

Price: R9,800.00 excl. VAT
Duration: 4.5 days
Code: ANDRD

Android Application Development

Description

Android is the mobile operating system from Google that runs on many smart phones and tablets. There are already thousands of applications (or apps) that run on Android. This course 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 Application Development course, you will be able to:

- Understand the Android development process and how to use emulators.
- Understand the Android architecture, SDK and software stack.
- Create simple applications that run on Android devices.
- Access and use the Android file system.
- Use view containers, layouts and widgets.
- Understand how to create multimedia applications.

Intended Audience

You should attend the Android Application 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 Application 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

- Android system architecture.
- Dalvik Virtual Machine and the .apk file extension.
- Building blocks - Activities, Services, Broadcast Receivers, Content providers.
- UI Components - Views and Notifications.
- Communication components - Intents and Intent Filters.
- Android API levels (versions and version names).

SDK Overview

- Platforms and required tools.
- Android Development Tools (ADT) as Eclipse plugins
- Android Virtual Device (AVD) emulators.

Developing Apps

- Application and Activity lifecycle.
- A Hello World app as a first project.

- Manifest file and resource layout.
- Execution on an emulator.
- Deployment to a physical Android device.
- Communicating and switching between Activities.

Android Storage

- Android Storage Options.
- Internal and external storage, and file I/O.
- SharedPreferences.
- SQLite and Content Providers.
- Web communication and storage.

View Containers, Layouts, Listeners

- Layout options - linear, relative, table, custom layouts.
- List views.
- Drawables.
- Listeners, long clicks and keyboard listeners.

Widgets

- Custom and toggle buttons.
- Checkboxes and radio buttons.
- Spinners.
- Text boxes.
- Map and web views.
- Time and date pickers.

Additional Topics

- Playing audio and video with the MediaPlayer.
- Custom List Views.
- Programmatic animation and XML animation
- Web Services - text based and JSON.
- Drawing and animation.
- Geolocation - determining location and integrating to Google Maps.
- Creating home screen widgets.
- Interfacing to the camera - taking pictures and video.

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