

# Google Cloud API

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# Google API Console Library

[← API Library](#)

VISIBILITY

Public (306)

Private (4)

CATEGORY

Advertising (14)

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Email (1)

Financial services (1)

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Maps (17)


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Monitoring (4)

Networking (6)


Security (5)

Social (4)




**Maps SDK for Android**  
Google

Maps for your native Android app.




**Maps SDK for iOS**  
Google

Maps for your native iOS app.




**Maps JavaScript API**  
Google

Maps for your website



**Places API**  
Google

Get detailed information about 100 million places




**Roads API**  
Google

Snap-to-road functionality to accurately trace GPS breadcrumbs.


Machine learning

[VIEW ALL \(8\)](#)




**Dialogflow API**  
Google

Builds conversational interfaces




**Cloud Vision API**  
Google

Image Content Analysis




**Cloud Natural Language API**  
Google

Provides natural language understanding technologies, such as sentiment analysis, entity...



**Cloud Speech-to-Text API**  
Google

Speech recognition




**Cloud Translation API**  
Google

Integrates text translation into your website or application.


G Suite

[VIEW ALL \(19\)](#)




**Google Drive API**  
Google

The Google Drive API allows clients to access resources from Google Drive




**Google Calendar API**  
Google

Integrate with Google Calendar using the Calendar API.




**Gmail API**  
Google

Flexible, RESTful access to the user's inbox



**Google Sheets API**  
Google

The Sheets API gives you full control over the content and appearance of your spreadsheet



**G Suite Marketplace SDK**  
Google

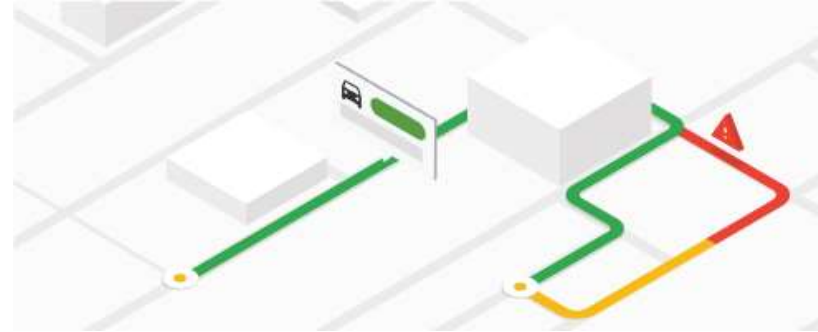
A toolkit for integrating web applications with G Suite.

# Google Maps API

- Maps



- Routes

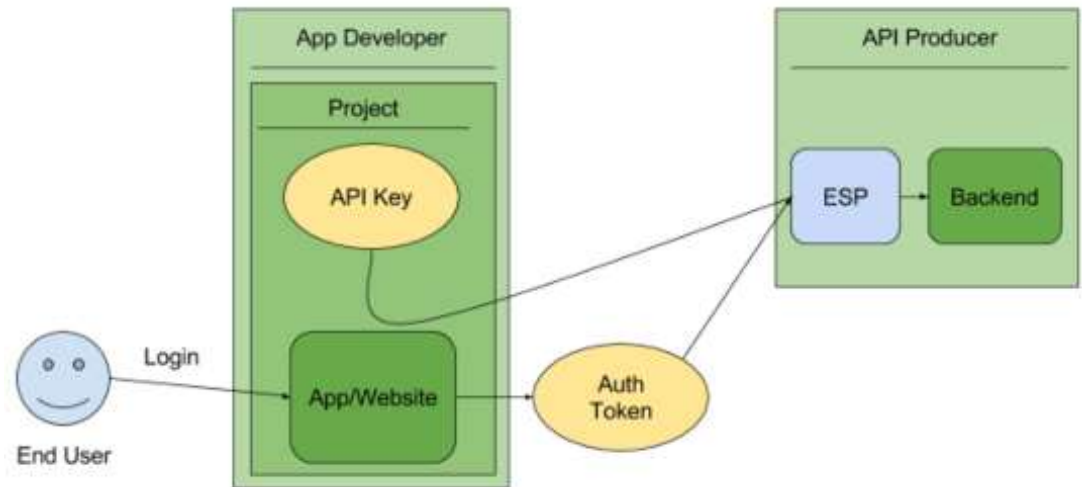


- Places



# Google API Key

- API keys are for projects, authentication is for users
- Cloud Endpoints handles both API keys and authentication schemes, such as Firebase or Auth0. The main distinction between these two is:
- API keys identify the calling project — the application or site — making the call to an API.
- Authentication tokens identify a user — the person — that is using the app or site.



