

Lecture 1&2: An Introduction to Android platform, Features & History

- What Is Android?
- Features of Android
- Application Fundamentals & Architecture
- Android Version History
- An Introduction to Android Market
- Tool required for Android

AndroidManifest.xml file.

Lecture 3&4: Activities

- Understanding Activities
- Intents & Filters
- Linking Activities using Intents
- Understanding of Implicit & explicit intents.
- Tasks & Back Stack
- Passing Data using Intent
- Returning Results from an intent
- Display Notification

Lecture 5: Understanding the Components of a Screen

- Views and ViewGroups
- LinearLayout
- AbsoluteLayout
- TableLayout
- RelativeLayout
- FrameLayout
- ScrollView
- Adapting to Display Orientation
- Managing Changes to Screen Orientation
- Persisting State Information during Changes in Configuration

Lecture 6: Designing your user interface using views

- Basic Views
- TextView View
- Button, ImageButton, EditText, Checkbox, ToggleButton, RadioButton, and RadioGroup Views
- ProgressBar View
- AutoCompleteTextView View
- Picker Views
- TimePicker View
- ListView View and the Spinner View
- Using Menus with View
 - Options Menu
 - Context Menu

Lecture 7: Application Resources

- Providing Resources
- Accessing Resources
- Handling Runtime Changes
- Localization
- Resources Types.

Lecture 8: Location and Maps

- Google Map API Key
- Certificate Fingerprint registration with Google Maps Service
- Changes in Application Manifest File
- Obtaining User Location.

Lecture 9&10: Data persistence

- Saving and Loading User Preferences
- Using `getSharedPreferences()` and Using `getPreferences()`
- Persisting Data to Files
- Saving to Internal Storage
- Saving to External Storage (SD Card)
- Choosing the Best Storage Option and Using Static Resources
- Creating and Using Databases
- Creating the DB Adapter Helper Class

- Using the Database Programmatically
- Adding Contacts
- Retrieving All the Contacts
- Retrieving a Single Contact
- Updating a Contact
- Deleting a Contact
- Upgrading the Database
- Pre-Creating the Database \
- Bundling the Database with an Application

Lecture 11: Content providers

- Sharing Data in Android
- Using a Content Provider
- Predefined Query String Constants

Lecture 12: Messaging and networking

- SMS Messaging
- Sending SMS Messages Programmatically
- Getting Feedback after Sending the Message
- Sending SMS Messages Using Intent
- Receiving SMS Messages
- Updating an Activity from a Broadcast Receiver
- Invoking an Activity from a Broadcast Receiver
- Caveats and Warnings
- Networking
- Downloading Binary Data
- Downloading Text Files
- Accessing Web Services
- Performing Asynchronous Calls

Lecture 13: Search

- Creating a search interface
- Adding recent query suggestions
- Adding custom suggestions
- Searchable configurations

Lecture 14: App Widgets

- Creating application widgets
- Creating configurable application widgets.

Lecture 15: Developing Android Services

- Creating Your Own Services
- Performing Long-Running Tasks in a Service
- Performing Repeated Tasks in a Service
- Executing Asynchronous Tasks on Separate Threads Using Intent Service
- Communicating between a Service and an Activity
- Binding Activities to Services

Lecture 16: Debugging & Testing

- From Eclipse with ADT
- Using DDMS
- Reading & Writing Logs
- Debugging and Profiling UIs
- Trace view and dmtracedump
- Testing from Eclipse with ADT

Lecture 17: Publishing Android Applications

- Preparing for Publishing
- Versioning
- Digitally Signing Your Android Applications
- Deploying APK Files
- Using the adb .exe Tool
- Using a Web Server
- Publishing on the Android Market
- Creating a Developer Profile
- Submitting Your Apps

Lecture 18: Testing Fundamentals

- Activity Testing
- Content Provider Testing
- Service Testing
- What To Test

Lecture 19, 20 & 21: Case Studies.

- 3 different projects will be considered under this session.