



Social Media Apps Programming

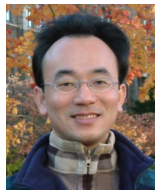
Google App Engine and Google Map API

1041SMAP11

TLMXM1A (8687) (M2143) (Fall 2015)

(MIS MBA) (2 Credits, Elective) [Full English Course]

Wed 9,10 (16:10-18:00) B310



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Department of Information Management

Tamkang University

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Course Schedule (1/3)

Week	Date	Subject/Topics
1	2015/09/16	Course Orientation and Introduction to Social Media and Mobile Apps Programming
2	2015/09/23	Introduction to Android / iOS Apps Programming
3	2015/09/30	Developing Android Native Apps with Java (Android Studio) (MIT App Inventor)
4	2015/10/07	Developing iPhone / iPad Native Apps with Swift (XCode)
5	2015/10/14	Mobile Apps using HTML5/CSS3/JavaScript
6	2015/10/21	jQuery Mobile

Course Schedule (2/3)

Week	Date	Subject/Topics
7	2015/10/28	Create Hybrid Apps with Phonegap
8	2015/11/04	jQuery Mobile/Phonegap
9	2015/11/11	jQuery Mobile/Phonegap
10	2015/11/18	Midterm Exam Week (Midterm Project Report)
11	2015/11/25	Invited Talk: Business Intelligent and Analysis in PIXNET, the Dominant Blog Platform in Taiwan [Speaker: Dr. Rick Cheng-Yu Lu, CTO, PIXNET]
12	2015/12/02	Case Study on Social Media Apps Programming and Marketing in Google Play and App Store

Course Schedule (3/3)

Week	Date	Subject/Topics
13	2015/12/09	Google Cloud Platform
14	2015/12/16	Google App Engine and Google Map API
15	2015/12/23	Facebook API (Facebook JavaScript SDK) (Integrate Facebook with iOS/Android Apps)
16	2015/12/30	Twitter API
17	2016/01/06	Final Project Presentation
18	2016/01/13	Final Exam Week (Final Project Presentation)

Outline

- **Google App Engine**
 - Google Cloud Platform
 - Google Cloud Datastore
- **Google Maps API**





