

# ***Android Application Development***

## Introduction

Android provides a rich application framework that allows you to build innovative apps and games for mobile devices in a Java language environment. The documents listed in the left provide details about how to build apps using Android's various APIs.

If you're new to Android development, it's important that you understand the following fundamental concepts about the Android app framework:

## Advantages of Course

1. 60-100 Different Programmes in Class
2. 100-200 Tasks for Students
3. New project implementation (not yet existing)
4. Interview Questions
5. Overview on Own apps creation

## **Course Contents**

1. Introduction to Android
  - 1.1 Introduction to Mobile Application Development
  - 1.2 What is Android?
  - 1.3 Why Android is Important for Mobile?
  - 1.4 Features
  - 1.5 History & Versions
2. Android Architecture
  - 2.1 Android Frameworks
  - 2.2 Linux Kernel
  - 2.3 Core Libraries
  - 2.4 Android Runtime
  - 2.5 Dalvik virtual Machine
3. Setup of Android Development Environment
  - 3.1 System Requirement
  - 3.2 Java
  - 3.3 Eclipse and SDK Installation
  - 3.4 Android SDK & Tools
  - 3.5 Android Virtual Device & Device Definitions

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4. Introduction About Android Studio & Installation
  - 4.1 Installation
  - 4.2 GenyMotion Emulator setup
  
5. Hello World Program
  - 5.1 Hello World Program
  - 5.2 Understanding Of Project Structure
  - 5.3 Project Flow
  - 4.4 Android Manifest file
  - 4.5 Project Output And installation in Real Device
  
6. XML Overview
  - 6.1. What is XML
  - 6.2. Why XML
  - 6.3. Difference between XML & HTML
  - 6.4. Rules & Overview of XML
  
7. User Interfaces Design
  - 7.1 Views and Layouts
  - 7.2 View Properties
  - 7.3 Linear Layout
  - 7.4 Relative Layouts
  - 7.5 Frame Layout
  - 7.6 Absolute Layout
  - 7.7 Designs for Tablets and High Resolution Devices
  
8. Android Resources
  - 8.1 String Resource
  - 8.2 Layout Resources
  - 8.3 Raw Resources
  - 8.4 Array Resources
  - 8.5 Images Resources
  - 8.6 Color Resources
  
9. Android Application Components
  - 9.1 Activity
  - 9.2 Intents
  - 9.3 Services
  - 9.4 Broadcast Receivers
  - 9.5 Content providers

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10. Activity
  - 10.1 Activity & Life Cycle
  - 10.2 Activity lifecycle example Program
  
11. Listeners in Android
  - 11.1 OnClick Listener
  - 11.2 OnChecked Change Listener
  - 11.3 OnTouch Listener
  - 11.4 OnRatingBarChange listener
  - 11.5 onItemSelected listner
  - 11.6 OnItemClickListener Lisnter
  - 11.7 OnLong Click Listener
  - 11.8 OnMenuItem Seleted menu Listener
  - 11.9 Scroll change Listener
  
12. UI Controls
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  - 12.2 TextView
  - 12.3 Radio group
  - 12.4 RadoButton
  - 12.4 CheckBox
  - 12.5 Toggle Button
  - 12.6 switch
  - 12.7 Rating Bar
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13. Other Activities
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  - 13.4 Autocomplete Textview
  - 13.5 Scroll view
  - 13.6 Tab Layout
  - 13.7 View Pager
  
14. Advanced
  - 14.1 Request Focus
  - 14.2 Zoom Controls
  - 14.3 Number Picker
  - 14.4 Date picker
  - 14.5 Time Picker

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- 15. Intents
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  - 15.2 Explicit
  - 15.3 Passing data
- 16. Dialogs
  - 16.1 Alert Dialogs
  - 16.2 Progress dialogs
  - 16.3 Toast
  - 16.4 Notifications
  - 16.5 Fire Based Notifications (FCM)
- 17. Services
  - 17.1 Life Cycle
  - 17.2 Bound Services
  - 17.2 Unbound Services
- 18. Broadcast Receivers
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  - 18.2 Implementation
  - 18.3 Registration
- 19. Data Storage
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  - 19.2 External Memory
  - 19.3 Shared preferences
  - 19.4 SQLite Database
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  - 20.2 Sharing data between Applications
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  - 22.3 Json
  - 22.4 Async Task
  - 22.5 Sending Data to server
  - 22.6 Retrieving Data from Server
  - 22.7 Get & post Methods
  - 22.7 Registration & Login with Server Application
  - 22.8 Spinner/Listview/Gridview Data from Server
  - 22.9 Restful web services

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- 22.10 Comparison with Other web services
  
- 22. Location Services & GPS
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  - 22.2 Maps Api key Generation
  - 22.3 Getting Current Location with the help of Latitude and Longitude Values
  - 22.4 Adding Markers to Google Maps
  
- 23. Fragments
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  - 22.2 Life cycle
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  - 24.1 Introduction & Overview
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