INFO There is an updated version of this course available, created for Swift 5.3, iOS 14, Xcode 12. View Latest Version

Programming in Swift

PRO

Aug 21 2018 · Video Course (5 hrs, 37 mins) · Beginner

Learn about Apple's open source programming language, Swift, through hands-on examples!

If you've watched Programming in Swift: Fundamentals, you can skip the following episodes in this course:

- Part 1 - All Episodes
- Part 2 - Episodes 1-5
- Part 3 - Episodes 1-3, and 5-9
- Part 4 - Episodes 1-6

Continue

4.4/5 34 Ratings

Version

Swift 4, iOS 12, Xcode 10

Getting Started · Language · iOS & Swift Tutorials · Server-Side Swift

Core Concepts

Introduction 3:04 FREE
Let's take a look at what you'll be learning in this part of the course, and why it's important.

Swift Playgrounds 6:58
Learn how to create your first Swift playground, and see how useful it can be to learn Swift, and use in day-to-day development.

Comments 5:38
Learn the various ways to add comments to your Swift code - a useful way to document your work or add notes for future reference.

Tuples 7:24
Learn the group related data together into a single unit, through the power of a Swift type called Tuples.

Challenge: Tuples 5:54
Practice using tuples on your own, through a series of hands-on challenges.

Booleans and Operators 12:19
Learn how to use a Swift type called Booleans, which represent true or false values, and a bunch of new operators.

Challenge: Booleans 7:56
Practice using booleans on your own, through a series of hands-on challenges.

Scope 4:53
Take another look at the if statement, and learn what the concept of scope means in Swift.

Conclusion 1:54
Let's review where you are with your Swift core concepts, and discuss what's next.

Control Flow

Introduction 0:46
Let's review what you'll be learning in this part of the course, and why control flow is important.

While Loops 4:52
Learn how to make Swift repeat your code multiple times with while loops, repeat while loops, and break statements.

Challenge: While Loops 5:01
Practice using while loops on your own, through a hands-on challenge.

For Loops 10:30
Learn how to use for loops in Swift, along with ranges, continue, and labeled statements.

Challenge: For Loops 2:22
Practice using for loops on your own, through a hands-on challenge.

Switch Statements 9:06
Learn how to use switch statements in Swift, including some of its more powerful features.

Challenge: Switch Statements 5:04
Practice using switch statements on your own, through a hands-on challenge.

Enumerations 8:58
Learn about Enums, a powerful tool in Swift that can help with your switch statements and so much more!

Conclusion 1:19
Let's review what you learned about control flow in this part, and discuss what's next.

Functions & Optionals

Introduction 0:50
Review what you'll be learning in this part of the course about functions and optionals.

Introduction to Functions 12:38
Learn how to write your own functions in Swift, and see for yourself how Swift makes them easy to use.

Challenge: Introduction to Functions 4:54
Practice writing functions on your own, through a hands-on challenge.

More Functions 8:58
Learn some more advanced features of functions, such as overloading, inout parameters, and functions as variables.

Introduction to Optionals 3:48
Learn about one of the most important aspects of Swift development - optionals - through a fun analogy.

Challenge: Introduction to Optionals 1:18
Practice using optionals on your own, through a hands-on challenge.

More Optionals 7:34
Learn how to unwrap optionals, force unwrap optionals, use optional binding, and use the guard statement.

Challenge: More Optionals 2:57
Practice unwrapping optionals on your own, through a hands-on challenge.

Conclusion 1:12
Let's review where you are with your Swift core concepts, and discuss what's next.

Collections

Introduction 0:31
Let's review what you'll be learning in this part of the course, and why it's important.

Arrays 11:10
Learn how to use arrays in Swift to store and manipulate an ordered list of values.

Challenge: Arrays 2:13
Practice using arrays on your own, through a hands-on challenge.

Dictionaries 8:22
Learn how to use dictionaries in Swift to store an unordered collection of pairs.

Challenge: Dictionaries 3:36
Practice using dictionaries on your own, through a hands-on challenge.

Sets 6:05
Learn how to use Sets in Swift to store an unordered collection of unique values.

Closures 10:52
Learn how to create closures in Swift - which you can think of as a function without a name.

Closures and Collections 11:40
Learn how you can use closures to sort collections, filter collections, run calculations on elements within a collection, and more.

Challenge: Closures 4:14
Practice using closures on your own, through a hands-on challenge.

