAt indexPath: NSIndexPath) -> UITableViewCell {
    let CellIdentifier: NSString =
        "ListPrototypeCell"

    var cell : UITableViewCell = tableView.
        dequeueReusableCellWithIdentifier(CellIdentifier) as UITableViewCell

    var todoitem: ToDoItem = self.todoItems.
        objectAtIndex(indexPath.row) as
    ToDoItem

    cell.textLabel!.text = todoitem.itemName

    if todoitem.completed{
        cell.accessoryType = .Checkmark
    } else {
        cell.accessoryType = .None
    }

    return cell
}

override func tableView(tableView: UITableView, didSelectRowAtIndexPath indexPath: NSIndexPath) {
}
```

iPhone 6 Running ToDoList on iPhone 6 2

Quick Help No Quick Help

```
1 //  
2 // ViewController.swift  
3 // ToDoList  
4 //  
5 // Created by Bri Chapman on 2/10/15.  
6 // Copyright (c) 2015 edu.illinois. All rights reserved.  
7 //  
8  
9 import UIKit  
10  
11 class ViewController: UIViewController {  
12     var ToDoItem: ToDoItem?  
13  
14     override func viewDidLoad() {  
15         super.viewDidLoad()  
16         // Do any additional setup after loading  
17         // the view, typically from a nib.  
18     }  
19  
20     override func didReceiveMemoryWarning() {  
21         super.didReceiveMemoryWarning()  
22         // Dispose of any resources that can be  
23         // recreated.  
24     }  
25  
26 }  
27
```

Item 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.

Flexible Space Bar Button Item - Represents a flexible space item on a UIToolbar object.

bar button

The screenshot shows the Xcode IDE interface with the following details:

- Top Bar:** Shows the project name "ToDoList" and target "iPhone 6".
- Toolbar:** Includes standard Xcode icons for file operations, search, and navigation.
- Project Navigator:** Displays the project structure under "ToDoList". The file "ViewController.swift" is selected and highlighted with a blue border.
- Code Editor:** Shows the content of "ViewController.swift". The code includes comments about its creation by Bri Chapman on 2/10/15, copyright information, and basic view controller methods like `viewDidLoad()` and `didReceiveMemoryWarning()`.
- Quick Help:** A panel on the right labeled "Quick Help" shows the status "No Quick Help".
- Assistant Editor:** A panel on the right displays three types of UIBarButtonItems: "Item", "Fixed Space Bar Button Item", and "Flexible Space Bar Button Item".
- Bottom Bar:** Contains standard Xcode navigation icons.

```
//
//  ViewController.swift
//  ToDoList
//
//  Created by Bri Chapman on 2/10/15.
//  Copyright (c) 2015 edu.illinois. All rights reserved.
//
//import UIKit

class ViewController: UIViewController {

    var ToDoItem: ToDoItem?

    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.
    }
}
```

The screenshot shows the Xcode interface with the following details:

- Project Navigator:** Shows the project structure for "ToDoList".
- Editor:** Displays the code for `ViewController.swift`. The code includes a copyright notice, imports for `UIKit`, and a class definition for `ViewController` that inherits from `UIViewController`. It declares variables `ToDoItem?`, `textField: UITextField!`, and `doneButton: UIBarButtonItem!`, and overrides the `viewDidLoad()` method.
- Assistant Editor:** Shows the "Add To-Do Item" storyboard scene with a text input field and a "Done" button.
- Bottom Bar:** Includes standard Xcode navigation icons like back, forward, and search.

A callout bubble in the bottom-left corner provides instructions:

Control-drag the text field from the storyboard canvas to the swift file, and place it below the `ToDoItem` variable we declared. Do the same for the Done button and type `doneButton` for the name.

The screenshot shows the Xcode IDE interface with the following details:

- Top Bar:** Shows a running iPhone 6 simulator with the title "Running ToDoList on iPhone 6".
- Project Navigator:** Shows the project structure with a warning icon for the Main.storyboard file.
- Search Bar:** Shows the search term "ToDoList".
- Code Editor:** Displays the `ViewController.swift` file content. A blue rounded rectangle highlights the `override func prepareForSegue(segue: UIStoryboardSegue, sender: AnyObject!)` method.
- Bottom Bar:** Shows standard Xcode navigation icons.

```
// ViewController.swift
// ToDoList
//
// Created by Bri Chapman on 2/10/15.
// Copyright (c) 2015 edu.illinois. All rights reserved.

import UIKit

class ViewController: UIViewController {

    var ToDoItem: ToDoItem?

    @IBOutlet weak var textField: UITextField!
    @IBOutlet weak var doneButton: UIBarButtonItem!

    override func prepareForSegue(segue: UIStoryboardSegue, sender: AnyObject!) {
        if sender as? NSObject != doneButton {
            return
        }
        if countElements(textField.text) > 0 {
            ToDoItem = ToDoItem(name: textField.text)
        }
    }

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

The screenshot shows the Xcode interface with the following details:

- Project Navigator:** Shows the project structure for "ToDoList".
- File Navigator:** Shows the file "ToDoListTableViewController.swift" is selected.
- Editor:** Displays the Swift code for "ToDoListTableViewController.swift".
- Callouts:** A blue rounded rectangle highlights the code block starting at line 27.

```
19     var item2 = ToDoItem(name: "Buy eggs")
20     self.toDoItems.addObject(item2)
21
22     var item3 = ToDoItem(name: "Read a book")
23     self.toDoItems.addObject(item3)
24 }
25
26
27 @IBAction func unwindToSegue(segue: UIStoryboardSegue) {
28     var source: ViewController = segue.sourceViewController as
29         ViewController
30
31     var item: ToDoItem? = source.todoItem
32
33     if item != nil{
34
35         self.toDoItems.addObject(item!)
36
37         self.tableView.reloadData()
38
39    }
40
41
42 override func viewDidLoad() {
43     super.viewDidLoad()
44     loadInitialData()
45     // Uncomment the following line to preserve selection between
46     // presentations
47 }
```