

# Conhecendo Melhor o Gradle

Daniela Castilho Schwab

[www.danyswork.com.br](http://www.danyswork.com.br)

[danyswork@gmail.com](mailto:danyswork@gmail.com)

# Quem sou eu?



**Confidence**  
Câmbio

Part of Travelex Worldwide



# Gradle

Ferramenta de build padrão para o desenvolvimento Android.

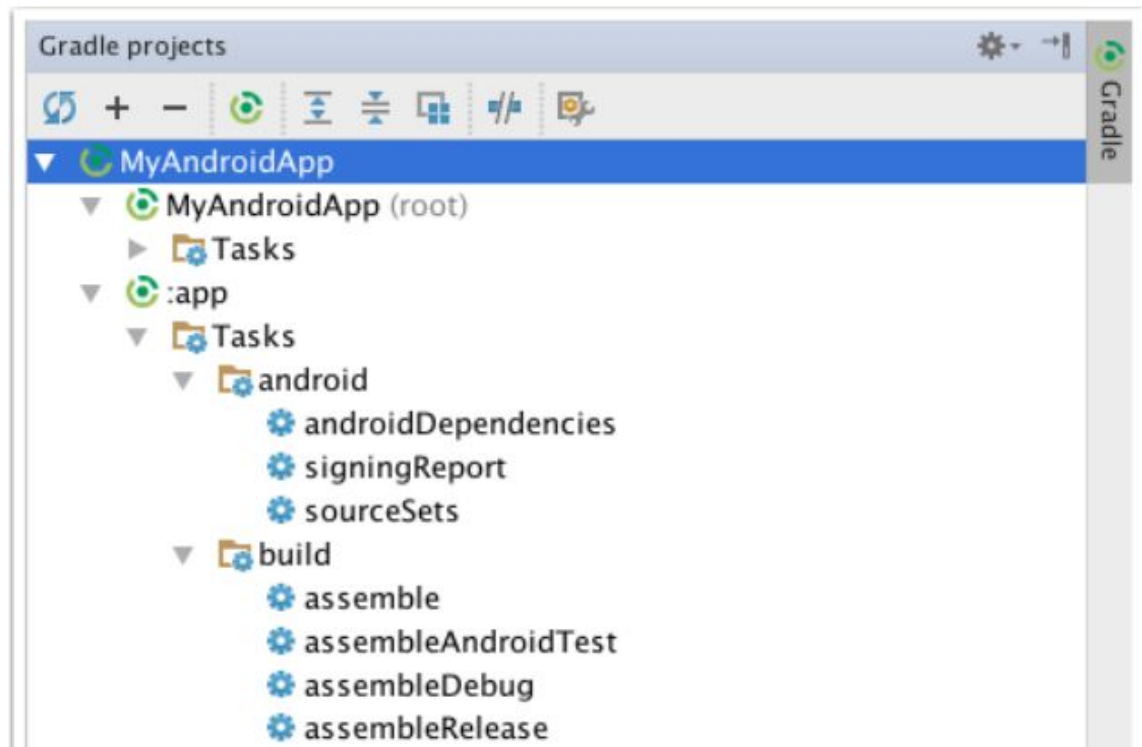
Gerenciamento do projeto e controle de dependências

Linguagem Groovy

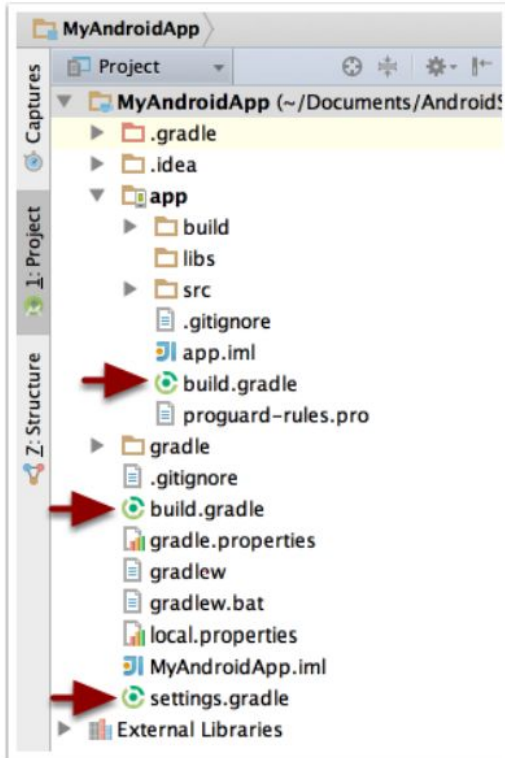
Plug-in do Android no Gradle (Android Apps, libs, configurações como assinatura, flavors, build types, entre outras)



