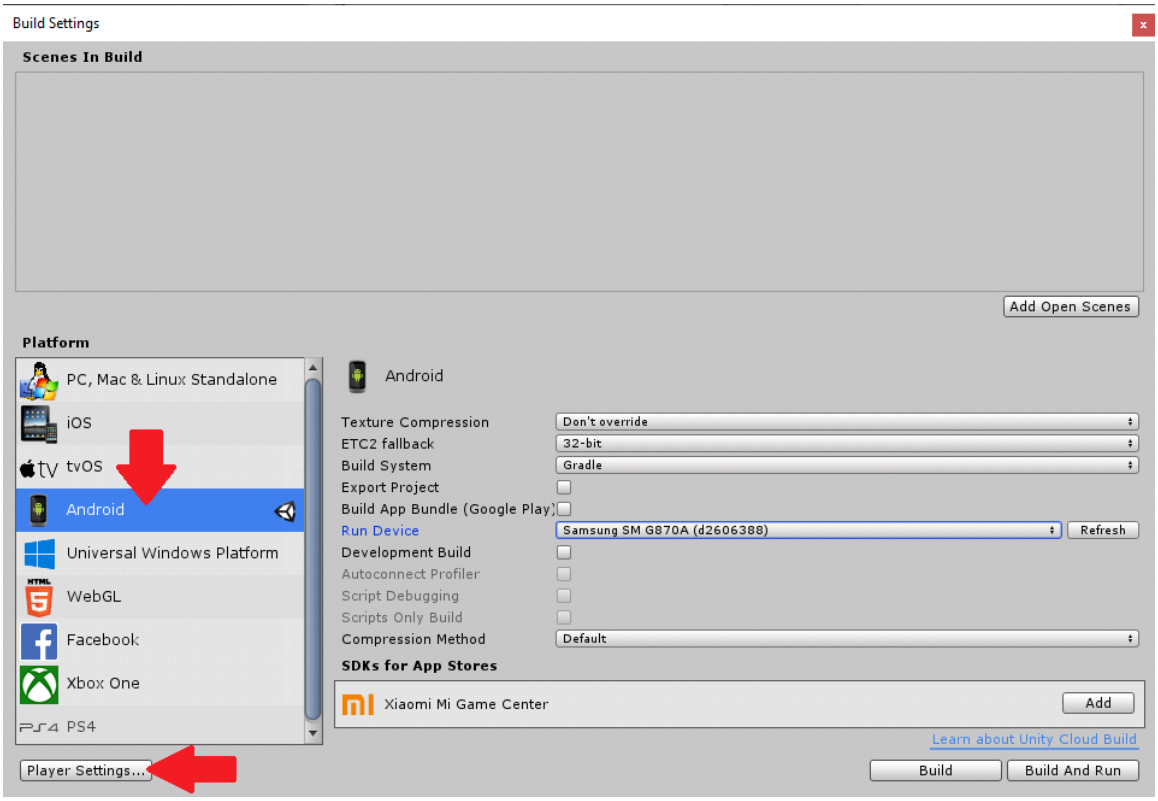
Google Authentication with Braincloud

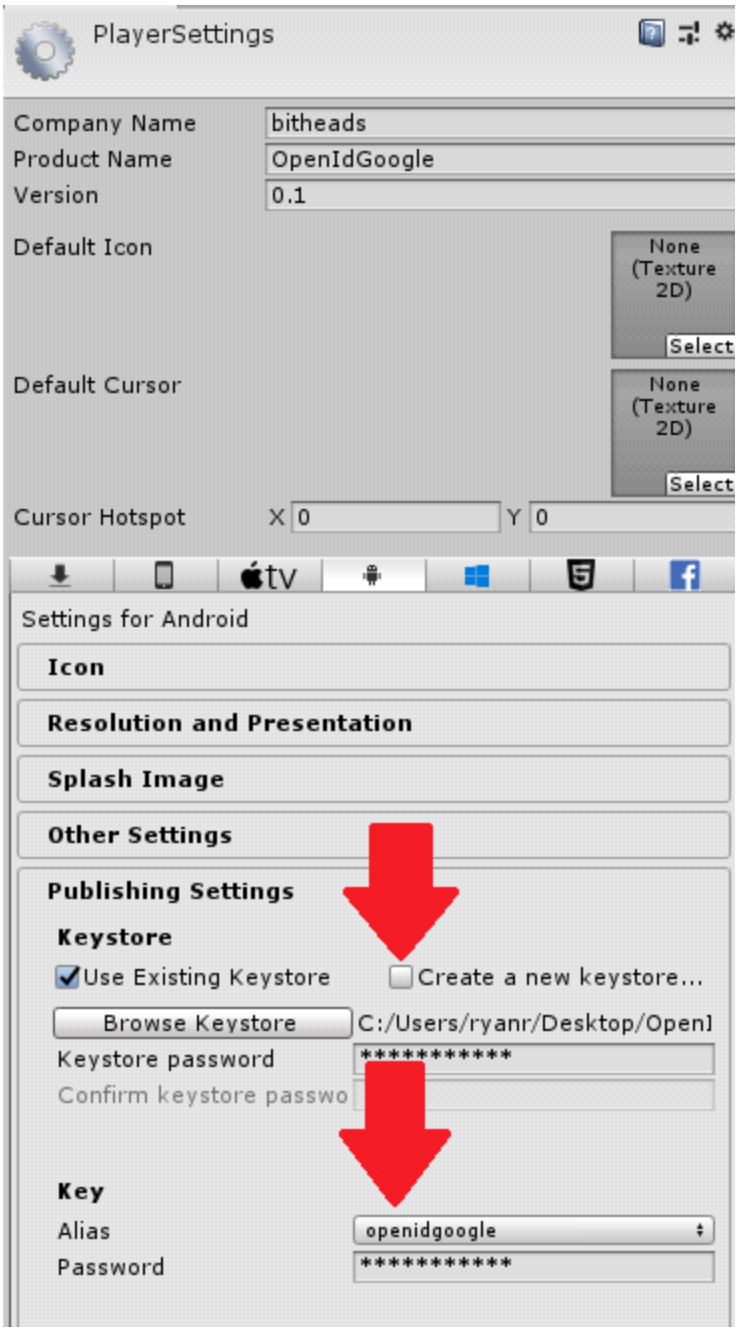
The old method, using Google Play Games

This tutorial is for Android, because Google Play Games only supports Android.

Setup an android app in Unity, and prepare the Package name and SHA-1

1. create unity project, go to File > Build Settings, and change the platform to Android. Then on the bottom left of Build Settings, go into Player Settings and under Publishing Settings, make a new signing keystore and get the SHA-1. Make sure to also add an alias to your key.





To get the SHA-1 follow google's tutorial here:

https://support.google.com/cloud/answer/6158849?hl=en#installedapplications&android

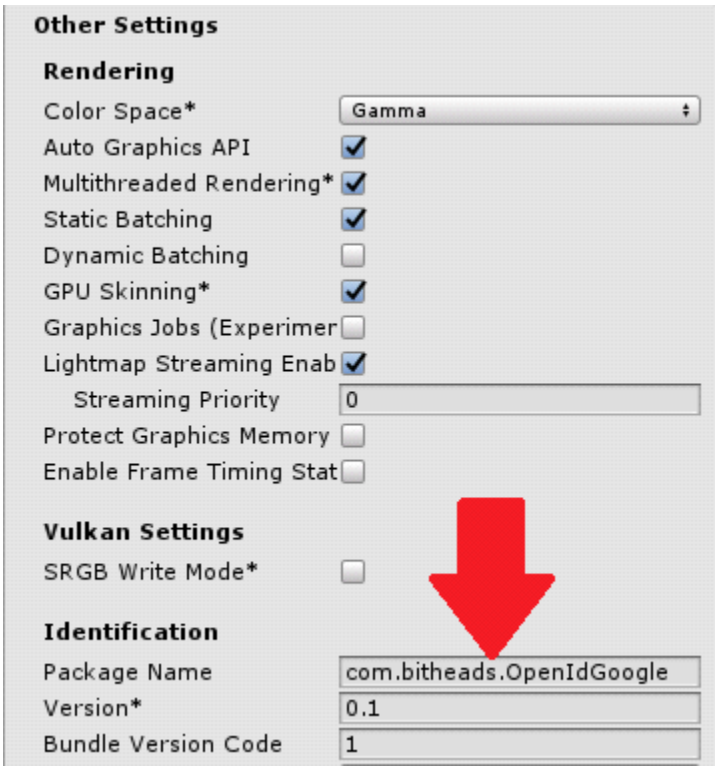
Tips for SHA-1 tutorial :

- Start at step 2

- If you're having trouble finding the keytool.exe, try looking in your jdk folder.

- If the command in step 2 isn't working, make sure you're in the right directory of the keytool in the terminal before running the command.

