Updated 05/07/2024

Sign up

Swift 5 training

5 days (35 hours)

Presentation

Swift is the programming language of the Apple ecosystem published on June 2, 2014 it's a particularly expressive, fast, safe and fun language, suitable for beginners and experienced programmers. The Swift development project is managed by Apple, which is also the main contributor, but in June 2015, Apple announced that the Swift language would become open source since many members of the Swift community, as well as other players such as Google and IBM, have been actively involved in its development.

Since March 25, 2019, version 5.0 has been available, bringing ABI stabilization and a host of new features.

Swift is officially supported on the Ubuntu Linux operating systems, iOS, macOS, watchOS and tvOS.

In this course, the trainer will help you gain practical experience of Swift 5 and prepare you to develop your own applications and games using this popular language.
After an overview of Swift's evolution. It covers common data types, conditional logic, methods, functions, classes and structures, and more, explaining what you need to know to master programming with Swift. Examples and use cases are drawn from games and applications, providing practical context for each programming element.

As in all our training courses, we'll be using the latest version of Swift 5 coupled with the latest Xcode 13 development environment and iOS 14.

Objectives

- Discover and master Swift and the new features of version 5
- Know how to use Apple's mobile development tools
- Swift's mobile architecture
- Building an iOS application using best practices

- Control the different states of an application
- Create a graphical interface and adapt it to multiple devices
- Manage local and remote application data
- Access the smartphone's sensors and multimedia functions
- Deploy on the AppStore.

Target audience

- Web Developer
- Architects
- Technical project managers

Prerequisites

- Knowledge of object-oriented programming
- Knowledge of object-oriented languages (C++, C# Java)

Further information

We also offer training in hybrid and native technology:

- Google Flutter training
- Ionic training
- Microsoft Xamarin training

Swift 5.x & iOS 14 training program

Introduction to Swift

- Swift installation on
  - Linux
  - Mac
  - Windows
- Source code
- Swift syntax
  - Variables and constants
  - Strings, Ints and Types
  - Comments and printed matter
  - Math, Doubles and Floats
  - Booleans and If declarations
  - Else, And, Or
  - Tables
  - Loops
  - Coding project
  - A reminder of object programming on Swift

What's new in Switft 5.x & XCODE 11

- Introducing Xcode
- Download and install Xcode 11
- Navigating Xcode 11
- Adding objects to the Interface Generator
- Creation of actions and points of sale
- Coding in the classroom
- Using iOS 12 & 13 simulators
- Creating my first iOS 13 app
- My first iOS 13 application source code

SwiftUI: User Interface

- Declarative syntax
- Design Tools
    - Drag & drop
    - Dynamic replacement
    - Previews
- Compatible with all Apple platforms

Navigation

- Navigation between multiple views
- Correct return from a view
- Working with more storyboards
- Navigation Controller
- Sending parameters between views
- Return with navigationController
- Return parameter with unwindSegue
- TabBarController

Swift's main features

- Text display in the application
- Editing text properties
- Displaying external custom fonts
- iOS 13 APP : Application for creating fancy text
- Fading and revealing objects
- Object hiding and revealing
- Object activation and deactivation
- Creating and using NSTimers
- Time and date display

Swift application architecture

- MVC
  - Object management
  - Extensions
  - Singletons
- Storyboard management
  - Graphic interface management
  - UIKit and its main objects
  - Adaptability to different devices

Data management

- Memory management
- Resource management
  - Texts
  - Images
  - Sounds
  - Videos
- Introduction to CoreData (SQLite)
  - Storage in JSON and PLIST formats
  - NSKeyedArchiver/ NSKeyedUnarchiver, Swift-codable protocol
- Setting up the model
  - Data insertion and retrieval
  - Model evolution

Project deployment

- Project approval
- Development licenses
- Application signature
- Consumer deployment (AppStore)
- Enterprise deployment
- The development and publishing portal

Further information

- Géolocalisation : Geolocation foreground / background
- Transport mode detection via accelerometer
- Form (loops, conditional)
- Offline management
- Debugging
- HTTP service
- Notifications
- Local DB
- Map
- Cocoapod
- Git
- SDK design

Companies concerned

This course is aimed at both individuals and companies, large or small, wishing to train their teams in a new advanced computer technology, or to acquire specific business knowledge or modern methods.

Positioning on entry to training

Positioning at the start of training complies with Qualiopi quality criteria. As soon as registration is finalized, the learner receives a self-assessment questionnaire which enables us to assess his or her estimated level of proficiency in different types of technology, as well as his or her expectations and personal objectives for the training to come, within the limits imposed by the selected format. This questionnaire also enables us to anticipate any connection or security difficulties within the company (intra-company or virtual classroom) which could be problematic for the follow-up and smooth running of the training session.

Teaching methods

Practical course: 60% Practical, 40% Theory. Training material distributed in digital format to all participants.

Organization

The course alternates theoretical input from the trainer, supported by examples, with brainstorming sessions and group work.

Validation

At the end of the session, a multiple-choice questionnaire verifies the correct acquisition of skills.

Sanction

A certificate will be issued to each trainee who completes the course.