

## Course Content

# Google Android Developer Fundamentals

**Batch Size : 30 Members**

**Duration : 3 Weeks**

### Course Overview

#### Course Outcome:

Android Developer Fundamentals (V2) is an instructor-led course created by the Google Developers Training team. In this course, students learn basic Android programming concepts and build a variety of apps, starting with Hello World and working their way up to apps that schedule jobs, update settings, and use Architecture Components.

#### Course content:

##### Introduction to JAVA and Object Oriented Programming:

- Introduction to JAVA
- “Hello World” program in JAVA
- Data types, variables and condition control statements (if, if else , else if, nested if)
- Loop Control Structure (while, do-while, for)
- Arrays
- Introduction to Object Oriented Programming
  - Objects and Classes in Java
  - Constructors in Java
  - Inheritance & Polymorphism
  - Abstraction and Encapsulation
  - Interfaces in JAVA

##### Unit 1 : Get Started

This unit covers installing Android Studio, understanding project structure, building your first app, creating activities, testing your apps, and using the Android Support Library. First, you deploy a simple Hello World app. You go on to create an app with a simple activity, and then you create a multi-screen app that passes data between activities. You also learn how to use the Android Support Library to provide backward-compatibility with earlier versions of the Android system for your app.

## **Unit 2 : User Experience**

This unit covers how to get input from the user, implement navigation strategies, use themes and styles, test your user interface, and follow Material Design principles. You create apps that use menus and tabs for navigation, and input controls such as spinners and picker dialogs to get information from the user. You learn how to extract resources to create a style from an instance of a user interface element. You write an app that displays a word list in a recycler view (and you learn why it's better to use a recycler view than a plain scrolling list). You also build a score-keeping app to explore Material Design guidelines.

## **Unit 3: Working in the background**

This unit covers how to do background work, how to schedule tasks, and how to trigger events. It covers the performance implications of executing work in the background, as well as best practices for reducing battery drain. You learn how Android determines which apps to keep running and which to stop when resources run low. You write an app that connects to the Internet in a background thread to find the author of any book. You also build apps that send notifications and schedule tasks, and you learn how to implement scheduling functionality for apps that run on earlier versions of Android.

## **Unit 4: Saving user data**

This unit discusses how to store user data. You learn how to use shared preferences to save simple key value pairs, then you learn how to use the Room database to save, retrieve, and update user data. This unit also introduces you to the Android Architecture Components, which represent best practices for structuring your app.