

## Android Training



### **Course Summary**

Introduction to programming for the Android platform course is designed to quickly get you up to speed with writing apps for Android devices. You will learn the basics of the Android platform, and gain an understanding of the application lifecycle. By the end of the course, you will be able to write simple GUI applications, use built-in widgets and components, work with the database to store data locally, and much more. This is a perfect course to get started with Android programming. Upon completion of this course, we suggest you take Advanced Android training, or take both courses together as Android Bootcamp.

### **Audience**

This course is for students who wish to get up to speed with writing apps for Android devices.

### **Prerequisites**

Students should have basic Java programming skills, or equivalent OOP language experience.

### **Course Outline**

#### **Android Overview and History**

How it all got started

Why Android is different (and important)

## **Android Stack**

Overview of the stack

Linux kernel

Native libraries

Dalvik

App framework

Apps

## **SDK Overview**

Platforms

Tools

Versions

## **Hello World App**

Creating your first project

The manifest file

Layout resource

Running your app on Emulator

## **Main Building Blocks**

Activities

Activity lifecycle

Intents

Services

Content Providers

Broadcast Receivers

## **Basic Android User Interface**

XML versus Java UI

Dips and sps

Views and layouts

Common UI components

Handling user events

## **Android System Overview**

File System

Preferences

Notifications

Security model

## **Advanced UI**

Selection components

Adapters

Complex UI components

Building UI for performance

Menus and Dialogs

Graphics & animations

## **Multimedia in Android**

Multimedia Supported audio formats

Simple media playback

Supported video formats

Simple video playback

## **SQL Database**

Introducing SQLite

SQLiteOpenHelper and creating a database

Opening and closing a database

Working with cursors Inserts, updates, and deletes

## **Basic Content Providers**

Content provider MIME types

Searching for content

Adding, changing, and removing content

Working with content files

[REGISTER NOW for an Intro to Android™ course.](#)

---

## **Advanced Android™ - 2 Days - Course Summary**

Advanced Android™ training is taking mobile application development to the next level. You will learn how to create custom widgets, create animations, work with cameras, use sensors, create and use advanced content providers, and much more. The course goes into testing and deployment of Android applications, as well. This course is also part of the Android Bootcamp.

### ***Audience***

This course is for students who are familiar with basic Android development practices and want to learn more advanced concepts.

### ***Prerequisites***

Students should have familiarity with basic Android development practices. They should have taken Intro to Android™ training or have equivalent experience.

### ***Course Outline***

#### **Custom Content Providers**

Why Content Providers

Where the content comes from

Implementing the API Supporting content files

#### **Location Services**

Working with the Location Manager

Working with Google Maps extensions

#### **Services**

Overview of services in Android

Implementing a Service

Service lifecycle

Bound versus unbound services

#### **Broadcast Receivers**

What are Broadcast Receivers

Implementing broadcast receiver  
System broadcasts and how to use them

### **Intent Filters**

Role of filters  
Intent-matching rules  
Filters in your manifest  
Filters in dynamic Broadcast Receivers

### **Networking**

Working with web services  
Best practices

### **Sensors**

How Sensors work  
Listening to Sensor readings  
Best practices for performance

### **WiFi**

Monitoring and managing Internet connectivity  
Managing active connections  
Managing WiFi

### **Telephony**

Making calls  
Monitoring data connectivity and activity  
Accessing phone properties and status  
Controlling the phone

### **Camera**

Taking pictures  
Rendering previews

### **Bluetooth**

Controlling local Bluetooth device

Discovering and bonding with Bluetooth devices

Managing Bluetooth connections

Communicating with Bluetooth

### **Automated Testing**

Why automate tests

Instrumentation and unit testing

[REGISTER NOW for an Advanced Android™ course.](#)

---

## **Android™ Bootcamp Training - 5 Days - [REDACTED]** **Course Summary**

Android™ Bootcamp Training is a hands-on guide to designing and building mobile applications using Google's Android™ open-source platform. The course explains what Android™ is and how it compares to other mobile environments, the setup of the Android™ Eclipse-based development tools, the Android™ SDK, all essential features, as well as the advanced capabilities and APIs such as background services, accelerometers, graphics, and GPS. This complete hands-on course encourages students to learn by building increasingly more sophisticated and meaningful mobile applications for Android™ phones. By the end of the course, participants will build their own complete Android application incorporating most of the key aspects of the platform. Typically, we build a Twitter app for Android, but there are other choices, depending on participants' interests.