You will also need to make a package name for your project which can also be done in the Player Settings. Make sure it matches the Company name you chose and Product name in the Player Settings.

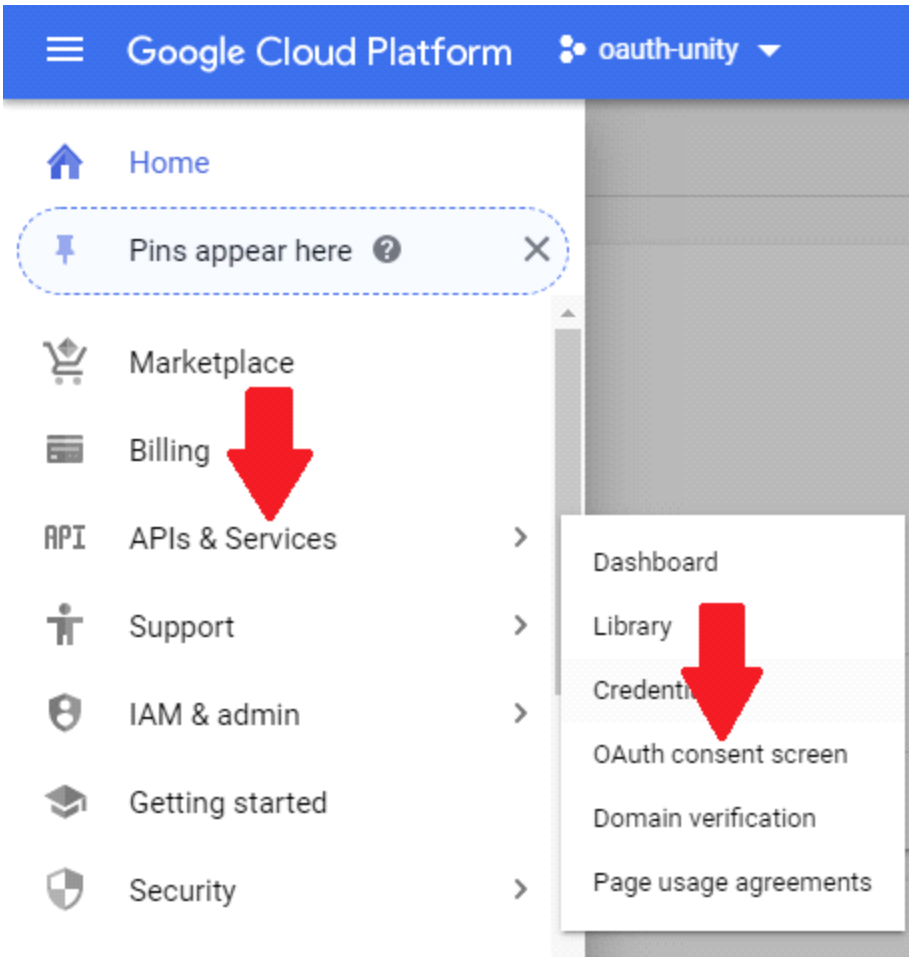


Save your SHA-1 and package name for later, you will need it.

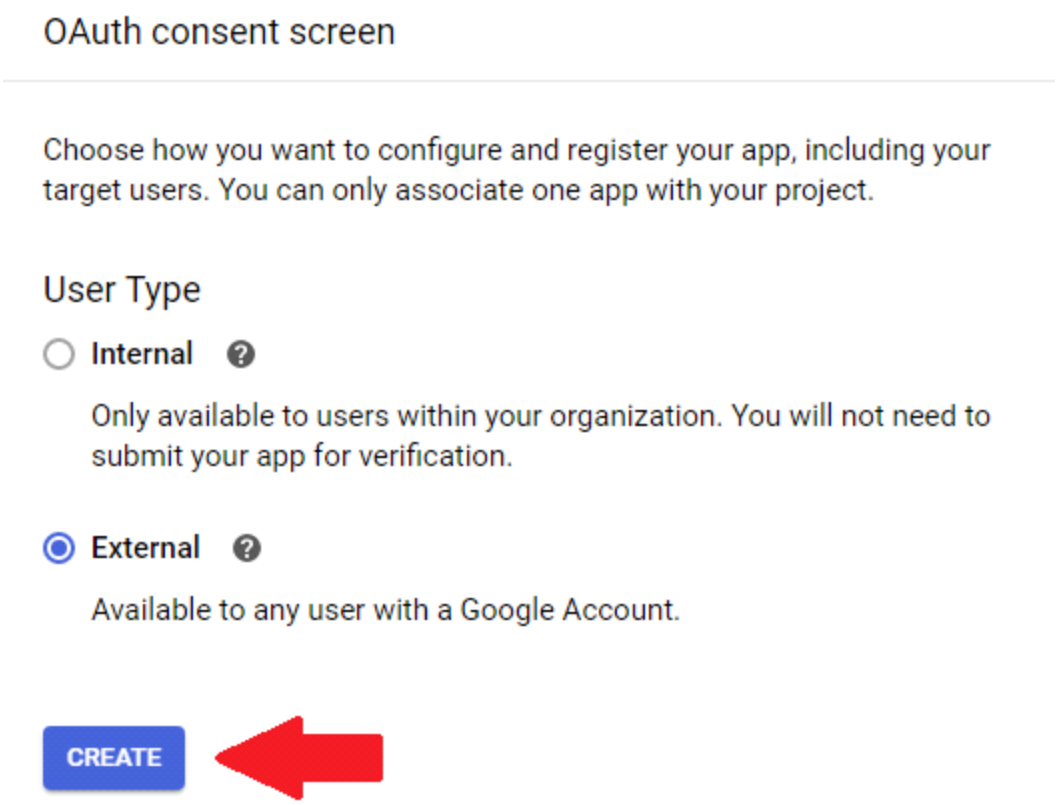
Setup your app on google cloud platform

1. go to google cloud platform https://console.cloud.google.com/
and create a new app. Name it whatever you want.

2. Now go into your newly created project and hit the APIs & Services, and go to OAuth consent screen



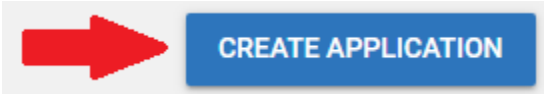
3. In the OAuth Consent Screen, you will likely need to make an external app, since internal apps require you to be a G Suite User.

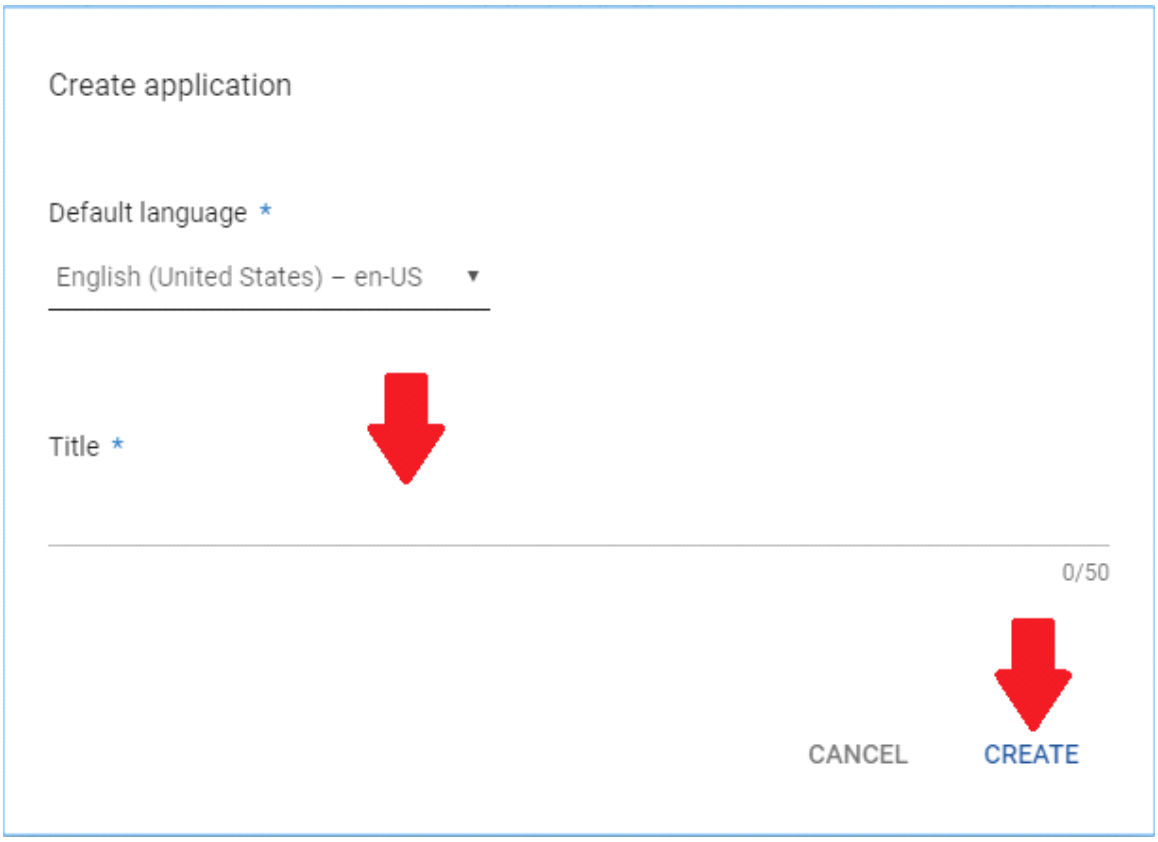


4. On the next page, put in an application name, and a support e-mail. Then scroll to the bottom and press save. DO NOT upload an application logo as you will require a tonne of more requirements to get your app out of a state of needing verification permanently.

