



Entwicklung mit Android Studio und Gradle

Über mich

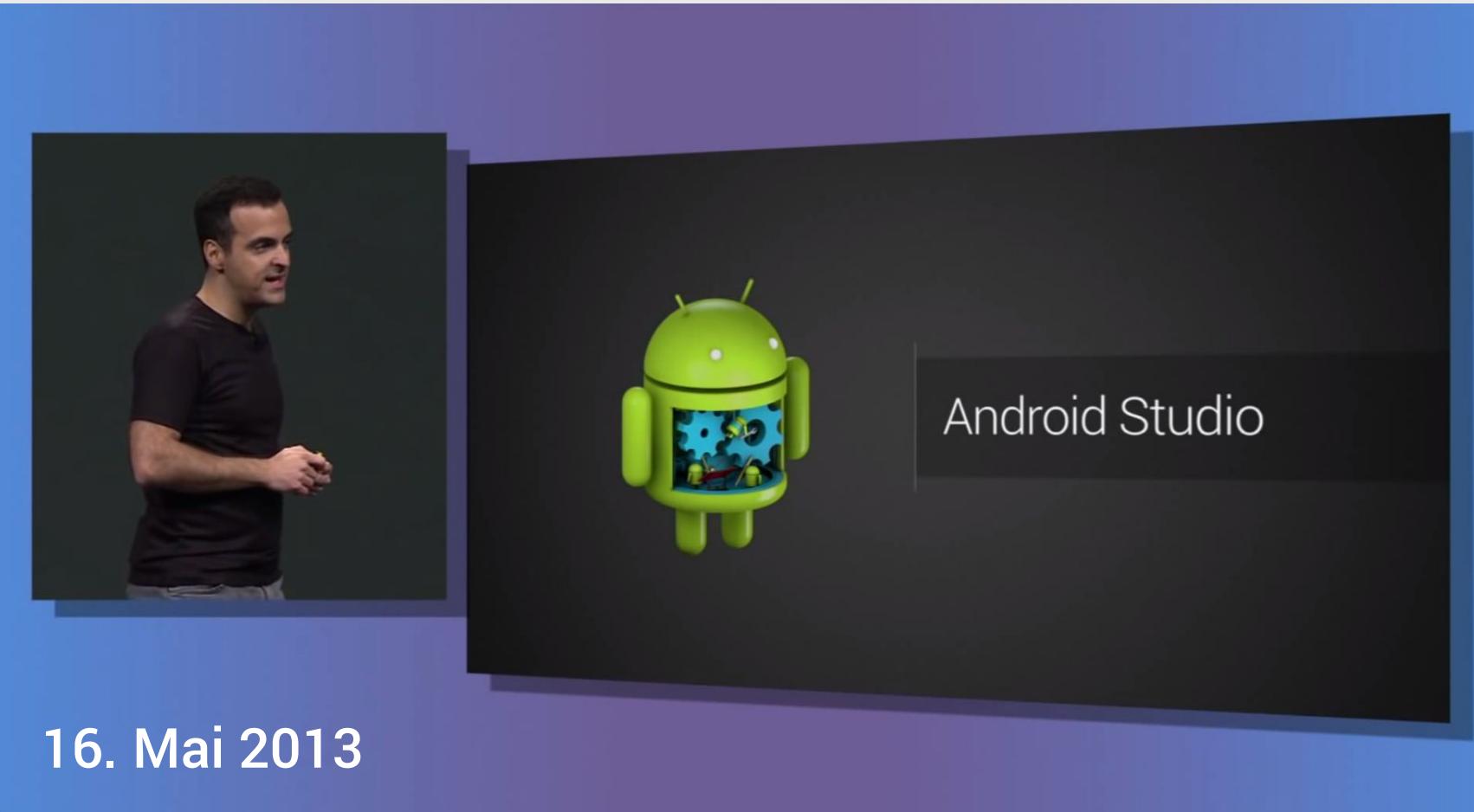
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www.timroes.de



