Publication date : 04/03/2024

Course : Swift, developing applications for iOS - iPhone/iPad

Practical course - 5d - 35h00 - Ref. DAH
Price : 2610 € E.T.

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At the end of the course, learners will be able to develop iOS applications in Swift, Apple's programming language, exploiting the various features of the iPhone and iPad.

Teaching objectives

At the end of the training, the participant will be able to:

- Understanding the development ecosystem for Apple mobile devices
- Using Swift and the various APIs
- Master the architecture of a mobile application written in Swift
- Optimize, build and deploy a high-performance application
- Designing a graphical interface
- Exchanging data with a server

Intended audience

Developers, project managers, architects.

Prerequisites

Working knowledge of programming and an object-oriented language (Objective-C, Java, C++, C#).

Practical details

Exercises will be carried out in Swift with XCode and Interface Builder on the Mac.

Course schedule

PARTICIPANTS

Developers, project managers, architects.

PREREQUISITES

Working knowledge of programming and an object-oriented language (Objective-C, Java, C++, C#).

TRAINER QUALIFICATIONS

The experts leading the training are specialists in the covered subjects. They have been approved by our instructional teams for both their professional knowledge and their teaching ability, for each course they teach. They have at least five to ten years of experience in their field and hold (or have held) decision-making positions in companies.

ASSESSMENT TERMS

The trainer evaluates each participant's academic progress throughout the training using multiple choice, scenarios, hands-on work and more.
Participants also complete a placement test before and after the course to measure the skills they've developed.

1 Swift language basics

- Variables, constants, tuples, strings.
- The optional and its management, unwrapped.
- Operators and control structures.
- Closures and functions.
- Classes, structures, enumerations, properties.
- Inheritance and protocols.
- The architecture of a mobile application written in Swift.

Hands-on work
Implementation of Swift concepts.

2 The development ecosystem for Apple mobile devices

- XCode, the Builder interface and the various tools available.
- The debugger.
- Measuring tools: instruments.
- The Apple developer portal.
- Optimizing and deploying a high-performance application.

Hands-on work
Implementation with Swift and Interface Builder (UI).

3 Designing and building a graphical interface

- Architecture, memory, power consumption and modes (Background, Foreground).
- AppDelegate: life cycle and operation.
- Interface Builder: storyboards and segues.
- Navigation Controller, TableView Controller, CollectionView Controller.
- TabBar Controller: creation and implementation.
- View management: UIView, available widgets.
- Draw in views and animations.

Hands-on work
Implementation of concepts on segues, TableView Controller (lists).

4 Gestures

- Gestures in the view.
- Gestures in the simulator: use and limitations.
- Add gestures with Interface Builder, by code.

Hands-on work
Implement multiple gestures in one controller.

5 The network and Web Services, exchanging data with a server

- Push notification management.
- Asynchronous with Grand Central Dispatch.
- Handle Web Services calls in JSON.
- JSON serialization and deserialization.
- Data organization.
- Manage preferences and files in the sandbox.
- ORM: creation of data models, implementation.

Hands-on work
Call JSON Web Services and Internet resources. Manage data with CoreData.

TEACHING AIDS AND TECHNICAL RESOURCES

• The main teaching aids and instructional methods used in the training are audiovisual aids, documentation and course material, hands-on application exercises and corrected exercises for practical training courses, case studies and coverage of real cases for training seminars.
• At the end of each course or seminar, ORSYS provides participants with a course evaluation questionnaire that is analysed by our instructional teams.
• A check-in sheet for each half-day of attendance is provided at the end of the training, along with a course completion certificate if the trainee attended the entire session.

TERMS AND DEADLINES

Registration must be completed 24 hours before the start of the training.

ACCESSIBILITY FOR PEOPLE WITH DISABILITIES

Do you need special accessibility accommodations? Contact Mrs. Fosse, Disability Manager, at psh-accueil@orsys.fr to review your request and its feasibility.

6 Geolocation API and geocoding

- Geolocation via GPS and network.
- Basic architecture: CLLocationManager and security.
- Implementation of geolocation.
- Error handling.

Hands-on work
Implementation of geolocation.

7 Swift and Objective-C interaction

- Inheritance, syntax and data types: comparison.
- Special points and limitations.

8 Introduction to SwiftUI

- SwiftUI and XCode.
- View creations.
- Management of reports and shared data.
- List and navigation management.
- Gestures, animations and transitions.
- UIViewControllers and SwiftUI.

Hands-on work
Create a project with custom views, multiple views and list views.

Dates and locations

REMOTE CLASS
2026 : 23 Mar., 8 June, 21 Sep., 30 Nov.

PARIS LA DÉFENSE
2026 : 23 Mar., 8 June, 21 Sep., 30 Nov.