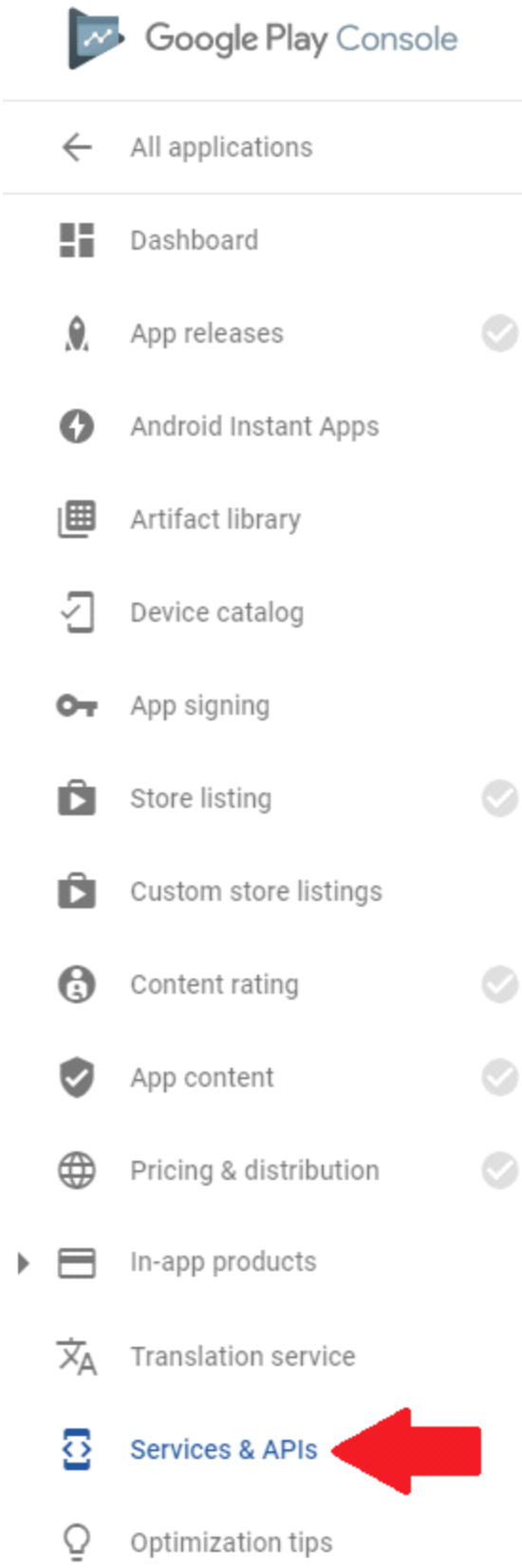
Setup your app on Google Play Services

1. Open up Google Play Console https://play.google.com/apps/publish/ and create an application. Choose a title and click create.

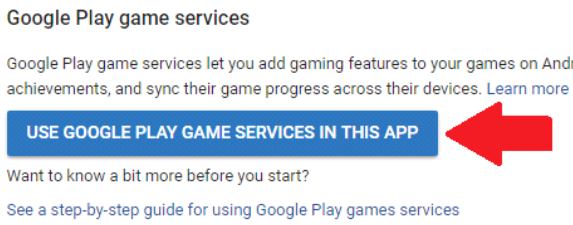




2. Go into your app, and in the drop down click on Services and APIs


Google Play Console
All applications
Dashboard
App releases
Android Instant Apps
Artifact library
Device catalog
App signing
Store listing
Custom store listings
Content rating
App content
Pricing & distribution
In-app products
Translation service
Services & APIs
Optimization tips

3. You will want to enable google play services for this app, so click on the button to USE GOOGLE PLAY GAMES SERVICES IN THIS APP



4. It will bring you to the game services screen where you will want to ADD NEW GAME, then give it a name and category.

Check the header "I already use Google API's in my game" and see if you can find your app in the drop down options. It should be there since we created a project for the game on the Google Developers Console in previous steps.

Set up Google Play game services for an app

Do you already use Google APIs in your app?

I don't use any Google APIs in my game yet | I already use Google APIs in my game

If your game already uses Google APIs, you have created a project for the game on the Google Developers Console before.

Choose an API console project to link

GoogleTutorial

oauth-unity

I can't see my project in the list

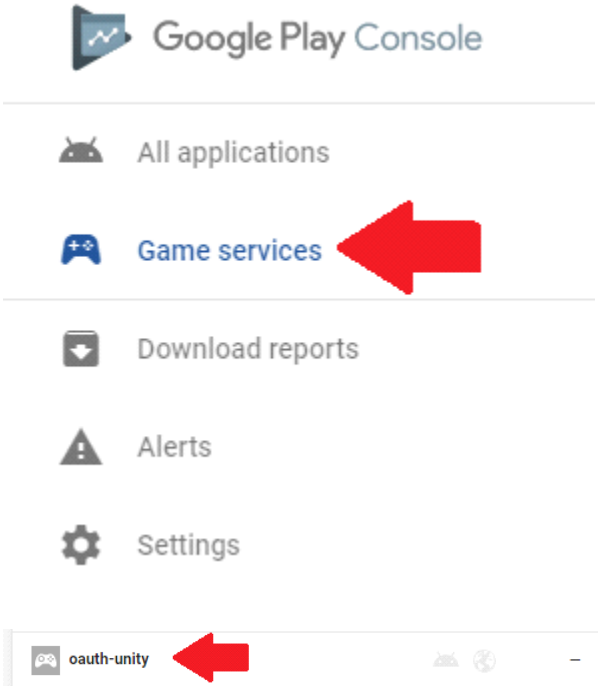
What kind of game is it?

Choose a category ▾

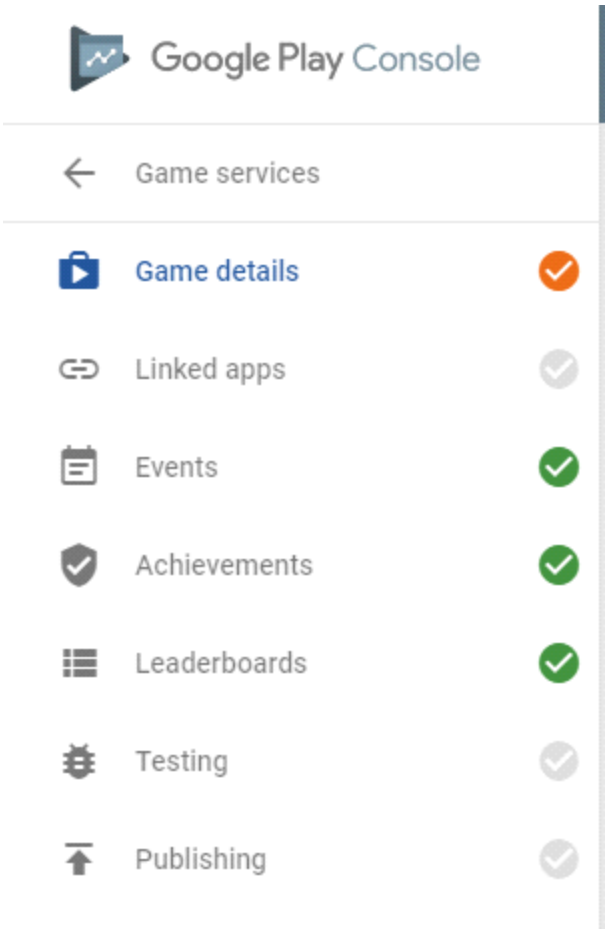
The category helps users browse interesting games.

