



Android Security

Course ID: ITG-MOB-120

ITG Software Engineering

Android Security

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Course Overview:

This 5 day course covers the Android architecture, the stack, and primary building blocks of Android application development. This course will also cover Android Security principles, send adapters, broadcast receivers, the Android IDL language as well as Android forensics.

Prerequisites:

Basic Linux and Java knowledge.

Who Should Attend this course?

Those interested in learning Android security.

Topics:

<ul style="list-style-type: none">• Android Overview	<ul style="list-style-type: none">• Android Stack
<ul style="list-style-type: none">• Primary Building Blocks	<ul style="list-style-type: none">• Yamba Project
<ul style="list-style-type: none">• Android Universal Interfaces	<ul style="list-style-type: none">• List Send Adapters
<ul style="list-style-type: none">• System Services	<ul style="list-style-type: none">• List Send Adapters
<ul style="list-style-type: none">• Android Interface Language (ADL)	<ul style="list-style-type: none">• Android Forensics
<ul style="list-style-type: none">• Android Network Hacks	<ul style="list-style-type: none">•

Module 01: Android Overview

- Introduction to Android.
- History.
- Android Versions.

Module 02: Android Stack

- Stack Overview.
- Using Linux.
- Native Libraries.
- Using Dalvik.
- Android Application Framework.

Module 03: Getting Started

- Installing the Android SDK.
- Your first program.
- Using the Emulator

Module 04: Primary Building Blocks

- Intents.
- Services.
- Content Providers.
- Broadcast Receivers.
- Application Context.

Module 05: Yamba Project

- Yamba Introduction.
- Project Design.
- Android UI
- Creating Activities.
- Networking & Multithreading.
- Debugging an Android Application.
- Preferences, File Systems, Options, Intents.
- Understand Activities.
- The Menu System and Intents.
- The File System.
- What are Android Services.
- Application Objects.
- Using Databases.
- SQL Light.
- Adapters.
- Using Broadcast Receivers.
- Content Providers.
- Systems Services.

Module 06: Android Universal Interface

- Declarative UI.
- Programmatic UI.
- Various Views & Layouts.
- Activity Logs.
- Threading.
- Different UI Events.
- Using Color Images.
- Polishing the UI.

Module 07: UI in depth

- Preferences
- Using the Options Menu.
- What are Shared Preferences.
- Explanation of the File System.

Module 08: Using Services

- Yamba Project
- Using Updater.

Module 09: Working with Databases

- SQL Light
- Using DB Helper.
- How the DB Schema works.
- Various DB Operations.
- Using Cursors

Module 10:

- Timeline Activity.
- Various Adapters.
- Timeline Adapters.
- Updating the Manifest File.
- Base Activity Overview.

Module 11: Broadcast Receivers

- What is the Receiver?
- Using the Timeline Receiver.
- How to Broadcast Intents.
- Working with the Network Receiver.
- Adding Custom Permissions.
- Declaring Permissions.
- Dynamic Enforcement of Permissions.
- Enforcing Permissions by Updating Services.
- Enforcing Permissions by Updating Timeline Receiver.

Module 12: Working with Content Providers

- Creating a Content Provider.
- How to use a Content Provider.

Module 13: System Services

- Using Location Services.
- Updating Yamba and use Location Services.
- Understanding the Intent Service.
- Using Alarms.
- Updating your Boot Receiver.
- Sending Notifications.

Module 14: Interface Definition Language

- Writing a Remote Service.
- Writing with IDL.
- Implementing Services.
- Implementing a Parcel.
- How to Implement a Remote Client.
- How to Bridge to the Remote Service.

Module 15: Android Hacking Basics

- Mastering Android Hacking.
- Android Hack Capabilities.
- How to Jailbreak Android.
- Installing 3rd Party Apps.
- Manipulating the Android File System.
- Backing up Files in Android.

Module 16: Android Forensics

- Extracting Text Messages.
- Extract the Address Book.
- Extract Voice Mails.
- Extracting Browser History.

Module 17: Useful Android Hacks

- Tracking an Android Phone using Geolocation.
- Connecting to an Android using the Internet.
- Tethering in Android.
- Various Wi-Fi Hacks.