MOB800 : Swift Programming

Code : MOB800 **Duration :** 3 days **Category :** Mobile


Swift Fundamentals

Audience :

This course is designed for participants who want to learn the basics of Apple's new programming language Swift for iOS apps.

Prerequisites :

No programming knowledge is required to participate in this course. Prior knowledge of other programming languages such as Objective C, Java or JavaScript is beneficial for the understanding.

Realization :

The theory is treated on the basis of presentation slides. Demos are used to explain the theory. There is ample opportunity to practice and theory and exercises are interspersed. The course uses the XCode 6 development environment.

Contents :

In the course Swift Fundamentals participants learn the basics of the Swift programming language for developing iOS apps. After an introduction into the XCode development environment, Swift playgound projects and iOS projects, the syntax of Swift is discussed. Also the relationship with Objective C is explained. Attention is paid to Swift versions of well known C data types like Int for integers and Float for floating point. Also the main Swift Collection types, Array and Dictionary, are on the course program. Swift uses a lot of variables that may not change value and this makes Swift code safer and clearer. The benefit and use of these constants will be given special attention. The new advanced types in Swift like tuples are introduced as well. After the treatment of functions and parameter passing, Swift classes with properties and methods are discussed. Unlike some other languages Swift does not require separate interface and implementation files for classes. Swift classes are defined in a single file and are then available for calling code. Finally closures in Swift are treated which can be regarded as pieces of functionality that can be passed around and used.

Module 1 : Swift Intro

What is Swift?
Why Swift
Swift versus Objective C
Xcode 6 Environment
Environment setup
Creating Playground Project
Creating iOS Project
.playground files
Setting preferences
Using navigator

Module 2 : Swift Syntax

Constants
Variables
Strings
Interpolation
Statements
Printing
Comments
Data Types
Integers and Floats
Tuples
Enumerations

Module 3 : Swift Programming

Operators
Arithmetic Operators
Comparison Operators
Conditionals
Overflow Checking
Looping
XCode Playground Timeline
Arrays
Array Mutability
Array Iterations
Dictionaries
Mutability of Dictionaries
Using Dictionaries
Tuples

Module 4 : Functions

Code reuse with Functions
Defining Functions
Calling Functions
Parameters
Scope of Declarations
External Parameter Names
Default Parameter Values
Returning tuples
Nested Functions
Recursion

Module 5 : Classes and Objects

What are Classes?
Class Definition
Classes and Objects
Access Modifiers
Class Methods
Properties
Attributes
Initializers
Value Types
Reference Types
Method Overloading
Inheritance

Module 6 : Closures

Closure intro
Closure Expressions
Internal Iteration
Mapping and Reducing
Computed Properties
Optionals
Optional Values
Optional Binding
Variadic parameters