

# How to use Google Maps API

2018/12/3  
Sample  
Procedure

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# Google Cloud Platform (GCP)

- It is a public cloud service provided by Google.
- Google offers services such as search engines / Gmail / YouTube using data centers around the world owned by the company and global network lines interconnecting them.
- Google Cloud Platform is a service that makes the foundation that supports this Google service useful for general users.
- Google Moon API uses Maps JavaScript API(=Google Maps API)

# The home page of GCP

New pricing changes will go into effect starting July 16, 2018. For more information, check out the [Guide for Existing Users](#).

## Welcome to Google Maps Platform

Explore where real-world insights and immersive location experiences can take your business

GET STARTED

99%  
coverage of the world

25 million  
updates daily

1 billion  
monthly active users

# Steps to use Google Moon API

1. Register Account
2. Create a New Project
3. Activate API
4. Get API key

# 1. Register account

There are two things necessary for account registration of GCP.

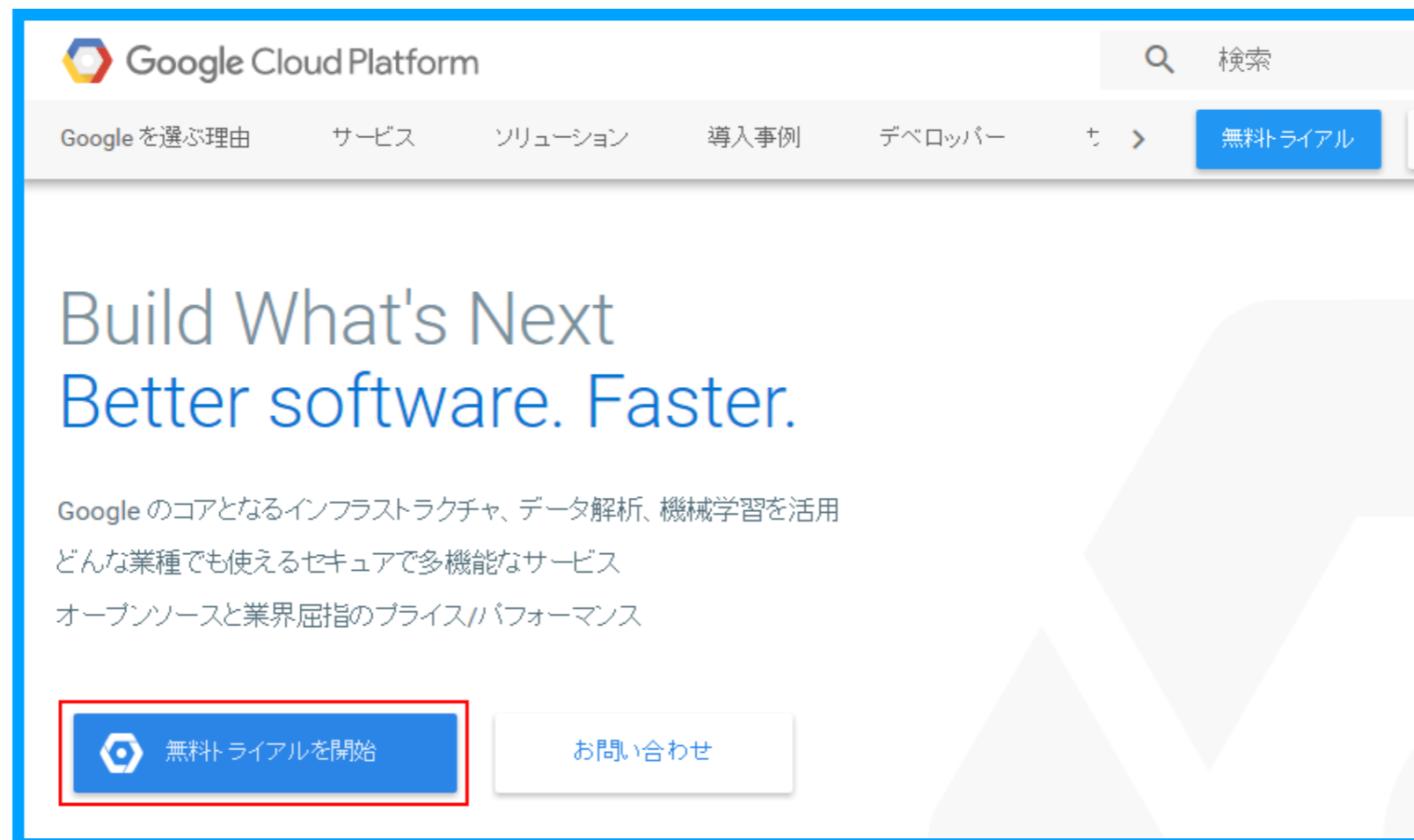


- Google Account
- Credit card or bank account

A Google Account is an account you use for services provided by Google, such as Gmail and Google+ .Card information is used for confirming identity verification and not registration by robot. If you do not have a credit card, you can also register using a bank account.

Choose to “”Start a free trial” and register the following information.

- Country and currency
- Account type (business / individual)
- Name and Address
- Payment method (credit card / debit card)
- Language used





Credit card information is necessary, but you can use API free.

