
Professional Swift

Duration: 3 Days Course Code: LO035427 Delivery Method: Company Event

Overview:

We begin the course by learning about value types (structs and enums), and when they are preferable over classes. We also learn about the copy-on-write technique and how to implement it ourselves. Then we learn how to load JSON from web APIs into our custom types, and how to export that content out again. Finally we learn how to create frameworks, and import other frameworks using CocoaPods or Carthage. We move on to learn advanced uses of Swift protocols and how protocol-oriented development improves efficiency and leads to more maintainable and reusable code. Then we learn about generics, and how they enable us to support multiple types without duplication. Later in the course, we discover different ways to structure a complete iOS app from scratch. We begin the discussion with the well-known MVC pattern and cover every other trending architecture in the iOS world.

Company Events

These events can be delivered exclusively for your company at our locations or yours, specifically for your delegates and your needs. The Company Events can be tailored or standard course deliveries.

Target Audience:

This is an ideal course for you, if you want to improve your Swift skills and move into the professional app development world. You will benefit the most from this course, if you already know the following concepts of Swift:

- Basic syntax
- Optionals
- Functions and closures
- Classes

It is assumed that you are familiar with Xcode. Any additional iOS application development experience, either using Swift or Objective-C, will be an advantage for you.

Objectives:

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| ■ Load content from web APIs into structs | ■ Write code with less duplication using generics |
| ■ Use methods to store structs to files | ■ Evaluate different architectural patterns for iOS apps |
| ■ Implement the copy-on-write technique | ■ Create an iOS app using Redux. |
| ■ Describe protocols and protocol-oriented programming in depth | |
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Prerequisites:

Hardware:

For an optimal experience with the hands-on labs and other practical activities, we recommend the following hardware configuration:

A Mac computer capable of running macOS Sierra 10.12, such as:

- MacBook (Late 2009 or newer)
- MacBook Pro (Mid 2010 or newer)
- MacBook Air (Late 2010 or newer)
- Mac mini (Mid 2010 or newer)
- iMac (Late 2009 or newer)
- Mac Pro (Mid 2010 or newer)

Software:

- Operating system: macOS Sierra 10.12.6+
- Xcode 9
- Safari browser

Content:

LESSON 1: VALUE TYPES

- Reference versus Value Types
- Structs
- Enums

LESSON 2: ENCODING AND DECODING

- JSON Decoding
- JSON Encoding

LESSON 3: SWIFT FRAMEWORKS

- Creating a framework
- CocoaPods
- Carthage

LESSON 4: SWIFT PROTOCOLS

- Protocol Syntax Basics
- Using Protocols as Types
- Mutating Method Requirements

LESSON 5: TRANSITIONING TO PROTOCOL-ORIENTED PROGRAMMING

- Comparing Object-Oriented and Protocol-Oriented Programming
- Implement Employee as a Simple Swift Struct
- Refactoring Employee with an Object-Oriented Approach
- Refactoring Employee with a Protocol-Oriented Approach

LESSON 6: GENERICS

- Basics of Generics
- Creating Generic Types
- Generic Extensions
- Associated Types

LESSON 7: SOFTWARE DESIGN

- The Need for Architectural Patterns
- The Original MVC Report
- Apple's MVC

LESSON 8: MVC ALTERNATIVES

- Apple's MVC in Practice
- MVVM (Model-View-ViewModel)
- VIPER

LESSON 9: UNIDIRECTIONAL DATA FLOW

- Identifying Side Effects of Functions
- Unidirectional Data Flow
- Redux in iOS

Further Information:

For More information, or to book your course, please call us on Head Office 01189 123456 / Northern Office 0113 242 5931

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