Conclusion 1:20
Let's review what you learned about collections in this part of the course, and discuss what's next.

Structures

Introduction 1:54
Let's review what you'll be learning about structures in this part of the course, and why it's important.

Structures 13:56
Learn how to group data and functionality together in Swift, using a value type called structures.

Challenge: Structures 4:43
Practice using structures on your own, through a hands-on challenge.

Properties 17:34
Learn how to add two types of properties to your types: stored properties, and computed properties.

Challenge: Properties 3:16
Practice creating properties on your own, through a hands-on challenge.

Computed Properties vs. Methods 1:23
Learn when it's best to use computed properties, and when it's best to use methods.

Methods 13:31
Take a deep dive into methods, including writing initializers, mutating methods, extensions, and more.

Challenge: Methods 6:47
Practice writing methods on your own, through a hands-on challenge.

Conclusion 1:14
Let's review what you learned about structures in this part of the course, and discuss what's next.

Classes

Introduction 1:23
Let's review what you'll be learning about classes in this part of the course, and why it's important.

Classes vs. Structures 10:13
Learn about the differences between classes and structures in Swift, and when you should use which.

Challenge: Classes vs. Structures 4:53
Practice working with classes and understanding when to use them vs. structures, through a hands-on challenge.

Inheritance 12:39
Learn how you can inherit functionality from another class in Swift.

Initializers 10:08
Learn how to create your own class initializers, including two-phase initialization, and required vs. convenience initializers.

Challenge: Initializers 3:53
Practice creating your own class initializers, through a hands-on challenge.

When Should You Subclass? 3:20
Learn five concepts to help you decide when you should subclass, and when you shouldn't.

Protocols 8:20
Learn how to make your types conform to protocols in Swift, which you can think of as a to-do list for your types.

Memory Management 8:15
Learn how Swift manages memory under the hood, how you can tell when an object is deinitialized, and how you can avoid a nasty memory leak in your apps.

Conclusion 1:52
Let's review where you're at with your Swift core concepts, and give you some advice about where to go next.

Who is this for?

Beginners! If you've never created a playground before, or if you aren't sure what while loops or break statements are, this is the course to get you started. With easy-to-understand lessons and hands-on practice, soon you'll be writing your own methods and implementing structures and classes with ease.

Note: If you've watched Programming in Swift: Fundamentals, you can skip the following episodes in this course:

- Part 1 - All Episodes
- Part 2 - Episodes 1-5
- Part 3 - Episodes 1-3, and 5-9
- Part 4 - Episodes 1-6

In this course, you'll start at the very beginning, creating your first playground and learning about comments, tuples, booleans, and operators. Then, you'll learn to control the flow of your code. For loops, switch statements, enums, oh my! You'll build on the basics by implementing functionals and optionals through fun, hands-on challenges. You'll employ collections, like arrays, sets, and dictionaries, to store and organize data. You'll dive into structures, properties, and methods - come on in, the water's fine!

Finally, you'll dive into classes and protocols, and discover how powerful they can be.

This course isn't suited for intermediate or advanced developers. If that's you, check out our intermediate or advanced video courses for more ways to level-up your developer skills!

Covered concepts

This course is jam-packed with the fundamentals to give you a solid grounding for your Swift adventures. Here are some of the concepts you'll conquer along the way:

- Playgrounds
- Comments
- Tuples
- Booleans
- Operators
- For loops
- While loops
- Switch statements
- Enumerations
- Functionals
- Optionals
- Collections
- Arrays
- Dictionaries
- Structures
- Properties
- Methods
- Classes/Subclasses
- Protocols
- Closures
- Initializers
- Memory management