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Android Studio



16. Mai 2013

Android Studio

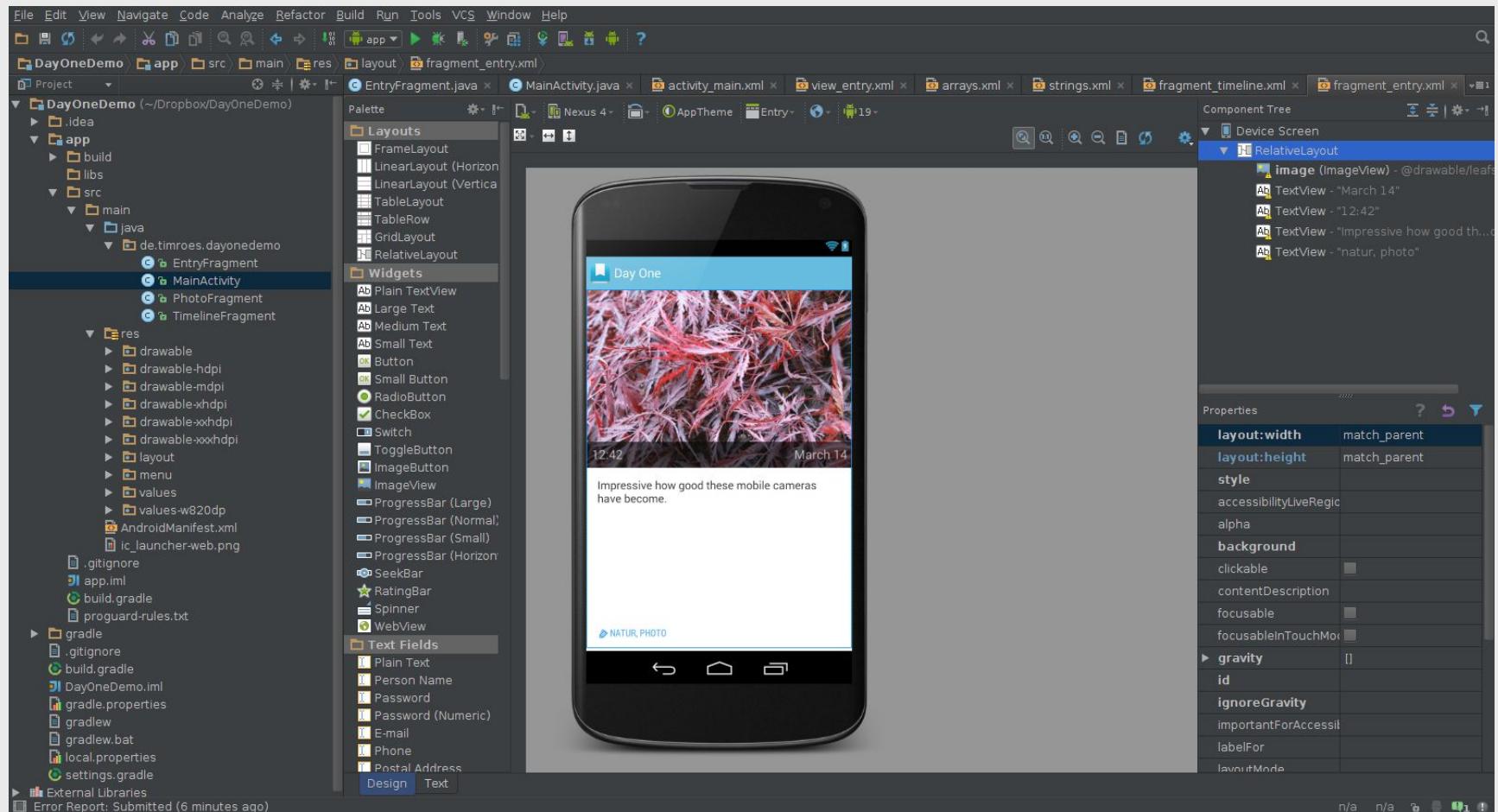
The screenshot shows the Android Studio interface with the following details:

- Project Structure:** The left sidebar displays the project structure for "DayOneDemo". It includes the app module with Java files like `MainActivity.java`, `EntryFragment.java`, and `PhotoFragment.java`. Other files shown include `AndroidManifest.xml`, `gradle.properties`, and build-related files.
- Code Editor:** The main window shows the `MainActivity.java` file. The code handles the creation of a navigation drawer and managing its state. It includes methods for `onPostCreate`, `onCreateOptionsMenu`, and `onOptionsItemSelected`.
- Toolbars and Status Bar:** The top has standard OS X-style toolbars. The bottom status bar shows the time as 47:59 and encoding as UTF-8.

