# IOS Application Development Training with Swift

## Description

Swift is an exciting new programming language for rapid development of iOS and OS X apps. By combining the best features of languages such as Python, Ruby and Java, it creates a very powerful and modern language that is great to work with.

During this training, participants learn about the Swift programming language, while learning how to focus on writing code and how to apply these codes in real lif. You will improve your Swift knowledge step by step with practical labs that allow you to consolidate what you have learned after each step. When the training is completed, the participants become able to develop a simple iOS application by applying what they have learned about Swift.

**What Will You Learn?**

- You will be able to program having comprehensive knowledge of Swift language.
- You will have comprehensive knowledge of the details of the IOS programming world.
- You will be able to develop applications in a fully professional way.
- You will be able to turn all your ideas into mobile applications.
- You will be able to deliver your application to many people through platforms such as the App Store.

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## Outline

**SWIFT Section**

**Section 1: Introduction to Swift**

- Swift Login
- Installing Xcode
- Introducing the Work Environment and Running the First Program

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- Opening a Project in Xcode

**Section 2: Variables and Data Types**

- Creating Variables
- Constant – Constants
- Type Conversion
- Tuples

**Section 3: Standard Programming Structures**

- If Structure
- Switch Working Structure
- For and While
- Break – Continue

**Section 4: Optinal**

- Optional Input – Unwrapping
- Optional Binding – if let

**Section 5: Collections**

- Array Operations
- Set Work
- Dictionary Study

**Section 6: Object Oriented Programming**

- Login
- Lazy Feature
- Functions
- Overloading
- Initialization – Constructor
- Difference Between Class and Structure
- Import
- Static Variable and Methods
- Enumeration
- Composition
- Introduction to Inheritance
- Inheritance Constructor Relationship

- Inheritance (Override)
- Inheritance (Polymorphism)
- Objects Type Conversion
- Example (Polymorphism – Type Conversion – Type Check)
- Extension – Variable Usage
- Extension – Method Usage
- Using Protocol

**Chapter 7: Advanced Swift**

- Using Guard
- Do Try Catch
- Using Dispatch Queue (Thread)

**IOS Section**

**Section 1: Introduction to IOS**

- IOS Login
- Creating an Xcode Project
- Project Creation
- Creating and Using a Simulator
- Running the First Application

**Section 2: IOS Design**

- Design Introduction
- Auto Layot Introduction
- Design Space Review
- Attribute (Design Terms)
- Pin – Fixing
- Align – Alignment
- Issue – Design Issues
- Safe Area – Safe Area
- Auto Layout – Apply
- Auto Layout – Four Color Application
- Auto Layout – Nested Design
- Multiple Display Support
- Application: Recipe
- Multi Language Support

- App Icon Creation

**Section 3: IOS Working Structure**

- IOS Working Structure Introduction
- IOS Architecture
- ViewController Structure
- Creating a New Page
- Linking Visual Objects to the Swift Class
- Using Outlet – Action
- Transition Between Pages Introduction (Segue)
- Present Modally
- Show Segue
- Moving Data Between Pages
- Navigation Controller
- Tab Bar Controller
- Using Toolbar
- Lifecycle

**Section 4: IOS Widgets**

- Button – Label – Textfield
- Textview
- Switch – Segmented Control
- Slider – Stepper
- Activity Indicators
- ImageView
- VideoView
- ScrollView

**Section 5: User Interaction**

- Simple Alert Use
- Using Customized Alert
- Using Action Sheet

**Section 6: Listing Operations**

- Login to My List
- Using Date Picker

- Using Time Picker
- TableView Working Structure
- Detailed TableView Cell Design
- Using CollectionView
- Detailed CollectionView Cell Design
- Using Search Bar

**Section 7: IOS Storage Operations**

- Using UserDefaults
- UserDefaults: Login Counter Application
- File Operations
- Introduction to Database
- SQL statements with DB Browser
- FOREIGN KEY queries with DB Browser
- Core Data Login and Installation
- Core Data – Data Logging and Reading Data
- Core Data – Data Deletion and Update
- Core Data – Sorting Data
- Core Data – Data Filtering
- People Application – Design
- People App – Core Data
- SQLite – Xcode Setup
- SQLite – Creating a Database and Adding to an Xcode Project
- SQLite – Copying the Database to the Device
- SQLite – Creating Swift Class Models for Database
- SQLite – Data Logging and Reading Data
- SQLite – Data Deletion and Update
- SQLite – Record Control
- SQLite – Search
- SQLite – Fetch Single Data
- SQLite – Reading Limited Data
- SQLite – Reading Random Data
- People App – SQLite

**Section 8: Advanced IOS**

- Using Notification Center
- Creating Notifications

- Creating Repetitive Notifications

**Section 9: Internet-Based Operations**

- Restful Architecture
- Mysql Database on the Internet
- Writing Web Services with PHP
- Host a PHP Web Service
- URLSession Login and INSERT Process
- URLSession – DELETE and UPDATE Process
- URLSession – SELECT Operations
- JSON Parse Operation
- JSON Parse Operation with Codable Class
- Alamofire Installation
- Alamofire – INSERT Process
- Alamofire – DELETE and UPDATE Operation
- Alamofire – SELECT Operations
- Firebase Realtime Database Login
- Firebase Realtime Database Installation
- Firebase Realtime Database Insert – Delete and Update Operations
- Firebase Realtime Database Query Operations
- Viewing Pictures on the Internet
- People App – URLSession
- Contacts App – Alamofire
- Contacts Application – Firebase Realtime Database

**Section 10: Location Operations**

- Using Core Location
- Using Map Kit
- Using Google Maps

## Prerequisites

To have basic computer skills.

To have a computer with a Mac OS operating system or a computer that can run the Mac

# IOS Application Development Training with Swift

OS operating system on windows with a virtual machine.