## See how far your monthly \$200 free credit can go

Scroll through each card below to estimate what the \$200 monthly credit gets you, by API. The credit can be used for Maps, Routes, or Places and rates are subject to change.

MAPS

### Unlimited

Dynamic Maps mobile loads

#### Example usage

A weather app that allows users to interact with custom climate trend maps across the country.

#### \$200 free monthly usage

For most of our users, the \$200 monthly credit is enough to support their needs. You can also set daily quotas to protect against unexpected increases.

#### Pay only for what you use

Our pricing scales to fit your needs with no commitments, termination fees, or usage limits – and you can use mobile Maps at no charge.

#### We're here to help

All customers get Google support and can access community-based development support through Stack Overflow and the Maps API Public Issue Tracker. We also offer tiered coverage for up to 24/7 expert support.

Source: Google Cloud Platform

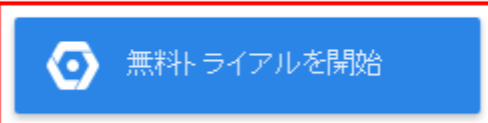



Google Cloud Platform

Google を選ぶ理由 サービス ソリューション 導入事例 デベロッパー 無料トライアル

# Build What's Next Better software. Faster.

Google のコアとなるインフラストラクチャ、データ解析、機械学習を活用  
どんな業種でも使えるセキュアで多機能なサービス  
オープンソースと業界屈指のプライス/パフォーマンス

① Click to “Start a free trial” on the GCP.

② Select the type of country and account (business/individual)

Google Cloud Platform

## Google Cloud Platform の無料試用

country 国

Type of Account 口座の種類  ビジネス  個人

9

- ③ Enter name and address
- ④ Enter payment method and language
- ⑤ Finish

**名前と住所**

郵便番号

都道府県

市区郡

住所 1 行目

名前

**Name & Address**

**メインの連絡先**

名前

電話番号

メールアドレス

サービス提供者は CT（消費税）の申告を行う責務を負い、利用者には 2015 年の改正消費税法に従って、受けたサービスに対して適宜 CT が課されます。Google はサービス提供者として、CT に準じた請求書を発行します。

**お支払い方法** クレジット カードまたはデビットカード

カード番号

MM / YY CVC ?

カードの名義

クレジット（デビット）カードの住所は上記と同じ

**Payment method**

**使用言語** ? 日本語

**Language**

新機能のお知らせ、パフォーマンスに関するアドバイス、フィードバック調査、特典に関する最新情報をメールで受け取ります。

はい  いいえ

すべてのサービスと関連 API について、適用される利用規約を遵守して利用することに同意します。また、Google Cloud Platform 無料試用の利用規約を読んだうえで内容に同意します。

続行するにはオンにする必要があります

はい  いいえ


同意して無料試用を開始

# 2. Create project

- When developing a system using GCP, first create a project.
- It is possible for one user to create multiple project.
- When you shut down a project you are using, all the resources used in it are deleted.


1. Select [Home]–[Dashboard], and click the [Create New Project]
2. Enter Project Name

### New Project

 You have 24 projects remaining in your quota. Request an increase or delete projects.  
[Learn more](#)  
[MANAGE QUOTAS](#)

**Project Name \***  
My Project 55433 ?

Project ID: iconic-heading-224219. It cannot be changed later. [EDIT](#)