# Gradle Tasks



# Arquivos Gradle

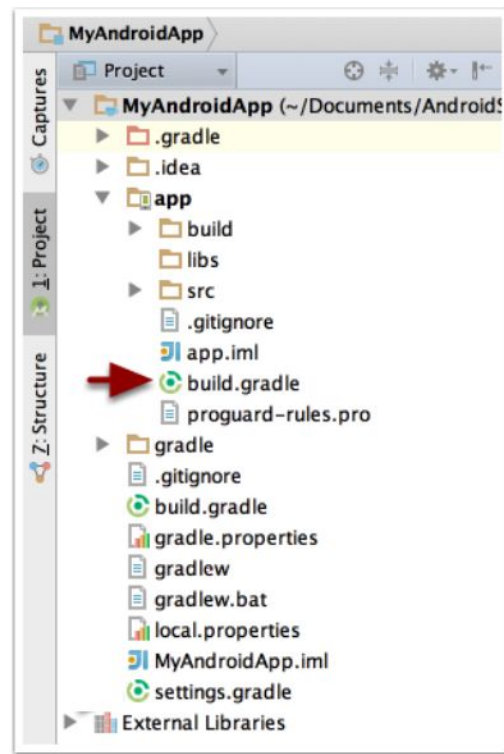


# Configuração inicial

```
apply plugin: 'com.android.application'

android {
    compileSdkVersion 23
    buildToolsVersion "23.0.3"

    defaultConfig {
        applicationId "com.kousenit.myandroidapp"
        minSdkVersion 19
        targetSdkVersion 23
        versionCode 1
        versionName "1.0"
    }
    compileOptions {
        sourceCompatibility JavaVersion.VERSION_1_7
        targetCompatibility JavaVersion.VERSION_1_7
    }
}
```



# Build Type

```
buildTypes {  
    debug {  
        applicationIDSuffix '.debug'  
        versionNameSuffix '-debug'  
    }  
    release {  
        minifyEnabled true  
        shrinkResources true  
        proguardFiles getDefaultProguardFile('proguard-android.txt'),  
            'proguard-rules.pro'  
    }  
}
```



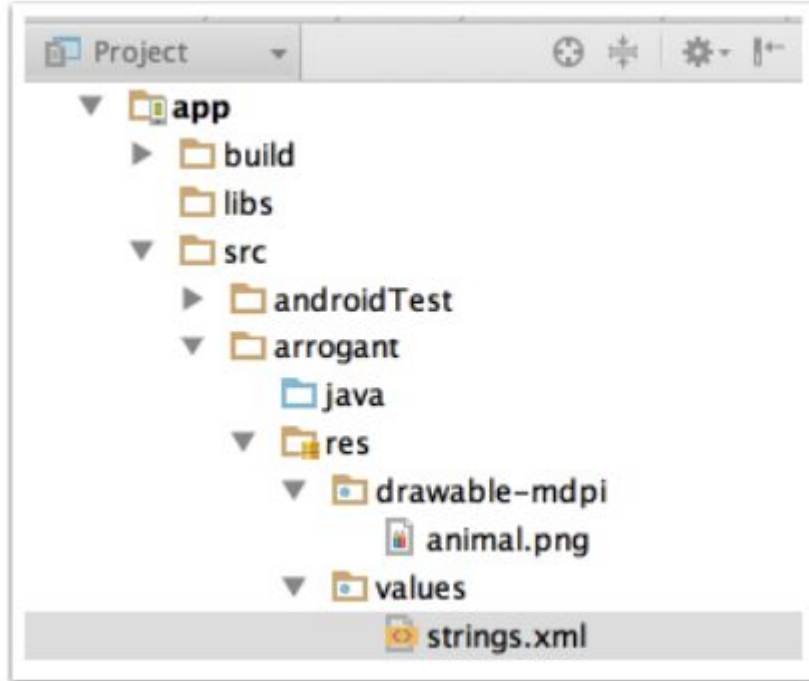
# Product Flavors

```
android {  
    // ... other settings ...  
  
    productFlavors {  
        arrogant {  
            applicationId 'com.oreilly.helloworld.arrg'  
        }  
        friendly {  
            applicationId 'com.oreilly.helloworld.frnd'  
        }  
        obsequious {  
            applicationId 'com.oreilly.helloworld.obsq'  
        }  
    }  
}
```