CONTINUE

5. Now under the Game Services Tab, click on your newly created game



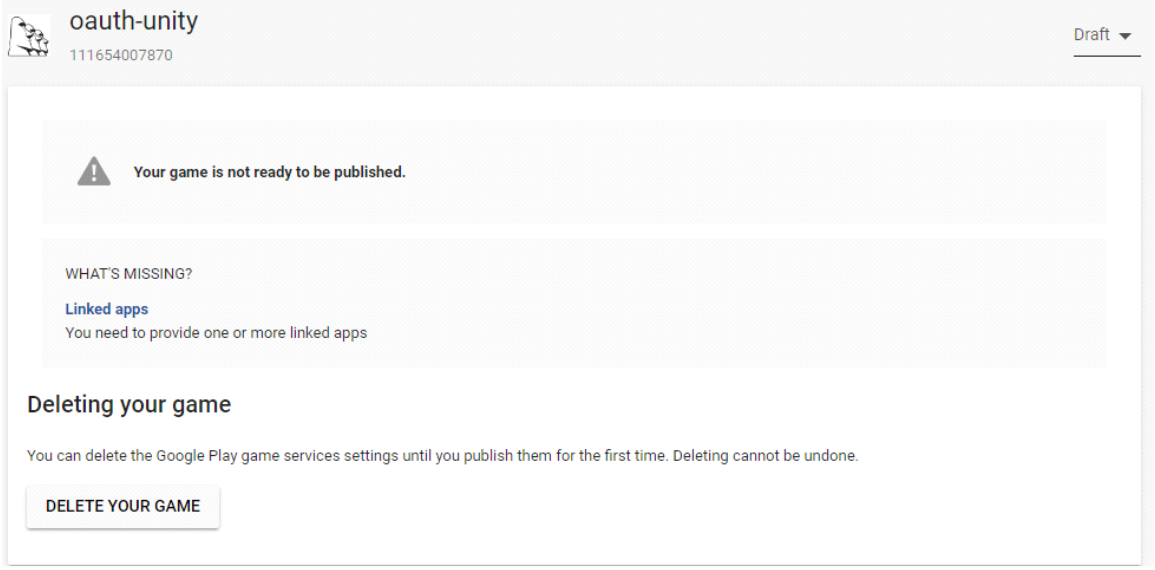
6. Now you'll notice that you have some things to do before your app is ready. You'll need to go through each of the checkmarks until they are green. The events, achievements and leaderboards are features you can add, but don't need to be added, so they are green by default.



7. In Game details, simply fill out your information about your app.

8. We will get back to linked apps after we configure a Google Sign In web app.

9. In Testing, be sure to add some familiar e-mails that you will use to login to google with, for testing purposes. You'll notice once you move to the next step in testing, it will ask you to make at least one linked app.



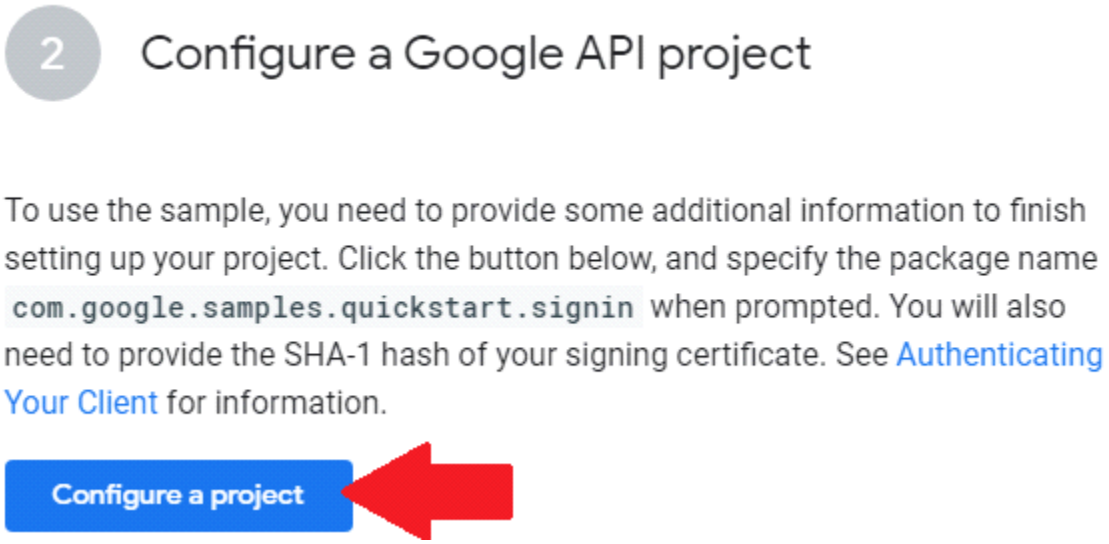
Configure a Google Sign In App

Go to the Google Sign In plugin page on github and download the latest release of the plugin.

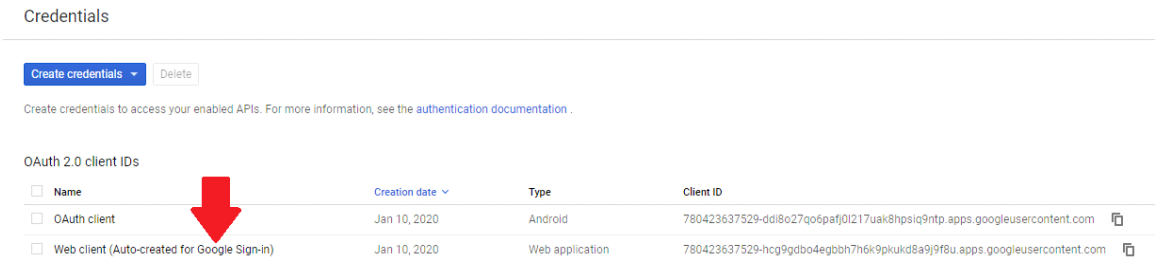
https://github.com/googlesamples/google-signin-unity

You will also need to do **STEP 2** of Configure a Google API project here:

https://developers.google.com/identity/sign-in/android/start which is mentioned under "Configuring the application on the API Console". Step 2 of this tutorial is the most important as it will generate the web client we need on the google cloud platform. During the process it will ask what type of app is calling it, choose ANDROID and put in the info of your app, this will generate both android and a web client credential. You only have to do STEP 2.

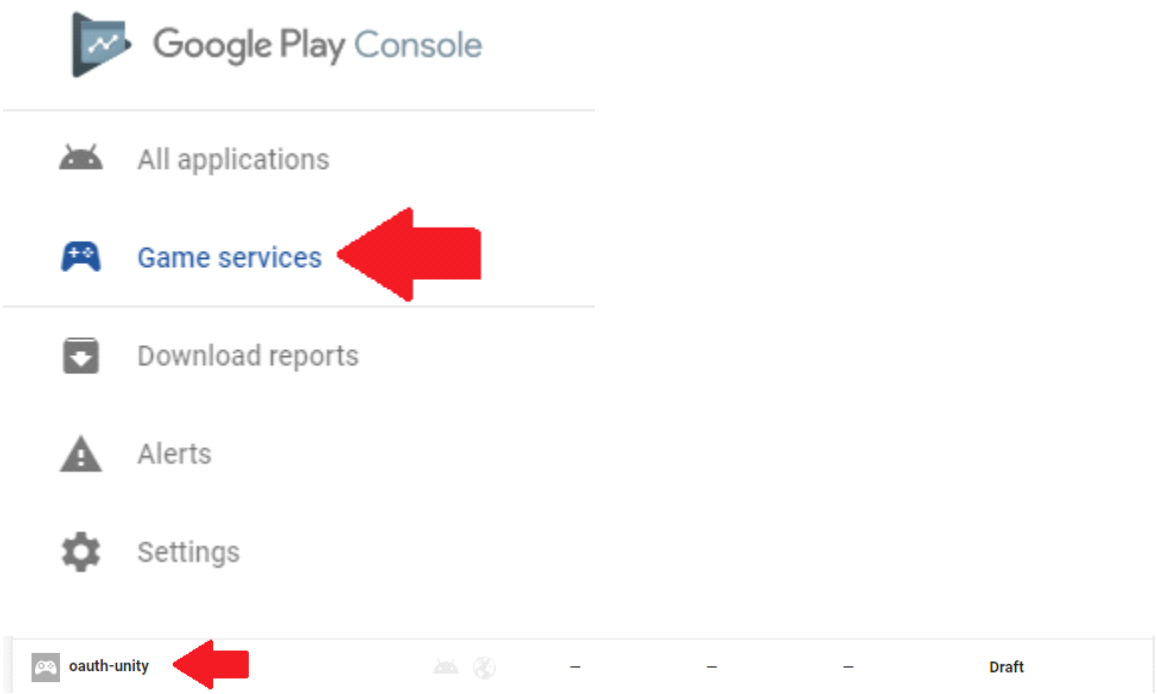


Go back to your Google Cloud Platform project, and go under APIs and Services, and Credentials. You will notice there is a WebApp that has been auto generated by Google.