Google Cloud Platform

Compute



App Engine



Compute Engine



Container Engine

Storage



Cloud Datastore



Cloud SQL



Cloud Storage

Big Data



Big Query

Services



Cloud Endpoints



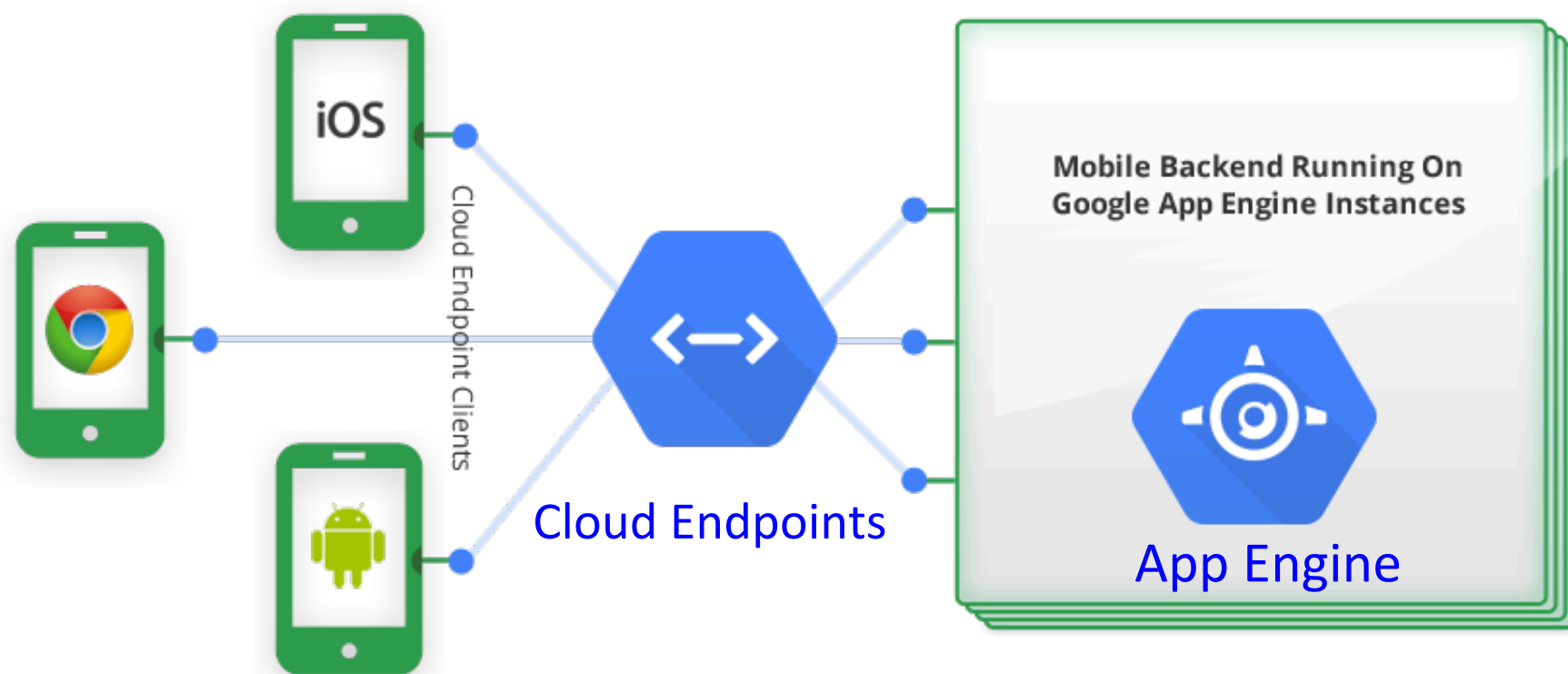
Translate API



Prediction API



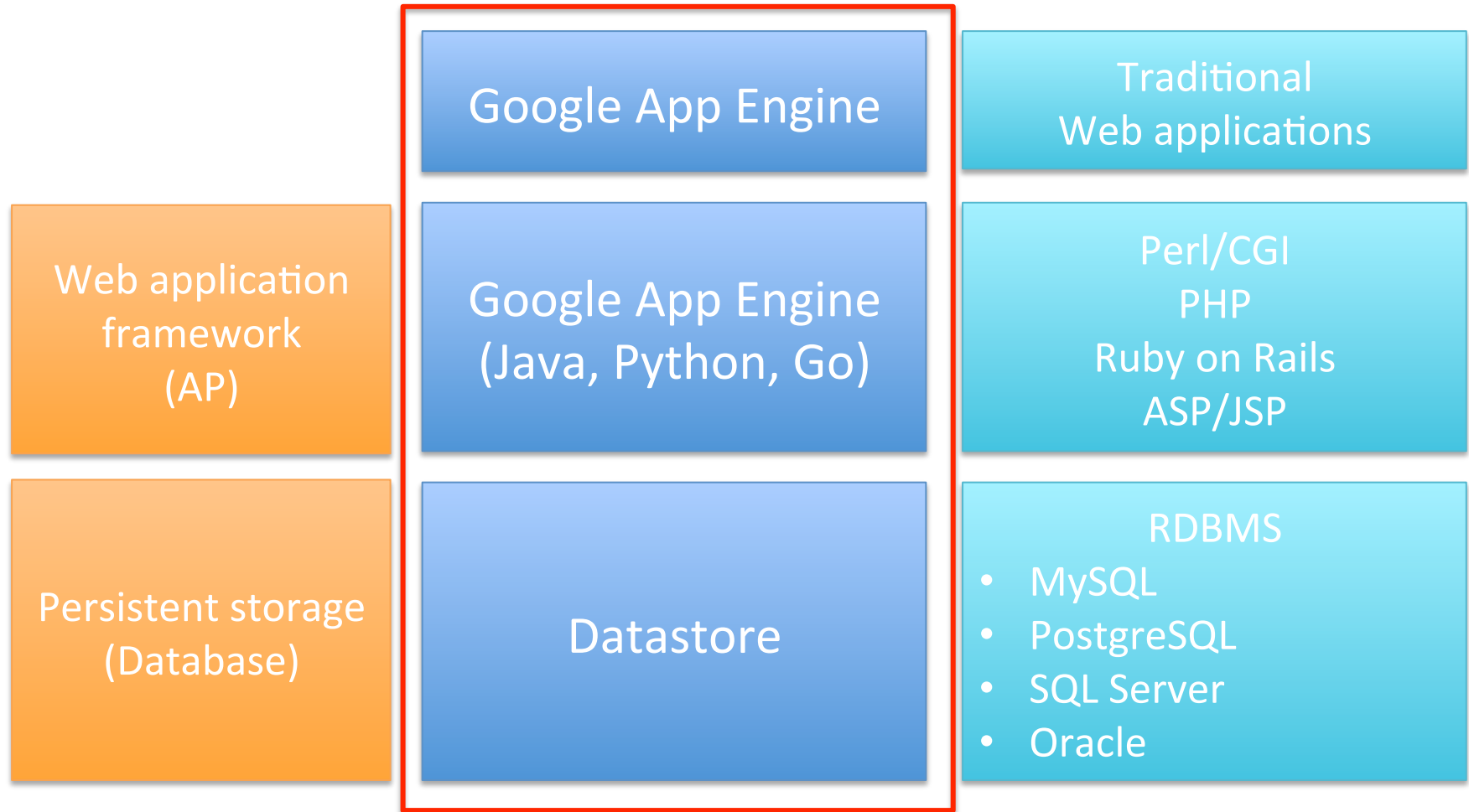
Mobile Apps Backend on Google App Engine



Google Cloud Endpoints Architecture

Google App Engine, Google Cloud Datastore

Datasotre is a database (persistent storage) for **App Engine**





Google Cloud Platform

<https://cloud.google.com/docs/>

Google Cloud Platform - Docs

https://cloud.google.com/docs/

☆ ☰

Google Cloud Platform

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Documentation 878 [Report documentation issue](#)

▼ Compute

App Engine

Compute Engine

Container Engine

▼ Storage

Cloud SQL

Cloud Storage

Cloud Datastore

▼ Networking

Cloud DNS

Carrier Interconnect

Direct Peering

HTTP Load Balancing Beta

Network Load Balancing

▼ Big Data

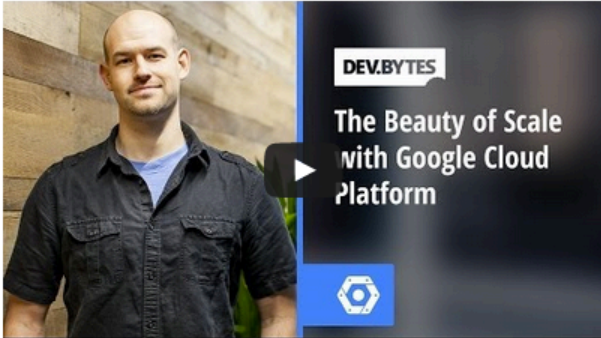
BigQuery

Hadoop on Google

Google Cloud Platform

With Google Cloud Platform, developers can build, test and deploy applications on Google's highly-scalable and reliable infrastructure for your web, mobile and backend solutions.

Focus on writing code, not on infrastructure, and use the same infrastructure that Google uses for your application, computing and big data needs.



Get started quickly

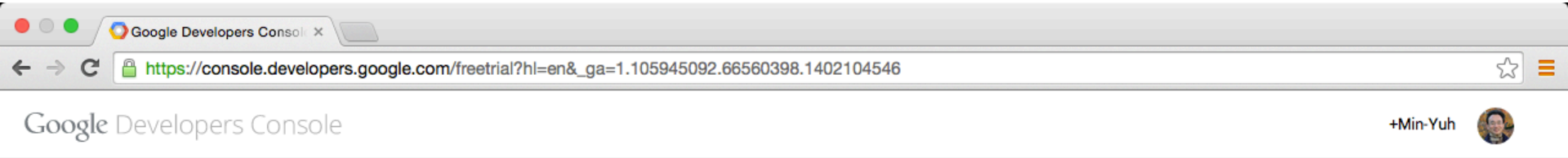
If you're ready to get started, try these solutions for getting software up and running on our platform!