- Home
- Pins appear here
- Marketplace
- Billing
- APIs & Services
- Support
- IAM & Admin
- Getting started
- Security
- Anthos
- COMPUTE
- App Engine
- Compute Engine
- Kubernetes Engine
- Cloud Functions
- Cloud Run
- VMware Engine
- STORAGE

DASHBOARD ACTIVITY RECOMMENDATIONS

# Project

How Google Cloud is helping during COVID-19. [Learn more](#)

### Project info

Project name  
DSIGoogleMap

Project ID  
bamboo-lane-258704

Project number  
122791880272

[ADD PEOPLE TO THIS PROJECT](#)

[Go to project settings](#)

### Resources

This project has no resources

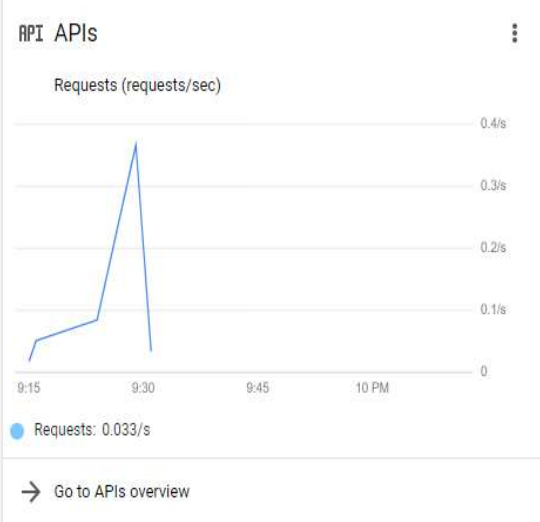
### Trace

No trace data from the past 7 days

[Get started with Trace](#)

### Getting Started

[API](#) Explore and enable APIs



### Google Cloud Platform status

All services normal

[Go to Cloud status dashboard](#)

### Billing

Estimated charges THB ฿0.00  
For the billing period Oct 1 – 27, 2020

[View detailed charges](#)

### Monitoring

[Set up alerting policies](#)















[Create uptime checks](#)

[View all dashboards](#)

[Go to Monitoring](#)

### Error Reporting

No sign of any errors. Have you set up Error Reporting?

-  Billing
-  Overview
-  Reports
-  Cost table
-  Cost breakdown
-  Commitments
-  Budgets & alerts
-  Billing export
-  Pricing
-  Documents
-  Transactions
-  Payment settings
-  Payment method
-  Account management
- <1

Overview

My Billing Account ▾

BILLING ACCOUNT OVERVIEW

PAYMENT OVERVIEW

Billing

Current month

October 1 – 27, 2020

Month-to-date total cost ⓘ

THB0.00

End-of-month total cost (forecasted) ⓘ

THB0.00

→ View report

Cost trend

October 1, 2019 – October 31, 2020

Average monthly total cost

THB0.00

B1

B0.8

B0.6

B0.4

B0.2

B0

Billing account

[Manage](#)

My Billing Account, 01098F-0C1150-6264F4

Organization

No organization

Billing health checks

⌵

Check out your account health results to avoid common billing-related issues and adopt our best practice recommendations. [Learn more](#)

❗ 0

💡 1

✅ 0

→ View all health checks

📺 Free trial credit

THB9,111

Free trial credit

Out of THB9,111

14

Days remaining

# Google API Dashboard

- Using the The simplest way to get a quick view of API metrics is to use the Cloud Platform Console's API Dashboard. You can see an overview of all your API usage metrics, or you can drill down to your usage of a specific API.
- To see an overview of your usage metrics in the console, go to your Google Cloud project's APIs and Services section — the main API Dashboard is displayed by default. In this page you can see all the APIs you currently have enabled for your project, as well as overview charts for the following metrics:
  - Traffic: the number of requests per second made by your project to all your enabled APIs
  - Errors: the percentage of your requests to your enabled APIs that have resulted in errors
  - If you have APIs enabled that support latency metrics, you'll also see the following:
    - Median latency: the median latency for your requests

API APIs & Services

APIs & Services

+ ENABLE APIS AND SERVICES

Google Console API Dashboard

- Dashboard
- Library
- Credentials
- OAuth consent screen
- Domain verification
- Page usage agreements