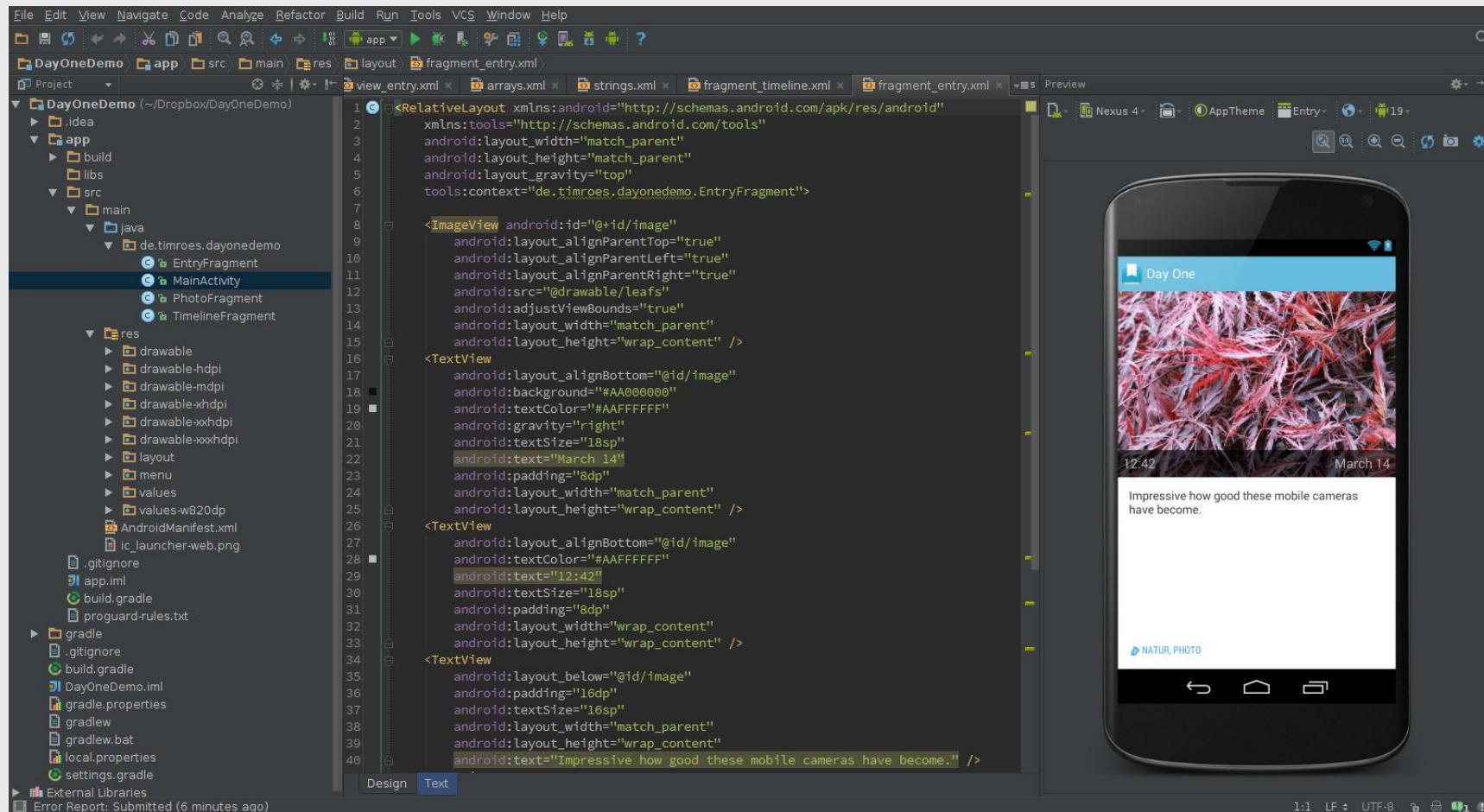
```
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
DayOneDemo app src main java de.timroes.dayonedemo MainActivity.java
Project drawer_item.xml EntryFragment.java MainActivity.java activity_main.xml view_entry.xml arrays.xml strings.xml fragment_timeline.xml
DayOneDemo (~Dropbox/DayOneDemo)
app
  build
  libs
  src
    main
      java
        de.timroes.dayonedemo
          EntryFragment
          MainActivity
          PhotoFragment
          TimelineFragment
    res
      drawable
      drawable-hdpi
      drawable-mdpi
      drawable-xhdpi
      drawable-xxhdpi
      drawable-xxxhdpi
      layout
      menu
      values
      values-w820dp
      AndroidManifest.xml
      ic_launcher-web.png
    .gitignore
    app.iml
    build.gradle
    proguard-rules.txt
gradle
  .gitignore
  build.gradle
  DayOneDemo.iml
  gradle.properties
  gradlew
  gradlew.bat
  local.properties
  settings.gradle
External Libraries
Error Report: Submitted (5 minutes ago)
53     @Override
54     protected void onPostCreate(Bundle savedInstanceState) {
55         super.onPostCreate(savedInstanceState);
56         // mDrawerToggle.syncState();
57     }
58
59     @Override
60     public boolean onCreateOptionsMenu(Menu menu) {
61         // getMenuInflater().inflate(R.menu.main, menu);
62         getMenuInflater().inflate(R.menu.entry, menu);
63         return true;
64     }
65
66     @Override
67     public boolean onOptionsItemSelected(MenuItem item) {
68         // Pass the event to ActionBarDrawerToggle, if it returns
69         // true, then it has handled the app icon touch event
70         if (mDrawerToggle.onOptionsItemSelected(item)) {
71             return true;
72         }
73         // Handle action bar item clicks here. The action bar will
74         // automatically handle clicks on the Home/Up button, so long
75         // as you specify a parent activity in AndroidManifest.xml.
76         int id = item.getItemId();
77         if (id == R.id.action_settings) {
78             // ...
79         }
80         return super.onOptionsItemSelected(item);
81     }
82
83     private class DrawerAdapter extends BaseAdapter {
84
85         private String[] mLabels;
86         private int[] mIcons;
87         private int[] mCount;
88
89         public DrawerAdapter(String[] labels, int[] icons, int[] count) {
90             mLabels = labels;
91             mIcons = icons;
92             mCount = count;
93         }
94     }

