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Course : Swift, language basics

Practical course - 2d - 14h00 - Ref. FIW
Price : 1500 CHF E.T.

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A new programming language created by Apple, Swift is a modern, high-performance alternative to Objective-C. In this course, you'll learn how to develop Swift applications in the MacOS environment. You'll learn about Swift's basic concepts and innovative features.

Teaching objectives

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

- Learn the basic concepts of the Swift language
- Creating a Swift project
- Using the Swift Standard Library

Intended audience

Developers, project managers.

Prerequisites

Knowledge of basic algorithms. Practice of a structured programming language. You don't need to be an Apple developer.

Practical details

Hands-on work

Practical exercises in MacOS X and XCode 8.

Course schedule

1 Swift

- Why a new language?
- Its contributions and innovations.
- Playgrounds.
- Integration with existing tools.
- Swift open system.

PARTICIPANTS

Developers, project managers.

PREREQUISITES

Knowledge of basic algorithms. Practice of a structured programming language. You don't need to be an Apple developer.

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.

2 XCode development environment

- Presentation of the tool and its addons.
- Using XCode.
- Interface Builder and the various tools available.
- The debugger.
- Measuring tools: instruments.
- The Apple developer portal.

Hands-on work

Setting up the development environment and first exercise with XCode and Swift. Use of the debugger.

3 Swift language basics

- Compiler functions and architecture.
- The basics: variables, constants and tuples, character strings.
- The optional and its management, unwrapped.
- Operators and overload.
- Control structures.
- Closures and functions.
- Classes, structures, enumerations, properties.
- Inheritance and protocols.

Hands-on work

Creation of several applications on the language and its basics.

4 The Swift library

- What's in the Swift Standard Library?
- Table, dictionary and set management.
- The Equatable and Comparable protocols: how to use them.
- Other classes and structures available.

Hands-on work

Implementation of the Comparable and Equatable protocols.

5 Advanced Swift concepts

- Subscripts: concept and implementation.
- Error and exception handling: try, catch, throw, throws, try, defer.
- Managing asynchronism with Grand Central Dispatch.
- The Thread class, putting a thread to sleep, cancelling a thread, notification.
- Strong, weak and unowned references.
- Lazy Loading.
- Create Swift extensions.
- Genericity and generics.

Hands-on work

Genericity and extensions.

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 Swift and Objective-C interaction

- Syntax comparison between Objective-C and Swift.
- Data type comparison.
- Mixing and matching.
- Inheritance between Swift and Objective-C.
- Special points and limitations.

Hands-on work

Implementing mix and matching with XCode.