Trailer

Contributors

Catie Catterwaul
Catie makes things for, with, and about Apple tech in collaboration with her husband, Jessy! She is inspired by everyone at...
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Jessy Catterwaul
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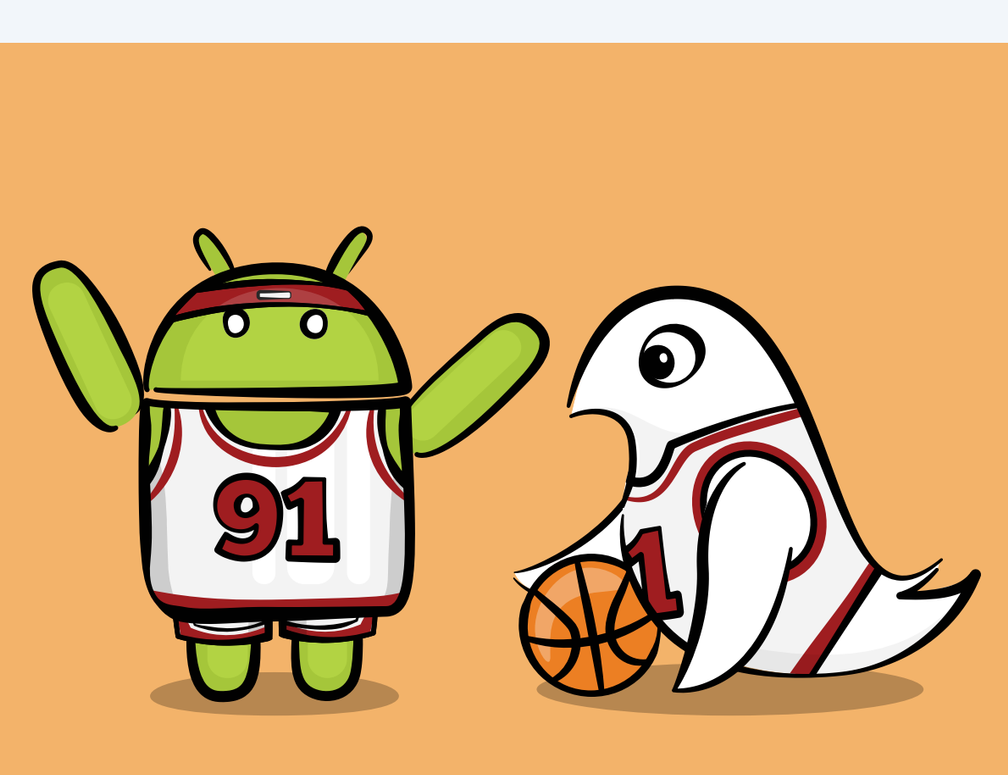


Beginning Table Views

Aug 28 2018 · Video Course (4 hrs, 16 mins) · Beginner

This is an alternative version of Your Second iOS and SwiftUI App - but instead of using SwiftUI to build the user interface, it uses UIKit's Table Views.