```

Android Studio



Android Studio



Android Studio vs. Eclipse



Features

Stabilität

Performance

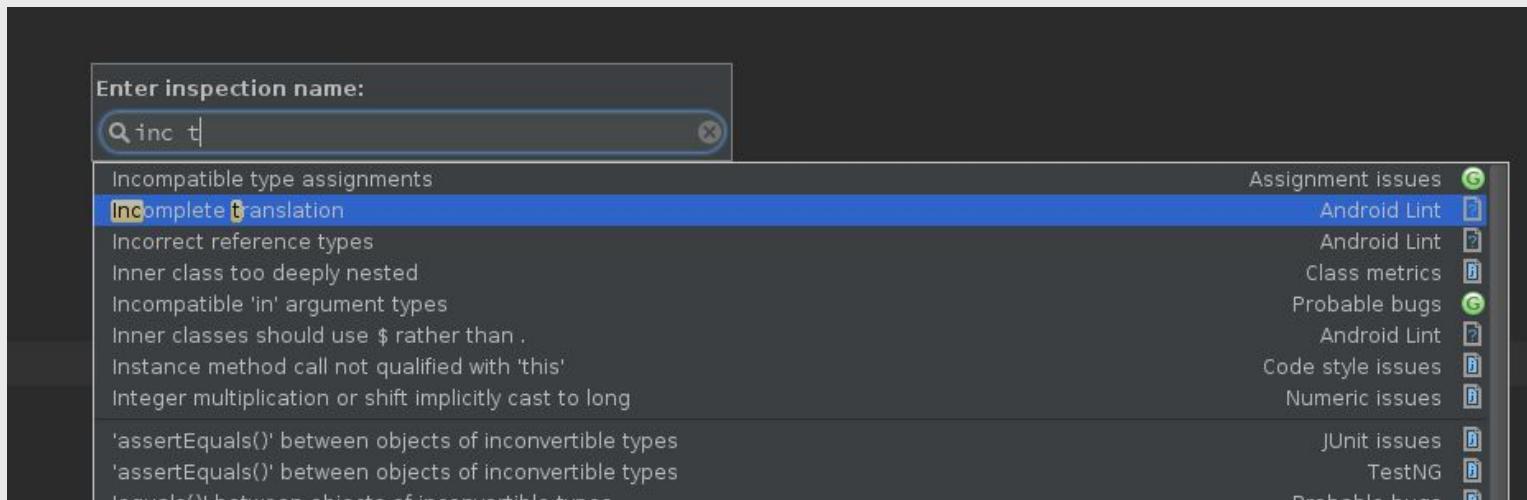
Weiterentwicklung

Features

```
46 | android:textColor="#4
47 | android:drawableLeft=
```

```
label.setText("Day One");
label.setOnClickListener((v) -> { startTransaction(); });
```

```
9 <Button
0     android:onClick="clicked"
1     android:layout_width="wrap_content"
2 Method 'clicked' is missing in 'MainActivity' or has incorrect signature more... (Ctrl+F1)
3
```