LAMP development stack

Ruby development stack



Try Google Cloud Platform for free



Try Google Cloud Platform for free

Build on top of the infrastructure that powers Google.

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Certain terms and conditions apply. [Learn more](#)

Country

Taiwan

Account type

☒ Business

☐ Individual

Name and address ?

Business name

Name

Street address

士林區



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We use your billing information to verify that you're a real person. Don't worry, you will not be billed for the free trial.



Do I have to pay when my free trial ends?

No. You're under no obligation to buy anything when the free trial ends. If you want to continue to use Google Cloud Platform, just upgrade before your trial runs out.



Questions?

Check out the [FAQ](#) or [leave us a message](#).



Try Google Cloud Platform for free

Google Developers Console

士林區

台北市

Postal code

Primary contact

Name

Phone number

imyday@gmail.com

What you pay with

Credit or debit card

Card number

MM / YY

CVC

Cardholder name

☒ Credit or debit card address is same as above

Billing communication language

English (United States)

☐ I have read and agree to the Google Cloud Platform Free Trial [Terms of Service](#).

Accept and start free trial

Clear

Check out the [FAQ](#) or [leave us a message](#).



Google Cloud Platform

<https://cloud.google.com/docs/>

Balancing **Beta**

Network Load

Balancing

▼ **Big Data**

BigQuery

Hadoop on Google Cloud Platform

▼ **Services**

Cloud Endpoints

Cloud Pub/Sub

Cloud Monitoring

Prediction API

Translate API

▼ **Management**

Deployment Manager

▼ **Tools**

Overview

Cloud SDK

▶ Android Studio

Eclipse Plugin

Cloud Repositories

Source Code Tools

Release Pipelines

Cloud Debugger

Cloud Trace

Cloud Playground

▶ Cloud Logging

▼ **Click-to-Deploy**

Get started quickly

If you're ready to get started, try these solutions for getting software up and running on our platform!

 **LAMP development stack**

LAMP (an acronym for Linux, Apache, MySQL, and PHP) is the archetypal open-source web development stack for many developers, and it runs great on Compute Engine!

 **Quickstart for WordPress**

Set up a project, download a zip, change your config file, and deploy -and you'll have a working WordPress project running on Google Cloud Platform, with App Engine as your hosting environment.

 **Ruby development stack**

Ruby on Rails is one of the most popular frameworks for developing web applications, powering sites like Github, Basecamp and Shopify. Rapidly create new features, easily maintain code, and take advantage of the many open source contributions to Ruby on Rails, running on Compute Engine.

 **App Engine "Hello World" starter**

Start editing a working "Hello World" app right now, in the browser. This gives you a good starting point and a feel for what it's like editing a working App Engine application.

Documentation

Use the following section or the left-hand navigation to access the various sets of documentation that cover Google Cloud Platform. Choose from [computing and hosting](#), [storage](#), [big data](#), [management](#), [services](#), and [developer tools](#).

Computing and hosting

 **App Engine**

 **Compute Engine**

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Google App Engine

App Engine "Hello World" starter

<https://console.developers.google.com/start/appengine>

Deploy your first app in five minutes

- Start editing a working "Hello World" app right now, in the browser.
- This gives you a good starting point and a feel for what it's like editing a working App Engine application.



Try Google App Engine Now

1. NAME YOUR PROJECT
2. SELECT YOUR LANGUAGE
3. EXPLORE THE STARTER CODE
4. INSTALL GOOGLE CLOUD SDK
5. RUN YOUR APP LOCALLY
6. CREATE YOUR PROJECT AND DEPLOY



Google App Engine

Google Developers Console

← → ↺ https://console.developers.google.com/start/appengine?_ga=1.26824890.66560398.1402104546 ☆ ☰

Google Developers Console

[Sign up for a free trial.](#)
[Go to my console](#)

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1. NAME YOUR PROJECT

2. SELECT YOUR LANGUAGE

3. EXPLORE THE STARTER CODE

4. INSTALL GOOGLE CLOUD SDK

5. RUN YOUR APP LOCALLY

6. CREATE YOUR PROJECT AND DEPLOY

Try Google App Engine Now

Creating an App Engine app is easy, and it's free to start. Upload your app and share it with users right away, at no charge and with no commitment required.

1 NAME YOUR PROJECT

You use your project to manage all of the Google Cloud Platform resources for your app, including deployment, access control, billing, and services. You can change your project name later.

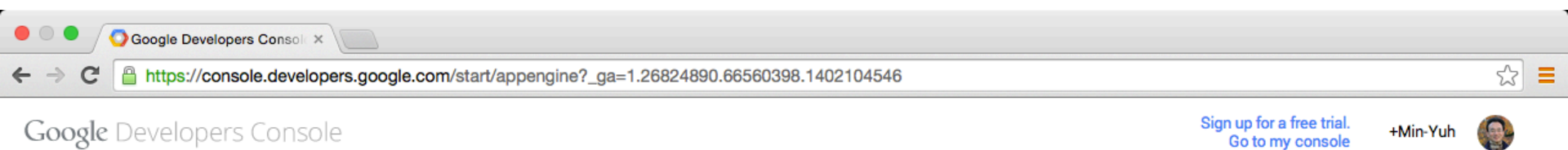
2 SELECT YOUR LANGUAGE

Python

Java



Google App Engine



2 SELECT YOUR LANGUAGE



3 EXPLORE THE STARTER CODE

Browse the starter code and see the app running below.

HELLO WORLD - JAVA

```
build.xml      1 package myapp;
pom.xml        2
src/main/java/myapp/D 3 import java.io.IOException;
src/main/webapp/WEB-INF 4 import javax.servlet.http.*;
src/main/webapp/WEB-INF 5
src/main/webapp/WEB-INF 6 public class DemoServlet extends HttpServlet {
src/main/webapp/WEB-INF 7     @Override
src/main/webapp/WEB-INF 8     public void doGet(HttpServletRequest req, HttpServletResponse resp)
src/main/webapp/WEB-INF 9         throws IOException {
src/main/webapp/WEB-INF 10        resp.setContentType("text/plain");
```



Google App Engine

Google Developers Console

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3 EXPLORE THE STARTER CODE

Browse the starter code and see the app running below.

