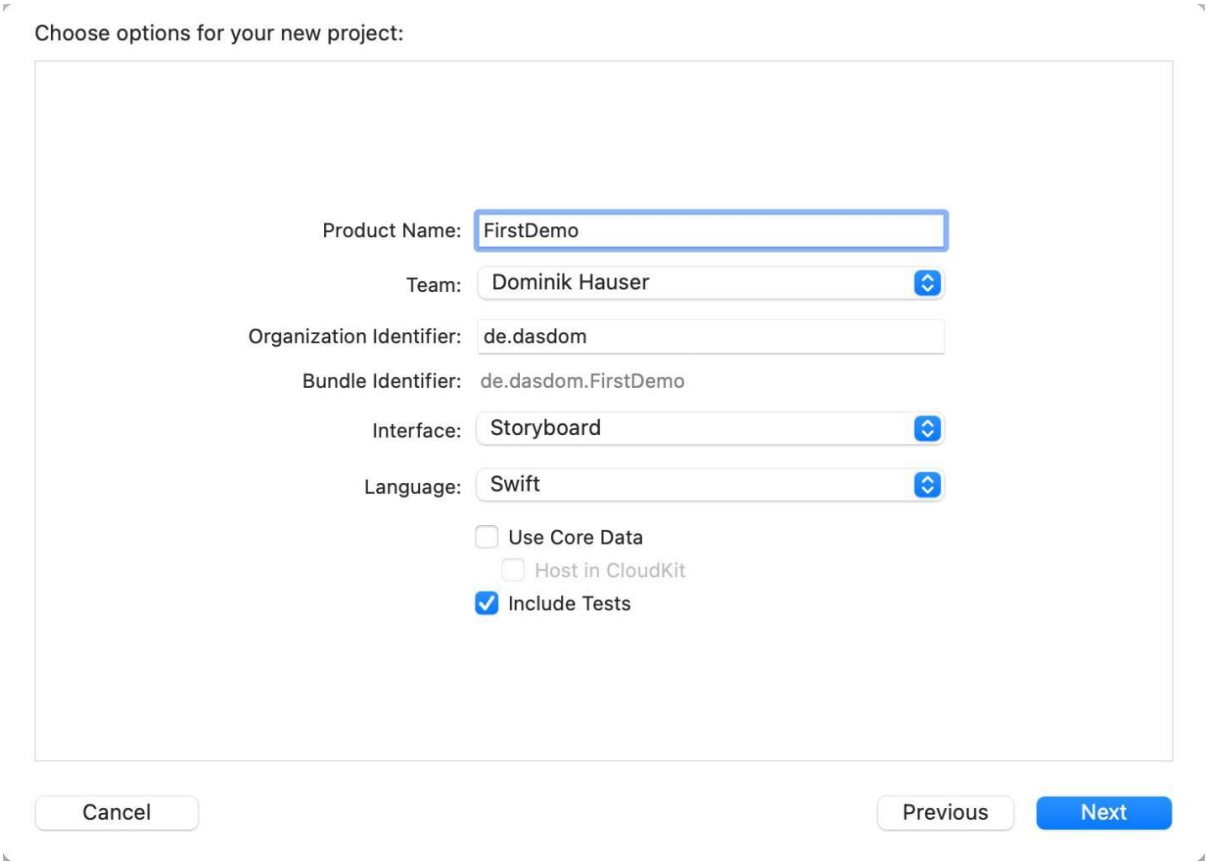
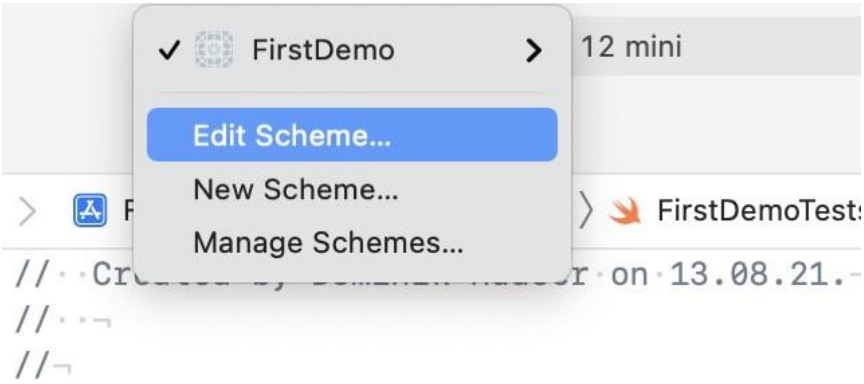
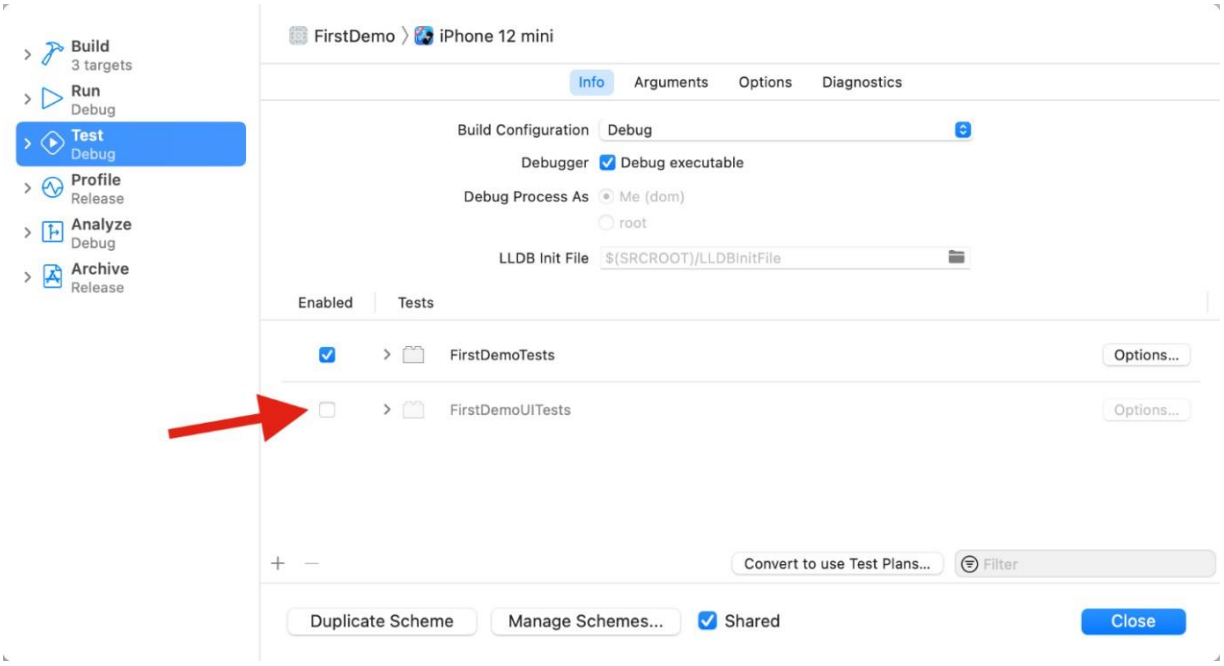
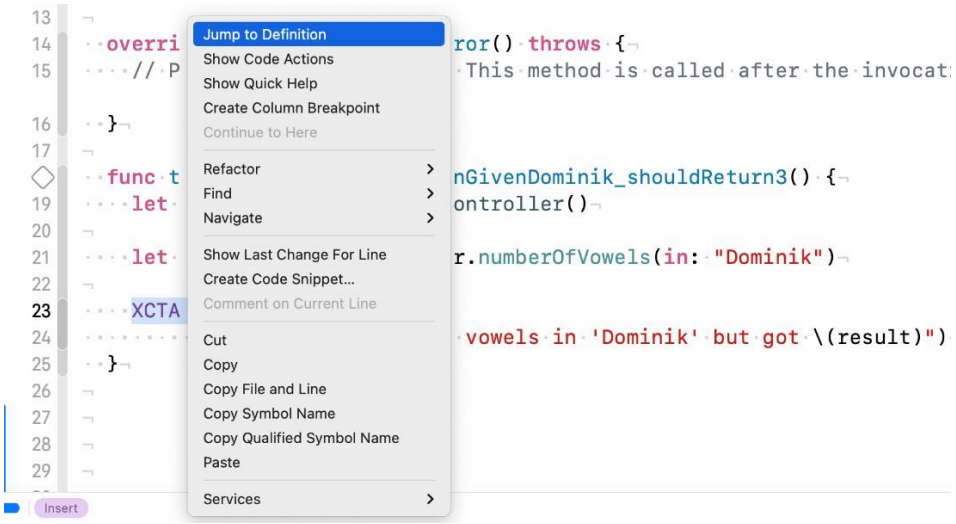
Chapter 01: Your First Unit Tests




```
    func test_numberOfVowels_whenGivenDominik_shouldReturn3() {
19      let viewController = ViewController()
20
21      let result = viewController.numberOfVowels(in: "Dominik")
22
23      XCTAssertEqual(result, 3,
24                     "Expected 3 vowels in 'Dominik' but got \(result)")
25  }
```


FirstDemo
12 mini
Edit Scheme...
New Scheme...
Manage Schemes...
FirstDemoTests
//
on 13.08.21.

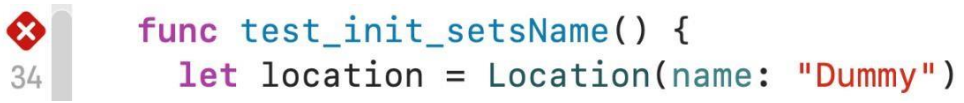

Build
3 targets
Run
Debug
Test
Debug
Profile
Release
Analyze
Debug
Archive
Release
FirstDemo
iPhone 12 mini
Info
Arguments
Options
Diagnostics
Build Configuration
Debug
Debugger
Debug executable
Debug Process As
Me (dom)
root
LLDB Init File
$(SRCROOT)/LLDBInitFile
Enabled
Tests
FirstDemoTests
Options...
FirstDemoUITests
Options...
Convert to use Test Plans...
Filter
Duplicate Scheme
Manage Schemes...
Shared
Close

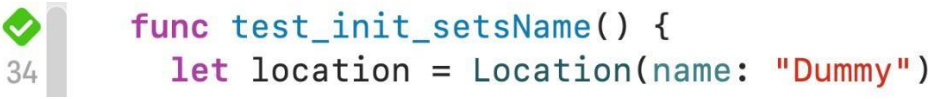

Jump to Definition
Show Code Actions
Show Quick Help
Create Column Breakpoint
Continue to Here
Refactor
Find
Navigate
Show Last Change For Line
Create Code Snippet...
Comment on Current Line
Cut
Copy
Copy File and Line
Copy Symbol Name
Copy Qualified Symbol Name
Paste
Services
Insert

```
  func test_comparingDictionariesWithCustomAssertFunction() {
28    let dict1 = ["id": "2", "name": "foo"]
29    let dict2 = ["id": "2", "name": "fo"]
30
31    DDHAssertEqual(dict1, dict2)    failed - "name": foo is not equal to "name": fo
32  }
33  }
34
35  func DDHAssertEqual<A: Equatable, B: Equatable>(_ first: [A:B],
36                                                  _ second: [A:B]) {
37
38    if first == second {
39      return
40    }
41
42    for key in first.keys {
43
44      if first[key] != second[key] {
45        let value1 = String(describing: first[key]!)
46        let value2 = String(describing: second[key]!)
47        let keyValue1 = "\"\(key)\": \(value1)"
48        let keyValue2 = "\"\(key)\": \(value2)"
49        let message = "\(keyValue1) is not equal to \(keyValue2)"
50        XCTFail(message)              failed - "name": foo is not equal to "name": fo
51        return
52      }
53    }
54  }
```