Android Studio vs. Eclipse



+

Features

+

Stabilität

Performance

Weiterentwicklung

Android Studio vs. Eclipse



Features



Stabilität



Performance

Weiterentwicklung

Android Studio vs. Eclipse



+

Features

+

○

Stabilität

+

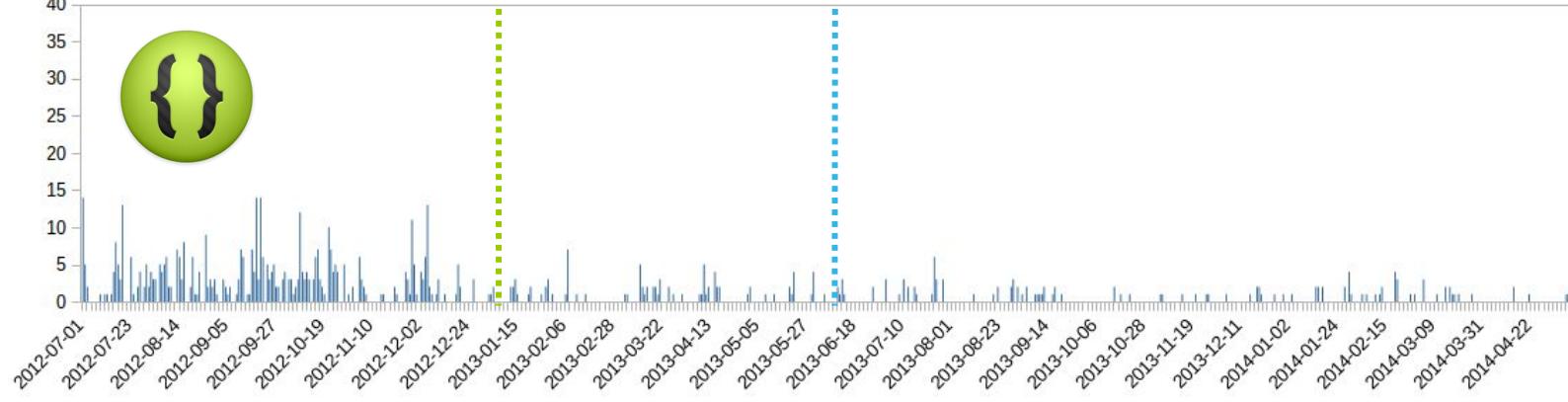
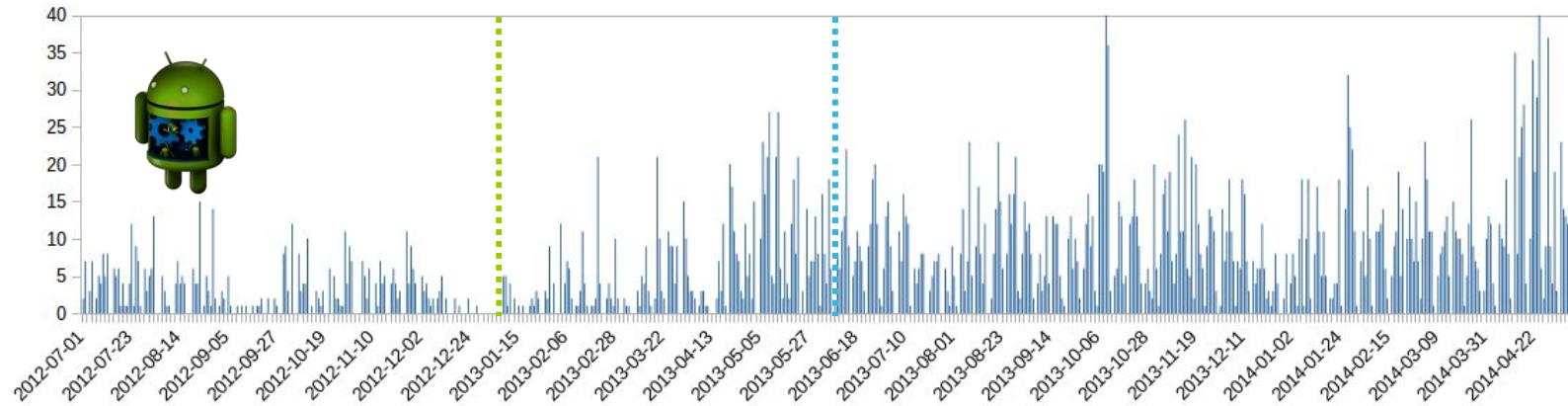
○

Performance

○

Weiterentwicklung

Weiterentwicklung



Android Studio vs. Eclipse



+

Features

+

○

Stabilität

+

○

Performance

○

+

Weiterentwicklung

○

Apache License

Gradleware



Groovy

IDE == Konsole

Gradle files have changed since last project sync. A project sync may be necessary for the IDE to work properly.

Gradle Wrapper

```
$ gradle -q wrapper
$ find . --magic-output-format
gradlew.bat
gradlew
gradle
└ wrapper
    └ gradle-wrapper.jar
    └ gradle-wrapper.properties
.gradle
└ 1.11
    └ ...
```

