**Google APIs via OAuth 2.0 on Android**

1. To handle  Google APIs using OAuth 2.0 you may need to get so called ***token*** for future API requests. This task can be highly simplified and secured on all Android 2.2+ devices with Google Play services.
   1. Preparation. In view of the fact that there can be devices on which Google Play services is unavailable or can be disabled or invalid - you need to check method [isGooglePlayServicesAvailable()](https://developers.google.com/android/google-play-services/reference/com/google/android/gms/common/GooglePlayServicesUtil#isGooglePlayServicesAvailable(android.content.Context)).
2. To get ***token*** using GoogleAuthUtil you`ll need ***account name*** and ***scope***.
   1. ***Account name*** is string,that contains email, for example [nexus.moc@gmail.com](mailto:nexus.moc@gmail.com). You can get it using AccountPicker, which let user choose one of loginned accounts, or add existing or even create a new one.
   2. ***Scope*** is space delimited set of permissions the application requests. In our case this is string, which begins from “oauth2:”, and contains permissions requests.

***Scope*** *example:* “oauth2:https://www.googleapis.com/auth/plus.me https://www.googleapis.com/auth/userinfo.profile https://www.googleapis.com/auth/plus.moments.write”

Avaliable sets of permission requests available at <https://developers.google.com/oauthplayground/?hl=ru>

* 1. Than you need to call *GoogleAuthUtil.getToken(Context context,String email, String scopes);,* which return string ***token***, or throw exception. UserRecoverableAuthException can be thrown in case if user did not accept app permissions request yet. If so – you need to start activity, which requests user acceptation using intent of thrown exeption. After that you can restart *getToken* method.

1. Google API request sample:

<https://www.googleapis.com/oauth2/v1/userinfo?access_token=ya29.AHES6ZRtEFnCV_GusaOa2FFaNtCwGTxmFRa0-HvT0mBGzS0>

this request returns user info.

Other requests you can alsoy find here

<https://developers.google.com/oauthplayground/?hl=ru>

1. To register your app you need to visit  [Google APIs Console](https://code.google.com/apis/console/).  
   It’ll want you to enter your package name; the value of the package attribute of the manifest element in your AndroidManifest.xml. Also, it’ll want the SHA1 signature of the certificate you used to sign your app. While you develope, you working with your debug-version apps, which are signed with a certificate living in ~/.android/debug.keystore (password: “android”).You can use “keytool” to get the signature. For your debug version, a correct incantation is:

keytool -exportcert -alias androiddebugkey -keystore ~/.android/debug.keystore -v -list

This will print out the SHA1 signature.

1. You can find example code here <https://github.com/Serg0/OAuth_sample_project>