1. NAME YOUR PROJECT

2. SELECT YOUR LANGUAGE

3. EXPLORE THE STARTER CODE

4. INSTALL GOOGLE CLOUD SDK

5. RUN YOUR APP LOCALLY

6. CREATE YOUR PROJECT AND DEPLOY

HELLO WORLD - JAVA

build.xml

pom.xml

src/main/java/myapp/DemoServlet.java

src/main/webapp/WEB-INF/web.xml

src/main/webapp/WEB-INF/classes

src/main/webapp/index.html

```
1 package myapp;
2
3 import java.io.IOException;
4 import javax.servlet.http.*;
5
6 public class DemoServlet extends HttpServlet {
7     @Override
8     public void doGet(HttpServletRequest req, HttpServletResponse resp)
9         throws IOException {
10         resp.setContentType("text/plain");
11         resp.getWriter().println("{ \"name\": \"World\" }");
12     }
13 }
14
```

▶

Hello, World

17



Google App Engine

HELLO WORLD - JAVA

build.xml
pom.xml
[src/main/java/myapp/DemoServlet.java](#)
src/main/webapp/WEB-INF/web.xml
src/main/webapp/WEB-INF/webapp.xml
src/main/webapp/WEB-INF/webapp.properties
src/main/webapp/index.html

```
1 package myapp;
2
3 import java.io.IOException;
4 import javax.servlet.http.*;
5
6 public class DemoServlet extends HttpServlet {
7     @Override
8     public void doGet(HttpServletRequest req, HttpServletResponse resp)
9         throws IOException {
10         resp.setContentType("text/plain");
11         resp.getWriter().println("{ \"name\": \"World\" }");
12     }
13 }
14
```

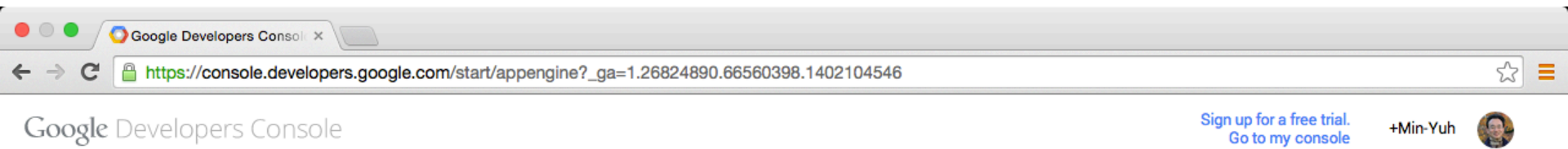


Hello, World

[Download this code](#)



Google App Engine



4 INSTALL GOOGLE CLOUD SDK

Mac OS X/Linux

1. Download and install Google Cloud SDK by running the following command in your shell or Terminal:

```
curl https://sdk.cloud.google.com/ | bash
```

Follow the prompts to install the **Java** App Engine package.

2. Restart your shell or Terminal to pick up environment changes.
3. Sign in to Google Cloud Platform using this command:

```
gcloud auth login
```

4. Install the App Engine package for Java using this command:

```
gcloud components update gae-java
```

5 RUN YOUR APP LOCALLY



Google App Engine

Google Developers Console

← → ↺

https://console.developers.google.com/start/appengine?_ga=1.26824890.66560398.1402104546

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1. NAME YOUR PROJECT

2. SELECT YOUR LANGUAGE

3. EXPLORE THE STARTER CODE

4. INSTALL GOOGLE CLOUD SDK

5. RUN YOUR APP LOCALLY

6. CREATE YOUR PROJECT AND DEPLOY

5 RUN YOUR APP LOCALLY

Note: App Engine supports Java 7. Make sure you have the [Java 7 JDK](#) installed.

1. Download [appengine-try-java.zip](#) and unpack it. This creates your project directory, including **src/** and **war/** subdirectories.
2. Download and install [Apache Maven](#) version 3.0 or later. The starter app includes an Apache Maven build file.
3. Build and run the sample locally using the following commands:

```
cd appengine-try-java
mvn package
dev_appserver.sh target/appengine-try-java-1.0
```

You can stop the server by pressing Ctrl-C in the command window.

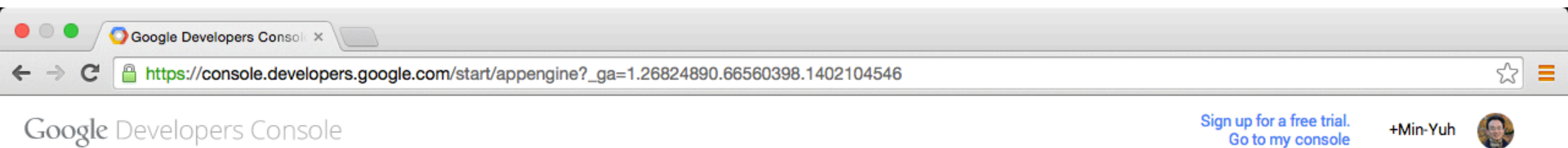
4. Visit the locally running app in your browser: <http://localhost:8080>

6 CREATE YOUR PROJECT AND DEPLOY

Now that you've seen your app running on your local machine, you're ready to create and deploy your project, HelloWorldGoogleAppEngine.



Google App Engine



5 RUN YOUR APP LOCALLY

Note: App Engine supports Java 7. Make sure you have the [Java 7 JDK](#) installed.

1. Download [appengine-try-java.zip](#) and unpack it. This creates your project directory, including **src/** and **war/** subdirectories.
2. Download and install [Apache Maven](#) version 3.0 or later. The starter app includes an Apache Maven build file.
3. Build and run the sample locally using the following commands:

```
cd appengine-try-java
mvn package
dev_appserver.sh target/appengine-try-java-1.0
```

You can stop the server by pressing Ctrl-C in the command window.

4. Visit the locally running app in your browser: <http://localhost:8080>

6 CREATE YOUR PROJECT AND DEPLOY

Now that you've seen your app running on your local machine, you're ready to create and deploy your project, HelloWorldGoogleAppEngine.