Gradle Tasks

```
$ ./gradlew tasks
```

```
init
wrapper
dependencies
help
projects
properties
tasks
```

build.gradle

```
apply plugin: "java"
```

build.gradle

```
apply plugin: "java"

repositories {
    mavenCentral()
}

dependencies {
    compile 'com.google.guava:guava:17.+'
```

build.gradle

```
apply plugin: "java"

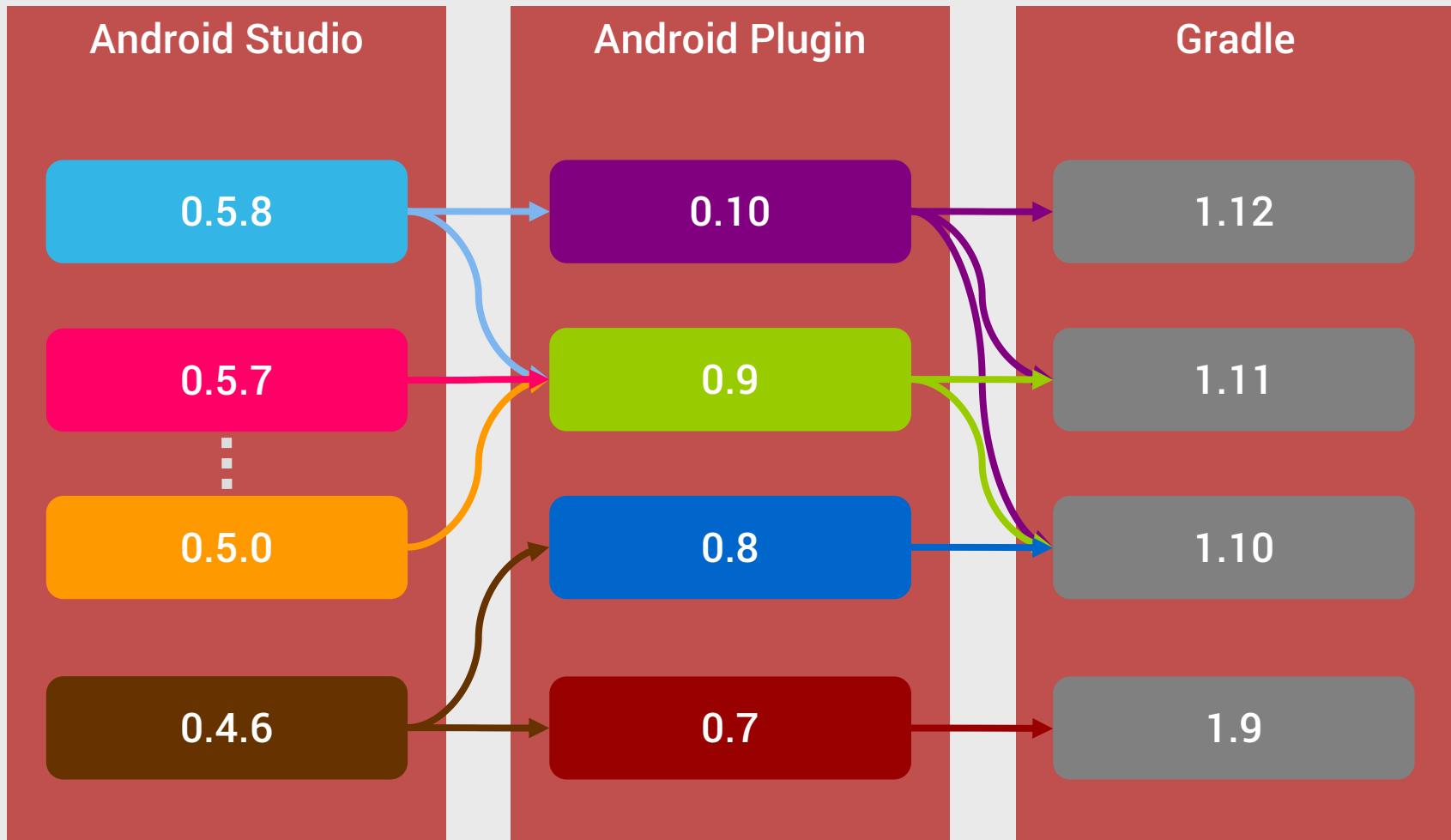
repositories {
    mavenCentral()
    maven { url "http://maven.mycompany.com/" }
}

dependencies {
    compile 'com.google.guava:guava:17.+'
    testCompile 'junit:junit:4.11'
    compile fileTree(dir: 'libs', include: ['*.jar'])
}
```

Android Plugin

```
buildscript {  
    repositories {  
        mavenCentral()  
    }  
    dependencies {  
        classpath 'com.android.tools.build:gradle:0.9.+'  
    }  
}  
  
apply plugin: "android"
```