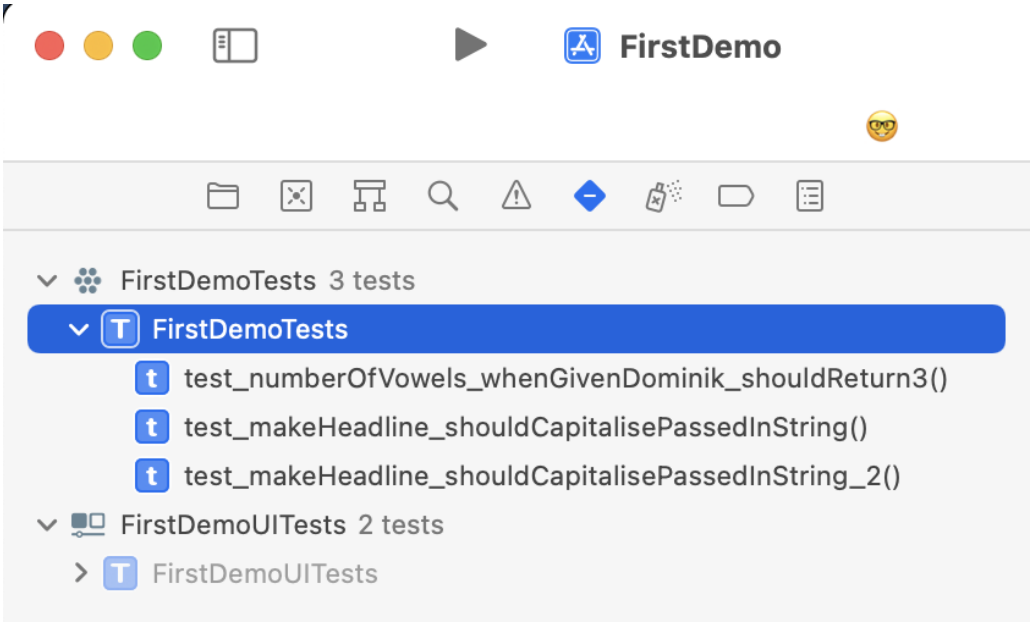
```
26
  func test_comparingDictionariesWithCustomAssertFunction() {
28    let dict1 = ["id": "2", "name": "foo"]
29    let dict2 = ["id": "2", "name": "fo"]
30
31    DDHAssertEqual(dict1, dict2)    failed - "name": foo is not equal to "name": fo
32  }
33  }
```

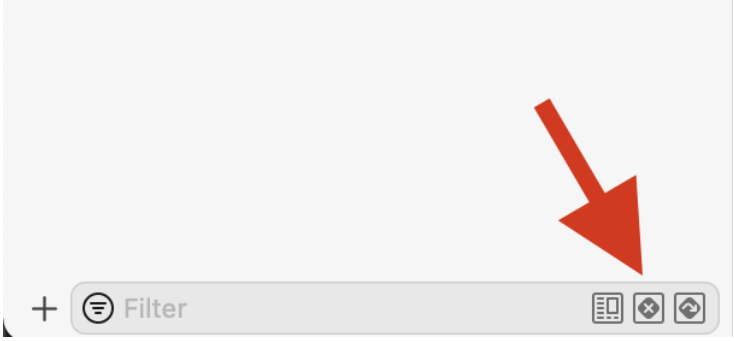
Chapter 02: Understanding Test-Driven Development

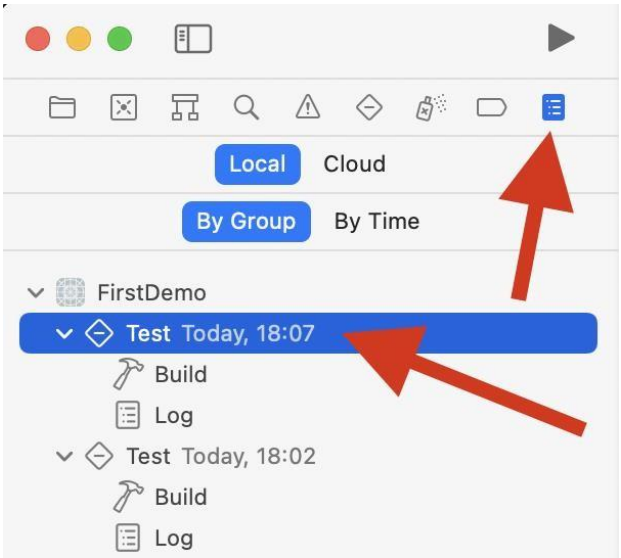


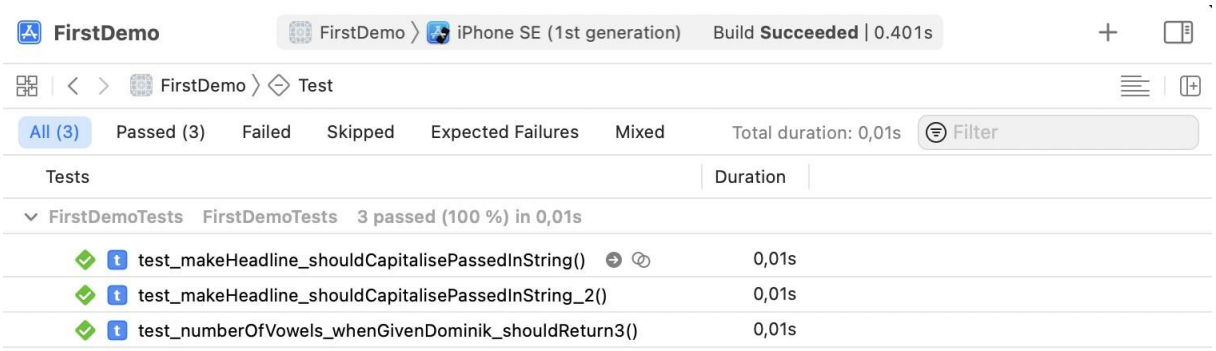


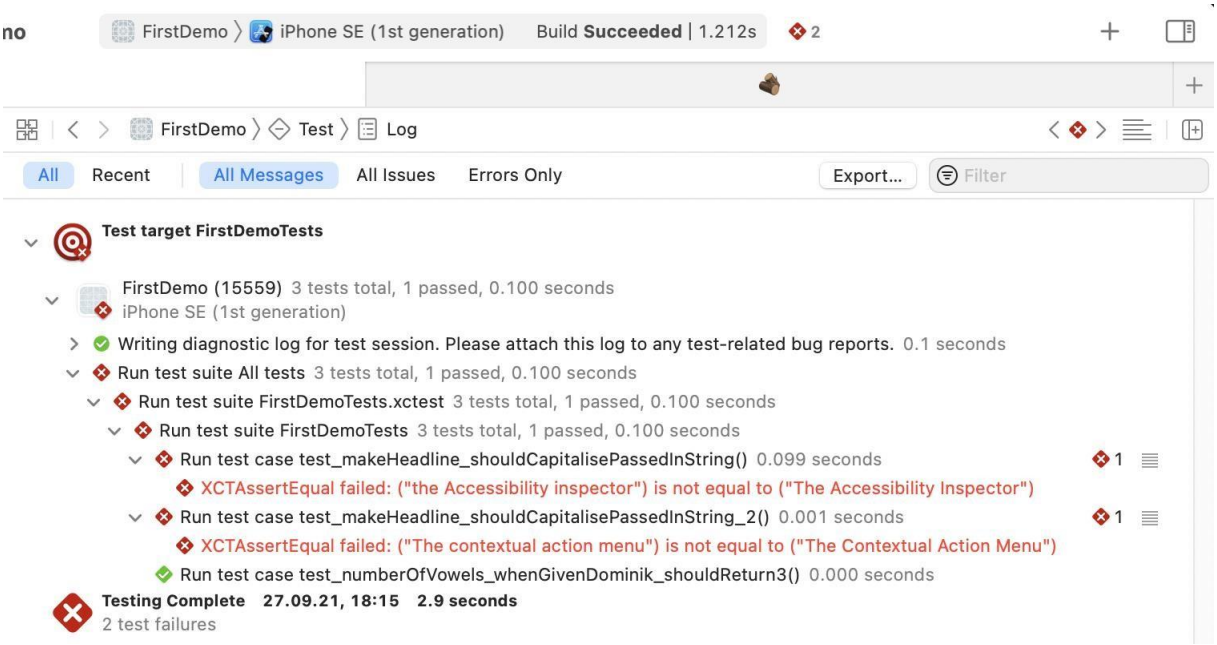
Chapter 03: Test-Driven Development in Xcode