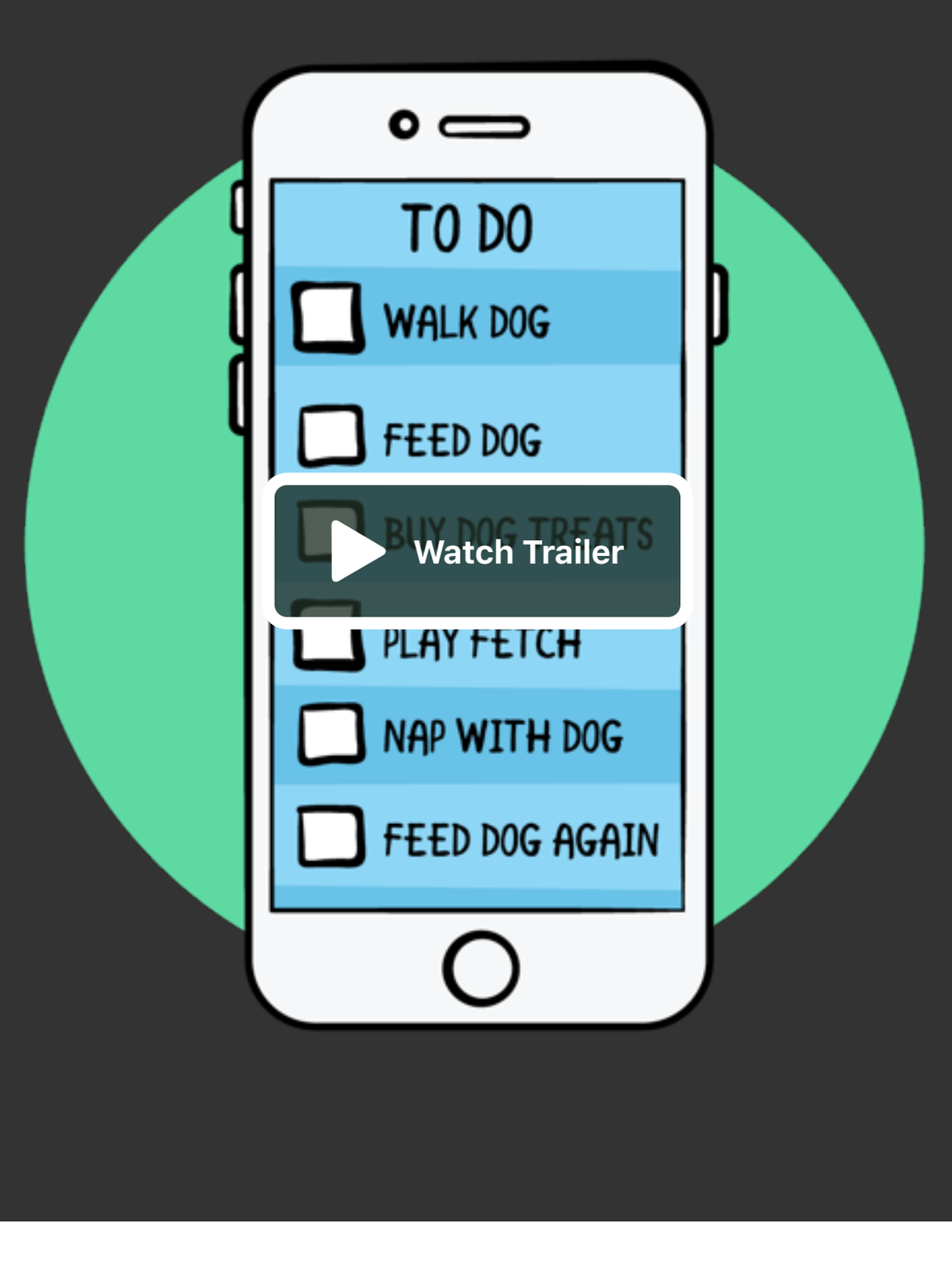
Continue

3.1/5 64 Ratings

Version

Swift 4, iOS 12, Xcode 10

Getting Started | Core Concepts | iOS & Swift Tutorials



Getting Started

Introduction 2:05 FREE
Table views are an integeral part of iOS. In this video, you'll get an overview of them and what this course will cover.

App Overview 1:44
This episode provides an overview of the app that you'll build in this course. You'll get a bird's eye view of the various features you'll implement to get it working.

Table View Controllers 7:09
You can either create a table view controller or a regular table view. Both have advantages and disadvantages. This video will walk you through them.

Table View Cells 8:07
To display data, you need a table view cell but cells come with a few other features as well. This episode will get you started with them.

Challenge: Adding a Label 2:08
In this challenge you'll add a label to your cell and set the auto layout constraints. Sounds easy? Well, give it a try.

IndexPaths 4:36
IndexPath objects act as addresses in your table. In this video, you'll get an understanding of how they'll work.

Challenge: Creating More Rows 3:53
With table views, one row is not enough. You'll need a lot more--and your challenge is to make this happen.

Introduction to Protocols 7:29
Table views use protocols so in this video, you'll get an overview of protocols and how they can be used.

Data Sources and Delegates 7:06
A table view defines both a delegate and a datasource which is how you provide data and respond to events. This episode covers how they work.

Delegation 5:56
Delegation is a very important concept in iOS since it's used everywhere. In this video, you'll get an understanding of delegation from the ground up.

Conclusion 2:05
In this episode we'll review what we learned, what you can do to learn more, and what awaits in the next part.

MVC

Introduction 0:39
This episode will cover the basics of working with MVC and why learning MVC is crucial to being a successful iOS developer.

Model View Controller 2:10
This episode review each major component of MVC. That is, the model, the view, and the controller.

Creating a Model 5:14
Getting stated with MVC means creating your first model. In this episode, you'll create your model, then update your controller to use it.

Fixing Checkmarks 3:25
While the controller works, the checkmarks are out of sync with the actual data. This episode will show how to fix the bug.

Challenge: Creating Checkmark Instances 3:38
With one Checkmark instance created, there's only four more to go which also just happens to the topic of your challenge.

Enhancing the Model 3:51
This episode has you create another model object to hold all the instances of your checkmarks. Introducing the todo list.

Challenge: Updating the Controller 4:50
With your new todo list in hand, all you have to do is use. Your challenge is to implement it in your controller.

Refactoring the Controller 4:52
We're not even through the second part, and your controller is starting to get messy. In this episode, you'll break out the mop and do some code cleaning.

Conclusion 1:23
This video gives a review of MVC, then introduces you to the upcoming part on adding and deleting items.

