MWR INFOSECURITY

Training
Proactive Mobile Defense: Android

A two-day training course in Android application security and secure coding practices

PMD is an exercise-driven training course that uses detailed tutorials to guide you through all the steps necessary to exploit a real Android application, and in the process provide you with an understanding of the modern attacker's mind-set and capabilities. This course will cover Android hacking, from the basics of vulnerability hunting on the platform to advanced exploitation techniques. At its conclusion, we will have imparted the information necessary to develop secure and robust applications.

Who should attend?

This is a technical course aimed at Android developers; however, it is also suitable for those familiar with the platform and interested in mobile application security. PMD does not require any prior security knowledge in order to benefit fully from the course as the content covers all of the basics necessary to understand advanced concepts. A working knowledge of Android is a prerequisite and it is recommended that you are familiar with the syntax and structure of an Android application, basic internal and external communications as well as accessing resources from an application.

Course highlights

- How to identify, exploit and remediate all the common mobile application security flaws, over and above the **OWASP Mobile Top Ten**
- How to **develop secure mobile applications** that can withstand advanced attacks
- How hackers attack mobile applications and Android devices
- The most up to date and effective **secure coding practices**

Benefits to your organization

- Helps to ensure that your software is resilient to an attack against even the most **advanced threats**
- Increases levels of **trust and reputation** when developing for external organizations
- **Increases understanding** of security, reducing the time and cost of remediating vulnerabilities
- **Facilitates a positive attitude** and an understanding of the importance of security within the development team

How is this course different?

The course is delivered by experienced security professionals who frequently perform mobile security assessments and are involved in mobile security research, the development of assessment tools and exploiting Android devices in competitions such as Mobile Pwn2Own.

We focus on teaching offensive security techniques so that you can fully understand the capabilities of modern attackers and therefore how to defend against them.

This is a practical, exercise driven course. We've developed a realistic, web-based mobile application with common flaws that allow us to show you how attackers would exploit these vulnerabilities in the real world.

We teach you how to practically introduce security in your development lifecycle by combining secure coding principles, design & source code reviews and vulnerability assessment tools, providing a maintainable and scalable approach to secure application development.

For more information,

call +44 (0) 1256 300 920

or go to our web page

mwr.to/training

Topics / Syllabus

Foundation

- Relevance of mobile applications in the modern world
- Mobile attackers' goals

Android Security Model

- User separation
- File permissions
- Package structure

Analyzing Android Applications

- Structure of an APK
- Application permissions
- Protection levels
- Decompiling and modifying an application
- Code signing
- Obfuscation

Android Application Components

- Activities
- Services
- Broadcast receivers
- Content providers
- Intents
- Native code

Storage and Logging

- Android file system
- Persistent storage
- Data leakage
- Backup Manager
- File encryption
- Logcat

Securing Communications

- Clear text communications
- Secure Socket Layer (SSL)
- Certificate pinning
- WebViews & JavaScript interfaces
- Alternative communication mechanisms

Security in Depth

- Root detection
- Debug detection
- Runtime manipulation

Integrating Security

- Current state of the industry
- Secure software development life cycle
- Security requirements
- Conducting a design review
- Conducting a code review
- Vulnerability scanning with drozer
- Penetration testing
- Vulnerability management

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