**Location \***  
 No organization [BROWSE](#)

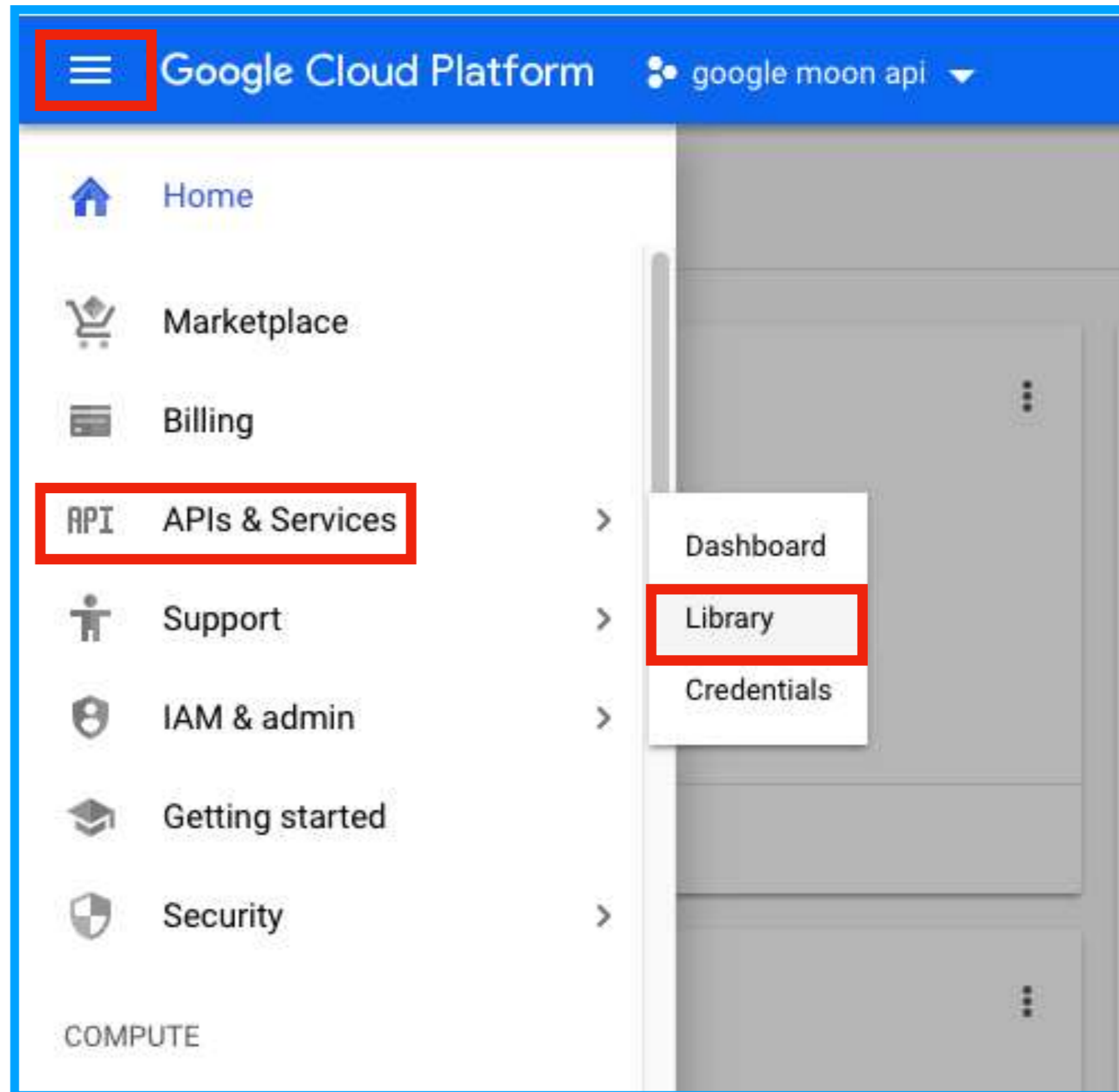
Parent organization or folder

[CREATE](#) [CANCEL](#)