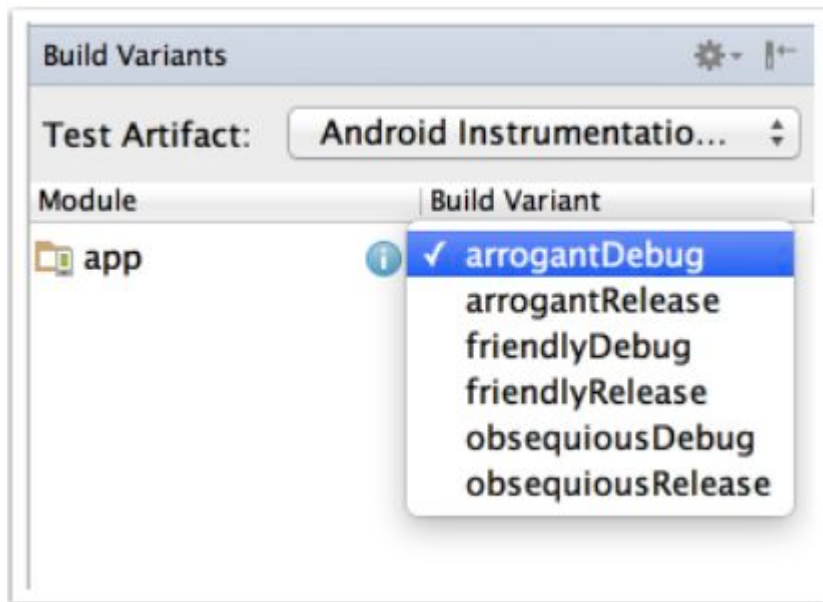




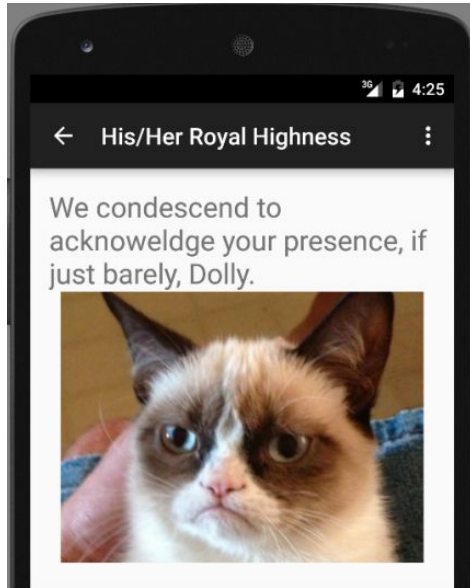
# Product Flavors



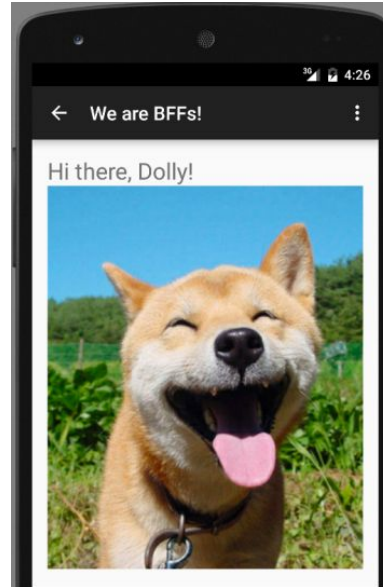
# Product Flavors



# Product Flavors



Arrogant



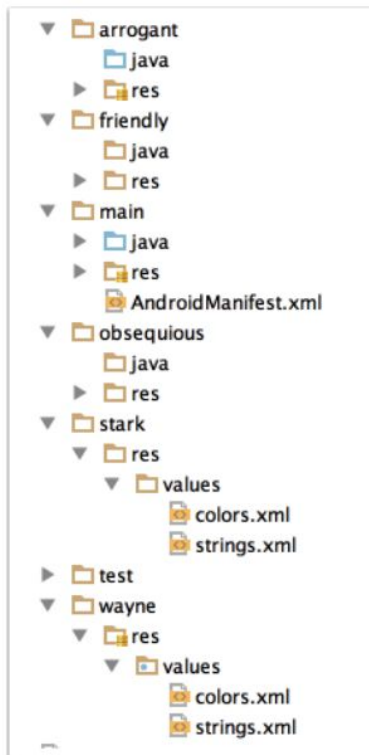
Friendly



# Flavor Dimensions

```
flavorDimensions 'attitude', 'client'
```

```
productFlavors {  
    arrogant {  
        dimension 'attitude'  
        applicationId 'com.oreilly.helloworld.arrg'  
    }  
    friendly {  
        dimension 'attitude'  
        applicationId 'com.oreilly.helloworld.frnd'  
    }  
    obsequious {  
        dimension 'attitude'  
        applicationId 'com.oreilly.helloworld.obsq'  
    }  
    stark {  
        dimension 'client'  
    }  
    wayne {  
        dimension 'client'  
    }  
}
```

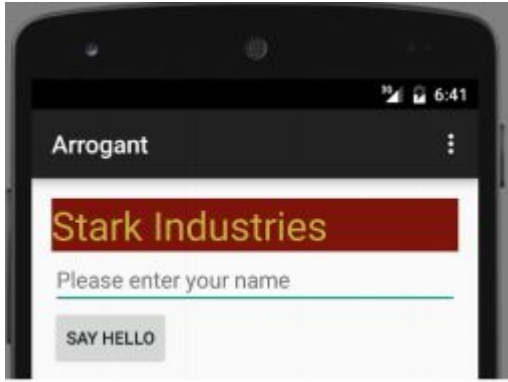