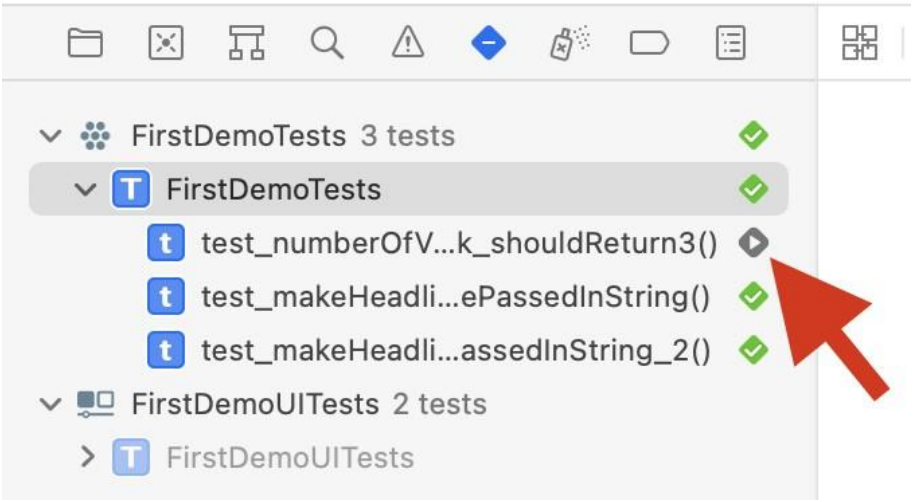


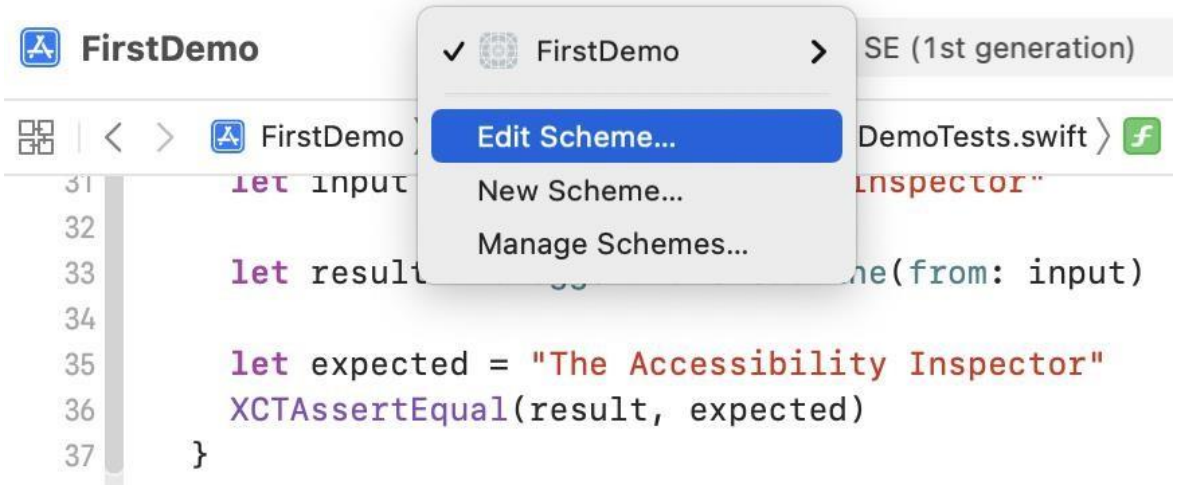


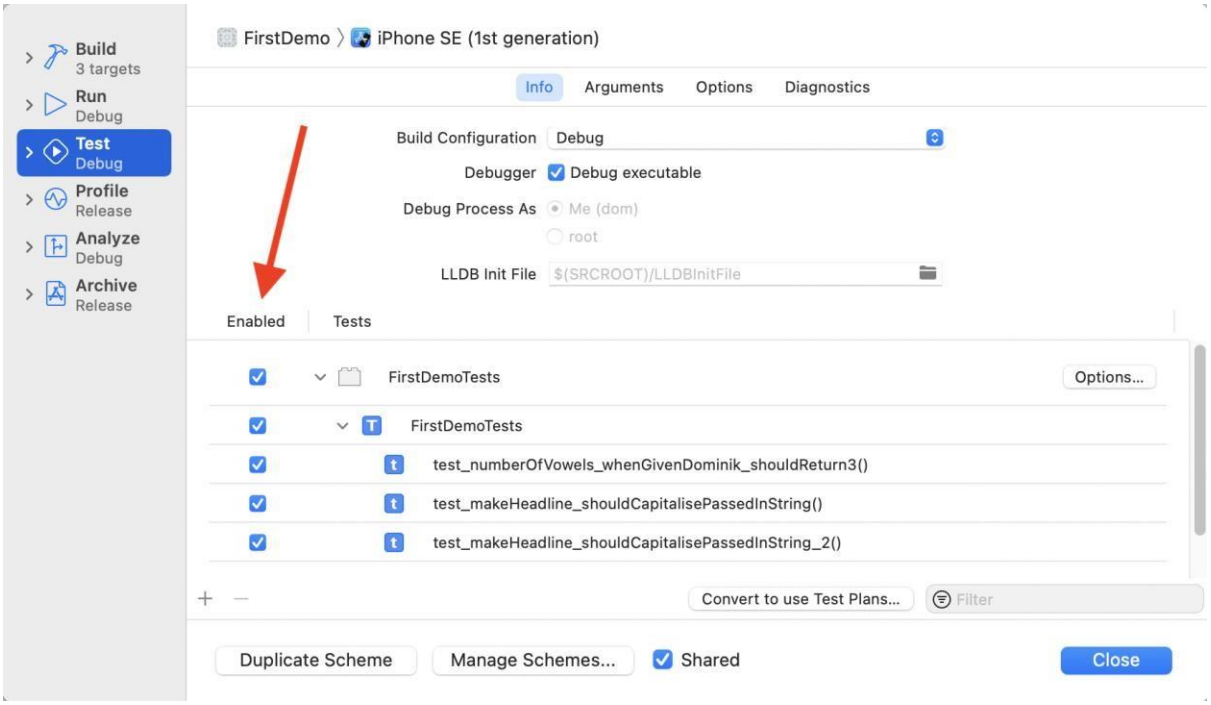




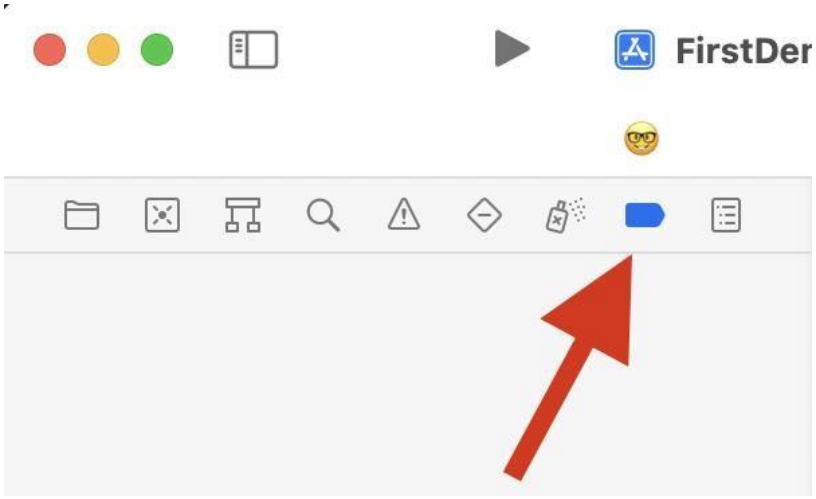

```
func test_makeHeadline_shouldCapitalisePassedInString_2() {
    let input = "The contextual action menu"

    let result = blogger.makeHeadline(from: input)

    let expected = "The Contextual Action Menu"
    XCTAssertEqual(result, expected)
}
```

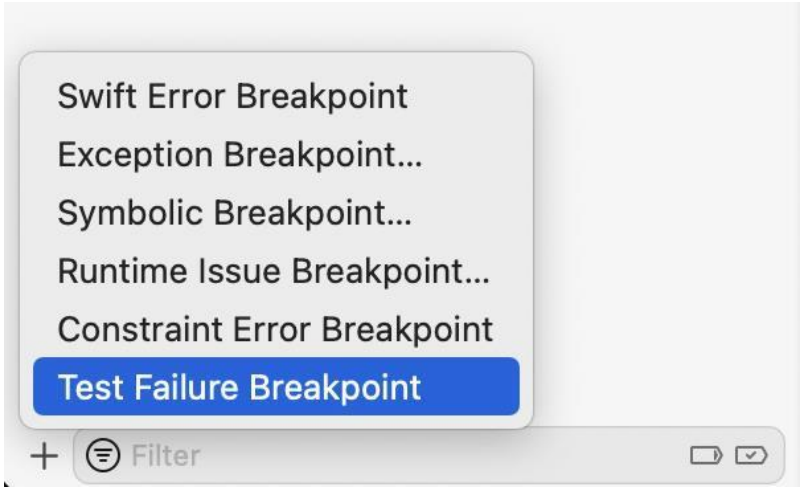

FirstDemoTests 3 tests
FirstDemoTests
test_numberOfV...k_shouldReturn3()
test_makeHeadli...ePassedInString()
test_makeHeadli...assedInString_2()
FirstDemoUITests 2 tests
FirstDemoUITests


FirstDemo
FirstDemo
Edit Scheme...
New Scheme...
Manage Schemes...
SE (1st generation)
DemoTests.swift
let input
Inspector"
let result
he(from: input)
let expected = "The Accessibility Inspector"
XCTAssertEqual(result, expected)
}

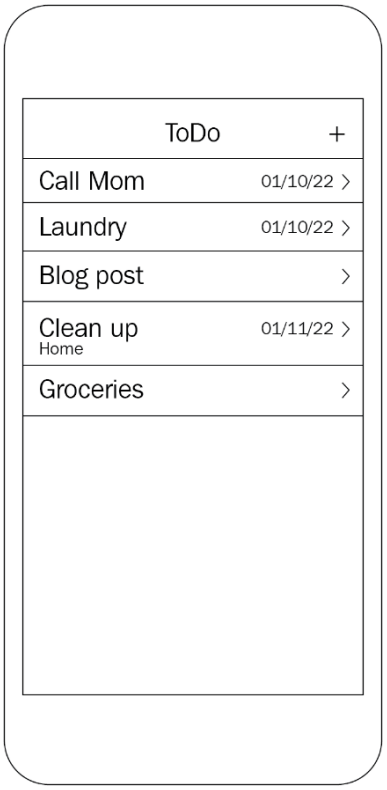

Build
3 targets
Run
Debug
Test
Debug
Profile
Release
Analyze
Debug
Archive
Release
FirstDemo 〉 iPhone SE (1st generation)
Info
Arguments
Options
Diagnostics
Build Configuration
Debug
Debugger
Debug executable
Debug Process As
Me (dom)
root
LLDB Init File
$(SRCROOT)/LLDBInitFile
Enabled
Tests
FirstDemoTests
Options...
FirstDemoTests
test_numberOfVowels_whenGivenDominik_shouldReturn3()
test_makeHeadline_shouldCapitalisePassedInString()
test_makeHeadline_shouldCapitalisePassedInString_2()
Convert to use Test Plans...
Filter
Duplicate Scheme
Manage Schemes...
Shared
Close

```
func test_makeHeadline_shouldCapitalisePassedInString_2() {
  let input = "The contextual action menu"

  let result = blogger.makeHeadline(from: input)

  let expected = "The ContextuaI Action Menu"
  XCTAssertEqual(result, expected)  XCTAssertEqual failed: ("The Contextual Act...
}
```



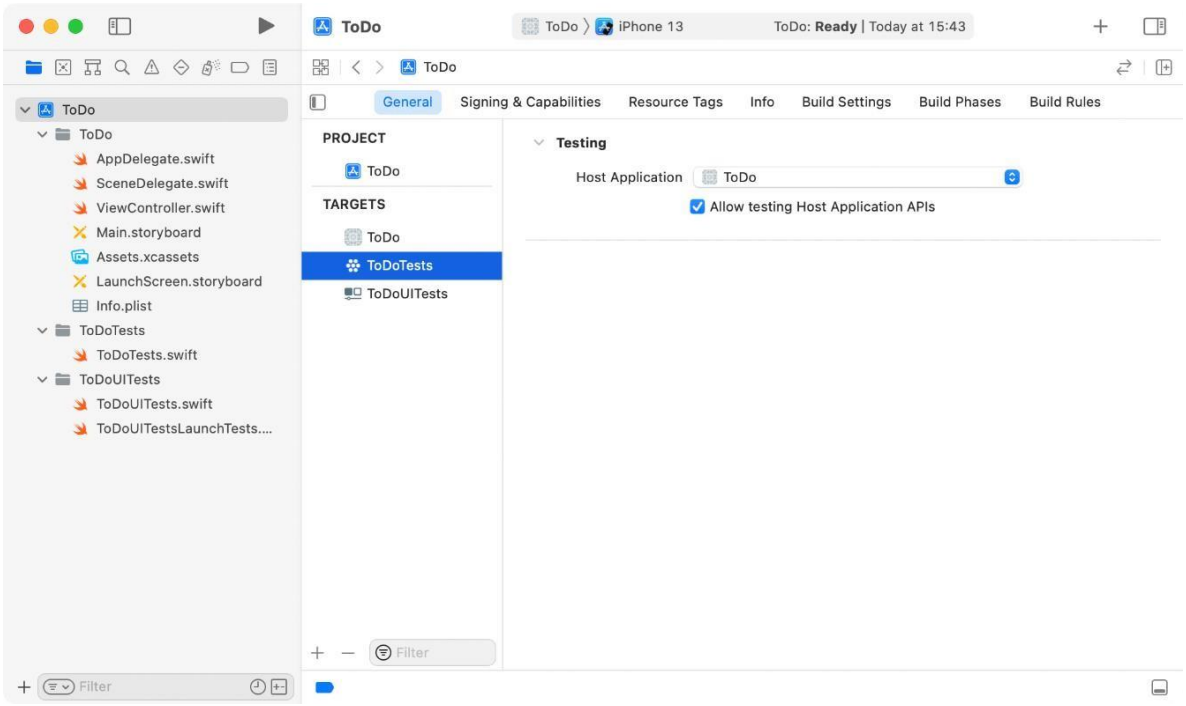


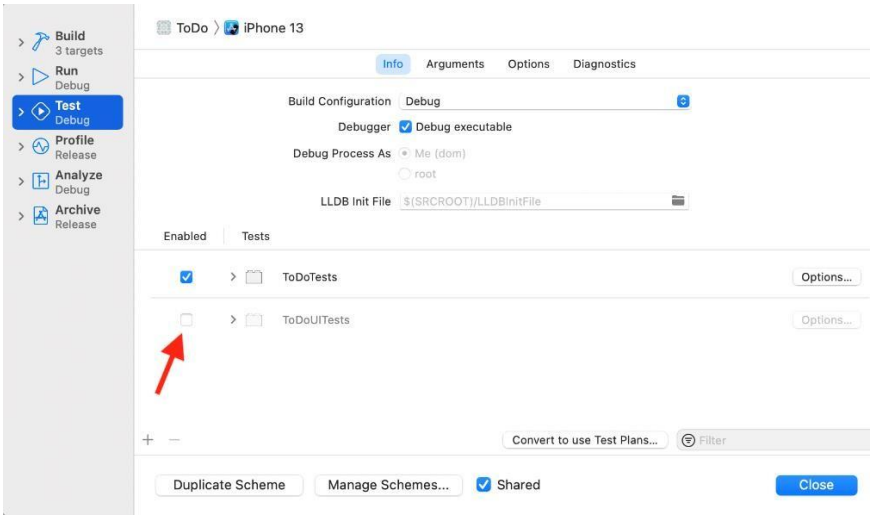
Chapter 04: The App We Are Going to Build