Google App Engine

Google Developers Console

https://console.developers.google.com/start/appengine?_ga=1.26824890.66560398.1402104546

Google Developers Console

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1. NAME YOUR PROJECT

2. SELECT YOUR LANGUAGE

3. EXPLORE THE STARTER CODE

4. INSTALL GOOGLE CLOUD SDK

5. RUN YOUR APP LOCALLY

6. CREATE YOUR PROJECT AND DEPLOY

```
mvn package
dev_appserver.sh target/appengine-try-java-1.0
```

You can stop the server by pressing Ctrl-C in the command window.

4. Visit the locally running app in your browser: <http://localhost:8080>

6 CREATE YOUR PROJECT AND DEPLOY

Congratulations! Your project is ready. Your unique project ID is **psychic-outcome-783**.

Deploy your app from your local dev environment using this command:

```
appcfg.sh -A psychic-outcome-783 update target/appengine-try-java-1.0
```

After deploying your app, you can visit it with your browser at this URL:

psychic-outcome-783.appspot.com

That's it! You're running on Google App Engine. Go to your project dashboard to see how your app is performing.

View your project dashboard

Activities (Idle)

Create Project: HelloWorldGoogleAppEngine

See all activity

Datastore Internals

- Based on Bigtable
 - high scalability
 - High availability
 - synchronous writes on multiple datacenters

Datastore

query

Megastore

transactions

Bigtable

Scalable and reliable storage

What is Bigtable?

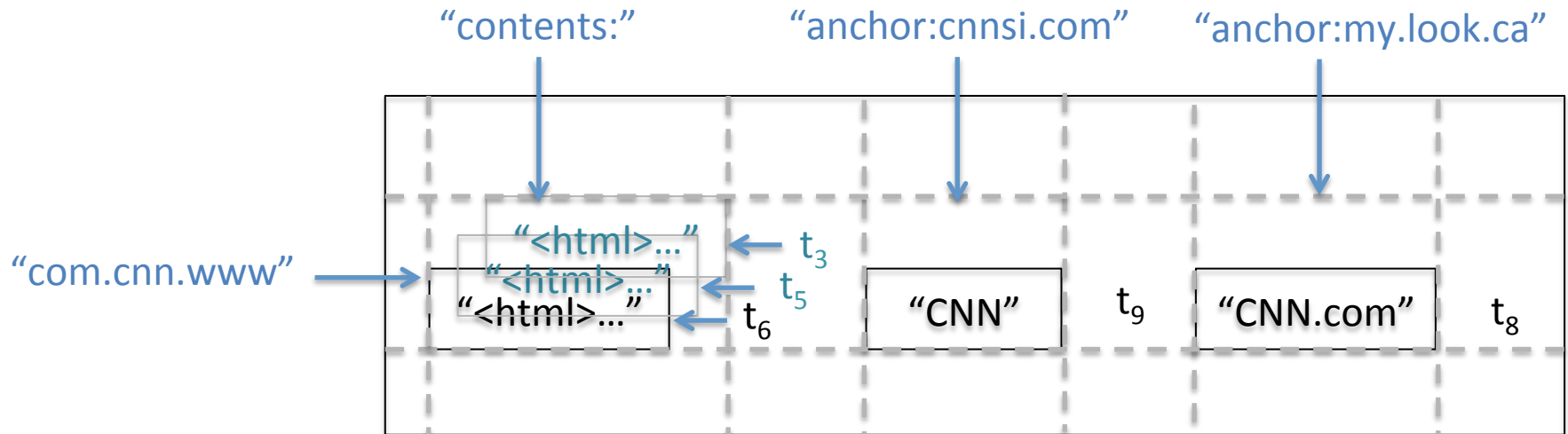
- Scalable, distributed, highly-available and structured storage
 - Bigtable is not database by itself (it doesn't support query)
- Google usage
 - In production since April 2005
 - Web Search, YouTube, Earth, Analytics

Bigtable

Scalable and reliable storage

Bigtable Data Model

- A row has a Key and Columns
- Sorted by Key
 - In lexical order
 - Enables range query by application

