



Advanced Android App Development

MD105

48

Academic Hours

Advanced Android App Development

Outline

This course provides Android developers with the skills required to build complete Android applications, with advanced features supported by an Android device, In addition, server side is learned to give the app full capabilities



Target Audience

The course is designed for developers who want to master Android application development, including some Server Side development.



Prerequisites

Students should have a working knowledge with Java and basic Android skills.



Objectives

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

- Build android applications
- Manage Activities
- Create and work with Services
- Work with backend Server





Content

Module 01 Telephony

- | Making calls
- | Monitoring phone state
- | Filtering outgoing calls
- | Auto-Answering calls
- | Call Log
- | Send SMS
- | Handling incoming SMS

Module 02 Non-Blocking UI

- | Long running tasks and UI block
- | Background Thread and Handlers
- | Asynchronous Tasks
- | Service is NOT a Thread
- | Service-Activity Communication

Module 03 Network and Communication

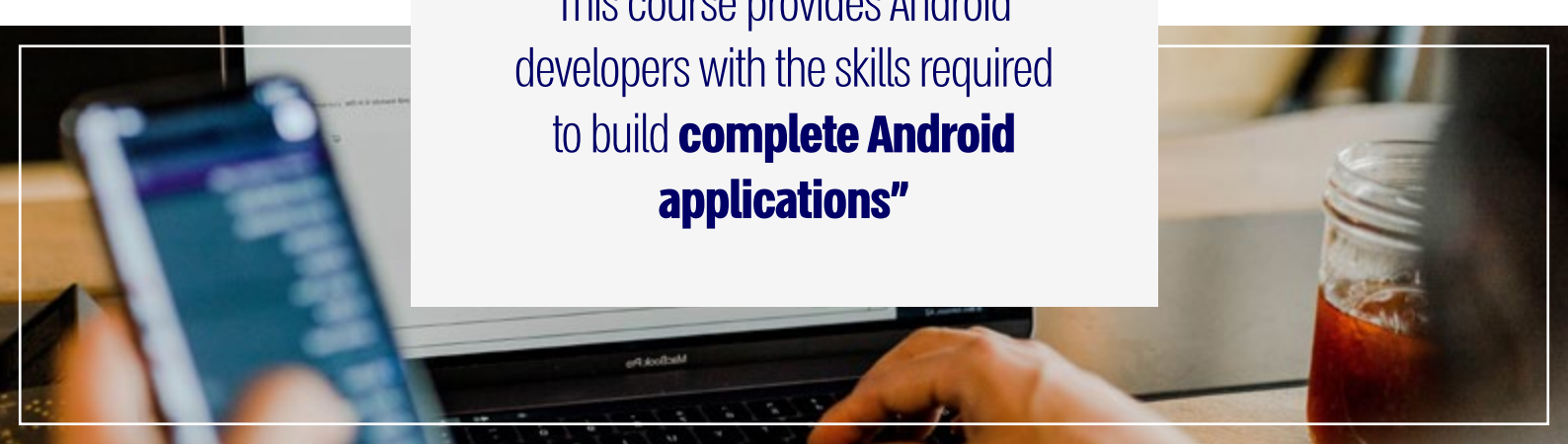
- | Building HTTP Server
- | Apache Tomcat and Java Servlet
- | Making HTTP Requests from Android
 - GET
 - POST
- | Serializing Objects using JSON
- | Creating Linux VPS on Google's Cloud
- | Using Google Compute Engine
- | TCP Server and Client

Module 04 Hardware

- | Capturing pictures
- | Check Network State
- | Flashlight
- | RFID



This course provides Android developers with the skills required to build **complete Android applications**



Module 05 Persistent Data

- | Shared Preferences
- | Saving Files
- | SQLite Local Database

Module 06 Graphics and Animations

- | Crossfading two Views
- | Swiping pages using ViewPager
- | Animating Layout Changes