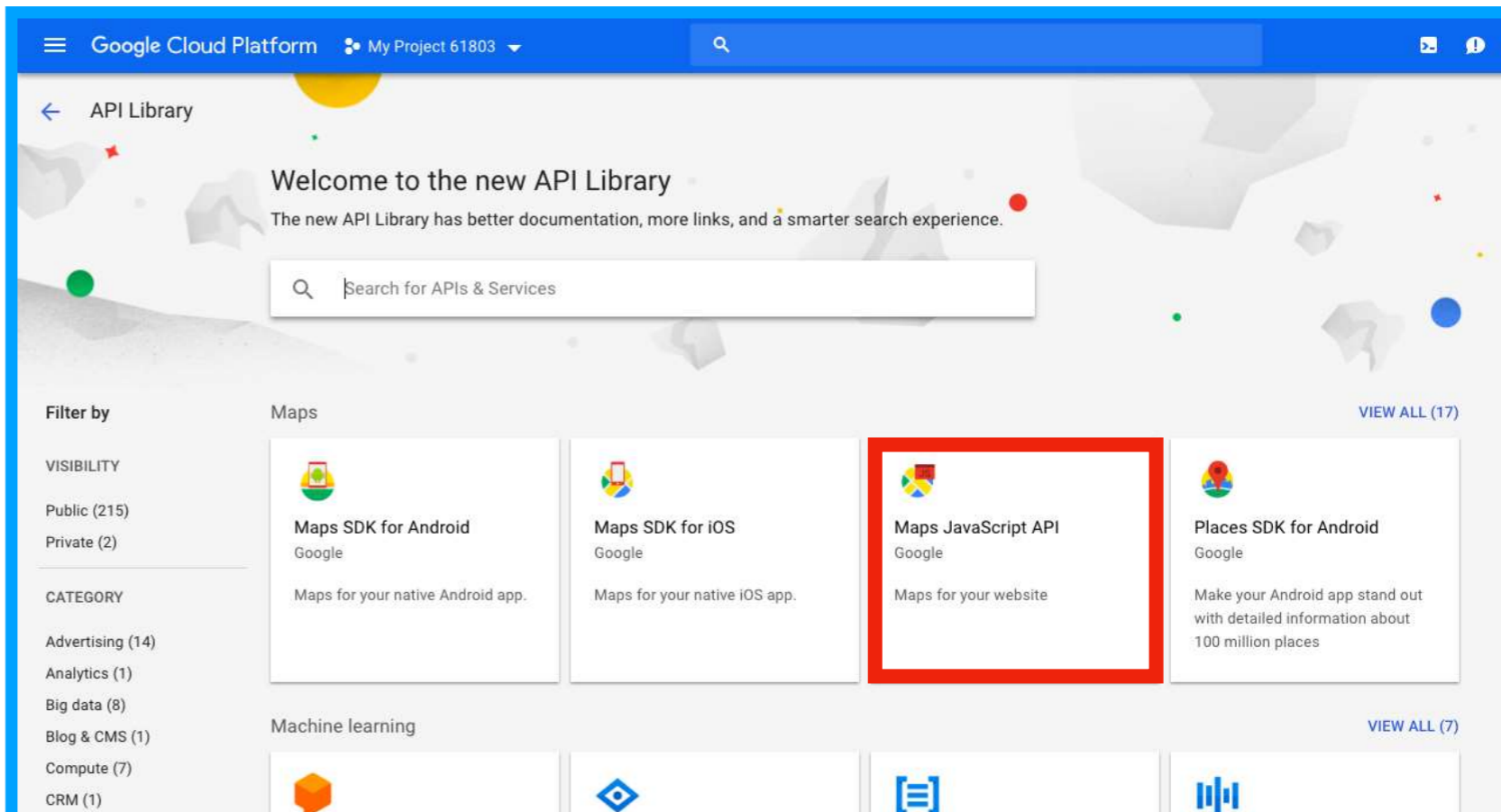
# 3. Activate API

- GCP services and other APIs must be activated before they can be used in GCP projects.
- For BigQuery, Cloud SQL, Cloud Storage etc, the service is activated by default.

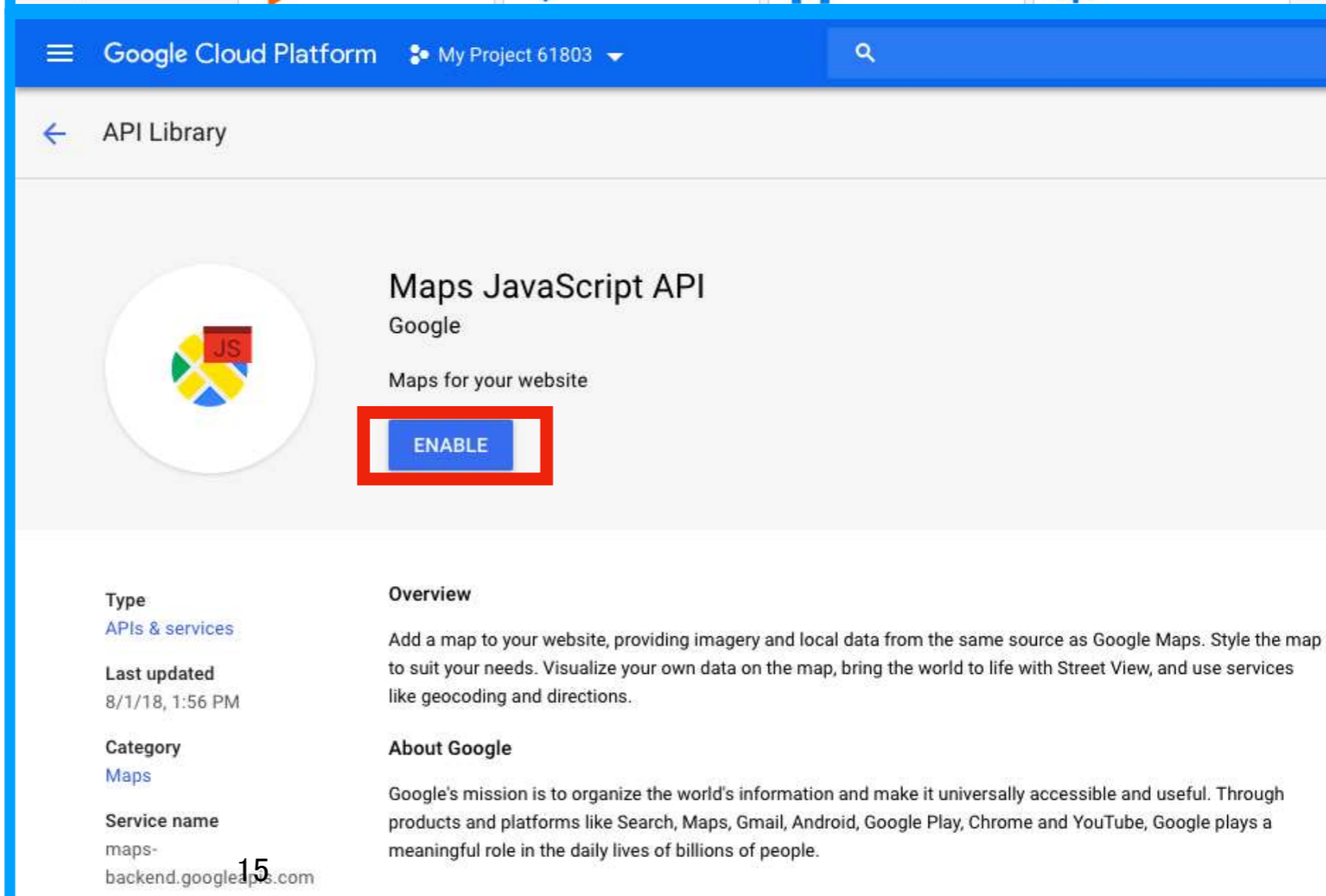
Go to the API Library page.  
[Menu]-[APIs & Services]-  
[Library]



Select of search the API from API Library.  
(This time I will select Maps JavaScript API.)