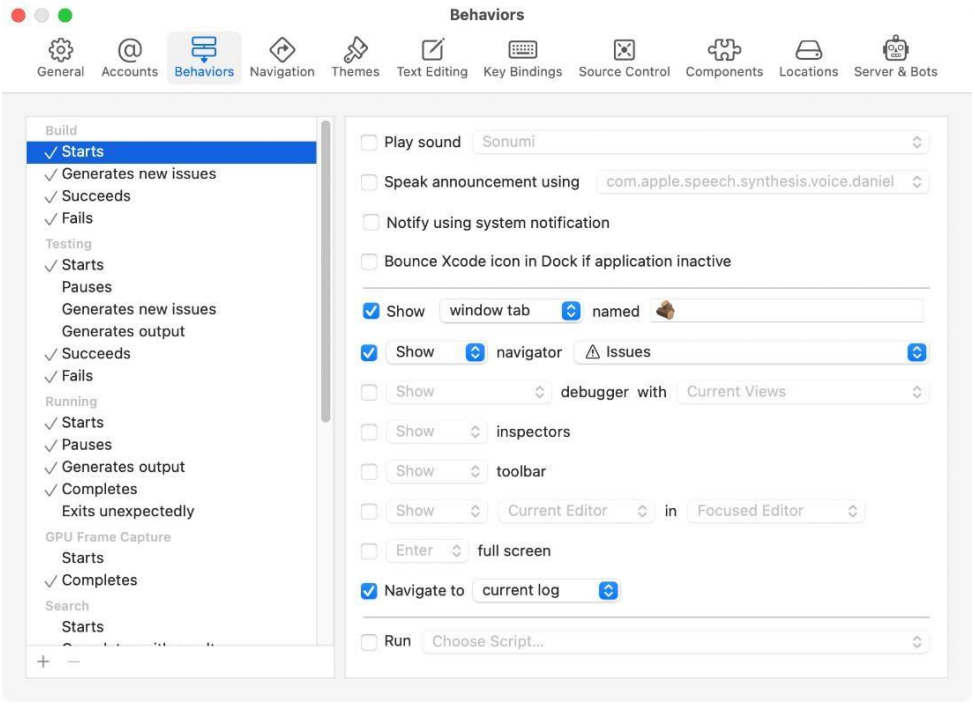


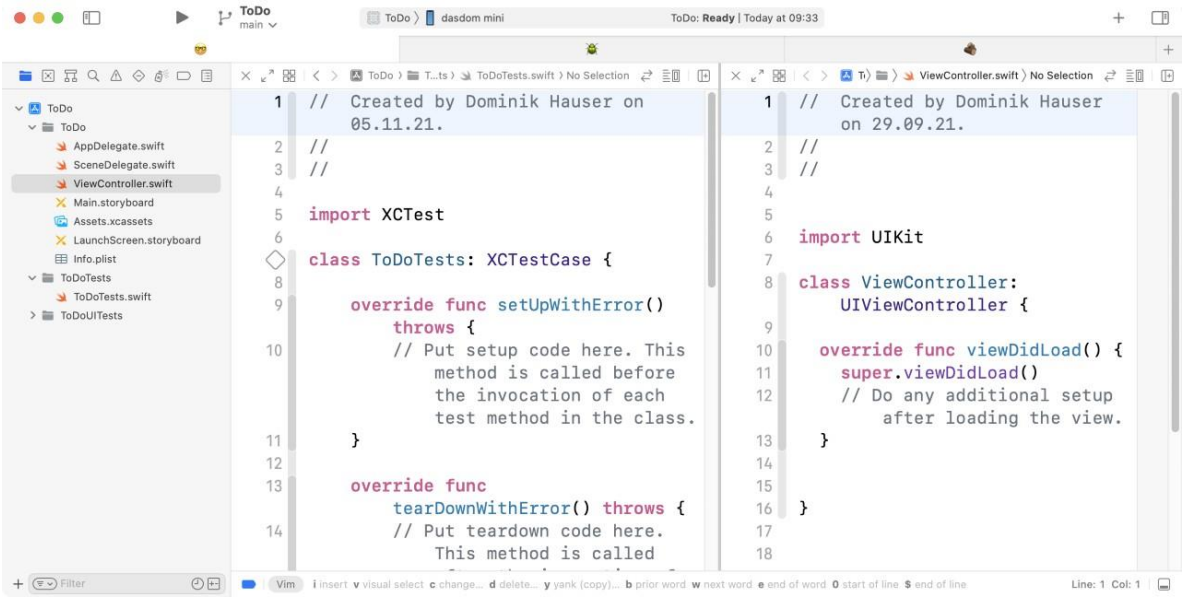
Details
Clean up
01/11/22
Home
Don't forget the bath!
Done

New Event
Title
Date
Location
Address
Description
Cancel
Save


ToDo
ToDo 〉 iPhone 13
ToDo: Ready | Today at 15:43
ToDo
General
Signing & Capabilities
Resource Tags
Info
Build Settings
Build Phases
Build Rules
PROJECT
ToDo
TARGETS
ToDo
ToDoTests
ToDoUITests
Testing
Host Application
ToDo
Allow testing Host Application APIs
ToDo
AppDelegate.swift
SceneDelegate.swift
ViewController.swift
Main.storyboard
Assets.xcassets
LaunchScreen.storyboard
Info.plist
ToDoTests
ToDoTests.swift
ToDoUITests
ToDoUITests.swift
ToDoUITestsLaunchTests....
Filter
Filter

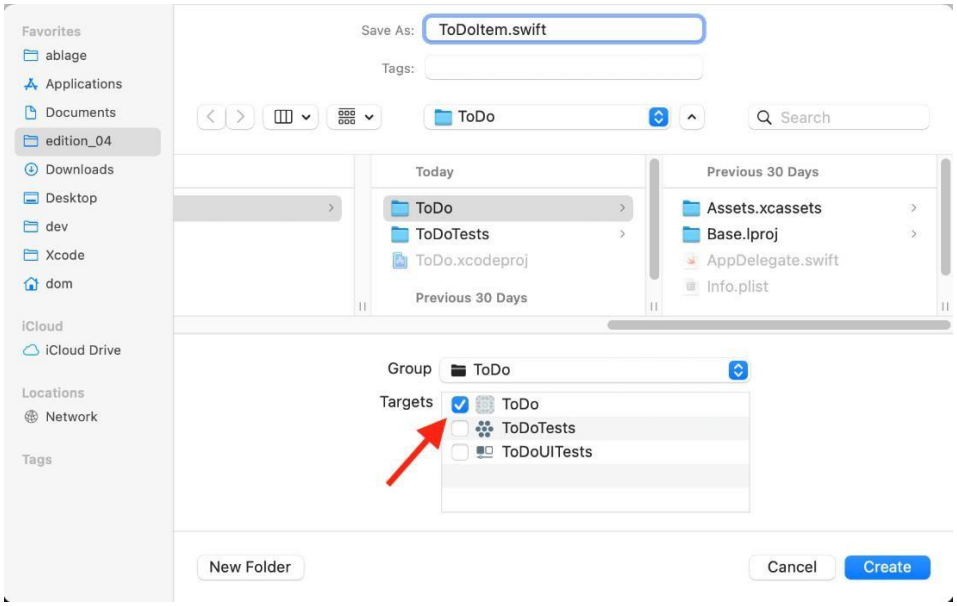

Build
3 targets
Run
Debug
Test
Debug
Profile
Release
Analyze
Debug
Archive
Release
ToDo 〉 iPhone 13
Info
Arguments
Options
Diagnostics
Build Configuration
Debug
Debugger
Debug executable
Debug Process As
Me (dom)
root
LLDB Init File
$(SRCROOT)/LLDBInitFile
Enabled
Tests
ToDoTests
Options...
ToDoUITests
Options...
Convert to use Test Plans...
Filter
Duplicate Scheme
Manage Schemes...
Shared
Close


Behaviors
General
Accounts
Behaviors
Navigation
Themes
Text Editing
Key Bindings
Source Control
Components
Locations
Server & Bots
Build
Starts
Generates new issues
Succeeds
Fails
Testing
Starts
Pauses
Generates new issues
Generates output
Succeeds
Fails
Running
Starts
Pauses
Generates output
Completes
Exits unexpectedly
GPU Frame Capture
Starts
Completes
Search
Starts
Play sound
Sonumi
Speak announcement using
com.apple.speech.synthesis.voice.daniel
Notify using system notification
Bounce Xcode icon in Dock if application inactive
Show
window tab
named
Show
navigator
Issues
Show
debugger with
Current Views
Show
inspectors
Show
toolbar
Show
Current Editor
in
Focused Editor
Enter
full screen
Navigate to
current log
Run
Choose Script...

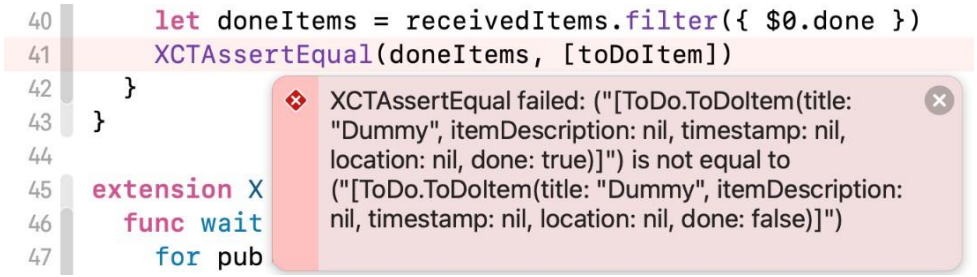

ToDo
main
ToDo: Ready | Today at 09:33
ToDo
AppDelegate.swift
SceneDelegate.swift
ViewController.swift
Main.storyboard
Assets.xcassets
LaunchScreen.storyboard
Info.plist
ToDoTests
ToDoTests.swift
ToDoUITests
// Created by Dominik Hauser on 05.11.21.
//
//
import XCTest
class ToDoTests: XCTestCase {
override func setUpWithError() throws {
// Put setup code here. This method is called before the invocation of each test method in the class.
}
override func tearDownWithError() throws {
// Put teardown code here. This method is called
// Created by Dominik Hauser on 29.09.21.
//
//
import UIKit
class ViewController: UIViewController {
override func viewDidLoad() {
super.viewDidLoad()
// Do any additional setup after loading the view.
}
}

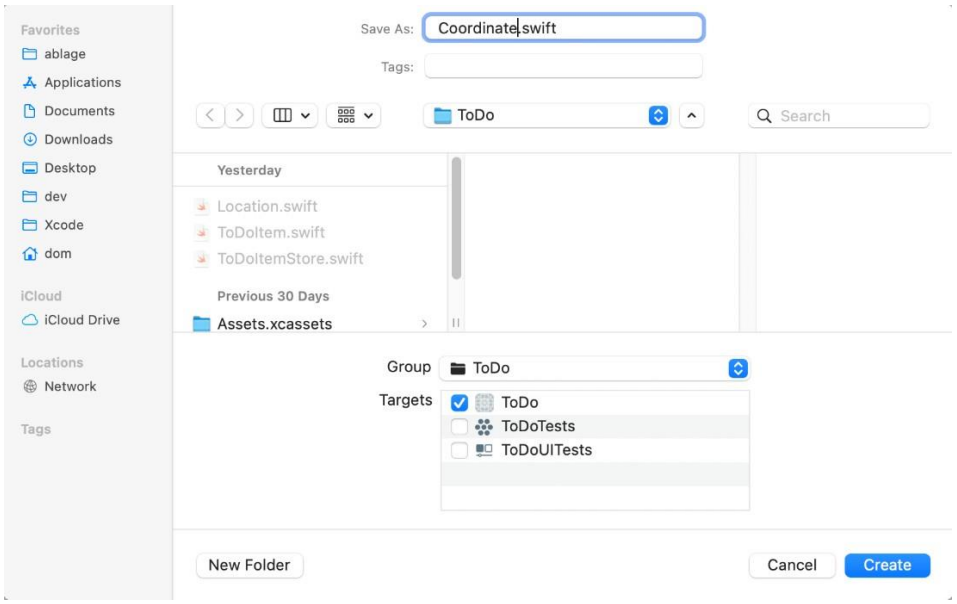
Chapter 05: Building a Structure for ToDo Items

```
func test_init_takesTitle() {
    ToDoItem(title: "Dummy")        Cannot find 'ToDoItem' in scope
}
```

