# \*\*\* BUILD DIRECT FROM UNITY TO APK

# 1. Conflict between Admob and Firebase

# \* Edit GoogleMobileAdsDependencies.xml

# <androidPackage spec="com.google.android.gms:play-services-ads:15.0.1"> -> androidPackage spec="com.google.android.gms:play-services-ads:17.1.2">

# \* Assets/Plugins/Android/AndroidManifest.xml add: (like the old way)

<application>

<meta-data android:name="com.google.android.gms.ads.AD\_MANAGER\_APP" android:value="true"/>

</application>

# \* Check at AndroidResolverDependencies.xml

**2. CONFLICT With Ads plugins**

Add all ads encountered this problem:

- Program type already present: android.support.v4.app.ActionBarDrawerToggle$Delegate

- Program type already present: android.support.v4.app.ActivityCompat$1

\* Assets/AudienceNetwork/Plugins/Android/libs/

Delete 4 files .aar with name “support-…” (Just can delete inside of Unity)

\* Use Custom Gradle Template > open mainTemplate.gradle

buildscript {  
 repositories {  
 google()  
 jcenter()  
 mavenCentral()  
 }  
  
 dependencies {  
 classpath 'com.android.tools.build:gradle:3.1.4'  
 classpath 'com.google.gms:google-services:4.2.0'  
\*\*BUILD\_SCRIPT\_DEPS\*\*}  
}  
  
allprojects {  
 repositories {  
 google()  
 jcenter()  
 flatDir {  
 dirs 'libs'  
 }  
 maven { url 'https://jitpack.io' }  
 }  
}  
  
apply plugin: 'com.android.application'  
\*\*APPLY\_PLUGINS\*\*  
  
dependencies {  
 implementation fileTree(dir: 'libs', include: ['\*.jar'])  
 implementation 'com.android.support:multidex:1.0.3'  
\*\*DEPS\*\*}  
  
android {  
 compileSdkVersion \*\*APIVERSION\*\*  
 buildToolsVersion '\*\*BUILDTOOLS\*\*'  
  
 compileOptions {  
 sourceCompatibility JavaVersion.VERSION\_1\_8  
 targetCompatibility JavaVersion.VERSION\_1\_8  
 }  
  
 defaultConfig {  
 minSdkVersion \*\*MINSDKVERSION\*\*  
 targetSdkVersion \*\*TARGETSDKVERSION\*\*  
 applicationId '\*\*APPLICATIONID\*\*'  
 ndk {  
 abiFilters \*\*ABIFILTERS\*\*  
 }  
 versionCode \*\*VERSIONCODE\*\*  
 versionName '\*\*VERSIONNAME\*\*'  
 multiDexEnabled true  
 }  
  
 lintOptions {  
 abortOnError false  
 }  
  
 aaptOptions {  
 noCompress = ['.unity3d', '.ress', '.resource', '.obb'\*\*STREAMING\_ASSETS\*\*]  
 }\*\*SIGN\*\*  
  
 buildTypes {  
 debug {  
 minifyEnabled \*\*MINIFY\_DEBUG\*\*  
 useProguard \*\*PROGUARD\_DEBUG\*\*  
 proguardFiles getDefaultProguardFile('proguard-android.txt'), 'proguard-unity.txt'\*\*USER\_PROGUARD\*\*  
 jniDebuggable true  
 }  
 release {  
 minifyEnabled \*\*MINIFY\_RELEASE\*\*  
 useProguard \*\*PROGUARD\_RELEASE\*\*  
 proguardFiles getDefaultProguardFile('proguard-android.txt'), 'proguard-unity.txt'\*\*USER\_PROGUARD\*\*\*\*SIGNCONFIG\*\*  
 }  
 }\*\*PACKAGING\_OPTIONS\*\*\*\*SPLITS\*\*  
\*\*BUILT\_APK\_LOCATION\*\*\*\*SPLITS\_VERSION\_CODE\*\*\*\*REPOSITORIES\*\*\*\*SOURCE\_BUILD\_SETUP\*\*  
}

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AndroidManifest.xml (for all ads)

<?xml version="1.0" encoding="utf-8"?>  
<manifest xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:tools="http://schemas.android.com/tools"  
 package="com.yuan.resolve"  
 android:installLocation="preferExternal"  
 android:versionCode="1"  
 android:versionName="1.0">  
  
 <supports-screens  
 android:anyDensity="true"  
 android:largeScreens="true"  
 android:normalScreens="true"  
 android:smallScreens="true"  
 android:xlargeScreens="true"/>  
  