Click the “ENABLE” button to activate the API.



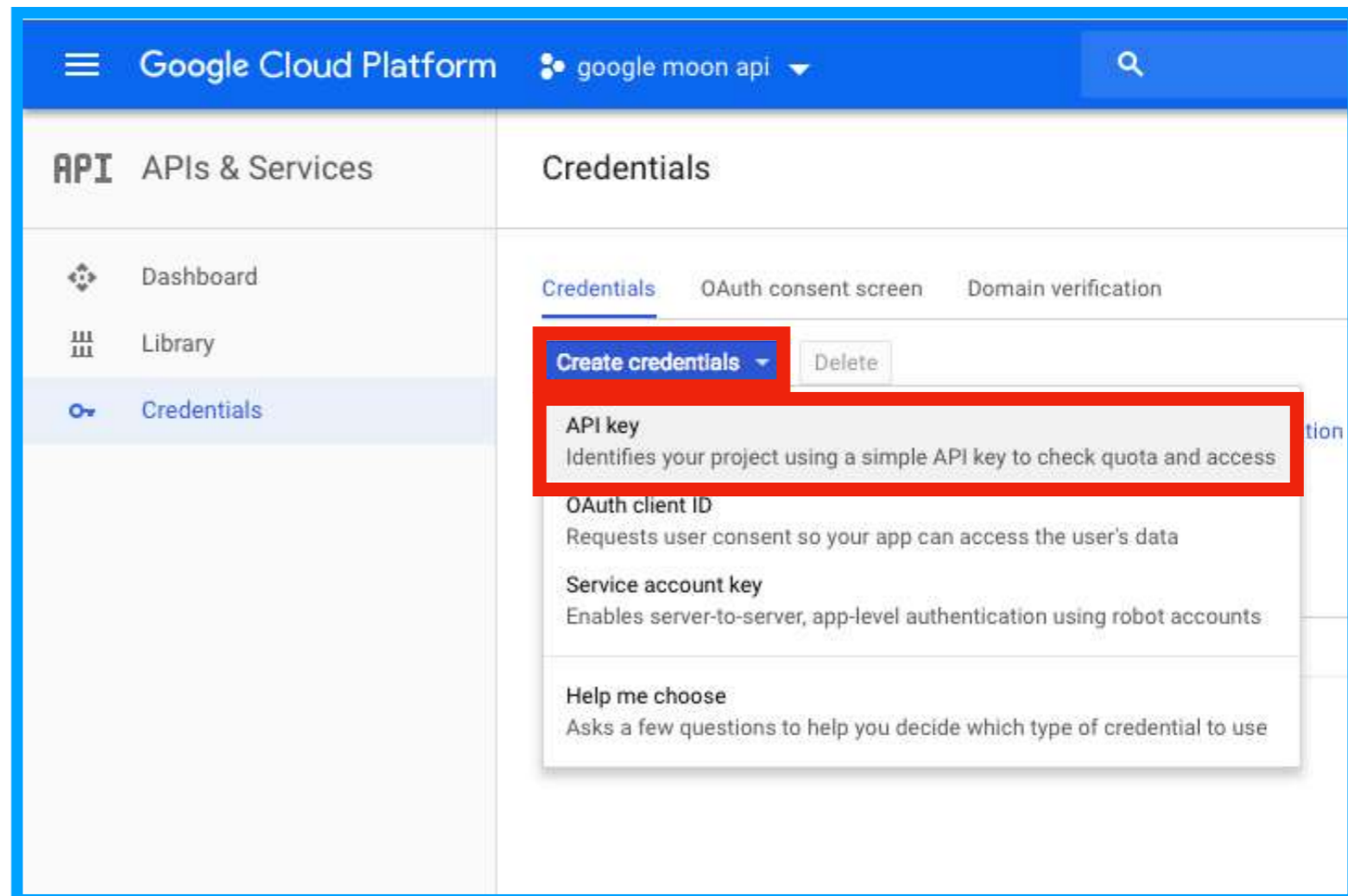
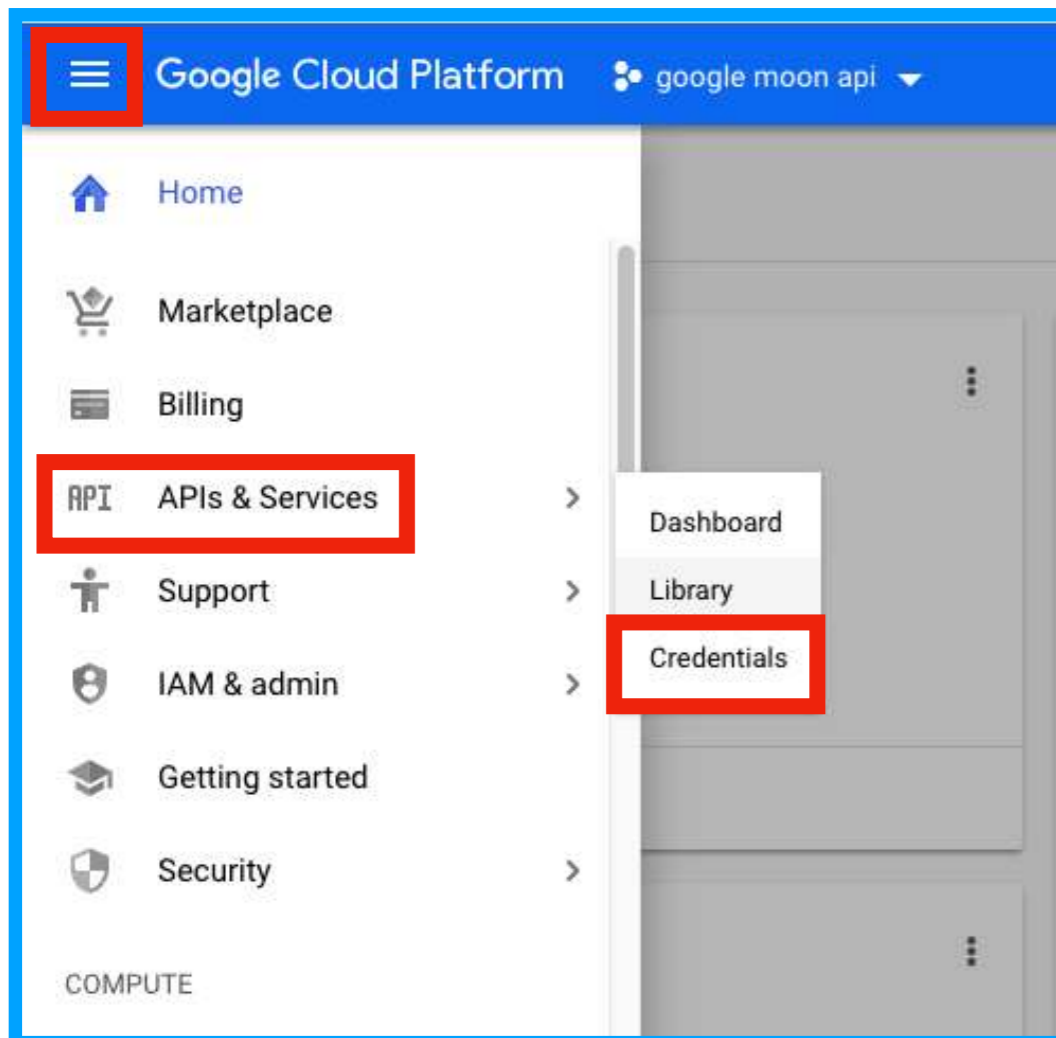


