



Android Application Development Course

28 Contact Hours

Course Overview

This course that provides the required knowledge and skills to design and build a complete Android application. It delivers an extensive training on the main Android API components and its interactions. This course is mapped to AND-401 exam.

Target Audience

New and experienced application developers who wish to expand their toolset and specialize in developing their own Android Apps for business, education, or personal use. Developers seeking a career as an mobile applications developer. People new to mobile Apps development or those who started building an app and need help putting all the pieces together

Prerequisites

For a best learning experience and a quick start with this course, a trainee is required to have adequate knowledge of the content of "Java Fundamentals for Android Development" course. Previous knowledge and experience of any programming language is considered sufficient..

Delivery Method

Instructor-led, group-paced, classroom-delivery learning model with structured hands-on activities.

Benefits

At Course Completion , a student will be able to:

Design and build a complete Android application.

Debug and maintain Android applications using different tools and plugins.

Thoroughly understand the life-cycle of an Android application and its main components.

Use external resources, manifest files, intents and adapters

Understand and use all Android persistent storage techniques: Preferences, files, databases, and content providers.

Use Android's background processing techniques.



Examination

This course is mapped to AND-401 exam. The student must attend a two days training "Java Fundamentals for Android Development" before with this course to be qualified for exam no. AND-401.

Course Outline

Lesson 1: Hello Android Framework

Introduction

Creating an Android Project

Within Eclipse

From Command line

Running Your Application

Running you project on the emulator

Components of an Android application

Application Life-cycle

Modifying created project

Change activity's name

Lesson 2: Android SDK Tools and Activity Class

Android Software Layers

Linux kernel

C/C++ Libraries

Android Runtime

Application Framework

Application layer



Android Libraries

The Android Manifest File

Structure of the Manifest File

Android SDK Tools

Activity life-cycle through Java

Create an Activity

Methods to remember

Lesson 3: ListActivity and ListView

Introduction

Views

Using Views

Adding a View to your application

List Views and List Activity

Using a ListActivity

Adding ListView

Add Event to List Items

Summary

Methods to remember

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Lesson 4: Intents and Intent filters

Introduction

Intents

Explicit Intents

Implicit Intents

Native Android Actions



Data Transfer

Intent to Call Activities

Direct calls

Sub-activities: Calling Activities for Results

Register an IntentFilter

Methods to remember

Lesson 5: Custom Views

Introduction

Different Uses of Customized Views

Modify Existing Views

Step by Step

What is in onDraw ()

The full picture

Lesson 6: Dialogs and Toasts

Dialogs

Dialog sub-classes

Creating dialogs with user-defined layout

Activities with Dialog Theme

Toasts

Methods to remember



Lesson 7: More UI - Options Menu, Context Menu, and WebView

Introduction

Menus

Building a menu from Java code

Building a menu from a resource file

Handle Select Events

Sub-menus

Context Menus

Handling Context Menu Selection

Additional Menu Item options

Checkboxes and Radio Buttons

Shortcut Keys

Condensed Titles

Menu Item Click Listener

Intents

WebView

Methods to remember

Practical Exercise

Lesson 8: Android Storage: Network, File I/O, and SharedPreferences

Android Storage Options

Shared Preferences

Internal Storage

SQLite Databases

Network Connection



Connecting to the internet

File I/O

Including files as resources

Shared Preferences

Retrieving Shared Preferences

Save activity state

Lesson 9: Android Storage: SQLite and Content Providers

Introduction

SQLite in your application

SQLite library

SQLiteOpenHelper

SQLiteDatabase

Cursors

Databases in Android

Native Android Content Providers

Methods to remember

Lesson 10: Android Notifications

Introduction

Creating a notification

Notification actions

Example: NotificationManager

Summary