1 hour

6 hours

12 hours

1 day

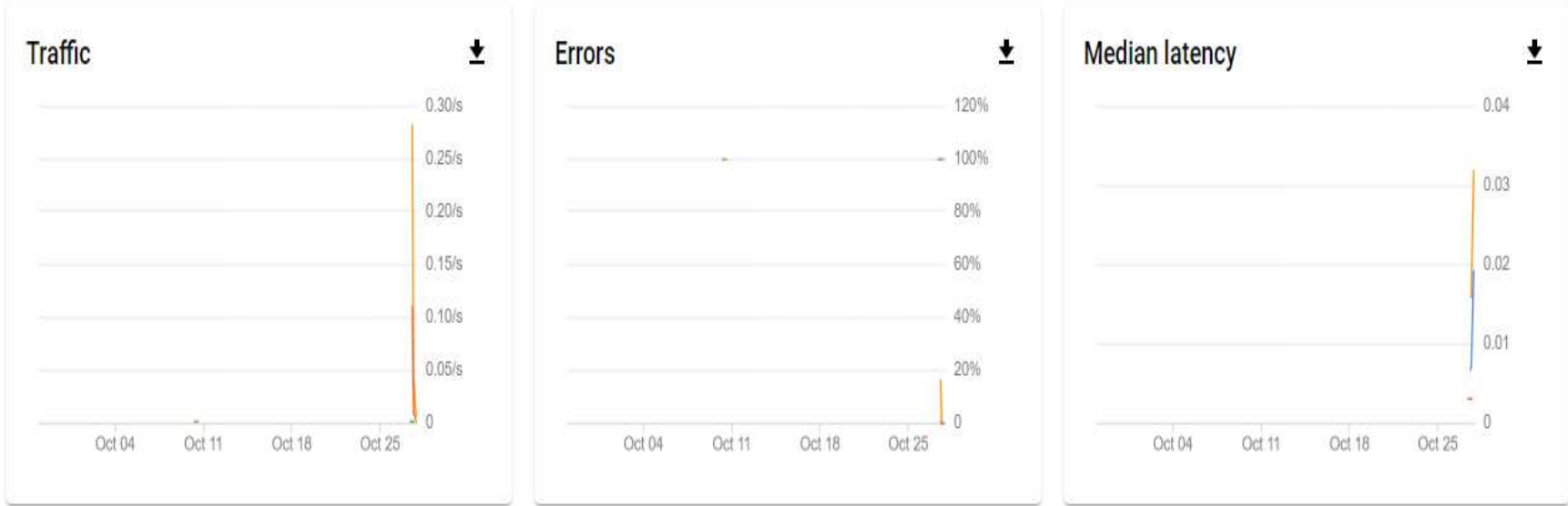
2 days

4 days

7 days

14 days

30 days



Filter

Name	↓ Requests	Errors (%)	Latency, median (ms)	Latency, 95% (ms)
Places API	3,574	14	16	53
Maps JavaScript API	1,315	0	6	15



# Loading the Maps JavaScript API

- The Maps JavaScript API is loaded using a script tag, which can be added inline in your HTML file or dynamically using a separate JavaScript file.

```
<script defer  
src="https://maps.googleapis.com/maps/api/js?key=YOUR_API_KEY&callback=initMap">  
</script>
```

src: The URL where the Maps JavaScript API is loaded from, including all of the symbols and definitions you need for using the Maps JavaScript API. The URL has two parameters: key, where you provide your API key, and callback, where you specify the name of a global function to be called once the Maps JavaScript API loads completely.

defer: Asks the browser to parse the HTML document first before loading the script. When the script is executed, it will call the function specified using the callback parameter.

# Load Map API from JavaScript file

- To dynamically load the Maps JavaScript API inline using a separate JavaScript file, see the example below. This approach allows you to handle all of your code for working with the API from a separate .js file, and is the equivalent of adding the script tag inline.

```
var script = document.createElement('script');
script.src =
'https://maps.googleapis.com/maps/api/js?key=YOUR_API_KEY&callback=initMap';
script.defer = true;
// Attach your callback function to the `window` object
window.initMap = function() {
  // JS API is loaded and available
};
document.head.appendChild(script);    // Append the 'script' element to 'head'
```

# Initial Map to Browser

```
let map;  
function initMap() {  
  map = new google.maps.Map(document.getElementById("map"), {  
    center: { lat: -34.397, lng: 150.644 },  
    zoom: 8,  
  });  
}
```