# 4. Get API key

- API can not be used just by enabling API.
- Get the API key for source code.

```
map = new google.maps.Map(document.getElementById('map'), {
  center: {lat: -34.397, lng: 150.644},
  zoom: 8
});
}
</script>
<script src="https://maps.googleapis.com/maps/api/js?key=YOUR_API_KEY&callback=initMap"
  async defer></script>
</body>
</html>
```

Go to the Credentials page.  
[Menu]-[APIs & Services]-[Credentials]



After you get the API key you can check it on this page.

The screenshot shows the Google Cloud Platform interface. The top navigation bar includes the Google Cloud Platform logo, the project name 'google moon api', and a search icon. The left sidebar shows the navigation menu with 'APIs & Services' selected, and sub-items for 'Dashboard', 'Library', and 'Credentials'. The main content area is titled 'Credentials' and has three tabs: 'Credentials', 'OAuth consent screen', and 'Domain verification'. Below the tabs are buttons for 'Create credentials' and 'Delete'. A text instruction reads: 'Create credentials to access your enabled APIs. Refer to the API documentation for details.' Below this is a section titled 'API keys' containing a table with one row of data.

<input type="checkbox"/>	Name	Creation date	Restrictions	Key
<input type="checkbox"/>	API キー 1	Nov 1, 2018	2 APIs	[Redacted Key]

# Dashboard

To check the status of the whole project of GCP, click [Home] – [Dashboard]. You can check the op

The screenshot shows the Google Cloud Platform (GCP) Dashboard for the project 'google moon api'. The interface is organized into several sections:

- Project info:** Displays project details such as Project name (google moon api), Project ID (numeric-polygon-221202), and Project number (318427729254). A link to 'Go to project settings' is provided.
- Resources:** Indicates that this project has no resources.
- Trace:** Shows 'No trace data from the past 7 days' and a link to 'Get started with Stackdriver Trace'.
- Getting Started:** A section for new users to learn about GCP.
- API APIs:** A line chart showing 'Requests (requests/sec)' over time. The Y-axis ranges from 0.0155 to 0.0175. The X-axis shows times from 5:15 to 6 AM. A data point is highlighted at 5:45 with a value of 0.017. A link to 'Go to APIs overview' is included.
- Google Cloud Platform status:** Shows 'All services normal' and a link to 'Go to Cloud status dashboard'.
- Billing:** Displays 'Estimated charges' for the billing period starting Dec 1, 2018, as 'JPY ¥0.00'. A link to 'View detailed charges' is provided.
- Error Reporting:** States 'No sign of any errors. Have you set up Error Reporting?' and includes a link to 'Learn how to set up Error Reporting'.
- News:** Features a news item titled 'Cloud Functions pro tips: Building idempotent functions' from 1 day ago.

