

Android Training for Java Developers

1. Project Structure

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Sources

`./app/src`

Typical Android Project should have a place for:

Source Code

`./app/src/main`

Android Instrumented Tests

`./app/src/androidTest`

Unit Tests

`./app/src/test`

AndroidManifest.xml

./app/src/main/AndroidManifest.xml

```
1  <?xml version="1.0" encoding="utf-8"?>
2  <manifest xmlns:android="http://schemas.android.com/apk/res/android"
3         package="com.github.ddmytrenko.emptyandroidproject">
4
5         <uses-permission android:name="android.permission.INTERNET" />
6
7         <application
8             android:allowBackup="true"
9             android:icon="@mipmap/ic_launcher"
10            android:label="@string/app_name"
11            android:roundIcon="@mipmap/ic_launcher_round"
12            android:supportsRtl="true"
13            android:theme="@style/AppTheme">
14             <activity android:name=".MainActivity">
15                 <intent-filter>
16                     <action android:name="android.intent.action.MAIN" />
17                     <category android:name="android.intent.category.LAUNCHER" />
18                 </intent-filter>
19             </activity>
20         </application>
21     </manifest>
```

Targeting

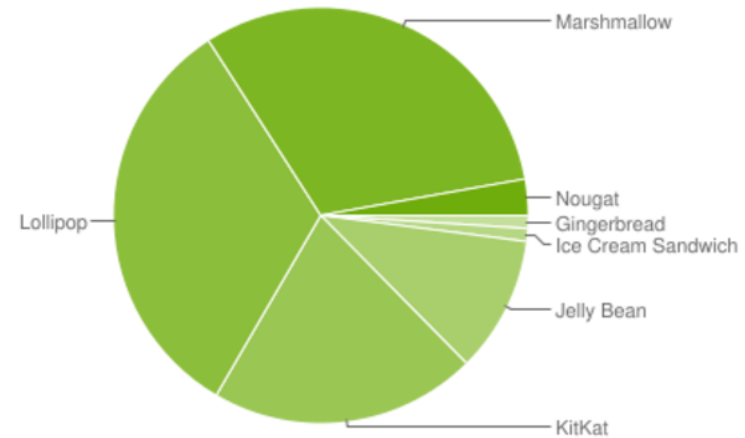
./app/build.gradle

```
1  apply plugin: 'com.android.application'
2
3  android {
4      compileSdkVersion 25
5      buildToolsVersion "25.0.2"
6      defaultConfig {
7          applicationId "com.github.ddmytrenko.emptyandroidproject"
8          minSdkVersion 15
9          targetSdkVersion 25
10         versionCode 1
11         versionName "1.0"
```

Choose a Platform to Support

<https://developer.android.com/about/dashboards>

Version	Codename	API	Distribution
2.3.3 - 2.3.7	Gingerbread	10	1.0%
4.0.3 - 4.0.4	Ice Cream Sandwich	15	1.0%
4.1.x	Jelly Bean	16	3.7%
4.2.x		17	5.4%
4.3		18	1.5%
4.4	KitKat	19	20.8%
5.0	Lollipop	21	9.4%
5.1		22	23.1%
6.0	Marshmallow	23	31.3%
7.0	Nougat	24	2.4%
7.1		25	0.4%



Data collected during a 7-day period ending on March 6, 2017.

Any versions with less than 0.1% distribution are not shown.

Support Libraries

What if we want to support old devices and use a new features?
The answer is: **Android Support Libraries**

The most popular ones are:

```
appcompat-v7  
cardview-v7  
design  
gridlayout-v7  
palette-v7  
recyclerview-v7  
support-annotations  
support-v4
```

All of them you can find in Google Maven Repository (the part of Android SDK).
[\\$ANDROID_HOME/extras/android/m2repository/com/android/support](#)

Support Libraries: in the code

`./app/src/main/java/com/github/ddmytrenko/emptyandroidproject/MainActivity.java`

```
1  package com.github.ddmytrenko.emptyandroidproject;
2
3  import android.support.v7.app.AppCompatActivity;
4  import android.os.Bundle;
5
6  public class MainActivity extends AppCompatActivity {
7
8      @Override
9      protected void onCreate(Bundle savedInstanceState) {
10         super.onCreate(savedInstanceState);
11         setContentView(R.layout.activity_main);
12     }
13 }
```

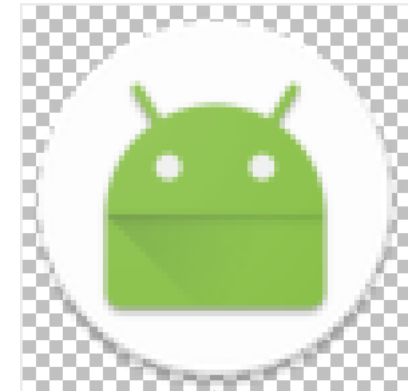
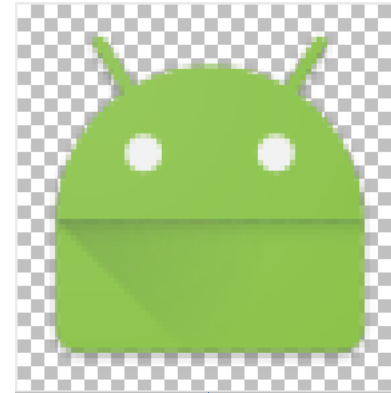
Resources

./app/src/main/res

- ▼ res
 - drawable
 - ▼ layout
 - activity_main.xml
 - ▼ mipmap-hdpi
 - ic_launcher.png
 - ic_launcher_round.png

- ▶ mipmap-mdpi
- ▶ mipmap-xhdpi
- ▶ mipmap-xxhdpi
- ▶ mipmap-xxxhdpi
- ▼ values

- colors.xml
- strings.xml
- styles.xml



```
<resources>  
  <color name="colorPrimary">#3F51B5</color>  
  <color name="colorPrimaryDark">#303F9F</color>  
  <color name="colorAccent">#FF4081</color>  
</resources>
```

```
<resources>  
  <string name="app_name">EmptyAndroidProject</string>  
</resources>
```


Getting ready to push the code

What to ignore?

Your local setup

`local.properties`

Your IDE configuration

`.idea/`

`*.iml`

Local Gradle configuration

`.gradle/`

Output directories

`build/`

API keys, keystores, etc.