

Price: R14,800.00 excl. VAT
Duration: 5 days
Delivery: Virtual classroom or
on-site training

Android Development
Available on request for group bookings only

Description

Android is the mobile operating system from Google that runs on many smart phones and tablets. There are millions applications that run on Android.

The Android Development course is for Java programmers. It will teach you how to create your own Android apps. You will learn how the Android development process works, how to write simple GUI applications, how to work with data and how to use the built-in components.

Objectives

After you have completed the Android Development course, you will be able to:

- Understand the development process and how to use an Android emulator.
- Understand the architecture, SDK and software stack.
- Create simple applications that run on Android devices.
- Use the view containers, layouts and widgets.
- Access the file system and create SQLite databases.
- Work with the Android Jetpack library suite.

Intended Audience

You should attend the Android Development course if:

- You are a Java programmer and you want to learn to develop applications that run on Android devices.
- You are a Java programmer and you need to support Android code.

Prerequisites

Before you attend the Android Development course:

- You must have attended our Java Programming course or already be comfortable with the fundamentals of the Java programming language.
- You should have at least 6 months practical experience programming in Java.

Course Contents

Android Overview

- System architecture.
- Dalvik VM and DEX files.
- Android runtime (ART) VM and OAT files.
- Building blocks - Activity, Intent, Service, Broadcast Receiver, Content provider.
- UI Components - Views and Notifications.

- Communication components - Intents and Intent Filters.
- Android API levels (versions and version names).

SDK Overview

- Android Development Tools (ADT).
- Android Virtual Device (AVD) emulators.
- Android Jetpack library suite.

Developing Apps

- Activity lifecycle.
- A Hello World app.
- Manifest file and resource layout.
- Application APK file.
- Execution on an emulator.
- Deployment to a physical Android device.
- Communicating and switching between activities.

GUI Development

- Views and view containers.
- Layout options - linear, relative, constraint, custom layouts.
- List views.
- Drawables.
- Listeners, long clicks and keyboard listeners.
- Drawing and animation.

Widgets

- Custom and toggle buttons.
- Checkboxes and radio buttons.
- Text boxes.
- Map and web views.
- ListView and RecyclerView.
- Adapters.
- Time and date pickers.
- Dialogs.

Storage

- Internal and external storage.
- File I/O.
- SharedPreferences.
- SQLite and Content Providers.
- Cloud storage.

Additional Topics

- Serializable, Parcelable and Bundles.
- Creating home screen widgets.
- Playing audio and video with the MediaPlayer.
- Geolocation - determining location and integrating to Google Maps.
- Web Services - text based and JSON.
- Interfacing to the camera - taking pictures and video.
- Interfacing to the sensors.
- Publishing to the Play Store.
- Kotlin as an alternative programming language.

*** The lecturer reserves the right to modify the contents of the course to suit the needs of the delegates.*