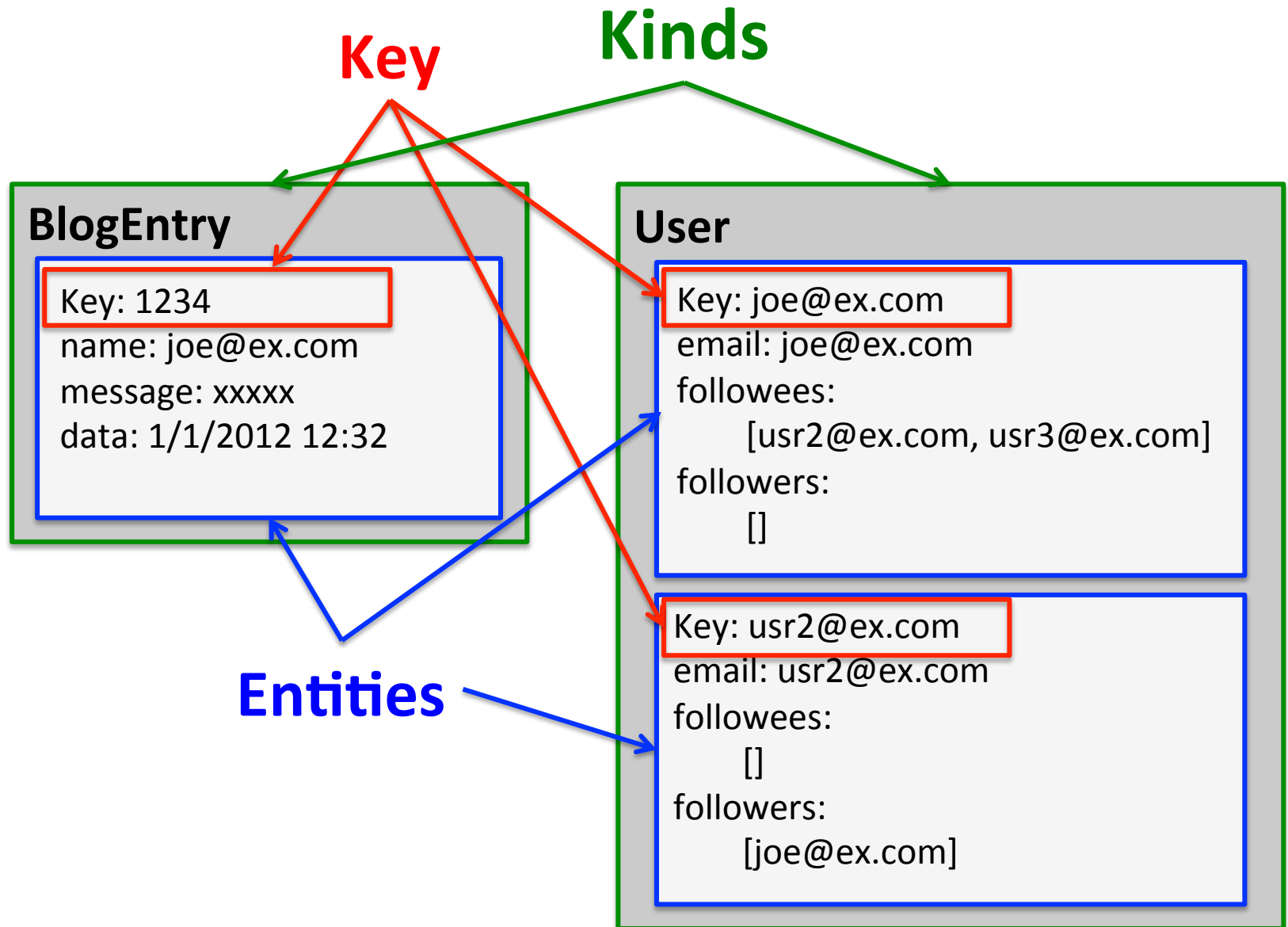


Google Datastore Basic Operation

Different terms for corresponding concepts

	Google Datastore	Relational Database Management System (RDBMS)
Category of object	Kind	Table
One entry/object	Entity	Row
Unique identifier of data entry	Key	Primary Key (PK)
Individual data	Property	Field