# Flavor Dimensions

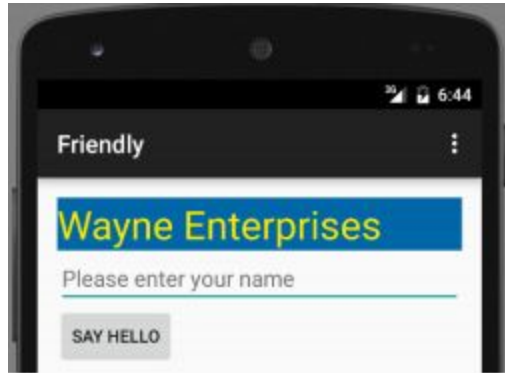
obsequiousStarkDebug  
obsequiousStarkRelease  
obsequiousWayneDebug  
obsequiousWayneRelease  
arrogantStarkDebug  
arrogantStarkRelease  
arrogantWayneDebug  
arrogantWayneRelease  
friendlyStarkDebug  
friendlyStarkRelease  
friendlyWayneDebug  
friendlyWayneRelease



# Flavor Dimensions



Stark Arrogant



Wayne Friendly

# Criando Tasks



```
task copyApks(type: Copy) {  
    from("$buildDir/outputs/apk") {  
        exclude '**/*unsigned.apk', '**/*unaligned.apk'  
    }  
    into '../apks'  
}
```

# Dependencia de tasks



```
task copyApks(type: Copy, dependsOn: assembleDebug) { ❶  
    from("$buildDir/outputs/apk") {  
        exclude '**/*unsigned.apk', '**/*unaligned.apk'  
    }  
    into '../apks'  
}
```

