# Day 1 Introduction

This session will focus on teaching attendees the basics of Android through simple examples.

# 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 the Activity Lifecycle

# Understand what Activities and layouts are, how they work, and how to make a basic application.

# Be able to implement a simple application to add two numbers.

# Understand what Intents are, and how two Android components interact via Intents.

# Be able to use Intents to navigate from one Activity to another.

# Get an understanding of the Gradle Plugin for Android

# Repository

# Repo - https://github.com/androidbootcamp/ProjectPlanner

# Initial Commit - 578ffedf7d9c0f7724f183d4a75c20cdca5ef3b2

# Final Commit - b71b26e77001179541420753f1b078c2c6f7f99b

# **Session Overview**

# The whole session can be covered in 3:00 hours. The last half an hour is buffer time for questions, delays, adhoc topics.

|  |  |  |
| --- | --- | --- |
| Activity | Time | Elapsed Time (hh:mm) |
| Make sure the system is setup | 00:05 | 00:05 |
| Introduce the Agenda | 00:02 | 00:07 |
| Introduce the basics of an Android project, four major components, and the Project Structure | 00:10 | 00:17 |
| Activity Lifecycle | 00:05 | 00:22 |
| Content Layout, View Hierarchy, On Click Listeners | 00:08 | 00:30 |
| Assignment 1 | 00:20 | 00:50 |
| Discuss Assignment 1 solution | 00:10 | 01:00 |
| Introduce Intents and explain Navigation using Intents | 00:10 | 01:10 |
| Assignment 2 | 00:20 | 01:30 |
| Discuss Assignment 2 solution | 00:10 | 01:40 |
| Assignment 3 | 00:15 | 01:55 |
| Discuss Assignment 3 solution and explain Intents again | 00:10 | 02:05 |
| Gradle Plugin for Android | 00:10 | 02:15 |
| Assignment 4 | 00:10 | 02:25 |
| Recap of things covered | 00:05 | 02:30 |

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# Session Notes

# Android basics -

# The Android basic project structure consists of src, res and Android Manifest.

# All pages are represented by Activities.

# Android provides an easy way to define Layouts and Views in Xml files.

# Intents in Android -

# Communication between any two components happens via Intents.

# Intents can be implicit or explicit.

# Intents have Action and Data.

# Assignment 1-

# Problem Statement

# Calculate Number of iterations needed based on the number of points and raw velocity.

# Solution

# Create another EditText.

# Parse iterations and velocity into integers.

# On Click of the button, divide and show the result in a TextView

# Assignment 2-

# Problem Statement

# Show the result of the velocity calculation in a new Activity.

# Solution

# Create a new Activity and register it in the Manifest file.

# Navigate to the new Activity and pass the result as Extras.

# Show the result in the new Activity.

# Assignment 3-

# Problem Statement

# Add a buffer to the number of iterations, and show it in the result box of the previous Activity.

# Solution

# Create a field for buffer

# On the click of a button, add the buffer to the number of iterations

# Show the result in onActivityResult.

# Assignment 4-

# Problem Statement

# Add log statements in lifecycle methods of all Activities - create, start, resume.…destroy and onActivityResult. Navigate between the two Activities, put the app in the background and observe which lifecycle state is called when.