

# **Google Maps Integration**

## **Introduction**

Google Maps is a desktop web mapping service developed by Google. It offers satellite imagery, street maps, 360° panoramic views of streets (Street View), real-time traffic conditions (Google Traffic), and route planning for traveling by foot, car, bicycle (in beta), or public transportation.

Google Maps for mobile was released in September 2008 and features GPS turn-by-turn navigation. In August 2013, it was determined to be the world's most popular app for smartphones, with over 54% of global smartphone owners using it at least once.

In June 2012, Apple announced that they would replace Google Maps with their own maps service from iOS 6. However, on December 13, 2012, Google announced the availability of Google Maps in the Apple App Store, starting with the iPhone version. Just hours after the Google Maps iOS app was released, it became the top free app in the App Store.

With the Google Maps SDK for iOS, you can add maps based on Google maps data to your application. The SDK automatically handles access to the Google Maps servers, map display, and response to user gestures such as clicks and drags. You can also add markers, polylines, ground overlays and info windows to your map. These objects provide additional information for map locations, and allow user interaction with the map.

## **Attribution Requirements**

If you use the Google Maps SDK for iOS in your application, you must include the attribution text as part of a legal notices section in your application. Including legal notices as an independent menu item, or as part of an "About" menu item, is recommended.

You can get the attribution text by making a call to [\[GMServices openSourceLicenseInfo\]](#).

## **Supported Platforms**

With the Google Maps SDK for iOS, you can build apps that target native 32-bit or 64-bit devices running iOS 7.0 and later. Developing an application with the Google Maps SDK for iOS requires at least Xcode 7.0 with a target SDK of 8.0 or later (note that setting a target SDK of 8.0 or later will not prevent your app from running on iOS 7.0).

Applications that use the Google Maps URL scheme require that the target device has Google Maps for iOS installed.

Use of the Google Maps SDK for iOS within iOS app extensions is unlikely to work, due to the strict memory restrictions which are applied. For example, use of the SDK within a custom keyboard is unlikely to work.

## **Getting Started**

Before you can begin working with Google Maps on iOS, you need to download the Google Maps SDK for iOS and ensure that you have an API key.

### **Step 1: Get the latest version of Xcode**

To build a project using the Google Maps SDK for iOS, you need **version 7.0** or later of Xcode.

### **Step 2: Install the SDK**

#### **Install manually**

To manually add the GoogleMaps framework to your project and configure your build settings in Xcode.

1. Download the SDK source files: [GoogleMaps-2.0.1](#)

2. Unpack the source files.
3. Launch Xcode and either open an existing project, or create a new project. If you're new to iOS, create a *Single View Application*, and disable *Use Storyboards*(*may use storyboard*) and enable *Use Automatic Reference Counting*.
4. **Drag the following** bundles into your project (when prompted, select **Copy items if needed**):
  - *Subspecs/Base/Frameworks/GoogleMapsBase.framework*
  - *Subspecs/Maps/Frameworks/GoogleMaps.framework*
  - *Subspecs/Maps/Frameworks/GoogleMapsCore.framework*

Premium Plan customers must also include  
*Subspecs/M4B/Frameworks/GoogleMapsM4B.framework*.

5. **Right-click GoogleMaps.framework** in your project, and select **Show In Finder**.
6. Drag the GoogleMaps.bundle from the Resources folder into your project. When prompted, ensure *Copy items into destination group's folder* is **not** selected.
7. Select your project from the Project Navigator, and choose your application's target.
8. Open the **Build Phases** tab, and within **Link Binary with Libraries**, add the following frameworks:
  - *GoogleMapsBase.framework*
  - *GoogleMaps.framework*
  - *GoogleMapsCore.framework*
  - *GoogleMapsM4B.framework* (*Premium Plan customers only*)
  - *Accelerate.framework*
  - *CoreData.framework*
  - *CoreGraphics.framework*
  - *CoreLocation.framework*
  - *CoreText.framework*
  - *GLKit.framework*
  - *ImageIO.framework*
  - *libc++.tbd*
  - *libz.tbd*
  - *OpenGLES.framework*
  - *QuartzCore.framework*
  - *SystemConfiguration.framework*
  - *UIKit.framework*
9. **Choose your project**, rather than a specific target, and open the **Build Settings** tab. In the **Other Linker Flags** section, add **-ObjC**. If these settings are not visible, change the filter in the *Build Settings* bar from *Basic* to *All*.

### **Step 3 : Get API Key**

To use the Google Maps SDK for iOS, you must register your app project on the Google API Console and get a Google API key which you can add to your app. **Note:** There are various types of API keys. You need an **iOS key**, not a browser key.

Follow these steps to get an API key:

1. Go to the [Google API Console](#)

2. Create or select a project.
3. Click **Continue** to enable the Google Maps SDK for iOS.
4. On the **Credentials** page, get an **iOS key** and enter your app's bundle identifier when prompted. For example: com.example.hellomaps.  
Note: If you have an existing **iOS key**, you may use that key. You can use the same key with any of your iOS applications within the same project.
5. Click **Create**.

Your new iOS key appears in the list of API keys for your project. An API key is a string of characters, something like this:

*AIzaSyBdVl-cTICSwYKrZ95SuvNw7dbMuDt1KG0*

You can also look up an existing key in the Google API Console.

#### **Step 4 : Add the API key to your application**

##### **Swift**

Add your API key to your **AppDelegate.swift** as follows:

1. Add the following import statement:

*import GoogleMaps*

2. Add the following to your **application(\_:didFinishLaunchingWithOptions:)** method, replacing *YOUR\_API\_KEY* with your API key:

*GMSServices.provideAPIKey("YOUR\_API\_KEY")*

3. If you are also using the Places API, add your key again as shown here:

*GMSPplacesClient.provideAPIKey("YOUR\_API\_KEY")*

##### **Objective-C**

Add your API key to your **AppDelegate.m** as follows:

1. Add the following import statement:

*@import GoogleMaps;*

2. Add the following to your **application:didFinishLaunchingWithOptions:** method, replacing *YOUR\_API\_KEY* with your API key:

*[GMSServices provideAPIKey:@"YOUR\_API\_KEY"];*

3. If you are also using the Places API, add your key again as shown here:

*[GMSPplacesClient provideAPIKey:@"YOUR\_API\_KEY"];*

Now you are all set and can start development.

Import Googlemaps to your viewcontroller or other class file to use the different methods associated with it.

#### **Mapkit Framework**

The Mapkit framework also works similar way. As it is a built in framework there is no need of installing it.

Just add the Mapkit framework to your project target's **Linked phases and Libraries**. And then import it to your class and you can use its methods.

## **Reference**

Google Maps : <https://developers.google.com/maps/documentation/ios-sdk/start>

Apple Maps :

[https://developer.apple.com/library/mac/documentation/MapKit/Reference/MapKit\\_Framework\\_Reference/](https://developer.apple.com/library/mac/documentation/MapKit/Reference/MapKit_Framework_Reference/)