# Sample code

- Various sample code and usage are listed on the GCP page.
- Google Moon API sample code is prepared.
- You can display the simplest map by using this.
- Sample code of Google Moon API

<https://developers.google.com/maps/documentation/javascript/examples/maptype-image>

The screenshot shows the Google Maps Platform documentation page for 'Image Map Types'. The page is in Japanese and features a navigation menu with 'Web > Maps JavaScript API' and sub-sections like 'GUIDES', 'REFERENCE', 'SAMPLES', and 'SUPPORT'. A blue banner at the top of the content area mentions pricing changes from July 16, 2018. The main content area is titled 'Image Map Types' and includes a star rating, a '目次' (Table of Contents) section with 'Try it yourself', and a large image of the Moon. The image is labeled 'Moon' and has a 'Google' logo in the bottom left corner. Below the image, there is a link to 'Read the documentation or view this example fullscreen.' and another 'Try it yourself' link.



# Sample code

This “initMap” function can edit the map.  
You can change the zoom level and center position.

Change ImageMapType from Earth to Moon.  
(There is no need to change it.)

```
function initMap() {
  var map = new google.maps.Map(document.getElementById('map'), {
    center: {lat: 0, lng: 0},
    zoom: 1,
    streetViewControl: false,
    mapTypeControlOptions: {
      mapTypeIds: ['moon']
    }
  });

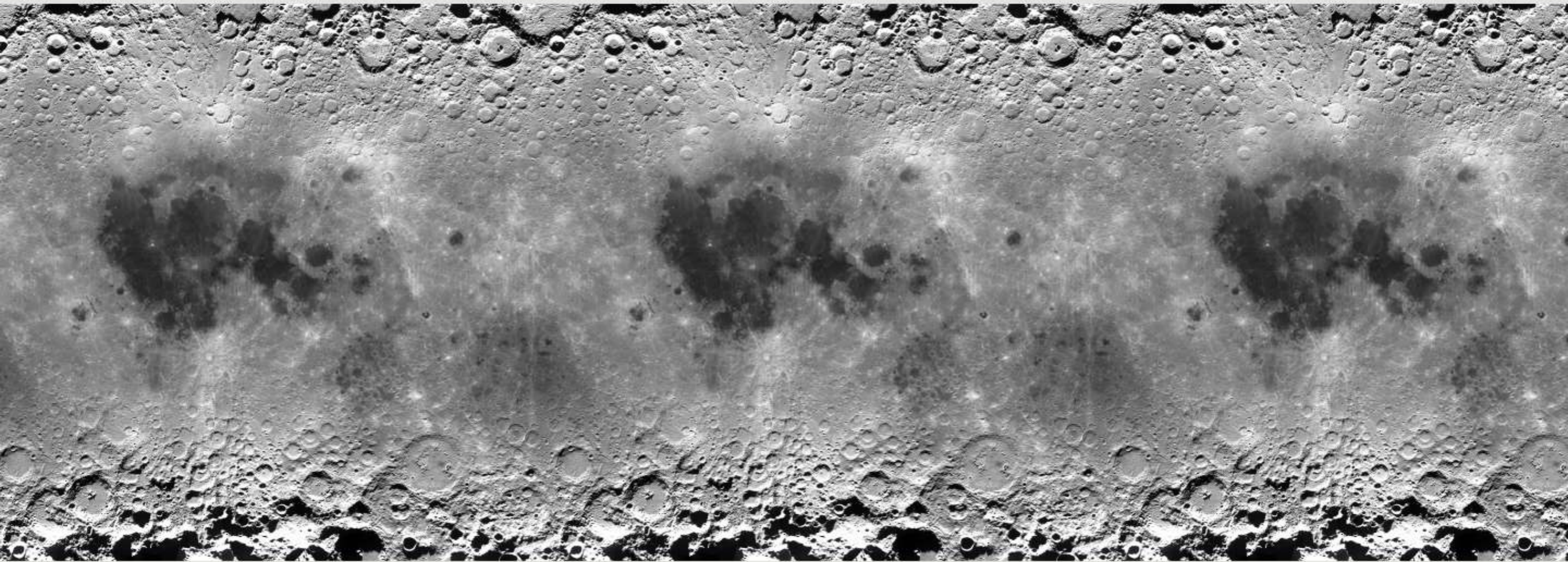
  var moonMapType = new google.maps.ImageMapType({
    getTileUrl: function(coord, zoom) {
      var normalizedCoord = getNormalizedCoord(coord, zoom);
      if (!normalizedCoord) {
        return null;
      }
      var bound = Math.pow(2, zoom);
      return '//mw1.google.com/mw-planetary/lunar/lunarmaps_v1/clem_bw' +
        '/' + zoom + '/' + normalizedCoord.x + '/' +
        (bound - normalizedCoord.y - 1) + '.jpg';
    },
    tileSize: new google.maps.Size(256, 256),
    maxZoom: 9,
    minZoom: 0,
    radius: 1738000,
    name: 'Moon'
  });

  map.mapTypes.set('moon', moonMapType);
  map.setMapTypeId('moon');
}
```

# Sample code

The sample code only display the map.