Adding and Deleting Items

Introduction 1:15
So far your, users of your checklist app can't add or delete items. In this video, you'll get an overview on how that will be accomplished.

Navigation Controller 5:04
Navigation controllers are a means to display lots of view controllers in your app and you'll learn how to use them.

Challenge: Add a Bar Button 3:07
Navigation bars can take buttons for you to add interactivity. In your challenge, you'll add one to your app.

Adding Checklist Item 4:44
Now's the time to add new check-list items! This video will walk you through the process.

Challenge: Give a Random Description 4:31
When a new checklist item is added, your challenge is to give checklist items a random title.

Swipe to Delete 6:33
Table views provide swipe to delete functionality, but it's up to you to do the actual delete action. In this video, you'll learn how to do that.

Adding a New Screen 7:32
So far, this app only has one screeen. You'll take it to the next level by adding a new screen.

Static Cells 3:42
Prototype cells allow you to customize your cells at run time, whereas you customize static cells at build time. You'll add a static cell in this video.

Challenge: Add Textfield to Cell 2:29
In this challenge, you'll add a text field to your static table view cell.

Responder Chain 9:59
Understanding the responder chain is critical for working with text fields. You'll the responder chain to work in this video.

Control Events 6:57
There are times when you need to respond to special kinds of events. These are called control events and you'll learn about them in this video.

Conclusion 1:24
This video wraps up the process of adding and deleting items to your todo app.

Editing Items

Introduction 1:10
When you add items, you'll ultimately need to edit them. This video will give you an overview of what this means.

Making Our Own Protocol 7:18
In this episode, you'll write your own protocol to handle adding new items and canceling item addition.

Segues 5:09
Segues are relationships between view controllers and can also pass information between them. This video will cover the basics of them.

Challenge: Edit View Controller Checklist 1:32
Making the edit view controller takes some work. Your challenge will to come up with a task list to make it happen.

Detail Disclosure Indicator 5:24
This episode covers the use of the detail disclosure indicator and why it is necessary for the todo app.

Challenge: Second Segue 1:42
Why have one segue, when you can have two? Your task is to create a second segue for editing.

Passing Data in Segues 7:21
Segues allow you to gain access to view controllers and then how to pass data to them. In this video, you'll learn how to do that.

Challenge: Dismissing the Edit Controller 3:17
Your challenge is to answer a simple question about your app behavior.

NSObject 8:52
Often times, you can save time and subclass the NSObject to gain additional behavior to your object.

Xcode Refactoring 3:41
You'll often spend time refactoring your code and Xcode provides a few tools to do this.

Challenge: Refactor Protocol 3:12
Your challenge is to refactor a protocol by way of Xcode's refactor tools.

Conclusion 1:20
This video wraps up work on the todo list app and it will show you where to go.

Other Table View Features

Introduction 0:50
In this final part, you'll get an overview of some other cool table view features that you can incorporate into your app.

Subclassing Table View Cells 6:20
Subclassing table view cells provides a lot of advantages. For one thing, we get IBOutlets and IBActions.

Moving Rows 6:54
Moving rows is actually pretty easy with table views but it means we have to enter mode. Thankfully, that's easy as well.

Deleting Multiple Rows 5:57
Deleting multiple rows means you'll have to enable the selection of multiple rows. This episode walks you through the process.

Using Sections 5:43
In thie episode, you'll rewrite the table view to provide data in sections and you'll do this via the UILocalizedIndexCollation object.

Indexing Your Table 4:48
Table views only you to also create indexes your content. It involves implementing specific methods which you'll do in this video.

Refactoring the Model 7:40
At this point, you'll rewrite the model to organize your todos by priority to be later organized into individual sections.

Updating the Controller 7:44
With the model completely rewritten, you'll also have to rewrite the controller as well.

Sectioning by Priority 6:34
With the model complete and the controller almost rewritten, you'll finish the rewrite by completing sections and correcting any errors.

Challenge: Provide Section Titles 3:55
In this challenge, you'll provide header titles for all your priority sections.

Moving Items Between Sections 7:17
In this episode, you'll learn how to move items between sections, allowing you to shift todos between priorty categories.

56 **Conclusion** 2:39
This final episode wraps up the entire series and provides some resources on where you might like to go next.