 <application  
 android:name="android.support.multidex.MultiDexApplication"  
 android:icon="@drawable/app\_icon"  
 android:label="@string/app\_name">  
  
 <activity android:name="com.applovin.adview.AppLovinInterstitialActivity"  
 android:configChanges="orientation|screenSize"/>  
 <activity android:name="com.applovin.adview.AppLovinConfirmationActivity"/>  
  
 <activity  
 android:name="com.google.firebase.MessagingUnityPlayerActivity"  
 android:configChanges="fontScale|keyboard|keyboardHidden|locale|mnc|mcc|navigation|orientation|screenLayout|screenSize|smallestScreenSize|uiMode|touchscreen"  
 android:label="@string/app\_name"  
 android:screenOrientation="landscape">  
 <intent-filter>  
 <action android:name="android.intent.action.MAIN"/>  
 <category android:name="android.intent.category.LAUNCHER"/>  
 </intent-filter>  
 </activity>  
 <!-- <activity  
 android:name="com.unity3d.player.VideoPlayer"  
 android:configChanges="fontScale|keyboard|keyboardHidden|locale|mnc|mcc|navigation|orientation|screenLayout|screenSize|smallestScreenSize|uiMode|touchscreen"  
 android:label="@string/app\_name"  
 android:screenOrientation="landscape">  
 </activity>-->  
  
 <meta-data  
 android:name="applovin.sdk.key"  
 android:value="AFnm0QSLh8Xyt7yzuyD1hoB8L0dFN2OrEBTT81F9hi8-J7JiaF\_f67k8vhsJo\_aekXTz0GqIeOqxXCWK8s7Tlb"/>  
 <meta-data  
 android:name="com.google.android.gms.ads.AD\_MANAGER\_APP" android:value="true" />  
 </application>  
  
 <!-- These permissions are mandatory to run AppLovin SDK -->  
 <uses-permission android:name="android.permission.INTERNET"/>  
 <uses-permission android:name="android.permission.WRITE\_EXTERNAL\_STORAGE" android:maxSdkVersion="18"/>  
  
 <!-- These permissions are strongly recommended and will result in higher performance -->  
 <uses-permission android:name="android.permission.ACCESS\_NETWORK\_STATE"/>  
 <uses-permission android:name="android.permission.READ\_PHONE\_STATE"/>  
  