Module 07 Touch Gestures

- | Detecting Common Gestures
- | Dragging and Scaling

Module 08 Notifications

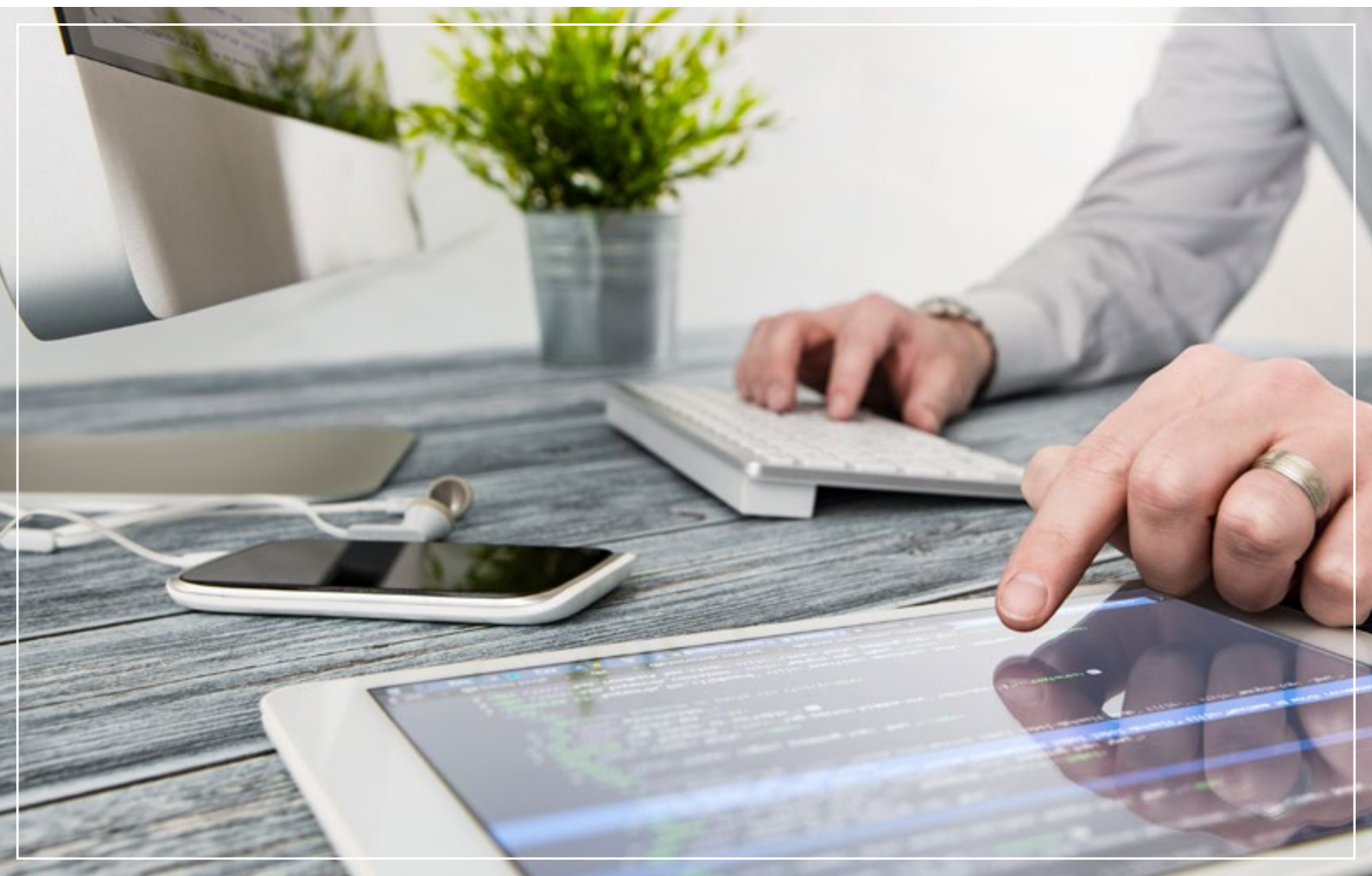
- | Showing a Notification
- | Responding to Notification Click
- | Remove Notifications
- | GCE

Module 09 Supporting Different Devices

- | Languages
- | Orientation
- | Size

Module 10 Performance

- | Memory efficiency
- | Battery usage
- | Layout Performance



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