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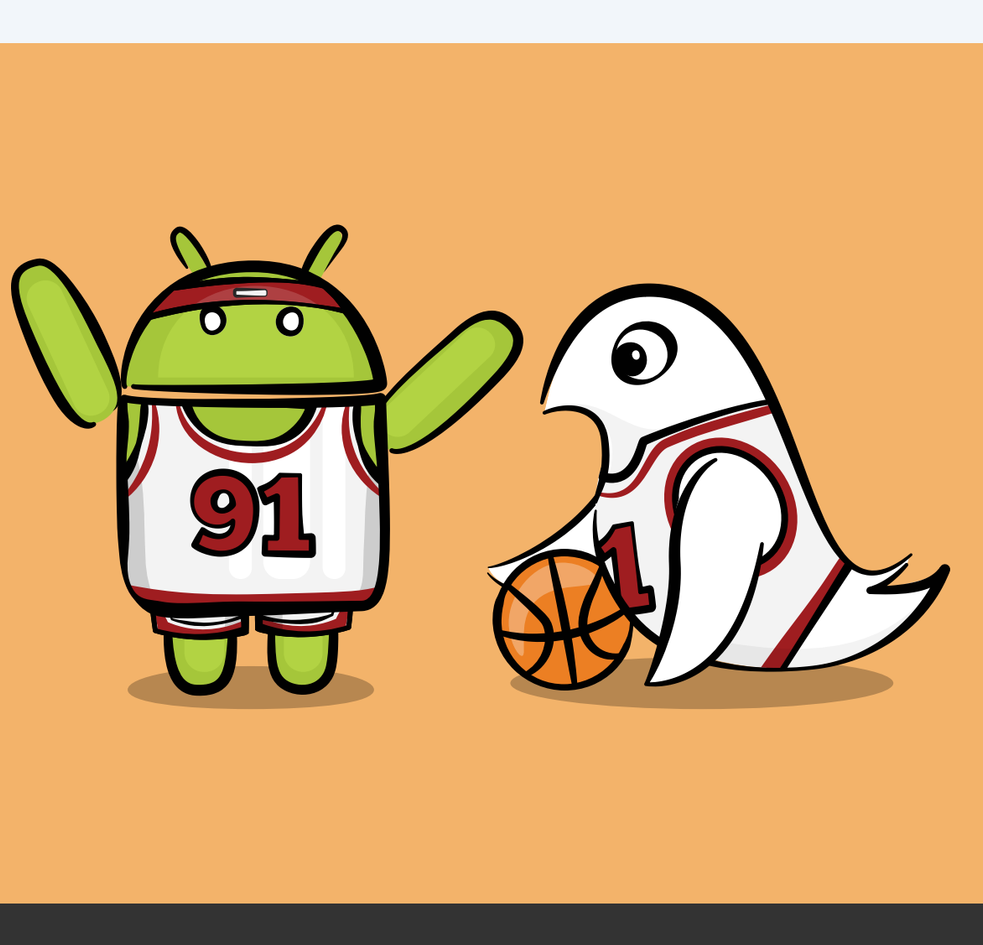

INFO There is an updated version of this course available, created for Swift 5.1, iOS 13, Xcode 11. View Latest Version

Saving Data in iOS

Sep 19 2018 · Video Course (1 hr, 19 mins) · Beginner

Find out where and how to save data in iOS! This course explores common methods for persisting user data, all from within Xcode Playgrounds.

Continue

3.8/5 27 Ratings

Version

Swift 4, iOS 12, Xcode 10

Core Concepts | Saving Data / Persistence | iOS & Swift Tutorials

Files & Data

Introduction 3:33 FREE

What is Data, and what does it mean to save it? Find out this action-packed introductory video!

Document Directory URL 5:55

The user's document folder is a great place to store data. Where is it located? The File Manager knows!

Paths 3:21

Find out what the difference is between a URL and a path, and learn how to create your own useful URLs.

Challenge: URLs 1:52

Combine the two ways you've learned to create URLs. Stick around to the end for a handy tip!

Data 5:20

Save some data! Some Foundation Data! When you've got an array of bytes, you can store them with a Data.

String 3:11

Convert back and forth from bytes, Data instances, and Strings. They're all easily interchangeable as long as your data bytes use the encoding you expect.

Challenge: String Data 1:47

Practice your saving and loading, after converting from String to Data.

Conclusion 0:44

Quickly review what core concepts should feel solid by this point. We'll go over what they'll prepare you for, in the next section.

JSON & Property Lists

Introduction 0:26

If the previous section was handy for you, this one probably will be as well! This video will let you know how we'll be building on what you learned there.

