

Module Title : Android Security Essentials (AND-802)

Duration : 2 days

Outline

Lesson 1: Introduction and Android Security Architecture

- Android Security Program Overview and Architecture.
- Kernel level security (Linux), and rooting Android.
- Android Application Components.
- The Application Sandbox.
- Managers and Services
 - Activity Manager Service.
 - Package Manager Service.
 - Notification Manager Service.
 - Search Manager Service.
 - Connectivity, Telephony, and Wi-Fi Manager Services.
 - Download and Storage Manager Services.
 - Window Manager Service.

Lesson 2: Android Permission Model and third party applications

- Android Application Framework Layer.
- Third party application permissions.
- Using Protected APIs.
- Custom Permissions.
- Android Malware: Prevention, Detection, and Removal.
- Security Enhanced Android (SE Android).

Lesson 3: Component Security and Protecting data storage

- How Android achieves Inter-process communication.
- Restricting access to Android components.
- Vulnerabilities of Stored Data.
- Cryptography and Encryption.
- Signing your application.

Lesson 4: Client-Server communication security.

- Threats Facing Devices Transferring Data.
- Protecting web transferred data.
- Input Validation.
- Prevent Command Injection.