

Android Training Course Content

INTRODUCTION (30 MINS)

1. Welcome
2. Interface Overview
3. Introduction to Android
4. Downloading and Setup (2 hrs)
5. Introduction to this section
6. Windows – Install Android Studio
7. Java Development Kit for Windows (32Bit Users Only!)
8. Mac – Install Android Studio
9. Linux – Install Android Studio
10. Java Development Kit for Linux (32Bit Users Only!)
11. Configure Android SDK on all Three Platforms
12. SDK Configuration Continued
13. Enable VT-X

HELLO WORLD ANDROID APP (2HRS)

1. Introduction
2. Android Studio Templates
3. More on Android Templates
4. Hello World
5. Tour of Android Studio
6. Setting Up a Virtual Device
7. Running on an emulator
8. Running on a physical Android device

THE BUTTON COUNTER APP (6 HRS)

1. Introduction
2. Setup Play Project
3. The Constraint Layout
4. Constraints and Resizing
5. Positioning Widgets
6. Inner Lines within a Widget
7. Layouts on Different Devices
8. More on the Constraints
9. Baseline Constraints
10. Constraining Widgets
11. Add Scrolling Capabilities
12. The Button Counter App

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13. Finish Layout
14. Activities, Bundles and Classes
15. Java Fields and Classes
16. Asking good questions
17. Button Click and onClickListener
18. Fixing Some Issues
19. Get Text and Null Checking
20. ID Confusion and Challenge Time
21. Save Instance State
22. Activity Lifecycle
23. Overriding Methods
24. Logging and Bundle Data
25. Wrap Up

JAVA TUTORIALS (5 HRS)

1. Introduction to this section
2. Hello World
3. Strings and Ints
4. Arithmetic and String Concatenation
5. Classes
6. Encapsulation
7. Multiple Constructors
8. this and Calling Methods
9. Object and Method Chaining
10. Enum and ArrayList
11. Testing Our Classes
12. Inheritance
13. Extending From a Class
14. Overloading and Overriding Annotation
15. Inheritance Challenge
16. Repeating Code While
17. for and for each Loops
18. do while Loop
19. Comparing Numbers and Objects

CALCULATOR APP (4 HRS)

1. Introduction to this section
2. Demo Calculator App
3. Calculator Interface Setup
4. Continue with Interface

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5. Fine Tuning the Layout
6. Create Landscape Layout
7. Comparing Files with Diff
8. Comparing Directories
9. Flowchart and onClickListeners
10. Operation Button Listeners
11. Implement Operations
12. Decimal Point Bug Fix
13. Bug Fix Challenge
14. Guidelines
15. Fixing Landscape Layout
16. Add Neg Button to Layout
17. Write Neg Button Functionality
18. Add Neg Button to Portrait

TOP 10 DOWNLOADED APP (6 HRS)

1. Introduction to this section
2. Details and Setup
3. Async Task
4. Execute Our Async Task
5. doInBackground and downloadXML
6. Exceptions and Buffered Reader
7. Security Exception
8. Stack Trace and the logcat
9. Android App Permissions
10. Processing XML Data
11. XML Parsing Factory Classes
12. Main XML Parsing Loop
13. Testing the Program
14. ListView and ArrayAdapter
15. Array Adapter
16. Adapter Layout
17. Context and Layout Inflater
18. Custom Adapter Implementation
19. Improving the Adapter
20. Adding Menus
21. Get Menus for Multiple Feeds Working
22. Menu Item Groups
23. Implement Top 10 and Top 25
24. Challenge Solution
25. Generics Adapter

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YOUTUBE APP (3 HRS)

1. Introduction to this section
2. Details and Setup
3. YouTube API Setup
4. Add Second Activity
5. Adding Layouts Dynamically
6. Get Google API Key
7. onInitialization Failure
8. onInitialization Success
9. Test App and Add Listeners
10. Documentation and more testing
11. Demo App and Create Layouts
12. Standalone Activity
13. Intents and Manifest File Changes
14. Run and Test App
15. Challenge Solution

FLICKR APP (12 HRS)

