How to use Google Maps API
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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

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

https://cloud.google.com/maps-platform/
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.

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
① Click to “Start a free trial” on the GCP.
② Select the type of country and account (business/individual)
③ Enter name and address
④ Enter payment method and language
⑤ Finish
2. Create project

- When developing a system using GCP, first create a project.

- It is possible for one user to create multiple projects.

- 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
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.
Go to the Credentials page. 
[Menu]–[APIs & Services]–[Credentials]
After you get the API key you can check it on this page.
To check the status of the whole project of GCP, click [Home] - [Dashboard]. You can check the operating status of each service.
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
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.)
Sample code

The sample code only display the map.
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.

```javascript
function setMarker(map){
var input = document.getElementById('latlng').value;
var latlngStr = input.split(',',2);

//console.table(latlngStr);
var latlng = {lat:parseFloat(latlngStr[0]), lng:parseFloat(latlngStr[1])};
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'
});
marker.addListener('click', function(){infowindow.open(map,marker);});
```