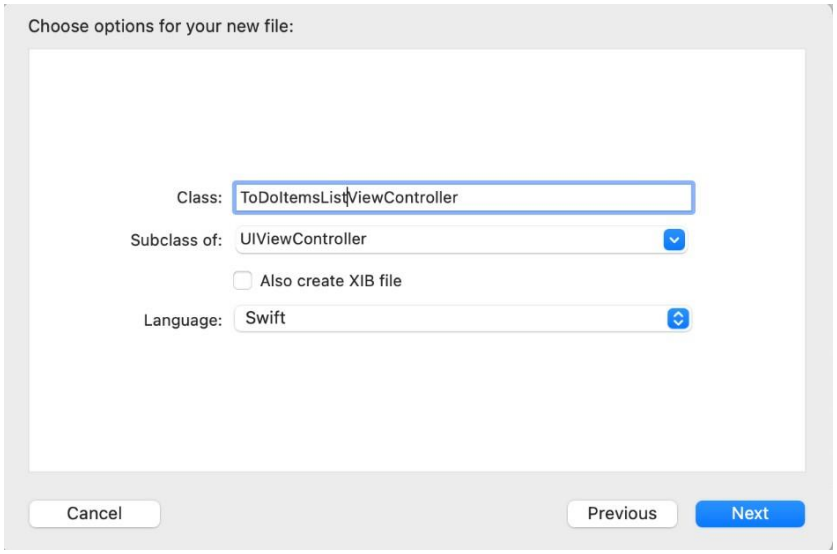


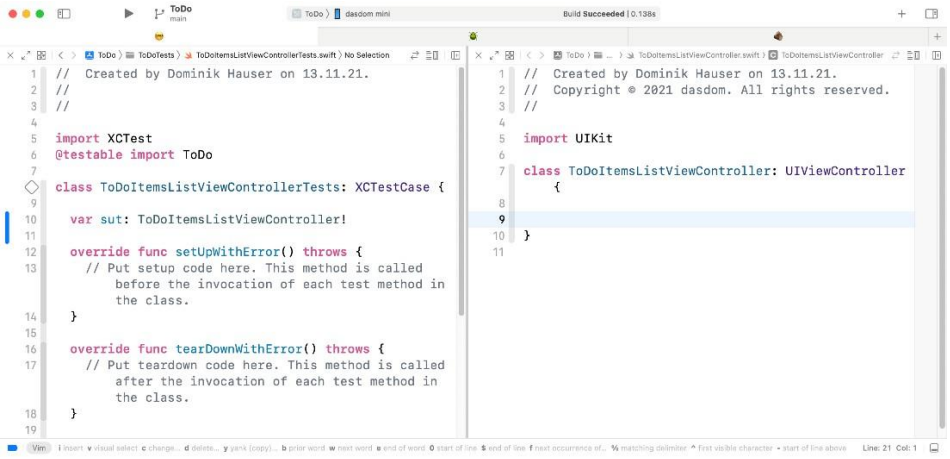
Chapter 06: Testing, Loading, and Saving Data

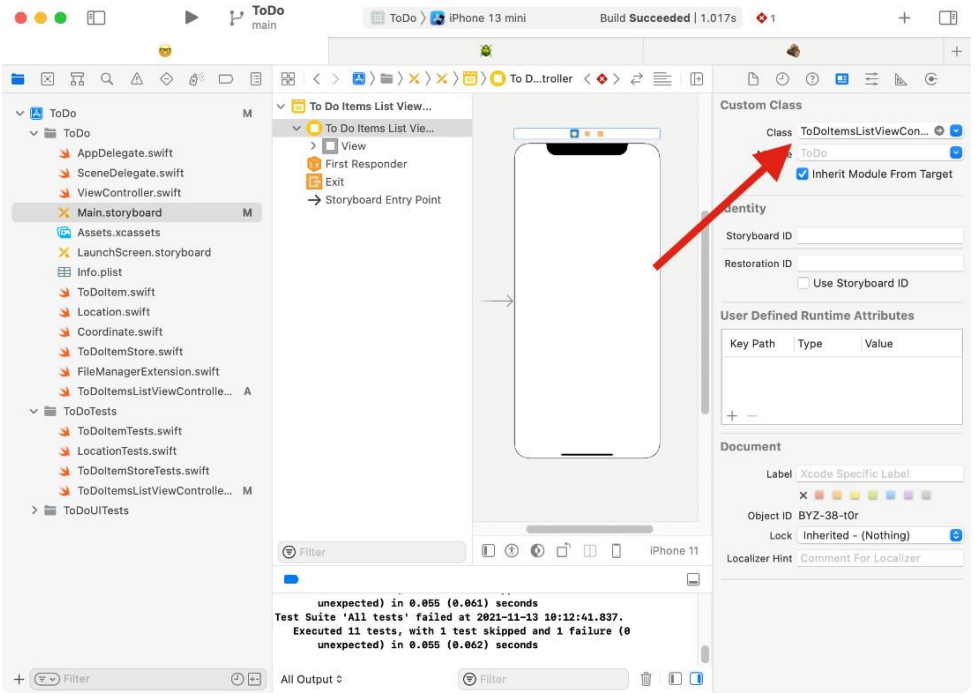


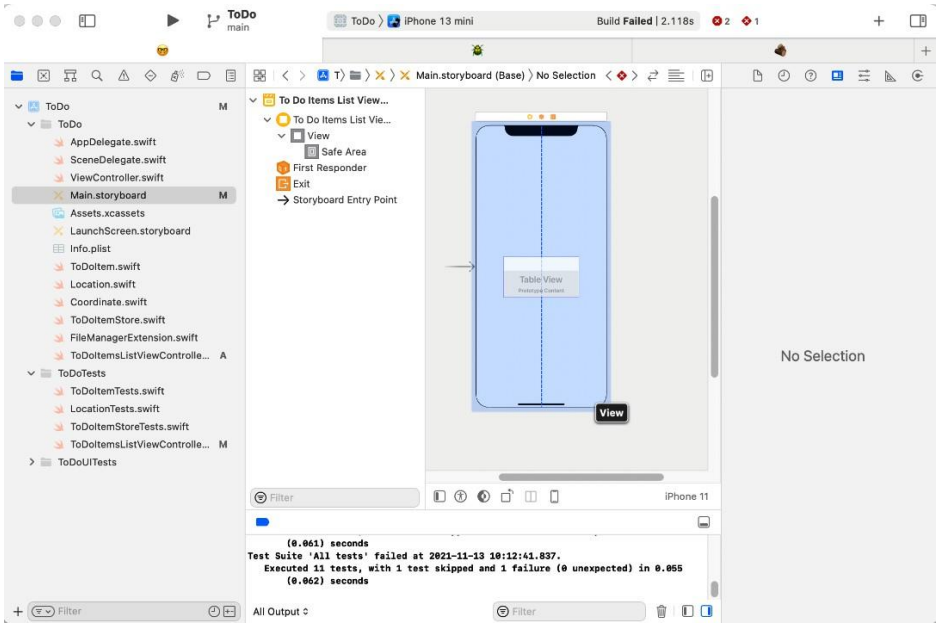


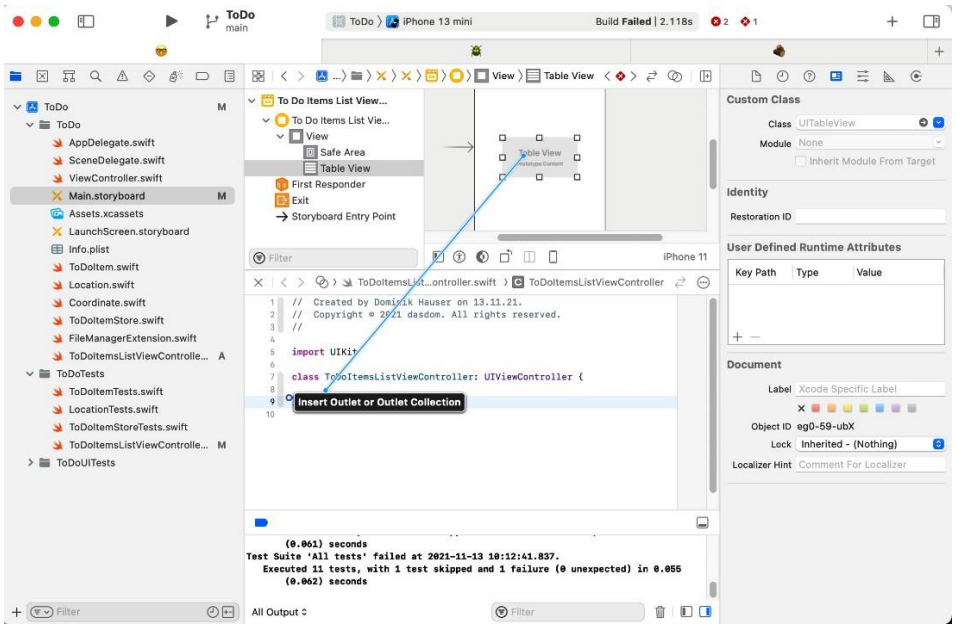
Chapter 07: Building a Table View Controller for the To-Do Items



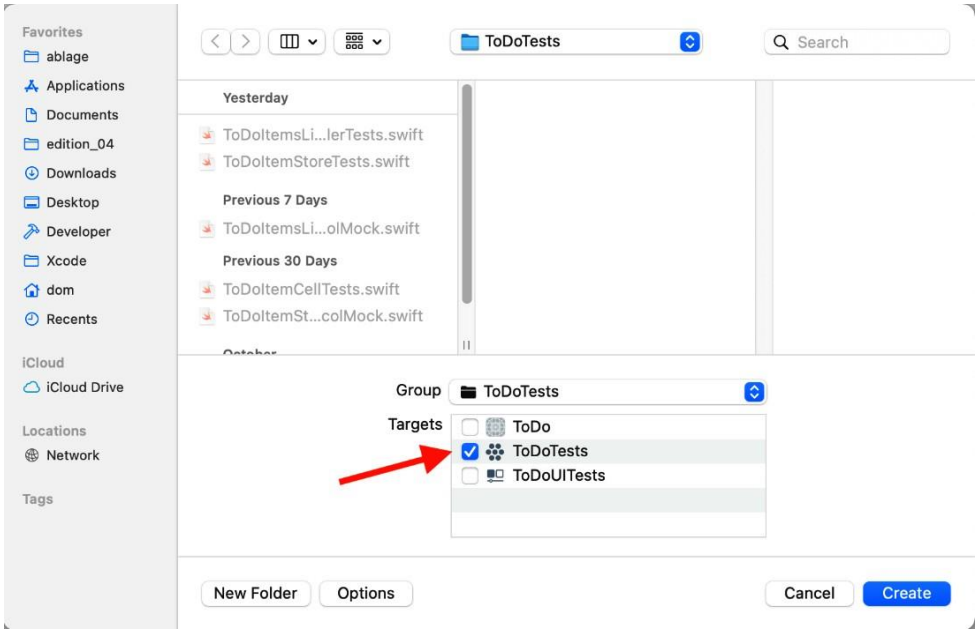


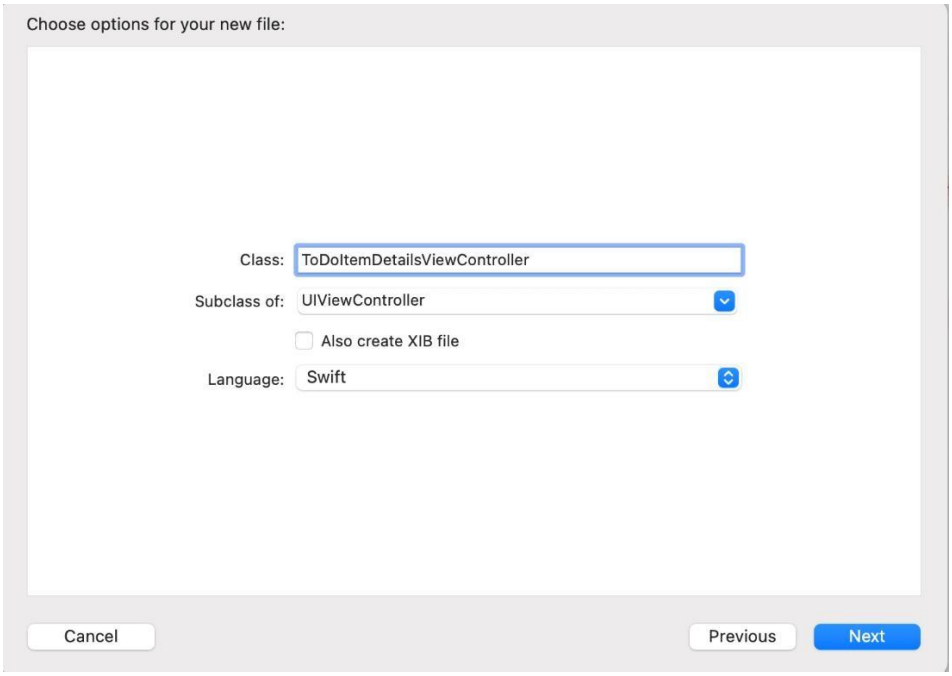

ToDo
main
ToDo 〉 iPhone 13 mini
Build Succeeded | 1.017s
ToDo
AppDelegate.swift
SceneDelegate.swift
ViewController.swift
Main.storyboard
Assets.xcassets
LaunchScreen.storyboard
Info.plist
ToDoItem.swift
Location.swift
Coordinate.swift
ToDoItemStore.swift
FileManagerExtension.swift
ToDoItemsListViewControlle...
ToDoTests
ToDoItemTests.swift
LocationTests.swift
ToDoItemStoreTests.swift
ToDoItemsListViewControlle...
ToDoUITests
To Do Items List View...
To Do Items List Vie...
View
First Responder
Exit
Storyboard Entry Point
Custom Class
Class ToDoItemsListViewCon...
Inherit Module From Target
Identity
Storyboard ID
Restoration ID
Use Storyboard ID
User Defined Runtime Attributes
Key Path
Type
Value
Document
Label
Xcode Specific Label
Object ID BYZ-38-t0r
Lock Inherited - (Nothing)
Localizer Hint
Comment For Localizer
iPhone 11
unexpected) in 0.055 (0.061) seconds
Test Suite 'All tests' failed at 2021-11-13 10:12:41.837.
Executed 11 tests, with 1 test skipped and 1 failure (0
unexpected) in 0.055 (0.062) seconds
All Output