# Map Types

map types are available in the Maps JavaScript API:

- roadmap displays the default road map view. This is the default map type.
- satellite displays Google Earth satellite images.
- hybrid displays a mixture of normal and satellite views.
- terrain displays a physical map based on terrain information.

```
var myLatLng = new google.maps.LatLng(-34.397, 150.644);  
var mapOptions = { zoom: 8, center: myLatLng, mapTypeId: 'satellite' };  
var map = new google.maps.Map(document.getElementById('map'),  
mapOptions);
```

# Drawing on the Map

- Markers
- Custom Markers
- Info Windows
- Shapes
- Symbols
- Ground Overlays
- Custom Overlays

# Services on Google Maps Platform

- Directions
- Distance Matrix
- Elevation
- Geocoding
- Maximum Zoom Imagery
- Street View

# Web APIs

- Maps Embed API. Add a Google Map to your site without code or quota limits.
- Maps JavaScript API. Customize maps with your own content and imagery.
- Places Library, Maps JavaScript API. Up-to-date information about millions of locations.
- Maps Static API. Simple, embeddable map image with minimal code.
- Street View Static API. Real-world imagery and panoramas.

# Web Service APIs

- Directions API. Directions between multiple locations.
- Distance Matrix API. Travel time and distance for multiple destinations.
- Elevation API. Elevation data for any point in the world.
- Geocoding API. Convert between addresses and geographic coordinates.
- Geolocation API. Location data from cell towers and WiFi nodes.
- Places API. Up-to-date information about millions of locations.
- Roads API. Snap-to-road functionality to accurately trace GPS readcrumbs.
- Time Zone API. Time zone data for anywhere in the world.



# Place API

- **Place Search** returns a list of places based on a user's location or search string.
- **Place Details** returns more detailed information about a specific place, including user reviews.
- **Place Photos** provides access to the millions of place-related photos stored in Google's Place database.
- **Place Autocomplete** automatically fills in the name and/or address of a place as users type.
- **Query Autocomplete** provides a query prediction service for text-based geographic searches, returning suggested queries as users type.

# Google maps places data fields

## Basic Data

<https://developers.google.com/maps/documentation/javascript/place-data-fields>

Field	Places API	Places Library, Maps JavaScript API	Places SDK for Android	Places SDK for iOS
Address Component	<code>address_component</code>	<code>address_component</code>	<code>Place.Field.ADDRESS_COMPONENTS</code>	<code>GMSPlaceFieldAddressComponent</code>
Address	<code>adr_address</code>	<code>adr_address</code>	---	---
Business Status	<code>business_status</code>	<code>business_status</code>	<code>Place.Field.BUSINESS_STATUS</code>	<code>GMSPlaceFieldBusinessStatus</code>
Formatted Address	<code>formatted_address</code>	<code>formatted_address</code>	<code>Place.Field.ADDRESS</code>	<code>GMSPlaceFieldFormattedAddress</code>
Viewport	<code>geometry/viewport</code>	<code>geometry.viewport</code>	<code>Place.Field.VIEWPORT</code>	<code>GMSPlaceFieldViewport</code>
Location	<code>geometry/location</code>	<code>geometry.location</code>	<code>Place.Field.LAT_LNG</code>	<code>GMSPlaceFieldCoordinates</code>
Icon	<code>icon</code>	<code>icon</code>	---	---
Name	<code>name</code>	<code>name</code>	<code>Place.Field.NAME</code>	<code>GMSPlaceFieldName</code>
Permanently Closed ( <i>deprecated</i> )	<code>permanently_closed</code>	<code>permanently_closed</code>	---	---
Photo	<code>photos</code>	<code>photos</code>	<code>Place.Field.PHOTO_METADATAS</code>	<code>GMSPlaceFieldPhotos</code>
Place ID	<code>place_id</code>	<code>place_id</code>	<code>Place.Field.ID</code>	<code>GMSPlaceFieldPlaceID</code>
Plus Code	<code>plus_code</code>	<code>plus_code</code>	<code>Place.Field.PLUS_CODE</code>	<code>GMSPlaceFieldPlusCode</code>
Type	<code>type</code>	<code>type</code>	<code>Place.Field.TYPES</code>	<code>GMSPlaceFieldType</code>
URL	<code>url</code>	<code>url</code>	---	---