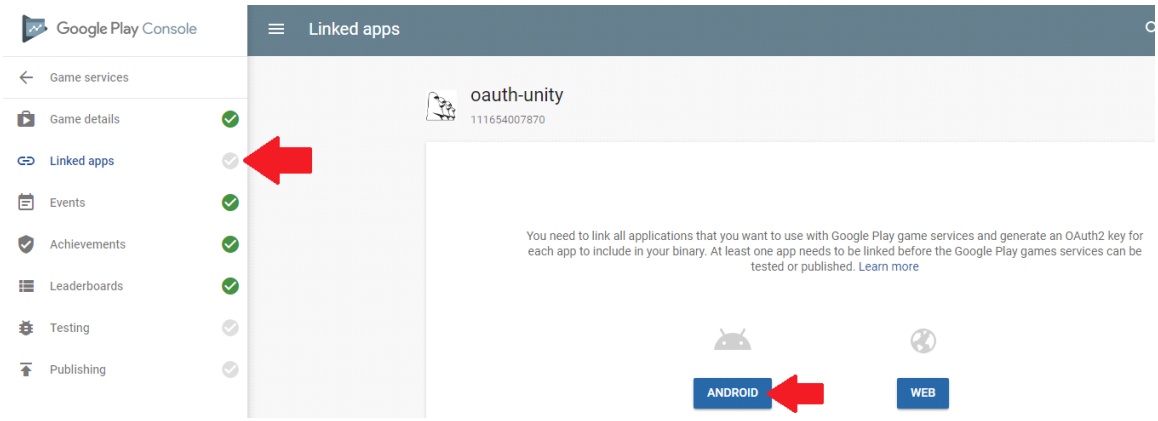


Link the app on Google play

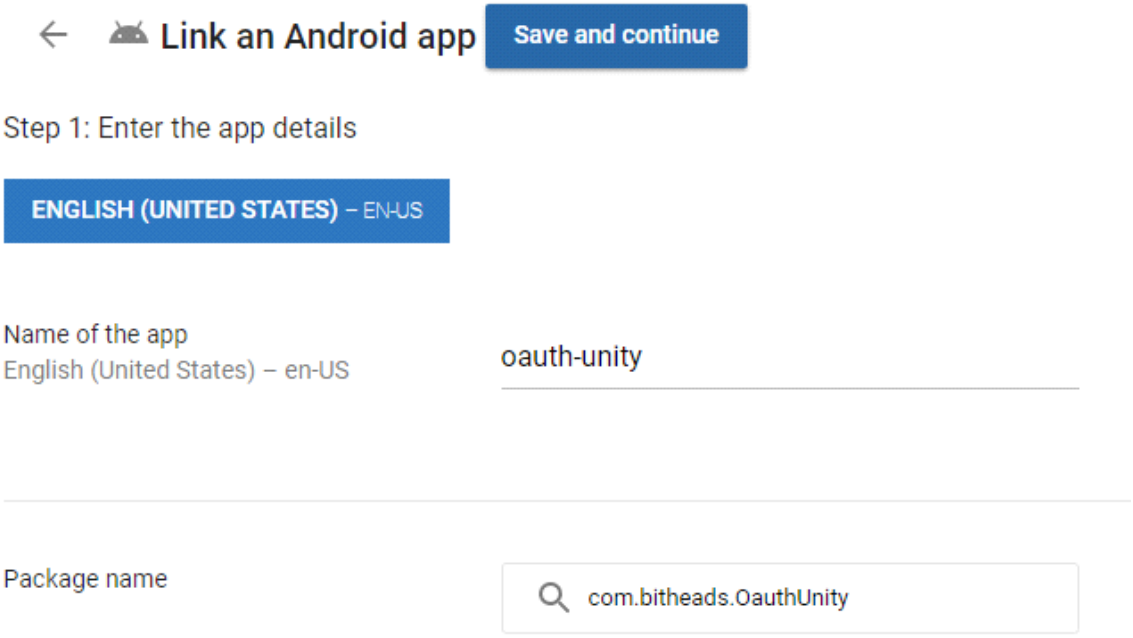
1. Go back to Google play https://play.google.com/, and under the Game Services tab, choose your app once again.



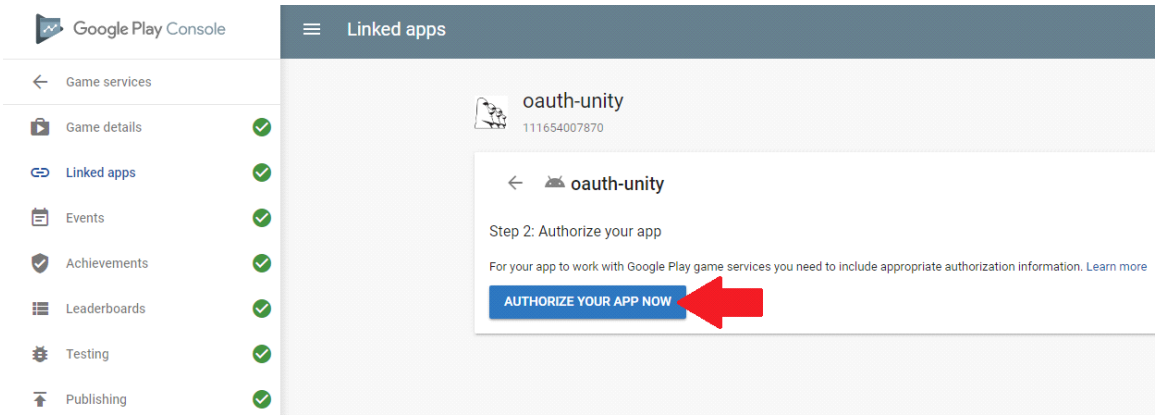
2. Go under Linked Apps Tab, and choose Android.



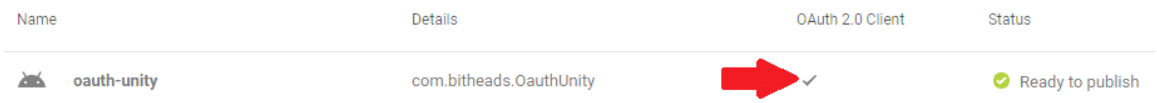
On the next page, make sure the name of the app stays consistent.



Fill in the appropriate title and package name of your project. Once you hit save and continue, things should be looking ready.



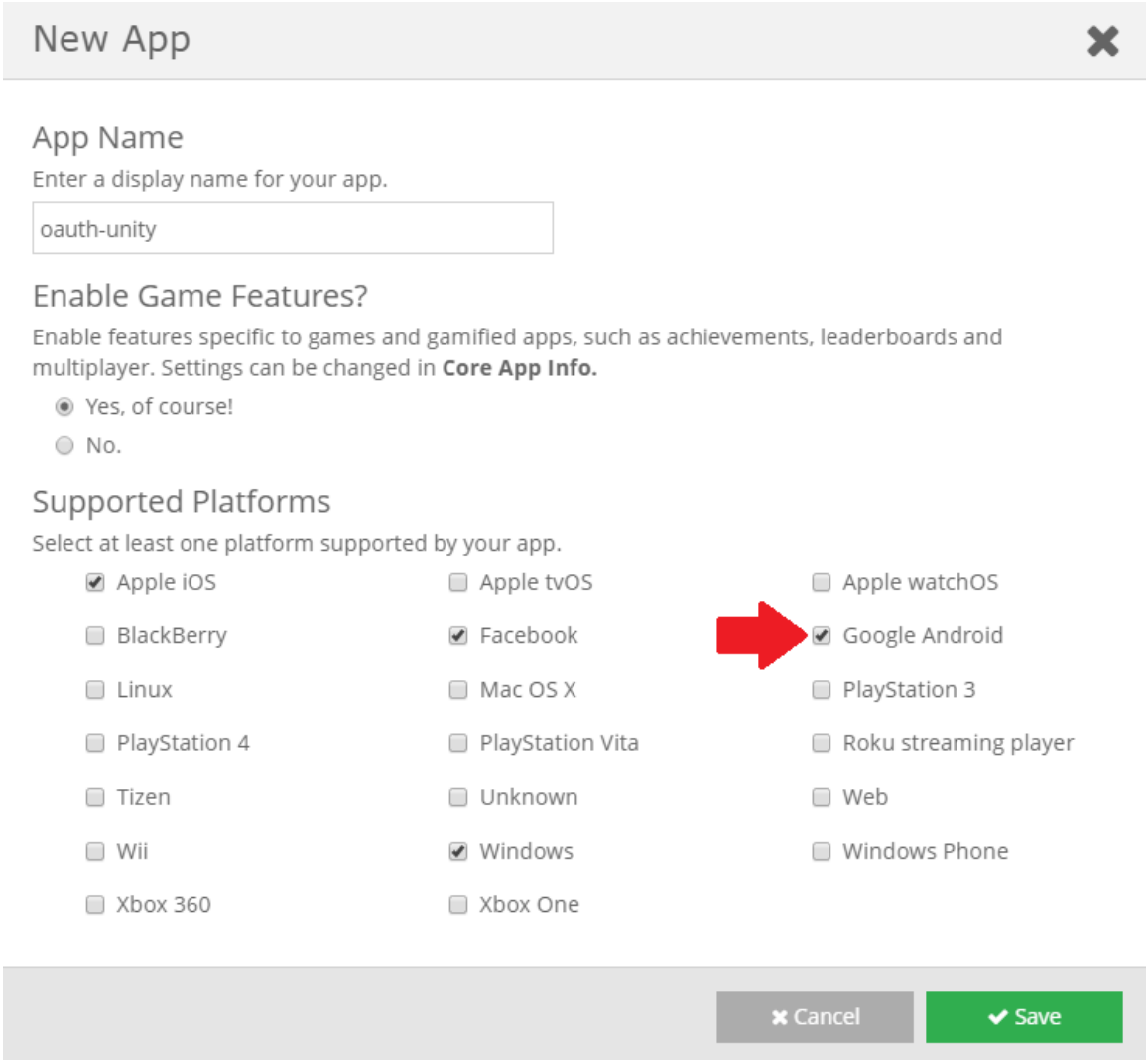
It may ask you to authorize your app in which case just use the information you've been gathering like the SHA-1 and put it in the fields. Otherwise, you're good!