ToDo
main
ToDo 〉 iPhone 13 mini
Build Failed | 2.118s
Main.storyboard (Base) 〉 No Selection
ToDo
AppDelegate.swift
SceneDelegate.swift
ViewController.swift
Main.storyboard
Assets.xcassets
LaunchScreen.storyboard
Info.plist
ToDoItem.swift
Location.swift
Coordinate.swift
ToDoItemStore.swift
FileManagerExtension.swift
ToDoItemsListViewControlle...
ToDoTests
ToDoItemTests.swift
LocationTests.swift
ToDoItemStoreTests.swift
ToDoItemsListViewControlle...
ToDoUITests
To Do Items List View...
To Do Items List Vie...
View
Safe Area
First Responder
Exit
Storyboard Entry Point
Table View
View
No Selection
iPhone 11
(0.061) seconds
Test Suite 'All tests' failed at 2021-11-13 10:12:41.837.
Executed 11 tests, with 1 test skipped and 1 failure (0 unexpected) in 0.055
(0.062) seconds
All Output


ToDo
main
ToDo 〉 iPhone 13 mini
Build Failed | 2.118s
ToDo
AppDelegate.swift
SceneDelegate.swift
ViewController.swift
Main.storyboard
Assets.xcassets
LaunchScreen.storyboard
Info.plist
ToDoItem.swift
Location.swift
Coordinate.swift
ToDoItemStore.swift
FileManagerExtension.swift
ToDoItemsListViewControlle...
ToDoTests
ToDoItemTests.swift
LocationTests.swift
ToDoItemStoreTests.swift
ToDoItemsListViewControlle...
ToDoUITests
To Do Items List View...
To Do Items List Vie...
View
Safe Area
Table View
First Responder
Exit
Storyboard Entry Point
Table View
iPhone 11
ToDoItemsList...ontroller.swift
ToDoItemsListViewController
// Created by Dominik Hauser on 13.11.21.
// Copyright © 2021 dasdom. All rights reserved.
//
import UIKit
class ToDoItemsListViewController: UIViewController {
Insert Outlet or Outlet Collection
(0.061) seconds
Test Suite 'All tests' failed at 2021-11-13 10:12:41.837.
Executed 11 tests, with 1 test skipped and 1 failure (0 unexpected) in 0.055
(0.062) seconds
All Output
Custom Class
Class UITableView
Module None
Inherit Module From Target
Identity
Restoration ID
User Defined Runtime Attributes
Key Path
Type
Value
Document
Label Xcode Specific Label
Object ID eg0-59-ubX
Lock Inherited - (Nothing)
Localizer Hint Comment For Localizer

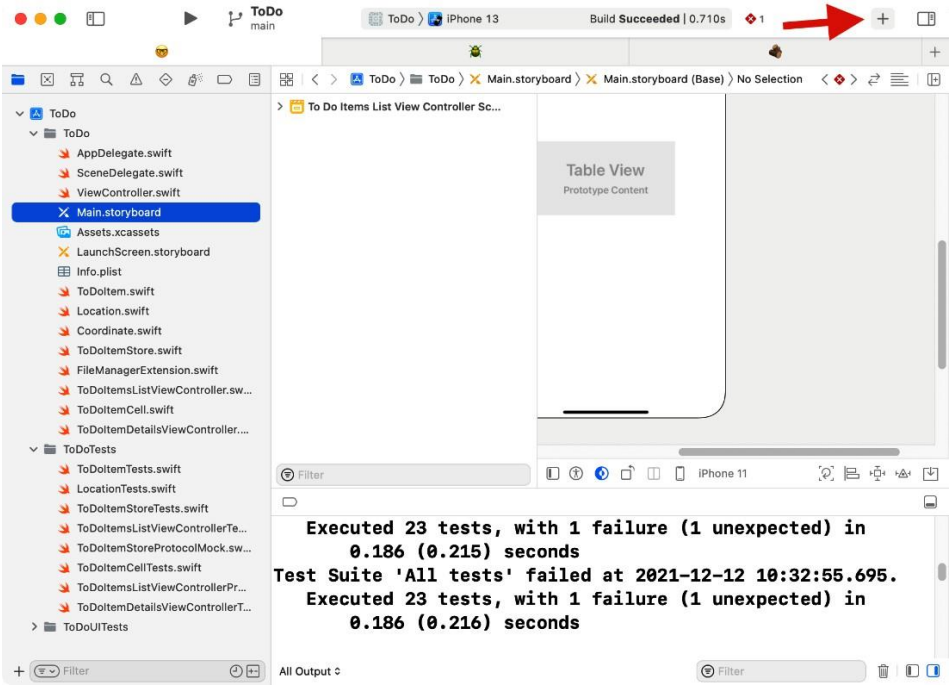
Chapter 08: Building a Simple Detail View

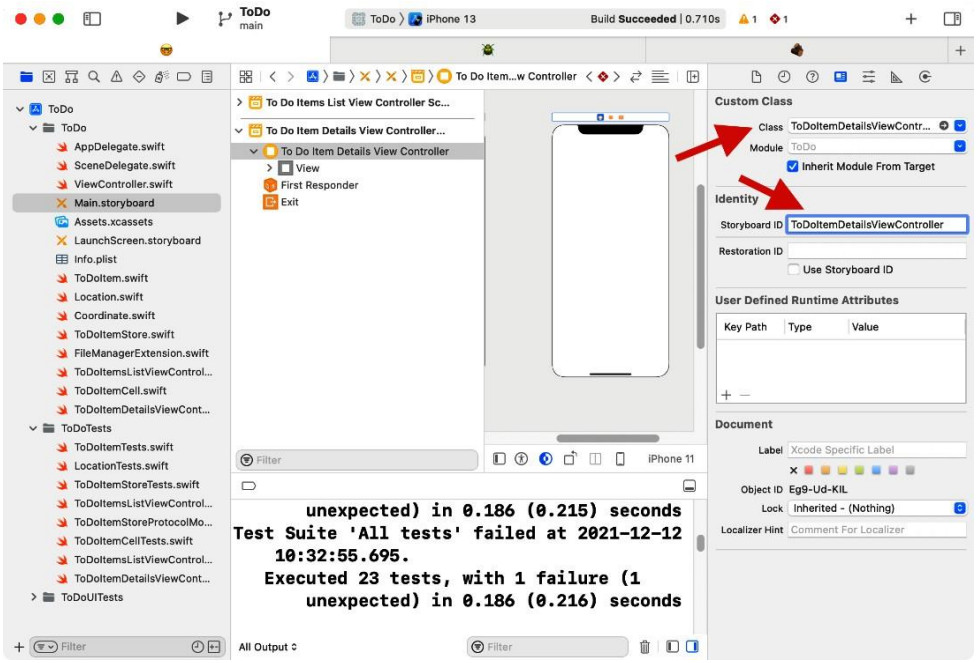


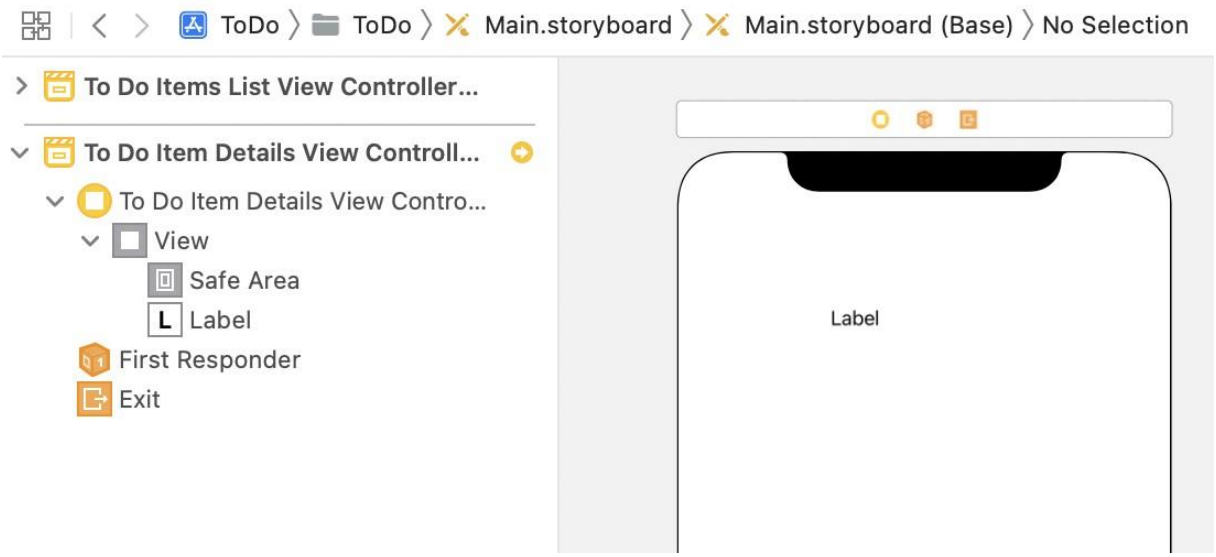


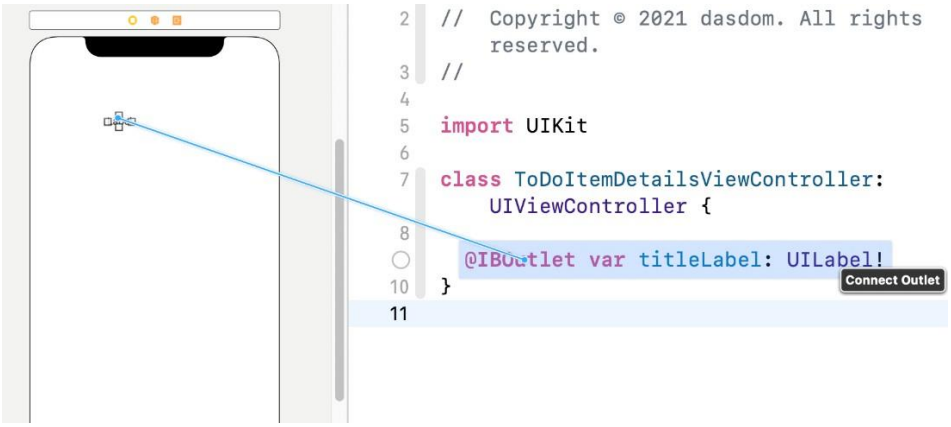
```
12    override func setUpWithError() throws {
13        let storyboard = UIStoryboard(name: "Main",
              bundle: nil)
14        sut = (storyboard.instantiateViewController(
15            withId
                  "T
16
17        sut.loa
18    }
19
```

Storyboard (<UIStoryboard: 0x6000034b8420>) doesn't contain a view controller with identifier 'ToDoItemDetailsViewController' (NSInvalidArgumentException)

