

## Apple iOS Attack and Defend

### Course Summary

#### Description

Learn the fundamentals of Software Development and Hacking of the iPhone Operating System.

Apple iOS Attack & Defend provides hands-on training in the fundamentals of Software Development and Hacking for the iPhone Operating System from Apple. This course is a laboratory intensive programming course designed for students looking to gain a working knowledge in iPhone Development and Hacking. Through a combination of instructor-led examples and a series of programming assignments and challenges, students will build and enhance their practical knowledge of software development, exploitation and hacking in the iPhone Operating System. Additionally, students will learn how to deploy, execute, and test all developed programs on iPhone emulation software and iPhone hardware devices provided in the class.

Day five consists of a student practical demonstration. Using the tools, skills, and methodologies taught in Days one through four of the class, students will have to develop an iPhone Trojan Horse application. The malware application written will provide a variety of remote control as well as information extraction capabilities.

#### Objectives

After taking this course, students will be able to:

- iPhone architecture and design
- ARM Assembly Code and programming applications
- Reverse engineering applications and de-compiling applications
- Extracting information remotely
- Geo-location and Jailbreaking

#### Topics

- iPhone Introduction
- History
- iPhone Versions
- Inside the iPhone
- Hardware
- Memory Storage Unit
- Operating System
- The iPhone SDK
- Coding iPhone Applications Crash Course
- Cocoa
- Objective C
- Why RE?
- ARM Assembly
- Header
- Load Commands
- Segments and Sections
- The Process of Loading
- The Process of Binary RE
- Encryption and Digital Signing
- Bypassing Encryption of AppStore Binaries.
- iPhone Binary Internals
- Disassembling a Binary
- Learning the Language of iPhone Hacking
- Discovering iPhone's Hackability
- Jailbreaking the iPhone
- Installing Third-Party Apps
- Manipulating iPhones FileSystem
- Backing up iPhones Files
- Extracting Text Messages
- Extracting Address Books
- Extracting Voicemails
- Extracting Browsing History
- Tracking an iPhone (Geo-Location)
- Connecting to an iPhone via the Internet
- Tethering the iPhone
- Wi-Fi Hacks
- Student Practical Demonstration

## Apple iOS Attack and Defend

### Course Summary (cont'd)

#### Audience

This course is designed for:

- Programmers who want an introduction to mobile application development
- Reverse Engineers who need a thorough understanding of ARM Assembly language
- Red Team members who need training in Hacking iPhone devices
- Security professionals that want a solid defense strategy for their mobile devices

#### Prerequisites

Before taking this course, experience with Apple products such as MacBooks and iPhones are recommended. Programming experience in C, Python, Perl or Java is recommended

#### Duration

Five days