# Day 5 Android Components and Application Signing

This session will focus on exploring basics of Android Components with examples, Signing and Publishing of Android app

# Session Objectives / Key Learning Points

# By the end of the session students should –

# Understand how a basic project structure in Android looks like, and what are the basic components.

# Understand Activity life cycle.

# Understand what Broadcast receivers are, and how they work.

# Be able to use Broadcast receivers in SMS interceptor assignment.

# Understand the concept about signing and publishing android app

# Understand Asynchronous Server Calls in Android and how they work

# Session Overview

The whole session can be covered in 2:00 Hours (1:40 hours session + 00:20 hours feedback)

|  |  |  |
| --- | --- | --- |
| Activity | Time | Elapsed Time (hh:mm) |
| Introduce project structure of android and basic components | 00:15 | 00:15 |
| Explain Activity life cycle | 00:10 | 00:15 |
| Introduce broadcast receivers | 00:05 | 00:05 |
| Assignment 1(SMS interceptor) | 00:20 | 00:25 |
| Discuss assignment solution | 00:10 | 00:15 |
| Explain concept of signing and publishing android app | 00:15 | 00:20 |
| Introduce Asynchronous Server calls with example | 00:10 | 00:10 |

Session Notes

Project Structure:

* Android Manifest
* Resource Files
* Source Code
* Tests Providers

Application Components:

* Activity
* Services
* Broadcast Receivers
* Content Providers

Explain Activity Life Cycle:

* States of android Activity.
* Series of lifecycle methods on the activity in which we can set up the user interface and other components.
* Activity behavior when the user leaves and re-enters the activity

Explain Broadcast Receivers:

* Allows registering for system or application events.
* All registered receivers for an event will be notified by the Android runtime once this event happens.

Signing and Publishing Android Application:

* Steps to publish android app:
  + Create release keystore
  + Sign app using the release keystore
  + Publish it to Google play store.

Explain Asynchronous Server Calls:

* Used to perform server calls in background thread, which will prevent UI blocking.
* Handle callbacks

Assignment 1

Problem: SMS Interceptor

* Application should be able to read incoming SMS data.
* Perform custom operation on data (like show toast, display mobile number / SMS contents).

Solution:

* Use broadcast receivers to register system events.
* Use toast to display SMS contents when registered event happens.

Repository Link:

https://github.com/androidbootcamp/smsinterceptor.git