# Lab 4

In this part, students will develop a mobile application for Google Map.

Here is the screen capture:

Map

Description automatically generated

# **Generating API Key**

1. Go to <https://console.developers.google.com/project> to register your project



1. Click “Create Project”

Graphical user interface, text, application, email

Description automatically generated

1. Click “APIs & Services” and open “Dashboard”

Background pattern

Description automatically generated with low confidence

1. Click “Enable APIS and Service”



1. Open Google Map Android API and click “Enable”

Graphical user interface, application

Description automatically generatedGraphical user interface, application

Description automatically generated

1. Click “**Credentials”**

Application

Description automatically generated with low confidence

1. Click on Create credentials and choose API key

Graphical user interface, text, application

Description automatically generated

1. Copy the API key

Graphical user interface, text, application, email

Description automatically generated

# **Android App**

Step 1:

In Android Studio, create a new project named Lab 2 Part 1 with following project setting:

* Choose your project : **Google Maps Activity**
* Application Name : **Lab 4**
* Project location : use the default setting
* Language : **Java**
* Minimum API level: **API 21: Android 5.0 (Lollipop)**
* Click **Finish**

Step 2:

Copy the key to **YOUR\_KEY\_HERE** insidegoogle\_maps\_api.xml

Text

Description automatically generated with low confidence

Step 3:

Replace the following code inside the dependencies of build.gradle

implementation 'androidx.appcompat:appcompat:1.4.1'  
implementation 'com.google.android.material:material:1.6.0'  
implementation 'com.google.android.gms:play-services-maps:18.0.2'  
implementation 'androidx.constraintlayout:constraintlayout:2.1.3'  
testImplementation 'junit:junit:4.13.2'  
implementation 'com.google.android.gms:play-services-location:19.0.1'  
  
androidTestImplementation 'androidx.test.ext:junit:1.1.3'  
androidTestImplementation 'androidx.test.espresso:espresso-core:3.4.0'

Step 4:

Add the permission request in the AndroidManifest.xml

<uses-permission android:name="android.permission.ACCESS\_FINE\_LOCATION" />  
<uses-permission android:name="android.permission.ACCESS\_COARSE\_LOCATION" />  
<uses-permission android:name="android.permission.INTERNET" />

Step 5:

Add the following inside <application>

<meta-data  
 android:name="com.google.android.geo.API\_KEY"  
 android:value="@string/google\_maps\_key" />  
  
<uses-library android:name="org.apache.http.legacy" android:required="false"/>

Step 6:

Replace MapsActivity.java