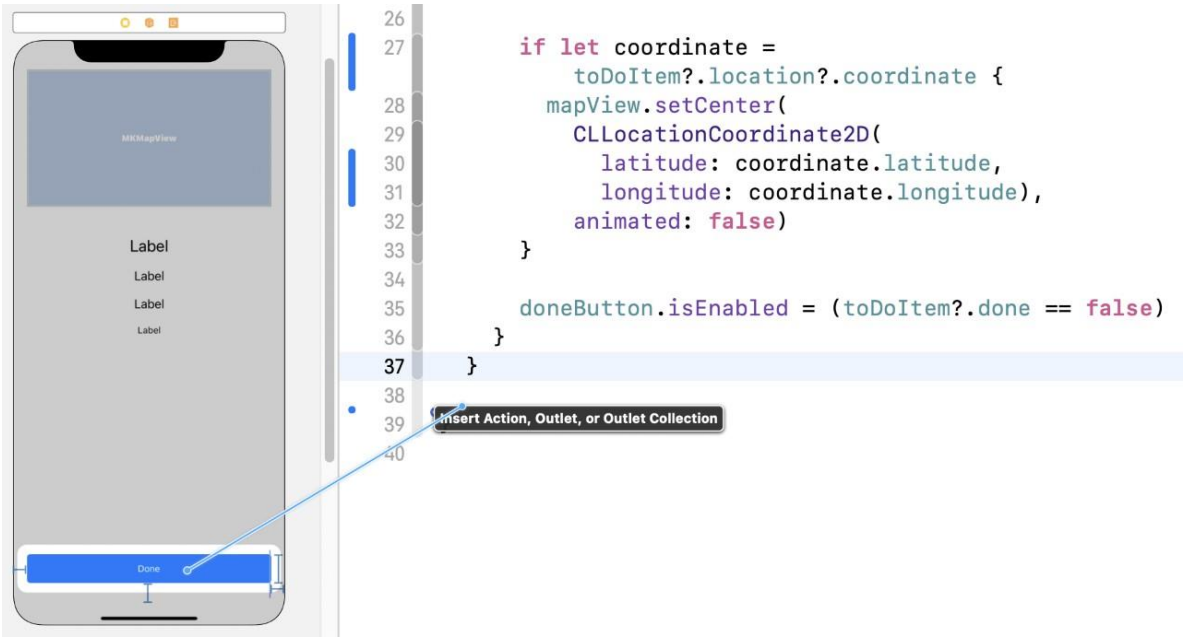


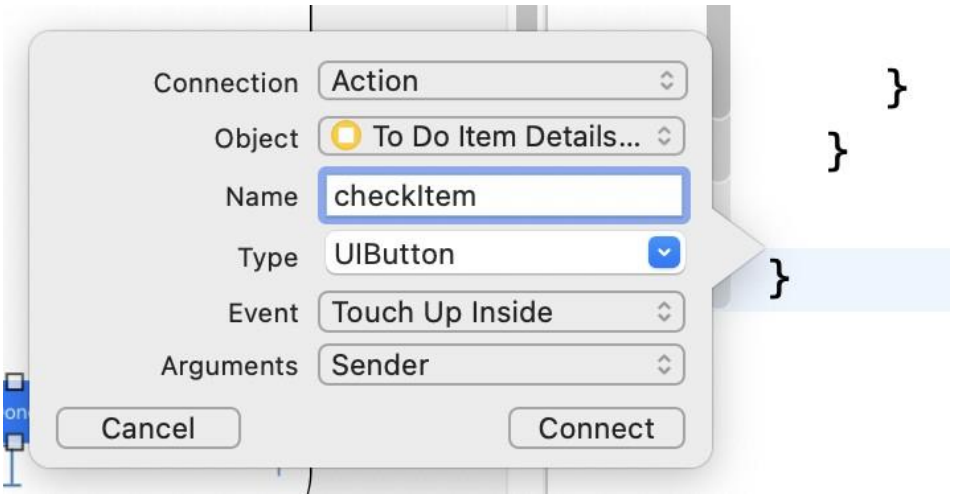

ToDo
main
ToDo 〉 iPhone 13
Build Succeeded | 0.710s
To Do Item...w Controller
ToDo
AppDelegate.swift
SceneDelegate.swift
ViewController.swift
Main.storyboard
Assets.xcassets
LaunchScreen.storyboard
Info.plist
ToDoItem.swift
Location.swift
Coordinate.swift
ToDoItemStore.swift
FileManagerExtension.swift
ToDoItemCell.swift
ToDoTests
ToDoUITests
To Do Items List View Controller Sc...
To Do Item Details View Controller...
To Do Item Details View Controller
View
First Responder
Exit
Custom Class
Class ToDoItemDetailsViewContr...
Module ToDo
Inherit Module From Target
Identity
Storyboard ID ToDoItemDetailsViewController
Restoration ID
Use Storyboard ID
User Defined Runtime Attributes
Key Path Type Value
Document
Label Xcode Specific Label
Object ID Eg9-Ud-KIL
Lock Inherited - (Nothing)
Localizer Hint Comment For Localizer
iPhone 11
unexpected) in 0.186 (0.215) seconds
Test Suite 'All tests' failed at 2021-12-12 10:32:55.695.
Executed 23 tests, with 1 failure (1 unexpected) in 0.186 (0.216) seconds
All Output


ToDo 〉 ToDo 〉 Main.storyboard 〉 Main.storyboard (Base) 〉 No Selection
To Do Items List View Controller...
To Do Item Details View Controll...
To Do Item Details View Contro...
View
Safe Area
Label
First Responder
Exit
Label

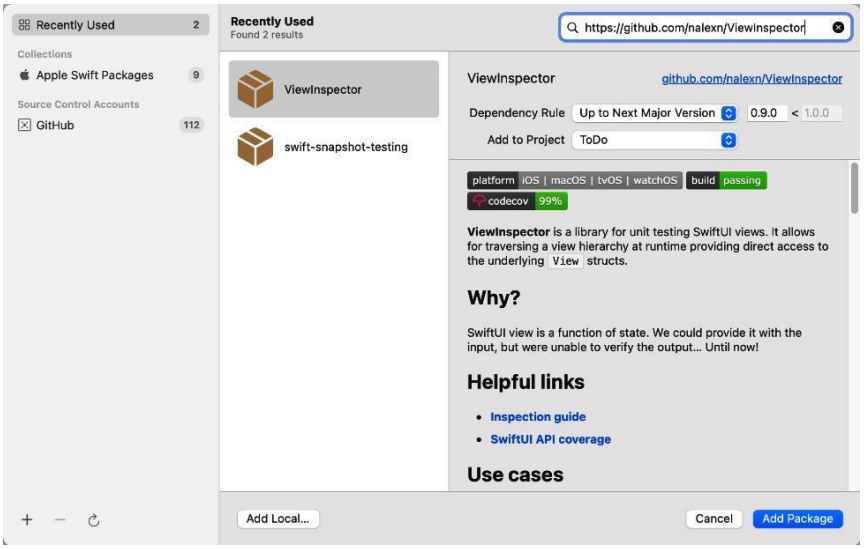

// Copyright © 2021 dasdom. All rights reserved.
//
import UIKit
class ToDoItemDetailsViewController: UIViewController {
@IBOutlet var titleLabel: UILabel!
}
Connect Outlet

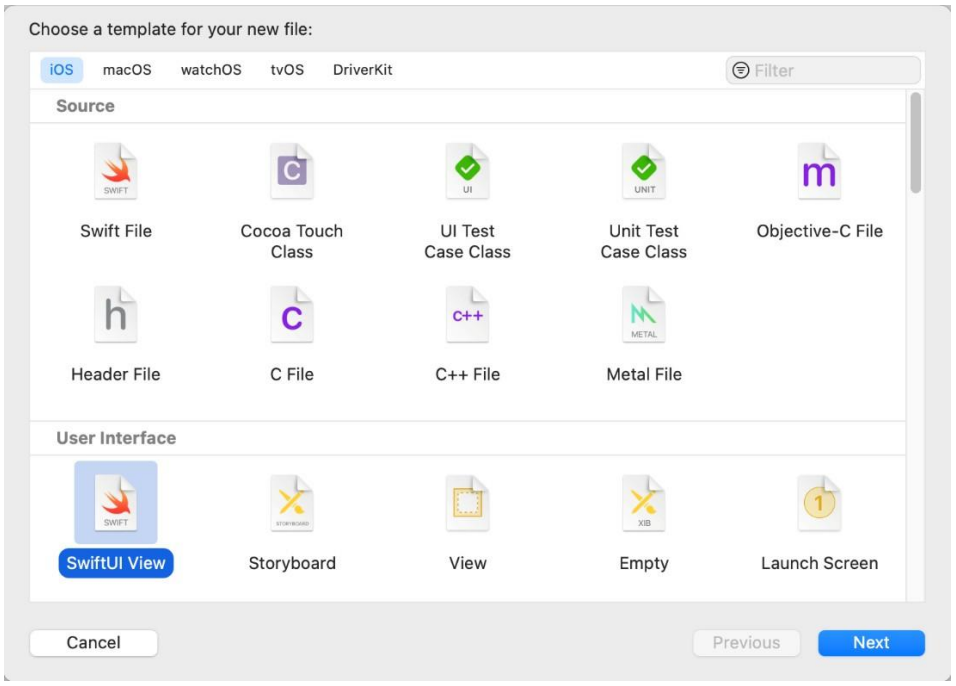
To Do Item Details View Controller S...
To Do Item Details View Controller
View
Safe Area
Stack View
Map View
Constraints
aspect = 16:9
Stack View
Title Label
Date Label
Location Label
Description Label
Done Button
Constraints
First Responder
Exit
MKMapView
Label
Label
Label
Label
Done

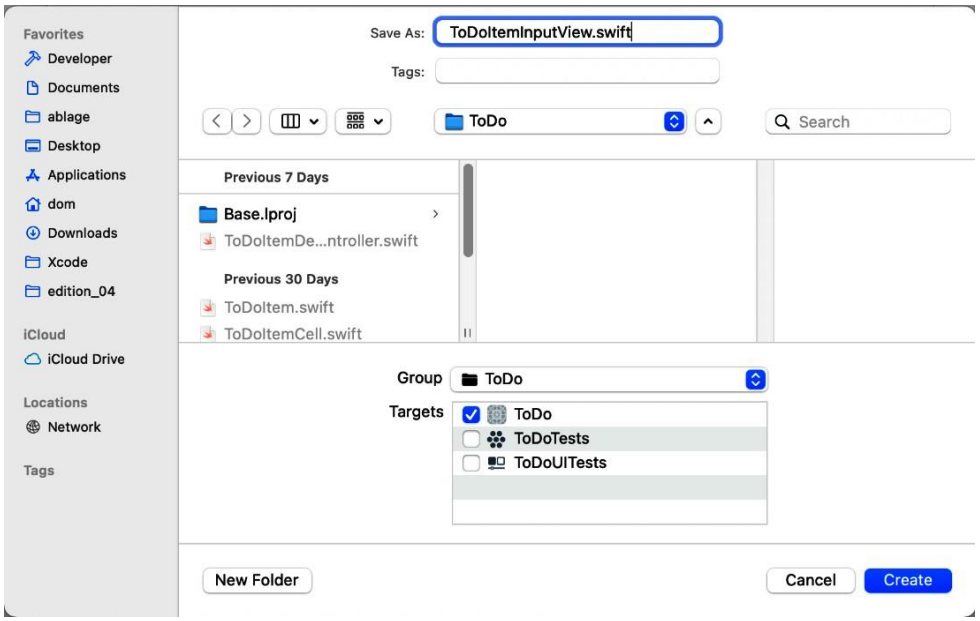

MKMapView
Label
Label
Label
Label
Done
26
27
if let coordinate =
toDoItem?.location?.coordinate {
28
mapView.setCenter(
29
CLLocationCoordinate2D(
30
latitude: coordinate.latitude,
31
longitude: coordinate.longitude),
32
animated: false)
33
}
34
35
doneButton.isEnabled = (toDoItem?.done == false)
36
}
37
}
38
39
Insert Action, Outlet, or Outlet Collection
40

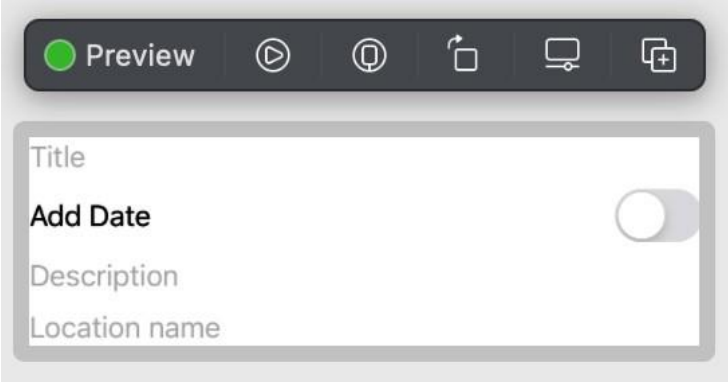

Connection
Action
Object
To Do Item Details...
Name
checkItem
Type
UIButton
Event
Touch Up Inside
Arguments
Sender
Cancel
Connect
}
}
}

