

1. Get google play services

help: <http://developer.android.com/google/play-services/setup.html>

- run SDKManager.exe
- open extras folder
- check "Google Play services"
- Click button "Install Packages"
- Accept license and install

-
- Open Eclipse
 - Click File>Import>Existing Android Code
 - Browse to
.\adt-bundle-windows-x86_64-20131030\adt-bundle-windows-x86_64-20131030\sdk\extras\google\google_play_services\libproject\google-play-services_lib
 - Check Copy Project into workspace
 - Choose google play service and click Finish
 - Right click on project in package explorer and click Properties
 - Click Android then Add.. under Library
 - Choose Google Play Services
 - Click okay

2. Add project and get API key

- Find .android/debug.keystore file (mine was located at C:\Users\Mavid\.android\debug.keystore)
- Open Terminal
- Type keytool -list -v -keystore [full path to debug.keystore] > temp.txt
- Open temp.txt
- Find the code that begins SHA1 and copy it
(example: 45:B5:E4:6F:36:AD:0A:98:94:B4:02:66:2B:12:17:F2:56:26:A0:E0)
- Go to <https://code.google.com/apis/console/>
- Log in to google account
- Go to APIs & auth
- Turn on [Google Maps Android API v2](#)
- Click on credentials
- Click on Create New Key
- Click on Android Key
- Paste SHA1 key;[package name] (example:
45:B5:E4:6F:36:AD:0A:98:94:B4:02:66:2B:12:17:F2:56:26:A0:E0;com.example.SampleApp)
- Click Create
- Copy new API key

6. Add to manifest permissions, google play services version, API key (see

<https://developers.google.com/maps/documentation/android/start>)

Google Play Services Version child of application tag

```
<meta-data  
  android:name="com.google.android.gms.version"  
  android:value="@integer/google_play_services_version" />
```

Manifest Permissions Child of manifest tag

```
<uses-permission android:name="android.permission.INTERNET"/>  
<uses-permission android:name="android.permission.ACCESS_NETWORK_STATE"/>  
<uses-permission android:name="android.permission.WRITE_EXTERNAL_STORAGE"/>  
<uses-permission  
  android:name="com.google.android.providers.gsf.permission.READ_GSERVICES"/>  
<!-- The following two permissions are not required to use  
      Google Maps Android API v2, but are recommended. -->  
<uses-permission android:name="android.permission.ACCESS_COARSE_LOCATION"/>  
<uses-permission android:name="android.permission.ACCESS_FINE_LOCATION"/>
```

Google API key child of application tag

```
<meta-data  
  android:name="com.google.android.maps.v2.API_KEY"  
  android:value="API_KEY"/>
```

OpenGL child of manifest tag

```
<uses-feature  
  android:glEsVersion="0x00020000"  
  android:required="true"/>
```

9. Create new gmap activity

See previous lectures. If you need to create a class instead of an android activity, make sure to add the new activity to the manifest.

10. Edit xml

Add the following to the connect xml (activity_google_maps)

```
<?xml version="1.0" encoding="utf-8"?>
<fragment xmlns:android="http://schemas.android.com/apk/res/android"
    android:id="@+id/map"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:name="com.google.android.gms.maps.SupportMapFragment"/>
```

11. Edit .java

This will bring up the map, some editing may be required

```
-----
package com.example.coolapp;

/*These imports are all necessary
 * You also must add the Google-play-services_lib library to your project
 * Check out http://developer.android.com/google/play-services/setup.html
 * for instructions
 *
 * Outside of Eclipse you must get a Google API key for Google maps and place
 * it in your project manifest. Check out this link:
 * https://developers.google.com/maps/documentation/android/start
 * and this project manifest for examples
 *
 * Other than this .java page, you must have a .xml layout page. Find it under
 * layout/activity_google_maps.xml
 */
import com.google.android.gms.maps.GoogleMap;
import com.google.android.gms.maps.SupportMapFragment;
import android.os.Bundle;
import android.support.v4.app.FragmentActivity;

public class GoogleMapsSample extends FragmentActivity
{

    private GoogleMap sampleMap; //Google Map variable

    @Override
```

```
protected void onCreate(Bundle savedInstanceState) {  
    super.onCreate(savedInstanceState);  
    //set xml layout  
    setContentView(R.layout.activity_google_maps);  
}
```

```
@Override  
protected void onResume() {  
    super.onResume();  
    setUpMapIfNeeded();  
}
```

```
private void setUpMapIfNeeded() {  
    // Do a null check to confirm that we have not already instantiated the map.  
    if (sampleMap == null) {  
        // Try to obtain the map from the SupportMapFragment.  
        sampleMap = ((SupportMapFragment)  
getSupportFragmentManager().findFragmentById(R.id.map))  
            .getMap();  
        // Check if we were successful in obtaining the map.  
        if (sampleMap != null) {  
            //Allow user to pinpoint their location  
            sampleMap.setMyLocationEnabled(true);  
        }  
    }  
}
```