JSON 9:58

Learn what JSON is, and get comfortable decoding it for use in Swift. Then you'll be prepared for saving your own JSON, later!

Saving on Device 7:14

Take your saving skills to an iOS app, where you'll investigate where your data will be saved and how your users can interact with it.

Codable Types 12:17

Create your own Codable type, suitable for use with JSON and Property Lists. How does the JSON representation differ from Swift?

Challenge: JSON Arrays 3:09

Create a Codable array, and see if you can save and load it the same way you can with individual instances.

Codable Hierarchies 6:03

You're sure to build up complex hierarchies of structs, classes, and enums, in your coding journey. Codable's got you covered!

Challenge: Property Lists 6:15

Let's get a taste of working with Property Lists before we dive into what they're made of, in the next video.

Property List Anatomy 1:34

Learn what makes up a Property List. Employ your knowledge of JSON to be able to understand how the formats differ.

Comparing Property Lists & JSON 4:33

Examine the files you stored in the Property List challenge. Also, learn about a few encoding options and how they affect what you can save.

Conclusion 1:56

Review everything you've learned in this section, and find out where your data-saving journey might yet take you!

Contributors

Catie Catterwaul

Catie makes things for, with, and about Apple tech in collaboration with her husband, Jessy! She is inspired by everyone at...

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Jessy Catterwaul

Fascinated by technology consistently making learning easier, Jessy enjoys exploring new techniques involving creative software...

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INFO There is an updated version of this course available, created for Swift 4, iOS 12, Xcode 10. View Latest Version

Beginning Auto Layout

PRO

Sep 25 2018 · Video Course (1 hr, 7 mins) · Beginner

Auto Layout lets you create layouts to handle different screen sizes and orientations. This series walks you through the basics of layouts in Interface Builder. While the subject matter is complex, it is designed for beginners and assumes no knowledge of Auto Layout.

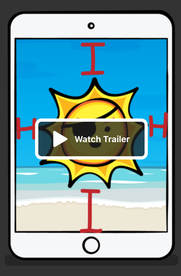
Continue

4.8/5 16 Ratings

Version

Swift 4, iOS 12, Xcode 10

Getting Started | User Interface | iOS & Swift Tutorials



Stack Views

Introduction 1:40 FREE

In this video, you'll get an introduction to what Auto Layout is and why you need to use it in your apps.

Autoresizing 6:53

Autoresizing is the predecessor to Auto Layout. It's simpler, and sometimes, effective! Dive into the "mask of flexibilities"!

Stack Views 7:11

In this video you'll create your first stack view and learn about some basic properties to adjust the layout.

Challenge: Create Layouts with Stack Views 3:40

Use everything you've learned about Stack Views so far to recreate a few simple view layouts from reference images.

Intrinsic Content Size 6:59

What is Intrinsic Content Size? Find out how Auto Layout uses the intrinsic size of a view to determine layout.

Nesting Stack Views 3:19

Stack views inside of stack views! Unlock more power of stack views by nesting them to create complex layouts.

Stack View Alignment and Distribution 5:53

Learn about the options for stack view alignment and distribution and how they work to arrange your views.

Challenge: Nesting Stack Views 7:23

Practice everything you've learned so far about stack views by implementing a complex, nested layout.

Conclusion 0:26

Review what you've learned in this section and find out what's coming up next in the second half of this course.

Constraints

Introduction 4:32

Get a solid introduction to Auto Layout constraints, and find out what you'll learn in this section.

Adding New Constraints 4:50

The Add New Constraints UI in Interface Builder packs a whole lot of Auto Layout power into a compact popup.

Dragging Constraints 2:05

Right- or control-click dragging between two views is another great option for creating Auto Layout constraints.

Challenge: Constraints 2:30

Convert the type of your stack view constraints, getting practice with Auto Layout while gaining more control over the stack view's width.

Editing Constraints 2:14

This is an overview of the UI that Xcode offers for editing constraints that have already been created.

Troubleshooting 5:38

Just like with Swift, you'll get into temporary, problematic states when working in Interface Builder, before your constraints are ready. Let's solve a few!

Conclusion 2:03

Review what you've learned in this section, and pick up some parting tips for using Auto Layout in your apps.

Contributors

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Fascinated by technology consistently making learning easier, Jessy enjoys exploring new techniques involving creative software...

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Catie Catterwaul

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