NOTE: the appId of the linked app MUST and WILL MATCH the app id of the android app that was generated on your google cloud console.

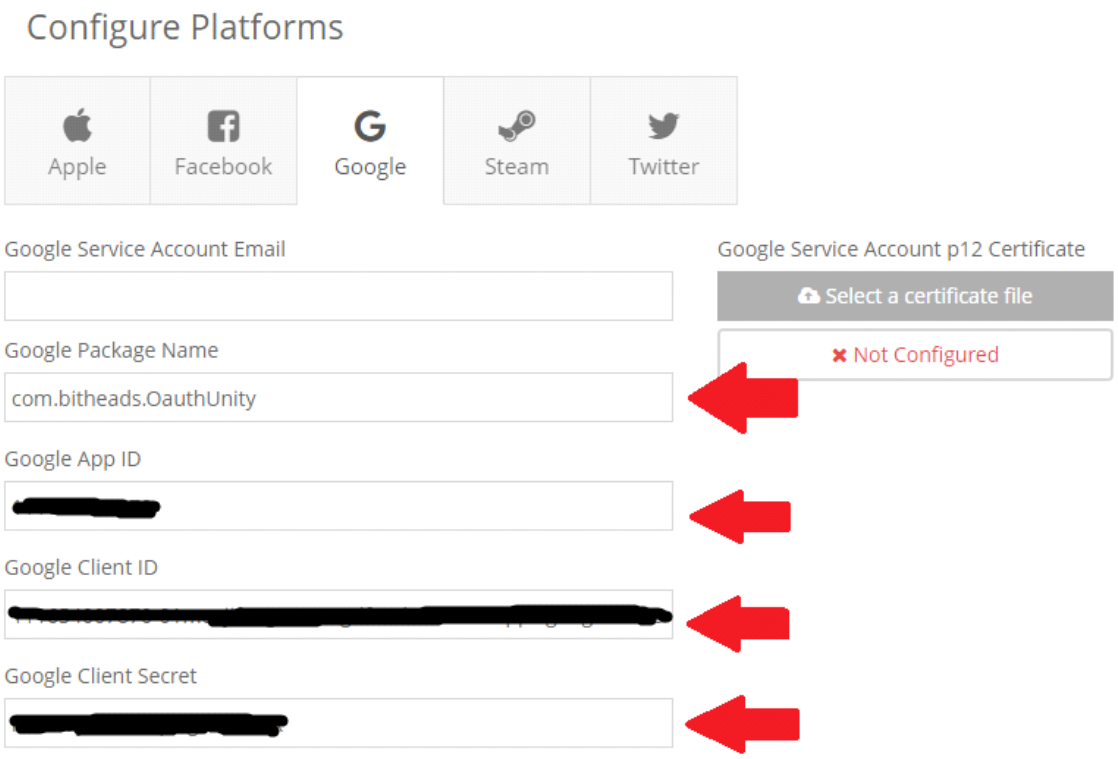
Adjust Settings in Braincloud

When you create your app on Braincloud, make sure to include Google as one of the platforms. If you have already made your App, you can turn on Google platform support by going to Core App Info> Platforms and selecting Google Android from the list.

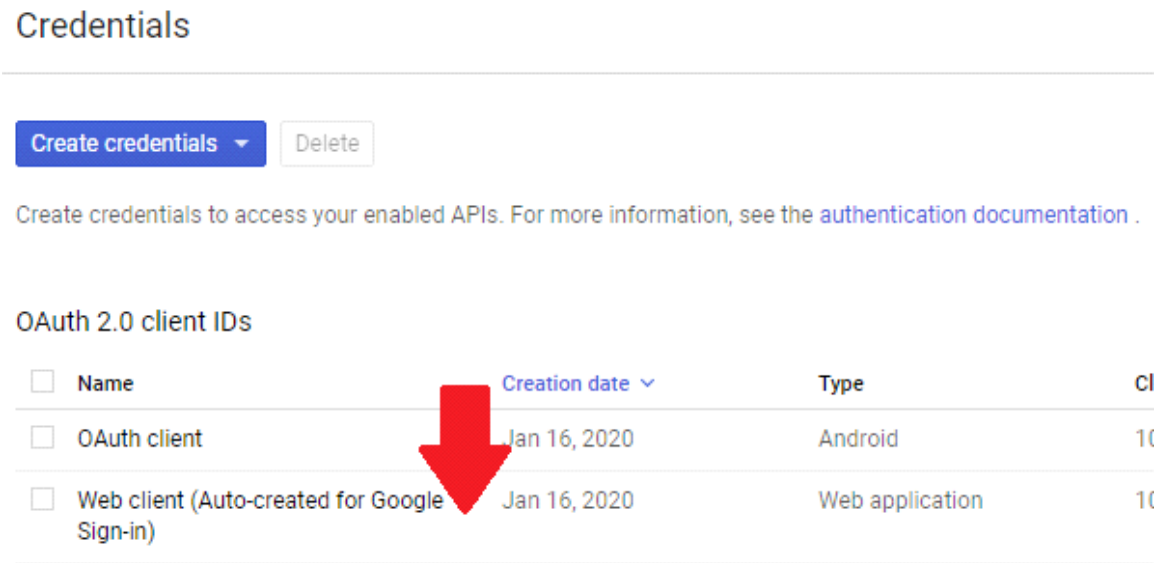


Next, go to Design tab, and go to Configure Platforms.

The Google package name is the package name of your project.



The Google AppId and Client Id is the ID of the Web App that was generated by Google Sign in when you were configuring your project for it. To see this go back to https://console.cloud.google.com/, go to your app, Under the API & Services tab, go to Credentials, click on your Web App, and take the Client ID. Put it into the Client ID section in braincloud... Then take the number in front and put that as the Google App ID in braincloud.



- The Google Secret is the Web App's secret.

Client ID	223329023619-7o4r8l0qe0ijnntpv1fgghkf98ve76ch.apps.googleusercontent.com
Client secret	[redacted]
Creation date	Dec 18, 2019, 11:10:18 AM

Last steps

1. Add The latest of

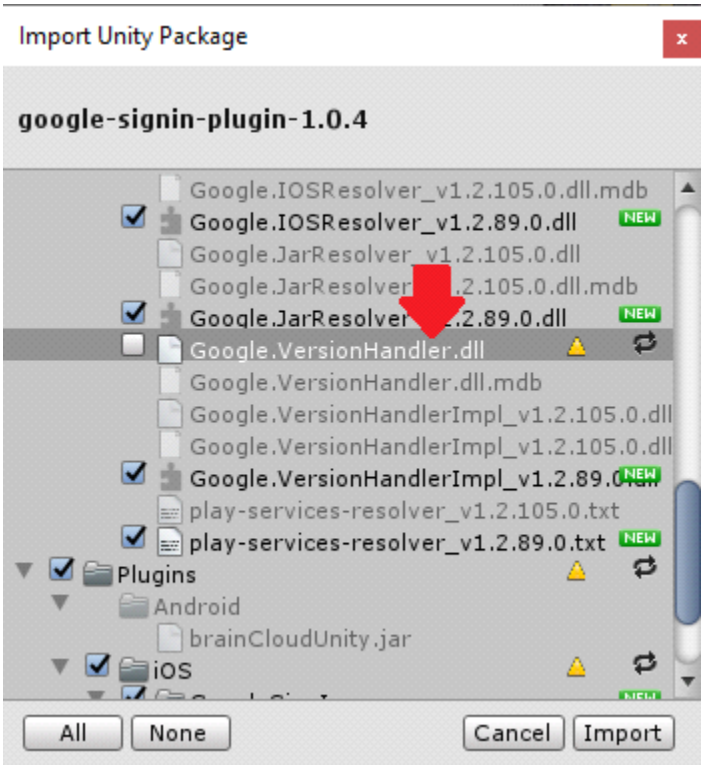
braincloud plugin : https://github.com/getbraincloud/braincloud-csharp

google sign in unity plugin: https://github.com/googlesamples/google-signin-unity

and version v0.9.64 google play plugin : https://github.com/playgameservices/play-games-plugin-for-unity (since the latest releases cause major bugs at the moment)