1. Introduction to this section
2. Details and Setup
3. Flickr API Usage
4. API JSON and Validation
5. Create Project
6. Async Task
7. Finish Download Code
8. Download JSON Data
9. Project Diagram and Photo Class Code
10. Get Flickr JSON Data Class Code
11. Create URI and JSON Parsing
12. Implement Call Backs
13. Make Get JSON Asynchronous
14. Finish Off Code
15. User Interface
16. RecyclerView
17. Search and Photo Detail Activities
18. Nesting Linear Layouts
19. RecyclerView Adapter
20. Implement Methods and Picasso
21. Get Picasso Working
22. Gesture Detector
23. Touch Events

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24. Implementing Touch Methods
25. BaseActivity and Serializable
26. PhotoDetailActivity
27. Material Design
28. Material Design Continued
29. Backwards Compatibility
30. Style Sheets
31. Custom Style Sheet
32. Experimenting with Styles
33. Other Material Design Changes
34. Differences in API Levels and Challenge
35. String Resources
36. Search Menu Code
37. SearchView
38. SearchManager
39. Implement Searching
40. Shared Preferences
41. Show Empty Search Message and Summary

DATABASES AND THE FRIENDS APP (25 HRS)

1. Introduction to this section
2. Introduction to Databases
3. Database Terminology
4. Command Line and Path Setup for Windows
5. Command Line and Path Setup for Mac
6. Command Line and Path Setup for Ubuntu Linux
7. Introduction to Sqlite
8. More SQL with Sqlite
9. Sqlite Querying Data
10. Order By and Joins
11. More Complex Joins
12. Wild Cards and Views
13. Housekeeping and Challenge
14. Basic SQL in Android
15. Debugging SQL in Code
16. Cursor and Navigation
17. Android File System
18. Content Providers
19. Setup Contacts
20. Content Provider Example
21. ContactsContract.Contacts

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22. ContentResolver
23. Permissions API 22 and Earlier
24. Permissions API 23 and Higher
25. Checking Permissions at Runtime
26. Testing the app
27. Avoiding Crashes and a Challenge
28. More on Snackbars
29. Intents setData and Uri's
30. Storing State vs Checking State Each Time
31. Test Scripts, Challenge and Cleanup
32. Tasktimer App Overview
33. TaskTimer Database
34. TasksContract class setup
35. AppDatabase and SQLiteHelper
36. onUpgrade and testing
37. Create a new Content Provider
38. UriMatcher and the query method
39. More on Content Providers
40. Testing our Content Provider
41. Mime types and inserting records
42. Add Update and Delete functionality to our Content Provider
43. Content Values and SQL Injection attack prevention
44. Add Main Menu
45. How to update to a new SDK and Build Tools
46. Add RecyclerView and LinearLayout
47. Add Widgets and Constraints
48. Add the "add_edit" Layout
49. Set Widget Properties
50. Task and Fragment Setup
51. Reviewing Fragment Setup Files
52. Setup for "Add Task"
53. Add/Edit Functionality
54. Add our OnClick Listener
55. Cursor Loader
56. Test CursorLoader
57. RecyclerView Cursor Adapter
58. Finish Adapter and Test
59. Content Provider and notifyChange method
60. Test App and Challenge
61. Onclick Listeners and Callbacks
62. Changes to Listener
63. Test Edit, and Implement the Delete functionality

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64. Fragments in the Layout
65. Alternative Landscape version of the Layout
66. Fragments in Code
67. Fragment Manager and Fragment Transaction
68. Passing Data to Fragments
69. Fix Edit Task In Portrait Mode
70. Removing Fragments
71. Removing Fragments Continued
72. Topics Covered to Date
73. Introduction to Dialogs
74. Creating Dialogs
75. More on Dialogs
76. Cancelling a Dialog
77. Adding a Delete Dialog To Our App
78. Testing the Dialog
79. Asserts & BuildConfig
80. OnDismissWeird Behavior
81. onBackPressed Method
82. Yagni and onClose
83. Using Multiple Dialogs
84. Dialogs and the Up Button
85. Creating an About Dialog
86. Finish off About Dialog
87. Displaying the About Dialog
88. Testing App and Fixing Errors
89. Versioning and build.gradle
90. Dismissing Dialogue Alternatives
91. Supporting Older Versions
92. Compatibility Challenge Solution
93. v21 Layout
94. Finish and Test
95. Using AppCompatActivity Correctly
96. Fixing AppCompatActivity Issue
97. Compatibility Libraries
98. Compatibility Challenge and AppCompatActivity