 <uses-feature android:glEsVersion="0x00020000"/>  
  
 <uses-sdk  
 android:minSdkVersion="16"  
 android:targetSdkVersion="21"/>  
  
</manifest>

AndroidResolverDependencies.xml

<dependencies>  
 <packages>  
 <package>com.google.android.gms:play-services-ads:17.1.2</package>  
 <package>com.google.firebase:firebase-analytics:16.0.6</package>  
 <package>com.google.firebase:firebase-analytics-unity:5.4.4</package>  
 <package>com.google.firebase:firebase-app-unity:5.4.4</package>  
 <package>com.google.firebase:firebase-common:16.0.4</package>  
 <package>com.google.firebase:firebase-core:16.0.6</package>  
 <package>com.google.firebase:firebase-iid:[17.0.4]</package>  
 <package>com.google.firebase:firebase-messaging:17.3.4</package>  
 <package>com.google.firebase:firebase-messaging-unity:5.4.4</package>  
 <package>com.google.games:gpgs-plugin-support:0.9.57</package>  
 </packages>  
 <files>  
 <file>Assets/Plugins/Android/android.arch.core.common-1.0.0.jar</file>  
 <file>Assets/Plugins/Android/android.arch.lifecycle.common-1.0.0.jar</file>  
 <file>Assets/Plugins/Android/android.arch.lifecycle.runtime-1.0.0.aar</file>  
 <file>Assets/Plugins/Android/com.android.support.customtabs-26.1.0.aar</file>  
 <file>Assets/Plugins/Android/com.android.support.support-annotations-26.1.0.jar</file>  
 <file>Assets/Plugins/Android/com.android.support.support-compat-26.1.0.aar</file>  
 <file>Assets/Plugins/Android/com.android.support.support-core-ui-26.1.0.aar</file>  
 <file>Assets/Plugins/Android/com.android.support.support-core-utils-26.1.0.aar</file>  
 <file>Assets/Plugins/Android/com.android.support.support-fragment-26.1.0.aar</file>  
 <file>Assets/Plugins/Android/com.android.support.support-media-compat-26.1.0.aar</file>  
 <file>Assets/Plugins/Android/com.android.support.support-v4-26.1.0.aar</file>  
 <file>Assets/Plugins/Android/com.google.android.gms.play-services-ads-17.1.2.aar</file>  
 <file>Assets/Plugins/Android/com.google.android.gms.play-services-ads-base-17.1.2.aar</file>  
 <file>Assets/Plugins/Android/com.google.android.gms.play-services-ads-identifier-16.0.0.aar</file>  
 <file>Assets/Plugins/Android/com.google.android.gms.play-services-ads-lite-17.1.2.aar</file>  
 <file>Assets/Plugins/Android/com.google.android.gms.play-services-auth-16.0.1.aar</file>  
 <file>Assets/Plugins/Android/com.google.android.gms.play-services-auth-api-phone-16.0.0.aar</file>  
 <file>Assets/Plugins/Android/com.google.android.gms.play-services-auth-base-16.0.0.aar</file>  
 <file>Assets/Plugins/Android/com.google.android.gms.play-services-base-16.0.1.aar</file>  
 <file>Assets/Plugins/Android/com.google.android.gms.play-services-basement-16.0.1.aar</file>  
 <file>Assets/Plugins/Android/com.google.android.gms.play-services-drive-16.0.0.aar</file>  
 <file>Assets/Plugins/Android/com.google.android.gms.play-services-games-16.0.0.aar</file>  
 <file>Assets/Plugins/Android/com.google.android.gms.play-services-gass-17.1.2.aar</file>  
 <file>Assets/Plugins/Android/com.google.android.gms.play-services-measurement-api-16.0.4.aar</file>  
 <file>Assets/Plugins/Android/com.google.android.gms.play-services-measurement-base-16.0.5.aar</file>  
 <file>Assets/Plugins/Android/com.google.android.gms.play-services-measurement-sdk-api-16.0.4.aar</file>  
 <file>Assets/Plugins/Android/com.google.android.gms.play-services-nearby-16.0.0.aar</file>  
 <file>Assets/Plugins/Android/com.google.android.gms.play-services-stats-16.0.1.aar</file>  
 <file>Assets/Plugins/Android/com.google.android.gms.play-services-tasks-16.0.1.aar</file>  
 <file>Assets/Plugins/Android/com.google.firebase.firebase-analytics-16.0.6.aar</file>  
 <file>Assets/Plugins/Android/com.google.firebase.firebase-analytics-impl-16.2.4.aar</file>  
 <file>Assets/Plugins/Android/com.google.firebase.firebase-analytics-unity-5.4.4.aar</file>  
 <file>Assets/Plugins/Android/com.google.firebase.firebase-app-unity-5.4.4.aar</file>  
 <file>Assets/Plugins/Android/com.google.firebase.firebase-common-16.0.4.aar</file>  
 <file>Assets/Plugins/Android/com.google.firebase.firebase-core-16.0.6.aar</file>  
 <file>Assets/Plugins/Android/com.google.firebase.firebase-iid-17.0.4.aar</file>  
 <file>Assets/Plugins/Android/com.google.firebase.firebase-iid-interop-16.0.1.aar</file>  
 <file>Assets/Plugins/Android/com.google.firebase.firebase-measurement-connector-17.0.1.aar</file>  
 <file>Assets/Plugins/Android/com.google.firebase.firebase-measurement-connector-impl-17.0.4.aar</file>  
 <file>Assets/Plugins/Android/com.google.firebase.firebase-messaging-17.3.4.aar</file>  
 <file>Assets/Plugins/Android/com.google.firebase.firebase-messaging-unity-5.4.4.aar</file>  
 <file>Assets/Plugins/Android/com.google.games.gpgs-plugin-support-0.9.57.aar</file>  
 </files>  
</dependencies>

Assets\AudienceNetwork\Editor\Android\DefaultAndroidManifest.xml

- package name is com.unity3d.player

<manifest  
 xmlns:android="http://schemas.android.com/apk/res/android"  
 package="com.unity3d.player"  
 android:installLocation="preferExternal"  
 android:versionCode="1"  
 android:versionName="1.0">

Assets\AppLovinSdk\Plugins\Android\AndroidManifest.xml

- Add applovin key

<?xml version="1.0" encoding="utf-8"?>  
<manifest xmlns:android="http://schemas.android.com/apk/res/android" package="com.xgame.spingo">  
 <application>  
 <meta-data  
 android:name="applovin.sdk.key"  
 android:value="AFnm0QSLh8Xyt7yzuyD1hoB8L0dFN2OrEBTT81F9hi8-J7JiaF\_f67k8vhsJo\_aekXTz0GqIeOqxXCWK8s7Tlb" />  
 </application>  
</manifest>