

Developing Secure Android Apps for Business

Course Summary

Description

Android is the most widely used mobile operating system today. Not only does it have the largest market share of smartphone and tablet operating systems, but Android also powers devices such as TV streaming boxes, digital cameras, vehicle dashboards, and much more. In this course, you will learn how to develop and publish an Android app, focusing on developing business apps for tablets and smartphones that are compatible with a wide variety of Android versions and device layouts.

This course is also designed to assist you in preparing for the Master Mobile Application Developer (MMAD) (Exam MAD-111) certification examination. What you learn and practice in this course can be a significant part of your preparation for portions of that certification.

Objectives

After taking this course, students will be able to:

- Develop, test, and publish native mobile applications for the Android operating system.
- Set up an Android development environment and start developing an Android app.
- Develop an app that works well within the Android app framework and meets user expectations.
- Create an app with multiple user interface screens and features to move among them.
- Use resources to support internationalization and quick update of contents and styles.
- Add graphics and animation capabilities to your app.
- Store and retrieve files by using local storage.
- Use debugging tools to trace and watch variables, and step through statements.
- Retrieve and display web data.
- Store and retrieve user preferences.
- Integrate your app into the Android ecosystem.
- Prepare an app for release, ensuring its security and digitally signing it.

Topics

- Getting Started with Android Studio
- Working in the Android App Framework
- Creating an App with Multiple Activities
- Using Resources
- Working with Multimedia
- Working with Data and Storage
- Debugging and Analyzing Android Apps
- Working with Web Data
- Working with User Preferences
- Integrating with the App Ecosystem
- Finalizing Your App

Audience

This course is intended for a programmer or web developer who is new to mobile-app development for the Android operating system. You should also have experience developing web or desktop applications using object-oriented programming languages and tools; experience developing mobile applications is helpful, but not required.

Prerequisites

To ensure your success, you should have experience developing applications using an object-oriented programming language such as Java, Python, C++, C#, Visual Basic, and so forth. This course focuses on Android development and does not elaborate on the Java programming language; experience or prior coursework in Java is highly recommended.

Duration

Three days

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Course Outline

- I. *Getting Started with Android Studio***
 - A. The Android Operating System
 - B. Create an Android App Project
 - C. Configure the Android Development Environment
 - D. Create an Android Emulator
- II. *Working in the Android App Framework***
 - A. Work in the Android Project Structure
 - B. Use Android Documentation
 - C. Work with the App Lifecycle
 - D. Design to Requirements and Expectations
- III. *Creating an App with Multiple Activities***
 - A. Create a Tabbed User Interface
 - B. Provide Navigation to Other Activities
- IV. *Using Resources***
 - A. Load App Data from Resources
 - B. Support Alternate Languages Through Resources
 - C. Apply Themes and Styles
- V. *Working with Multimedia***
 - A. Load Images
 - B. Draw Graphics Through Code
 - C. Add Animation Effects
- VI. *Working with Data and Storage***
 - A. Write File Data
 - B. Read File Data
- VII. *Debugging and Analyzing Android Apps***
 - A. Debug an Android App
 - B. Use Additional Android Debugging and Analysis Tools
- VIII. *Working with Web Data***
 - A. Populate a View with Web Data
 - B. Load Web Content in a WebView
- IX. *Working with User Preferences***
 - A. Implement a User Interface for Preferences
 - B. Read User Preferences
- X. *Integrating with the App Ecosystem***
 - A. Provide an Alternate Layout
 - B. Access Sensors and Location Services
 - C. Capture Multimedia
 - D. Develop a Widget
- XI. *Finalizing Your App***
 - A. Manage App Security
 - B. Prepare an App for Release
- XII. *Appendix A: Logical Operations Master Mobile Application Developer (MMAD) Exam MAD-111 Objectives***