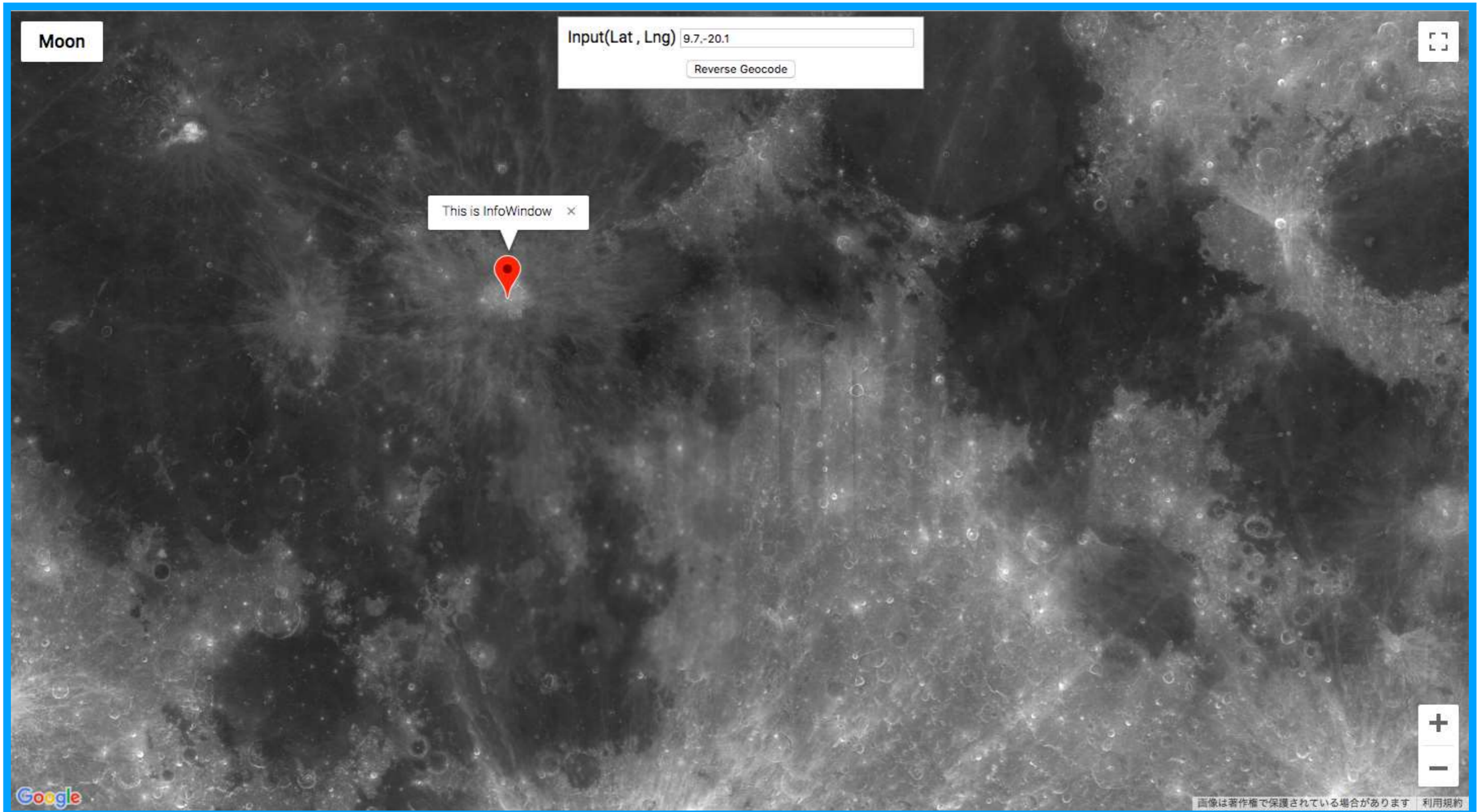
Moon





# Demonstration

The how to use Google Moon API is the same as Google Maps API. Therefore, Marker and InfoWindow can be displayed.



# Demonstration

- ① The setMarker function displays markers based on the lat/lng.
- ② And I change the zoom level to make it easy to see.
- ③ Click on marker to display the InfoWindow.

```
function setMarker(map){  
  ① var input = document.getElementById('latlng').value;  
    var latlngStr = input.split(',',2);  
  
    //console.table(latlngStr);  
    var latlng = {lat:parseFloat(latlngStr[0]), lng:parseFloat(latlngStr[1])};  
  ② map.setZoom(4);  
    var marker = new google.maps.Marker({position: latlng, map: map, title: 'Lat/Lng'+input});  
    var infowindow = new google.maps.InfoWindow({  
      content: 'This is InfoWindow'  
    });  
  ③ marker.addListener('click', function(){infowindow.open(map,marker);});  
}
```