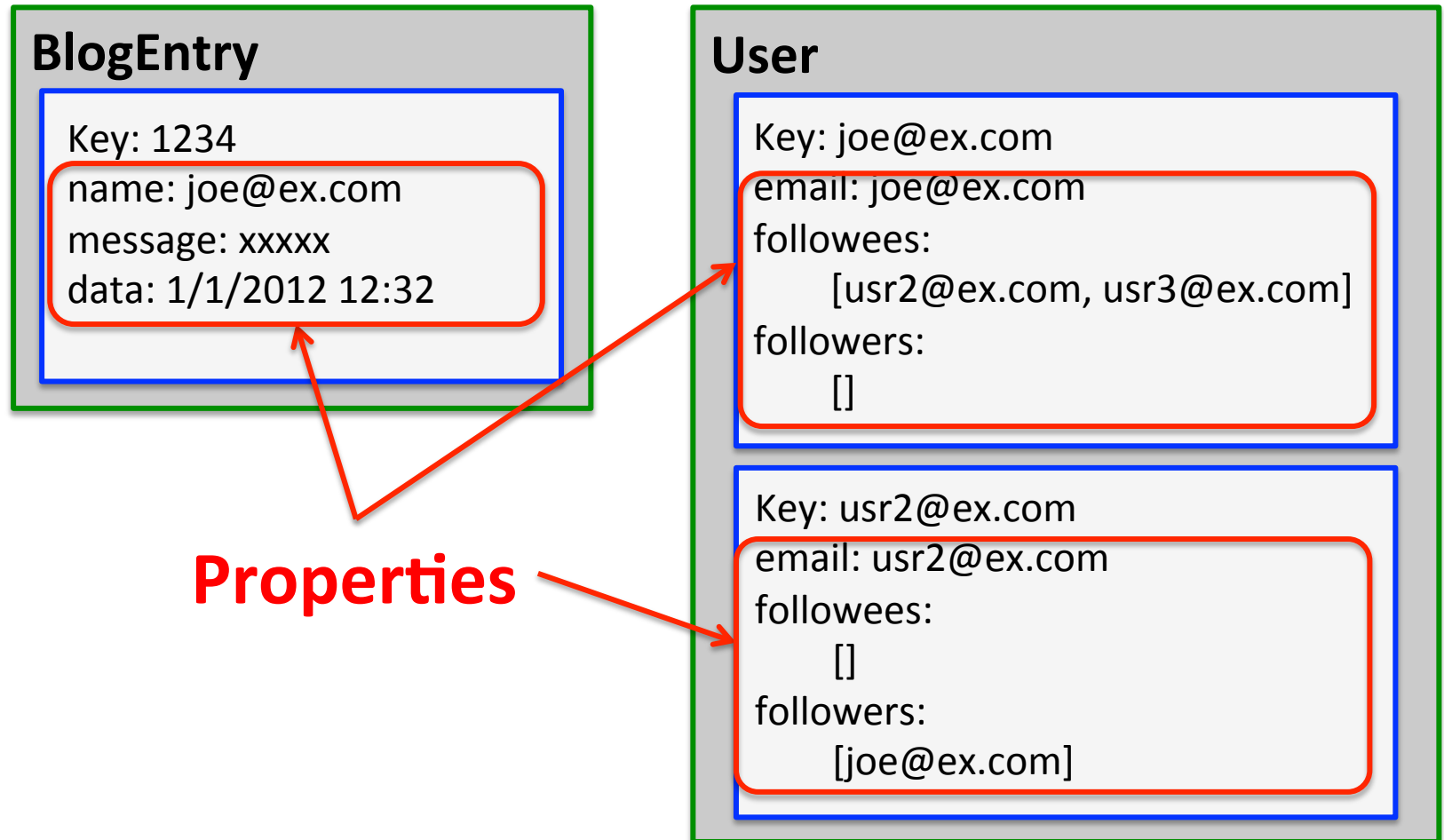
Kind, Entity and Key



Properties and Data Types

Each entity has one or more **named properties**

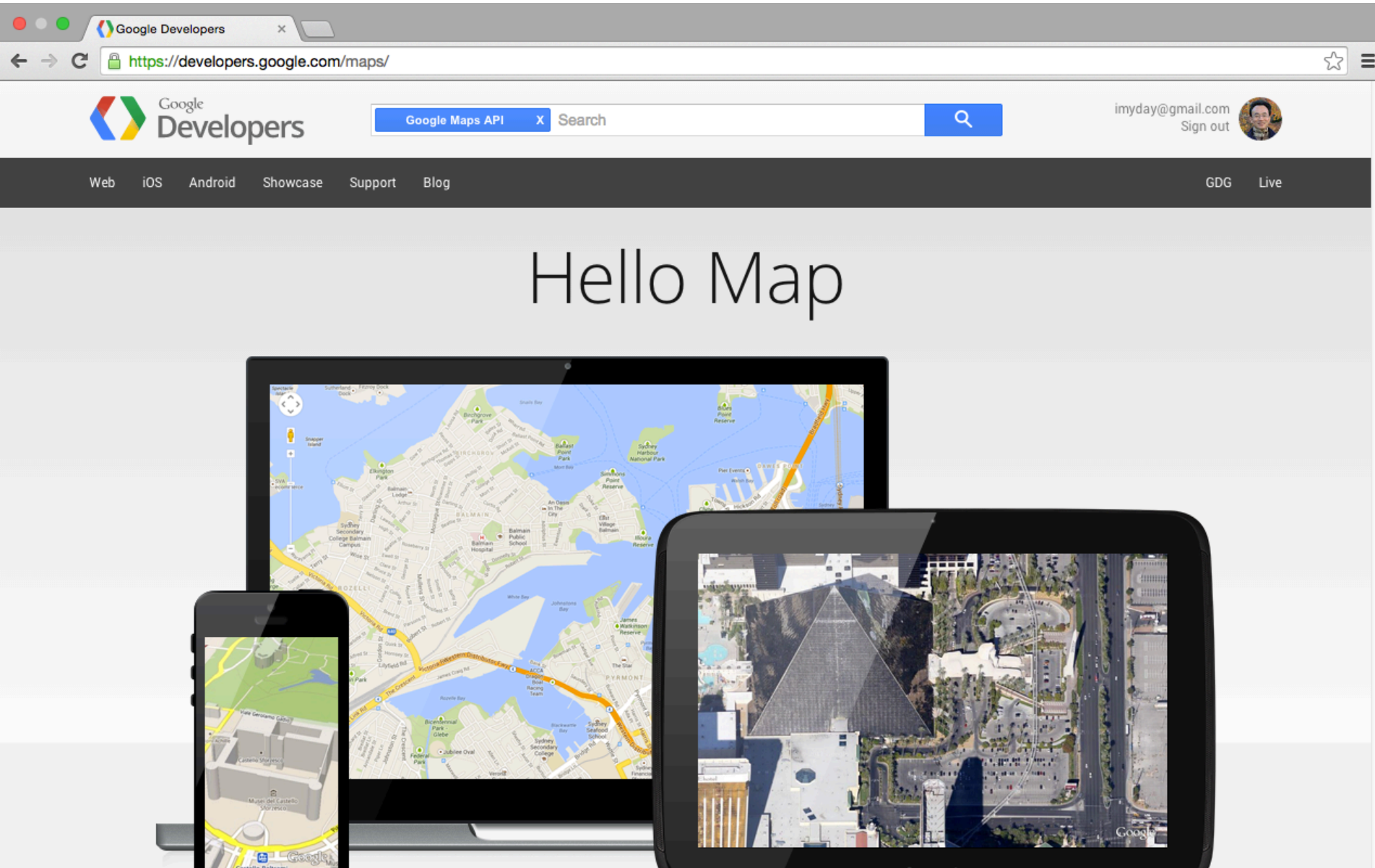
- Variety of datatypes (int, float, boolean, String, Date,...)
- Can be multi-valued



Creating an Entity with Java Low-level API

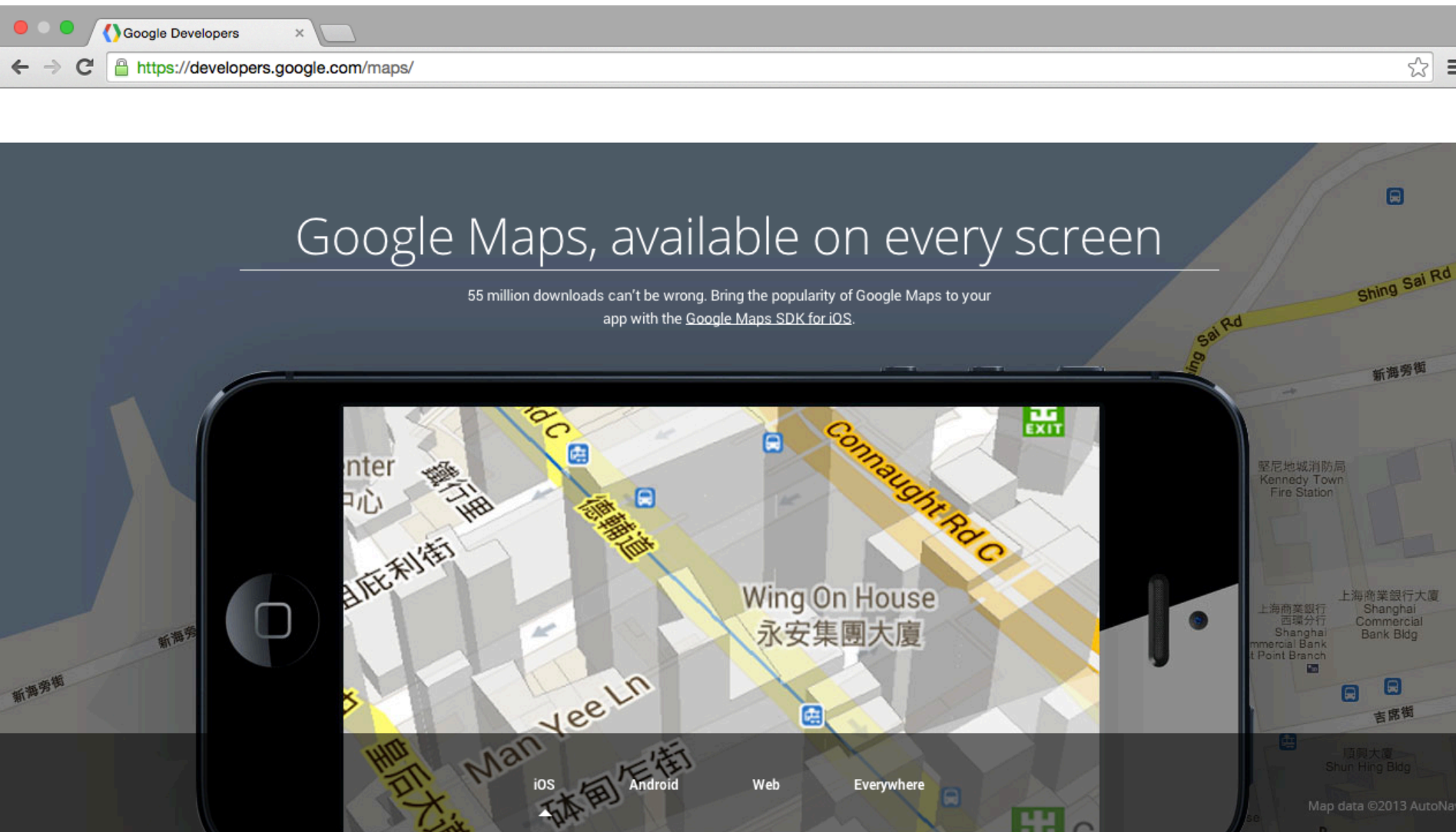
```
DatastoreService datastore =  
DatastoreServiceFactory.getDatastoreService();  
  
Entity employee = new Entity("Employee");  
employee.setProperty("name", "Antonio Saliery");  
employee.setProperty("hireDate", new Date());  
employee.setProperty("attendedHrTraining", true);  
datastore.put(employee);
```