Versions Hölle

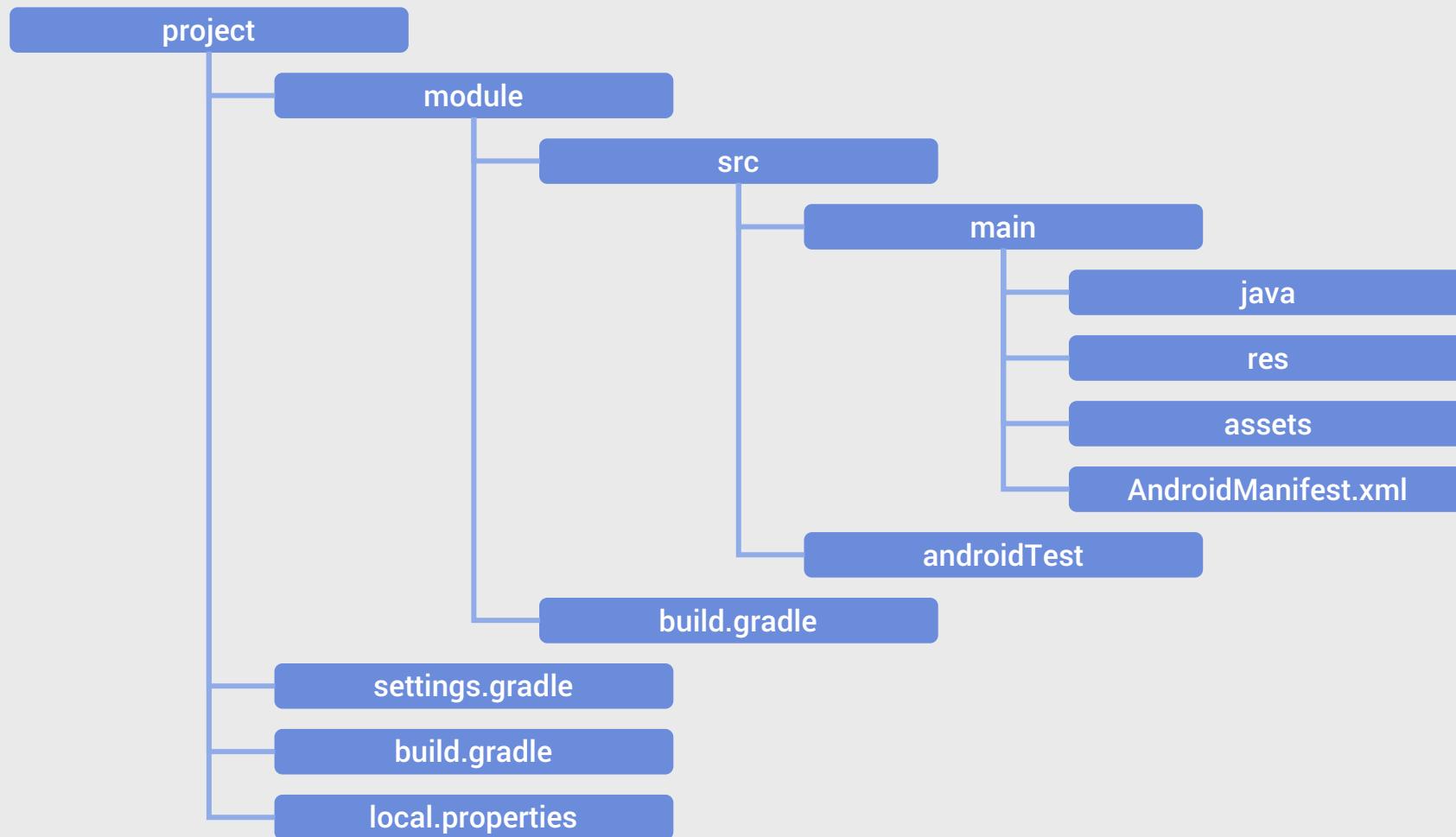


Android Tasks

```
$ ./gradlew tasks
```

```
clean
assemble
check
build
installDebug
connectedCheck
deviceCheck
```