- ❶ Run assembleDebug first



# Adicionando dependencias

```
dependencies {  
    compile 'com.google.code.gson:gson:2.6.2'  
    compile 'com.squareup.retrofit2:retrofit:2.0.1'  
    compile 'com.squareup.retrofit2:converter-gson:2.0.1'  
}
```



# Unit Test

```
dependencies {  
    compile fileTree(dir: 'libs', include: ['*.jar'])  
    testCompile 'junit:junit:4.12' ❶  
    compile 'com.android.support:appcompat-v7:23.0.1'  
}
```

❶ JUnit dependency added during testCompile

./gradlew test



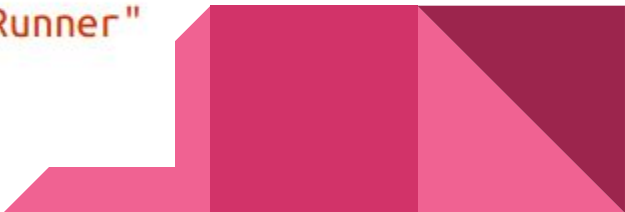
# Android Testing Support Library

Instrumentation test

Testar componentes Android

Robotium, Espresso

```
android {  
    defaultConfig {  
        // ... other settings ...  
        testInstrumentationRunner  
            "android.support.test.runner.AndroidJUnitRunner"  
    }  
}
```



# Performance

Gradle.properties

```
org.gradle.daemon=true
```

```
org.gradle.parallel=true
```

```
org.gradle.configureondemand=true
```

```
org.gradle.jvmargs=-Xmx2048m -XX:MaxPermSize=512m  
-XX:+HeapDumpOnOutOfMemoryError
```



# Performance

```
dexOptions {  
    incremental true  
    javaMaxHeapSize '2g'  
    jumboMode = true  
    preDexLibraries = true  
}
```



# Performance



```
dependencies {  
    compile 'com.google.android.gms:play-service:7.8.0'  
}
```



```
dependencies {  
    compile 'com.google.android.gms:play-service-maps:7.8.0'  
}
```

# Performance

```
> ./gradlew --profile assembleDebug
```

*build/reports/profile*



# Performance

## Profile report

Profiled build: assembleDebug

Started on: 2015/08/31 - 22:31:51

**Summary**

Configuration

Dependency Resolution

Task Execution

Description	Duration
Total Build Time	15.028s
Startup	0.725s
Settings and BuildSrc	0.072s
Loading Projects	0.011s
Configuring Projects	0.221s
Task Execution	12.870s



# DSL Documentation

## Android Plugin DSL Reference

Version 2.1.0

### Introduction

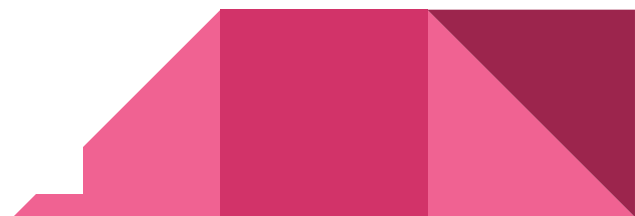
This is the DSL reference for Android Gradle Plugin.

Start reading by finding the right extension type for the plugin you are using, e.g. `AppExtension`

### Extension types

Listed below are the Gradle extension types used by respective plugins:

Type	Description
<code>AppExtension</code>	android extension for <code>com.android.application</code> projects.
<code>LibraryExtension</code>	android extension for <code>com.android.library</code> projects.
<code>TestExtension</code>	android extension for <code>com.android.test</code> projects.



# Referencias

Livro: Gradle Recipes for Android - O'Really - Ken Kousen

<https://gradle.org/getting-started-android-build/>

Android Plugin DSL Reference

<http://google.github.io/android-gradle-dsl/current/>

Gradle

<https://gradle.org/>



# Obrigada

[danyswork@gmail.com](mailto:danyswork@gmail.com)  
[www.danyswork.com.br](http://www.danyswork.com.br)

