

Android Programming & Information Security

Unit 1

Introduction to Android

- Introduction to Android Platform
- Android Stack
- Android Versions and Installing Android SDK and updating SDK components
- Android Studio IDEs and ADT plug-in
- Using the Emulator
- Android vs. Other mobile platforms

Unit 2

First Android Application

- Application Life Cycle
- Application Components
- Activity life cycle
- Manifest File, Layout XML Code
- Strings, The R File
- Java Source Code
- Java based layout vs. xml based layout
- Eclipse Visual Layout Editor
- Logging

Unit 3

UI Design for Android

- Using different layouts - LinearLayout, TableLayout etc.
- Drawable Resources
- Resolution and density independence
- Working with common widgets
- Working with ListView and Adapters
- Creating and using option menu
- Working with preferences
- Working with Dialogs and Toasts
- Working with Graphics and Animation

Unit 4	Introducing Intents <ul style="list-style-type: none"> • Intents • Intent filters • Invoking activities by class name and URI • Sharing data using Extras Bundle and URI parameters • Working with Tabs and Fragments
Unit 5	Files and Database <ul style="list-style-type: none"> • Using File System • Introducing SQLite on Android • Database Connectivity • Cursors and content values • Using ContentProvider to share data • Understanding Security model
Unit 6	Working in background <ul style="list-style-type: none"> • Introducing Service and its life cycle • Creating and starting a service • Types of services • Working with multi-threading and AsyncTask • Broadcast receivers • Triggering receivers with intents • Responding to system events using Broadcast receivers • Using Alarm
Unit 7	Security overview <ul style="list-style-type: none"> • Design Review • Penetration Testing and Code Review • Open Source and Community Review • Incident Response

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