

Writing Android apps using Scala

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1 Introduction

Java is typically used to develop android apps. Java files are compiled to .class files. The .class files are converted to classes.dex (Dalvik Executable) file. The zipped android package file (apk) will contain classes.dex. Dalvik vm in the Android device (or emulator) will run (interpret) classes.dex.

Instead of using Java, we can use [Scala](#). The scala compiler converts scala files to java .class files, which can be converted to dex.

1.1 Why Scala?

[Scala](#) is a high-level language (with syntax a bit similar to java) that supports functional programming. I would call it “java-done-right”. It is a language with succinct syntax that provides a high level of abstraction — functions are first class, closures are supported. Type inference (though limited) gives

you all the advantages of static typing without having to enter types. More importantly, Scala takes advantage of the Java ecosystem by compiling to Java byte code. High performance JIT compilers can be used to run byte code generated by scala compiler. Scala code can utilize Java libraries. I have a blog article on the advantages of Scala.¹

1.1.1 Reducing Code Size with ProGuard

As we use Scala to write our app, the size of the android package file (apk) is very big. [ProGuard](#) software is used to remove unused classes, fields, methods and attributes in addition to code obfuscation. Code obfuscation also reduces code size. The apk file now is in the range of 25K bytes in size for small apps.

1.2 Follow along by grabbing my code from github

You can follow along by grabbing my code from [github](#). You need to install [git](#). If you are running Windows, you can download git from [here](#).

2 *Hello World* Android app using Scala

2.1 Requirements

- Install [Scala](#)
- Install android sdk
- Install [sbt](#)
- Install android plugin from [git://github.com/jberkel/android-plugin.git](https://github.com/jberkel/android-plugin.git)

2.2 Use wizard to create app

Run the script as follows

```
android-plugin/script/create_project excusms biz.srinivasan.android.excusms
```

This will create all the files required for a simple android app that will display “hello world”

¹<http://blog.srinivasan.biz/software/if-you-have-to-learn-just-one-programming-language>