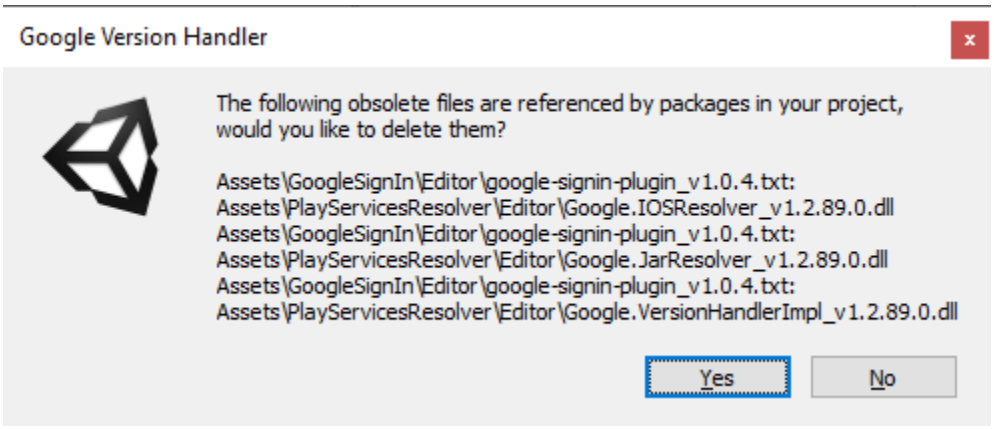
into your unity project.

NOTE: google play plugin and google sign in unity plugin crossover in files. Be sure to turn this check off when importing the google sign in unity plugin into your project to avoid conflicting .dlls.



You will then notice that Unity will start throwing errors. They are there becasue there are some conflicting defines in the Parse folder that the Google Sign In plugin introduces. The fix is to delete the newly created Parse folder.

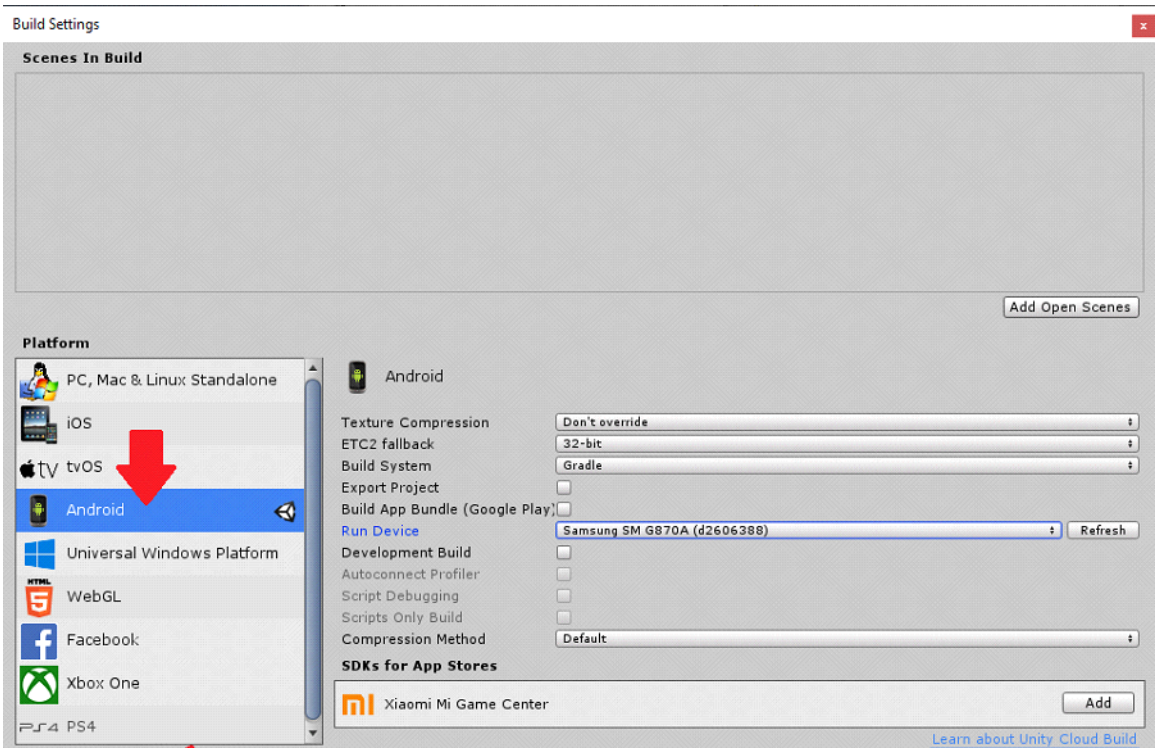
You will then get popups telling you that files are obsolete, say yes to deleting them.



That should be good for conflictions.

2. Be sure to now take the step to change the platform of your app if you haven't already done so to Android.

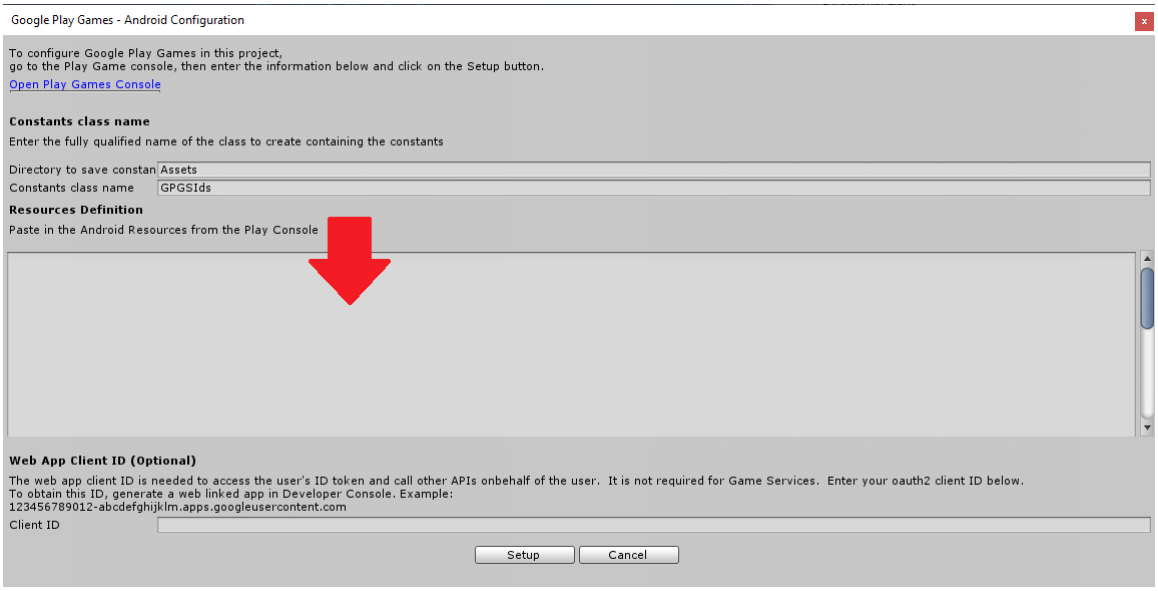
go to File > Build Settings, and change the platform to Android.

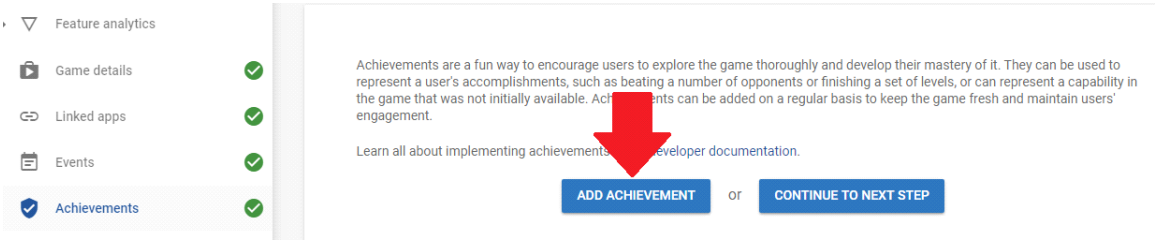


3. Make sure to setup braincloud like you usually would, where you go to the braincloud > Select Settings, and login and hook up your app on braincloud.