### **Objectives**

Upon completion of this course, you will be able to:

- Build your own Android apps
- Explain the differences between Android™ and other mobile development environments
- Understand how Android™ applications work, their life cycle, manifest, intents, and using external resources
- Design and develop useful Android™ applications with compelling user interfaces by using, extending, and creating your own layouts and Views and using Menus
- Take advantage of Android's APIs for data storage, retrieval, user preferences, files, databases, and content providers

- Tap into location-based services, geocoder, compass sensors, and create rich map-based applications
- Utilize the power of background services, threads, and notifications.
- Use Android's communication APIs for SMS, telephony, network management, and internet resources (HTTP).
- Secure, tune, package, and deploy Android™ applications

## ***Audience***

This course is designed for software developers interested in designing, creating, deploying, and testing applications for the Android™ mobile phone platform. It is valuable to both novices and gurus, who already have experience in developing mobile applications for other platforms.

## ***Prerequisites***

Java experience is required to get the most benefit from this training.

## ***Course Outline***

### **Android Overview and History**

How it all got started

Why Android is different (and important)

### **Android Stack**

Overview of the stack

Linux kernel

Native libraries

Dalvik

App framework

Apps

### **SDK Overview**

Platforms

Tools

Versions

## **Hello World App**

Creating your first project

The manifest file

Layout resource

Running your app on Emulator

## **Main Building Blocks**

Activities

Activity lifecycle

Intents

Services

Content Providers

Broadcast Receivers

## **Basic Android User Interface**

XML versus Java UI

Dips and sps

Views and layouts

Common UI components

Handling user events

## **Android System Overview**

File System

Preferences

Notifications

Security model

## **Advanced UI**

Selection components

Adapters

Complex UI components

Building UI for performance

Menus and Dialogs

Graphics & animations

## **Multimedia in Android**

Multimedia Supported audio formats

Simple media playback

Supported video formats

Simple video playback

## **SQL Database**

Introducing SQLite

SQLiteOpenHelper and creating a database

Opening and closing a database

Working with cursors Inserts, updates, and deletes

## **Basic Content Providers**

Content provider MIME types

Searching for content

Adding, changing, and removing content

Working with content files

## **Custom Content Providers**

Why Content Providers

Where the content comes from

Implementing the API Supporting content files

## **Location Services**

Working with the Location Manager

Working with Google Maps extensions

## **Services**

Overview of services in Android

Implementing a Service

Service lifecycle

Bound versus unbound services

## **Broadcast Receivers**

What are Broadcast Receivers

Implementing broadcast receiver  
System broadcasts and how to use them

### **Intent Filters**

Role of filters  
Intent-matching rules  
Filters in your manifest  
Filters in dynamic Broadcast Receivers

### **Networking**

Working with web services  
Best practices

### **Sensors**

How Sensors work  
Listening to Sensor readings  
Best practices for performance

### **WiFi**

Monitoring and managing Internet connectivity  
Managing active connections  
Managing WiFi

### **Telephony**

Making calls  
Monitoring data connectivity and activity  
Accessing phone properties and status  
Controlling the phone

### **Camera**

Taking pictures  
Rendering previews

### **Bluetooth**

Controlling local Bluetooth device

Discovering and bonding with Bluetooth devices

Managing Bluetooth connections

Communicating with Bluetooth

### **Automated Testing**

Why automate tests

Instrumentation and unit testing