Android Projekt Struktur



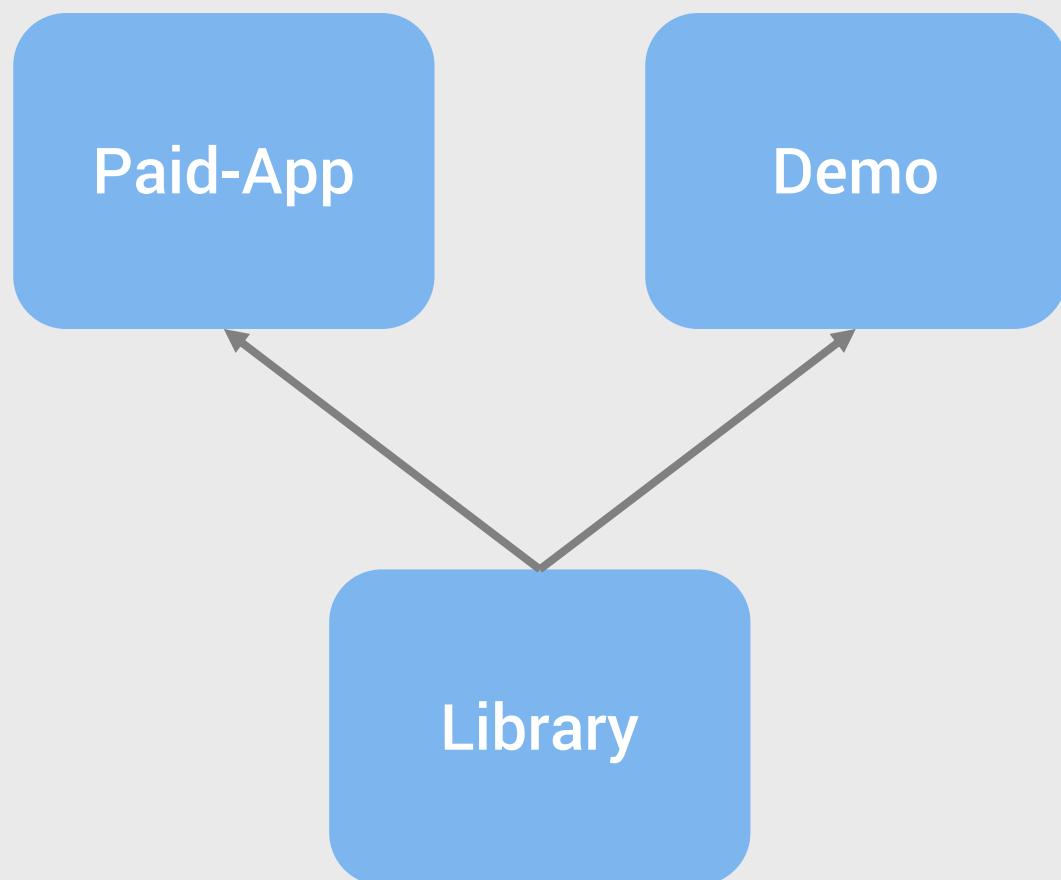
Android Config

```
android {  
    compileSdkVersion 19  
    buildToolsVersion "19.1"  
  
    defaultConfig {  
        minSdkVersion 14  
        targetSdkVersion 19  
        versionCode 5  
        versionName "1.3.1"  
    }  
}
```

Build Types

```
android {  
    buildTypes {  
        debug {  
            packageNameSuffix ".debug"  
        }  
  
        proGuardinitWith(buildTypes.debug)  
        proGuard {  
            runProguard true  
            proguardFile 'proguard-rules.txt'  
        }  
    }  
}
```

Multi-APK/Version



Projektstruktur

```
src
└ main
    └ java
    └ res
└ paid
    └ java
    └ res
└ free
    └ java
    └ res
AndroidManifest.xml
```

Product Flavors

```
productFlavors {  
    paid {  
        packageName "com.mycompany.app.paid"  
    }  
    free {  
        packageName "com.mycompany.app.free"  
        minSdkVersion 8  
    }  
}
```

Build Variant

Build Variant = Product Flavor + BuildType

paidDebug

paidRelease

paidProGuard

freeDebug

freeRelease

freeProGuard

**Kann ich Android Studio
schon produktiv einsetzen?**

Ja, aber....

Literaturempfehlung

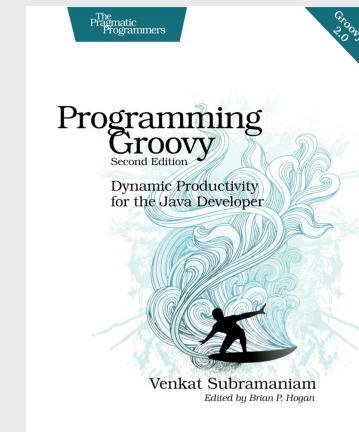


Gradle: Ein kompakter Einstieg in das Build-Management-System

Joachim Baumann

Prorgramming Groovy 2: Dynamic Productivity for the Java Developer

Venkat Subramaniam





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NDK Builds

```
android {  
    defaultConfig {  
        ndk {  
            moduleName "jni-utils"  
            ldLibs "log", "GLESv2"  
        }  
    }  
    productFlavors {  
        arm {  
            ndk {  
                abiFilters "armeabi", "armeabi-v7a"  
            }  
        }  
    }  
}
```

Multi-flavor variants

```
android {  
    flavorGroups "abi", "version"  
  
    productFlavors {  
        free { flavorGroup "version" }  
        paid { flavorGroup "version" }  
        x86 { flavorGroup "abi" }  
        arm { flavorGroup "abi" }  
    }  
}
```