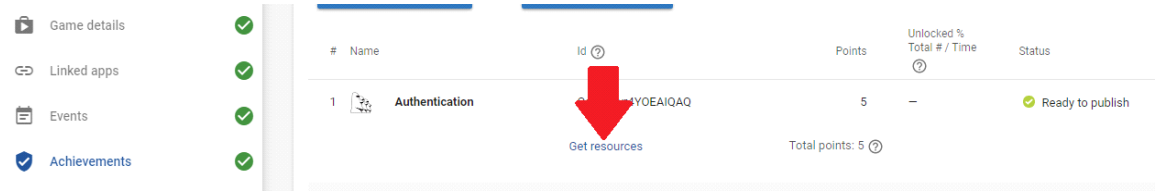
4. Now we can finally integrate and follow the Google Play Games Plugin Documentation to properly setup your app in Unity. https://github.com/playgameservices/play-games-plugin-for-unity. Unless you want the extra stuff, ONLY DO THE **CONFIGURE YOUR GAME** section of the documentation.

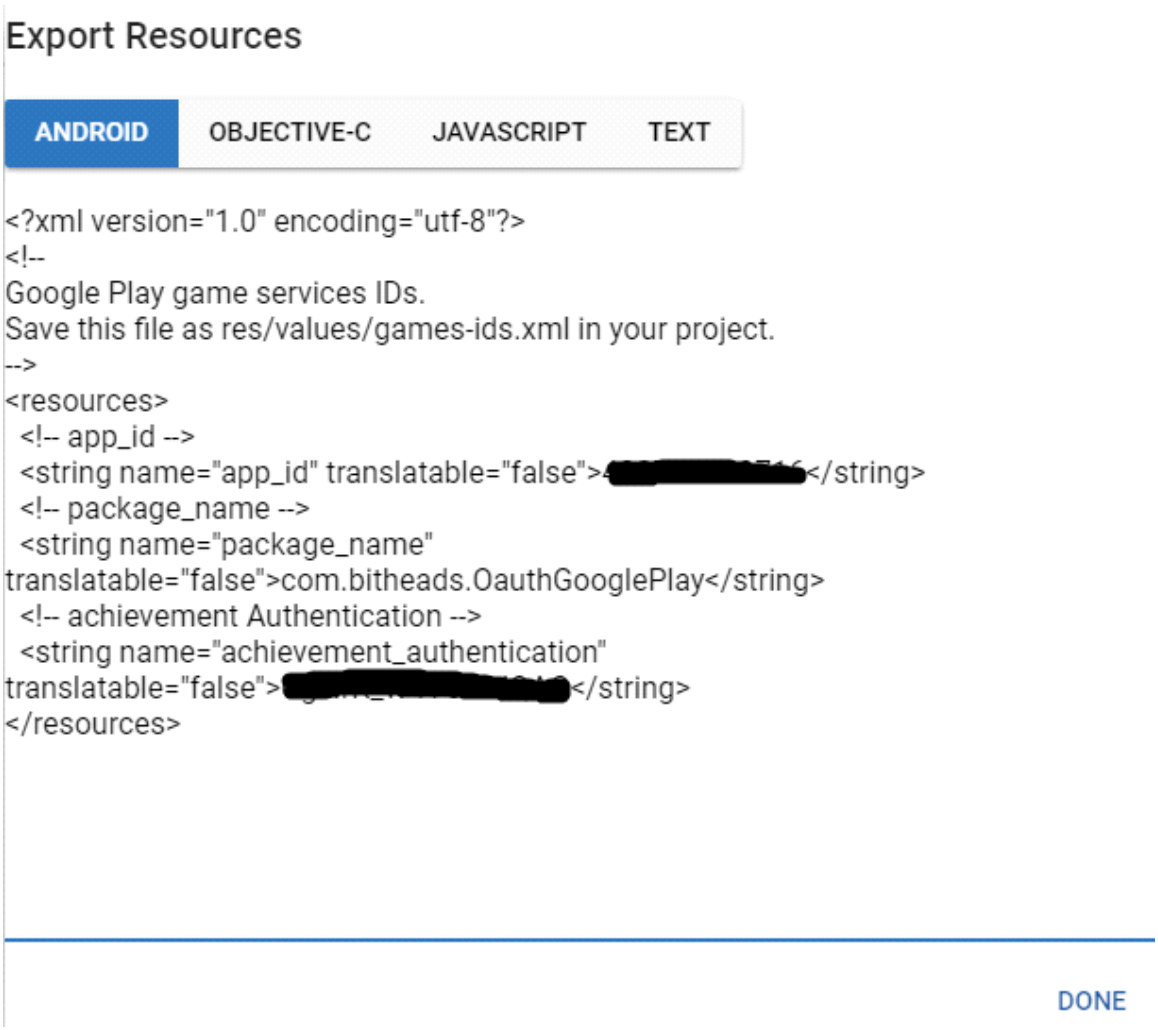
You may find that you need a resources definition, the easiest way to get this is to add an abitrary achievement on google play. Also, NOTE: the Web Client ID you need is the one that was generated on your Google Cloud Platform project.





Once added, with a picture logo you can get the resources.





5. After Google Play Games is setup, We can finally start to add the necessary code for authenticating with google and then with a google account to braincloud.

Key snippets of code:

```
using Google;
```

This gives you access to Google's services. You may also want "using System.Threading.Tasks;" because we will use a thread for the callback.

```
    GoogleSignInConfiguration configuration;
```

This is the configuration of your authentication. You can customize fields to obtain important codes and information about the account that is authenticated to google. The email and the IdToken are what is needed in order to authenticate a google account with Braincloud. You can initialize it and set the

values.

```
configuration = new GoogleSignInConfiguration
{
    WebClientId = webClientId,
    RequestEmail = true,
    RequestIdToken = true,
    RequestAuthCode = true
};
```

Note that this can also be set on the fly instead of on Start or Awake. You just need to access the Configuraton of your google instance like this:

```
GoogleSignIn.Configuration.RequestEmail = true;
GoogleSignIn.Configuration.RequestIdToken = true;
GoogleSignIn.Configuration.RequestAuthCode = true;
```

As an example you may have a function and callback like this:

```
public void OnGoogleSignIn()
{
    //set the google configuration to the configuration object you set up
    GoogleSignIn.Configuration = configuration;

    //Can define this if you're using the game signin which we are.
    GoogleSignIn.Configuration.UseGameSignIn = true;

    //Can also define these tags here like this.
    //GoogleSignIn.Configuration.RequestEmail = true;
    //GoogleSignIn.Configuration.RequestIdToken = true;
    //GoogleSignIn.Configuration.RequestAuthCode = true;
```

```
        // With the configuration set, its now time to start trying to sign in.
       Pass in a callback to wait for success.

        GoogleSignIn.DefaultInstance.SignIn().ContinueWith(OnGoogleAuthSignIn);

    }

    //use a callback with a task to easily get results from the callback in order  to get
the values you need.

    public void OnGoogleAuthSignIn(Task<GoogleSignInUser> task)

    {

        if (task.IsFaulted)

        {

        }

        else

        {

            authCode = task.Result.AuthCode;

            idToken = task.Result.IdToken;

            email = task.Result.Email;

        }

    }
```

6. This whole process of signing in with Google with Google Sign In plugin will give you the Auth code for your app. This is essential because the Google Play games plugin mostly returns an empty string or null value for an auth code EVEN though you request it. Doing this method will confirm that you receive the auth code needed as this is needed for our braincloud server.

7. Now you will want to do some things in code to sign in with Google play games plugin. Doing this will return the google userId you will need to pass into braincloud for google authentication. The code will look something like this :

```
        PlayGamesClientConfiguration config = new PlayGamesClientConfiguration.Builder()

        .RequestIdToken()

        .RequestServerAuthCode(false)

        .Build();
```

```
PlayGamesPlatform.InitializeInstance(config);

PlayGamesPlatform.Activate();


Social.localUser.Authenticate((bool success) => {
    if (success)
    {
        googleId = PlayGamesPlatform.Instance.GetUserId();
    }
    else
    {
    }
});
```

*** You may notice there is the ability to RequestServerAuthCode(), but you will only likely get an empty string with `PlayGamesPlatform.Instance.GetServerAuthCode();` so that's why we need to use the google sign in plugin as well. ***

8. Finally, you can now use the GoogleId you stored, as well as the server auth code you stored from the google authentication you did with the other plugin and put those into the braincloud call to properly authenticate google using our old method.

```
AuthenticateGoogle(googleId, serverAuthCode, true, OnSuccess_Authenticate,
OnError_Authenticate);
```