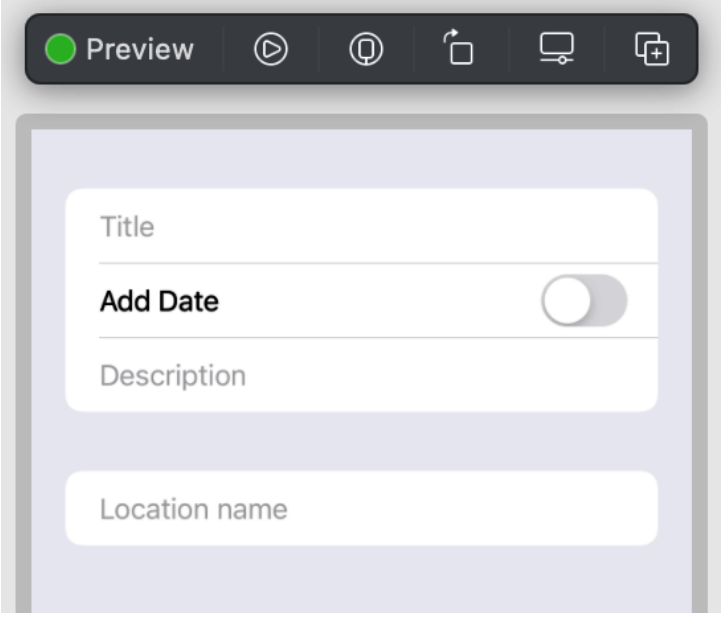
Chapter 09: Test-Driven Input View in SwiftUI



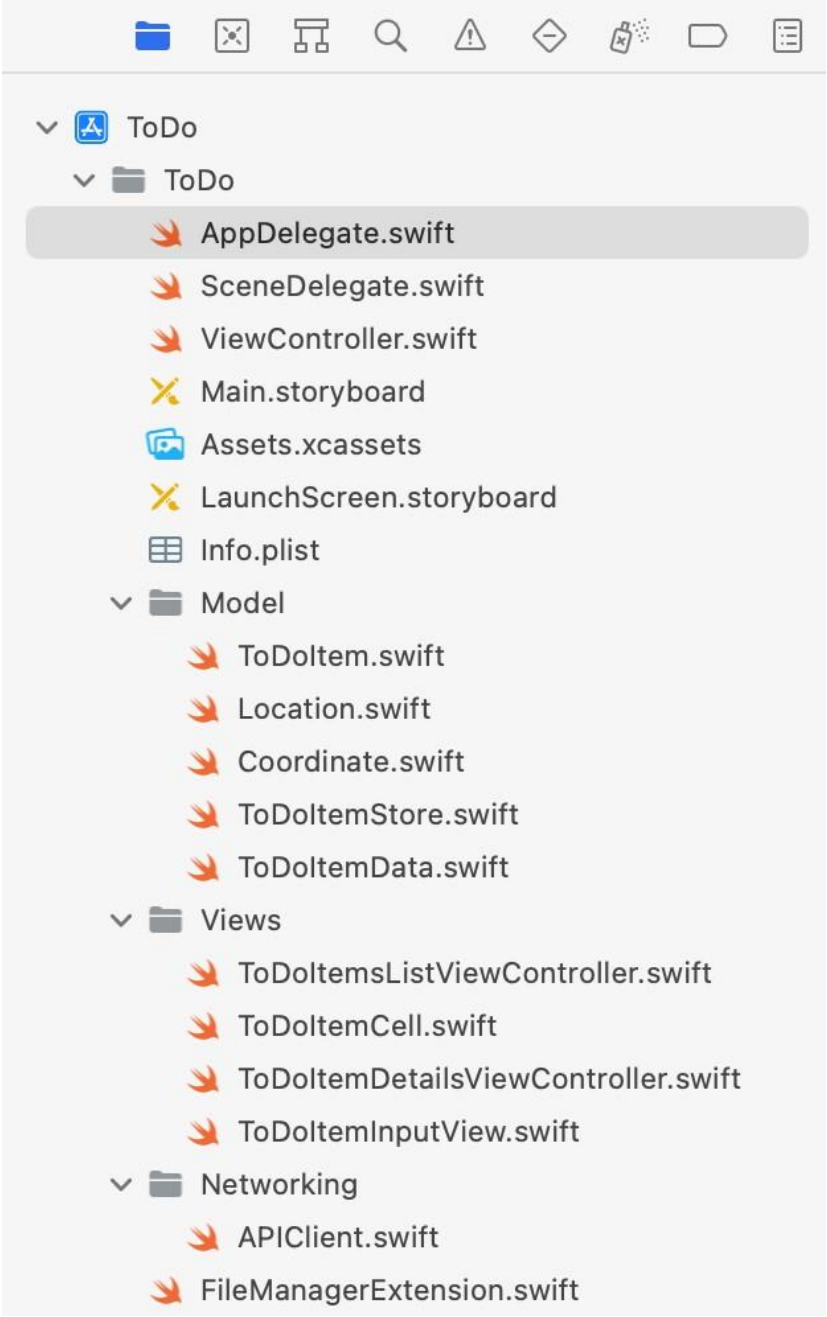



Favorites
Developer
Documents
ablage
Desktop
Applications
dom
Downloads
Xcode
edition_04
iCloud
iCloud Drive
Locations
Network
Tags
Save As: ToDoItemInputView.swift
Tags:
ToDo
Search
Previous 7 Days
Base.lproj
ToDoItemDe...ntroller.swift
Previous 30 Days
ToDoItem.swift
ToDoItemCell.swift
Group ToDo
Targets
ToDo
ToDoTests
ToDoUITests
New Folder
Cancel
Create

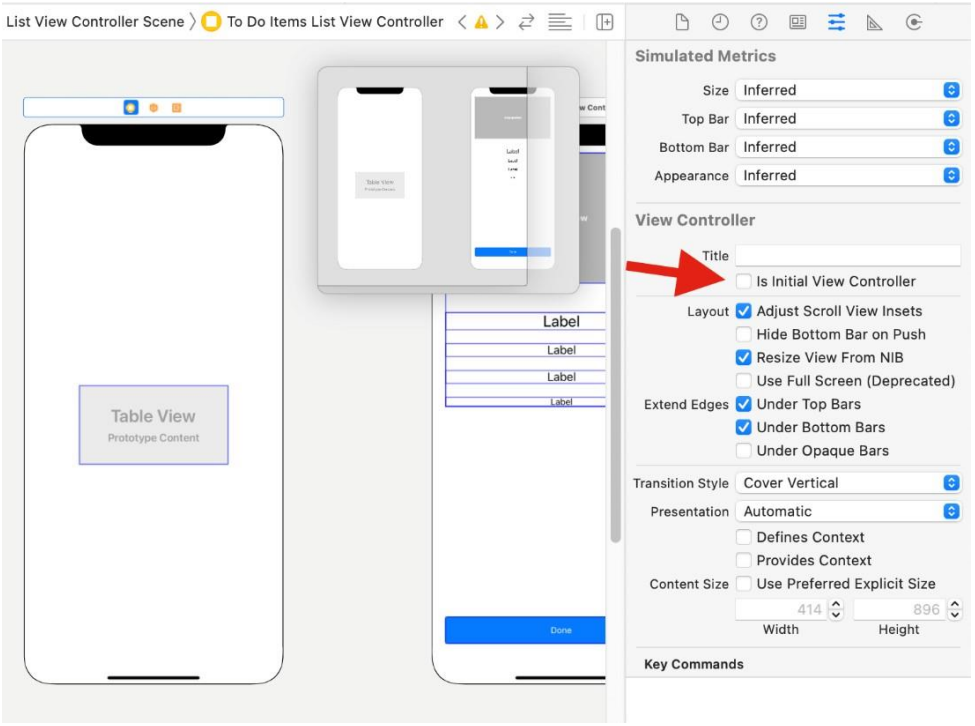

Preview
Title
Add Date
Description
Location name

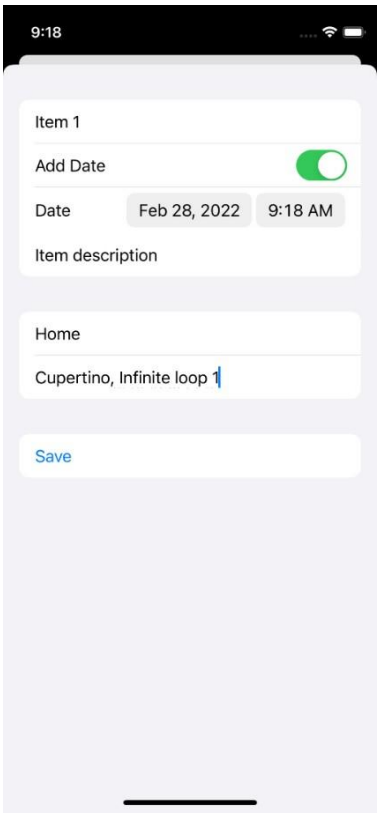

Preview
Title
Add Date
Description
Location name

Chapter 10: Testing Networking Code

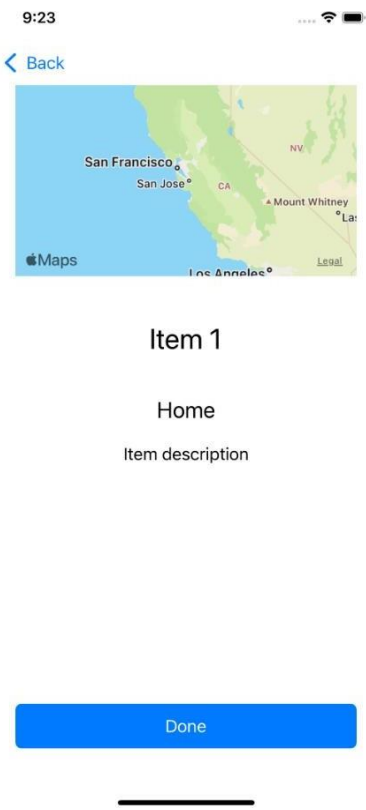


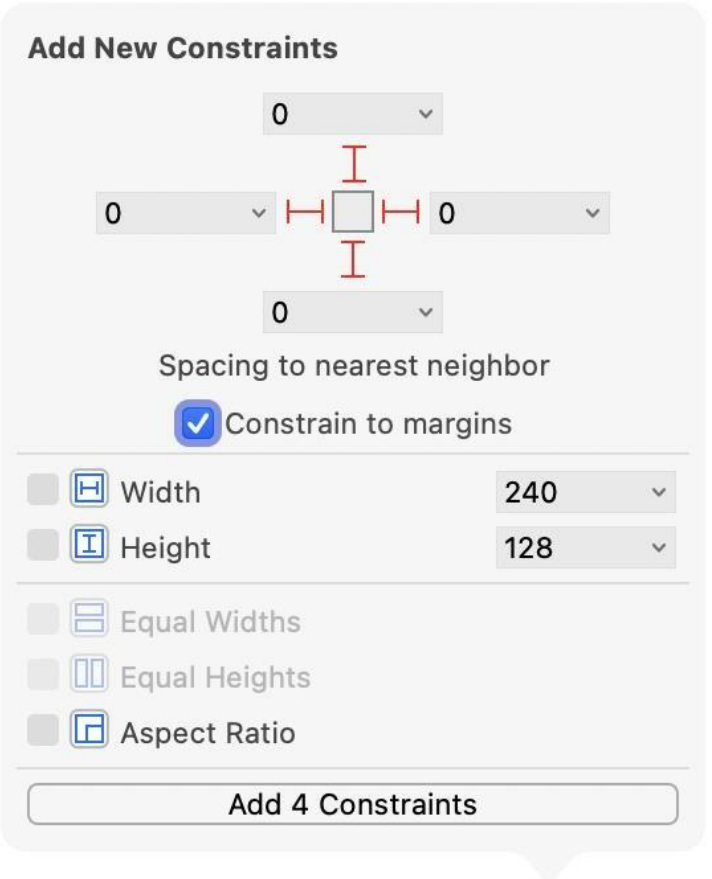
Chapter 11: Easy Navigation with Coordinators




9:18
Item 1
Add Date
Date
Feb 28, 2022
9:18 AM
Item description
Home
Cupertino, Infinite loop 1
Save

9:21


9:23
Back
San Francisco
San Jose
NV
CA
Mount Whitney
Maps
Legal
Item 1
Home
Item description
Done


Add New Constraints
0
0
0
0
Spacing to nearest neighbor
Constrain to margins
Width
240
Height
128
Equal Widths
Equal Heights
Aspect Ratio
Add 4 Constraints