Google Maps API



<https://developers.google.com/maps/>

Google Maps API



<https://developers.google.com/maps/>

Google Maps API Demos

Google Maps API

HOME DEMOS DEVELOPER STORIES LEARN MORE

More than a Map

The Google Maps API is more than a map for your apps. Explore demos of unique features that you can use in your apps today!

[Go to the demos](#)

[Learn More](#)

Build your own apps with the Google Maps API

[Read more](#)

[Developer Stories](#)

Visit Google Maps developers from around the world

[Read more](#)

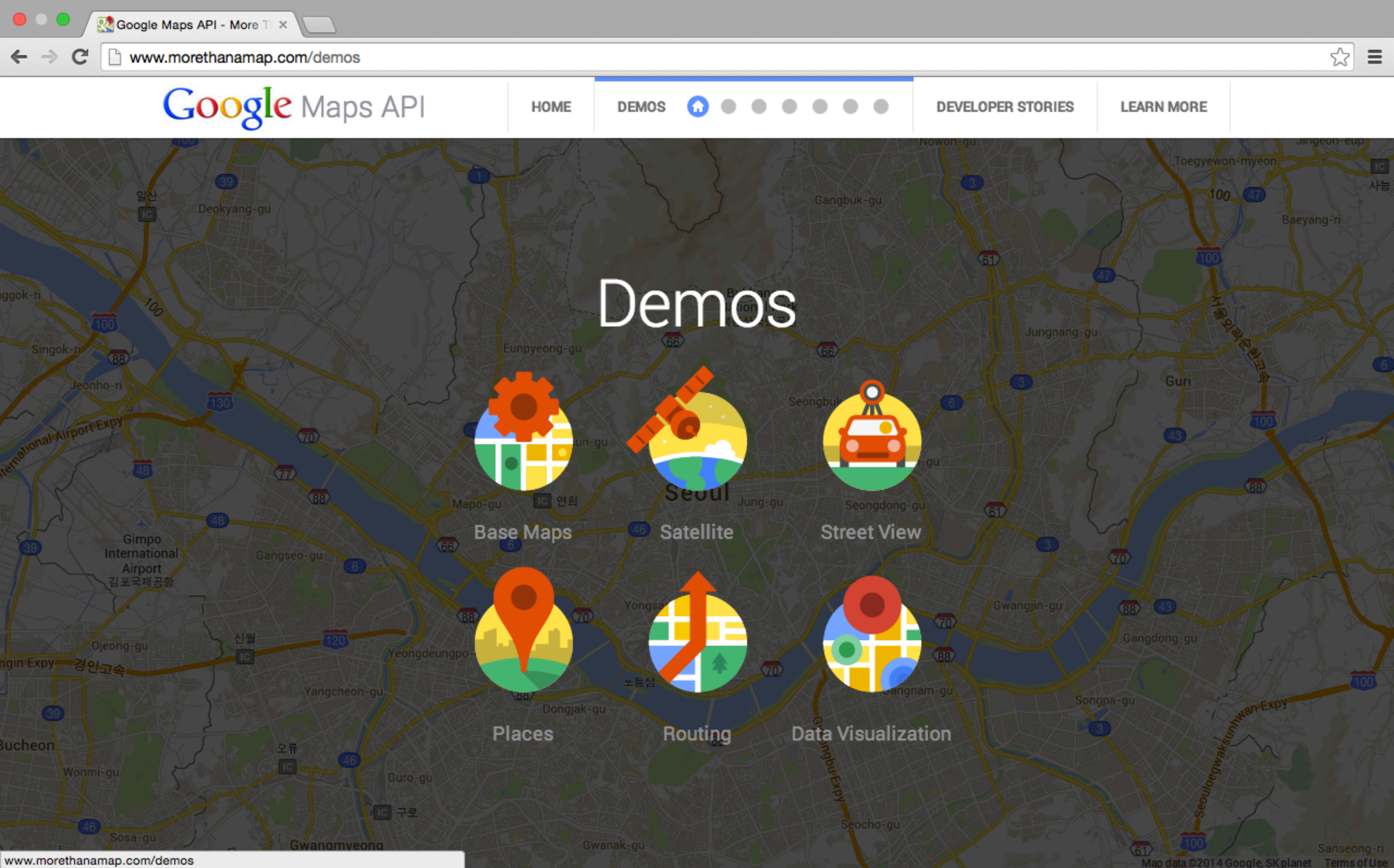
[#morethanamap on Google+](#)

[Map of the Week blog](#)

[www.morethanamap.com/#](#)

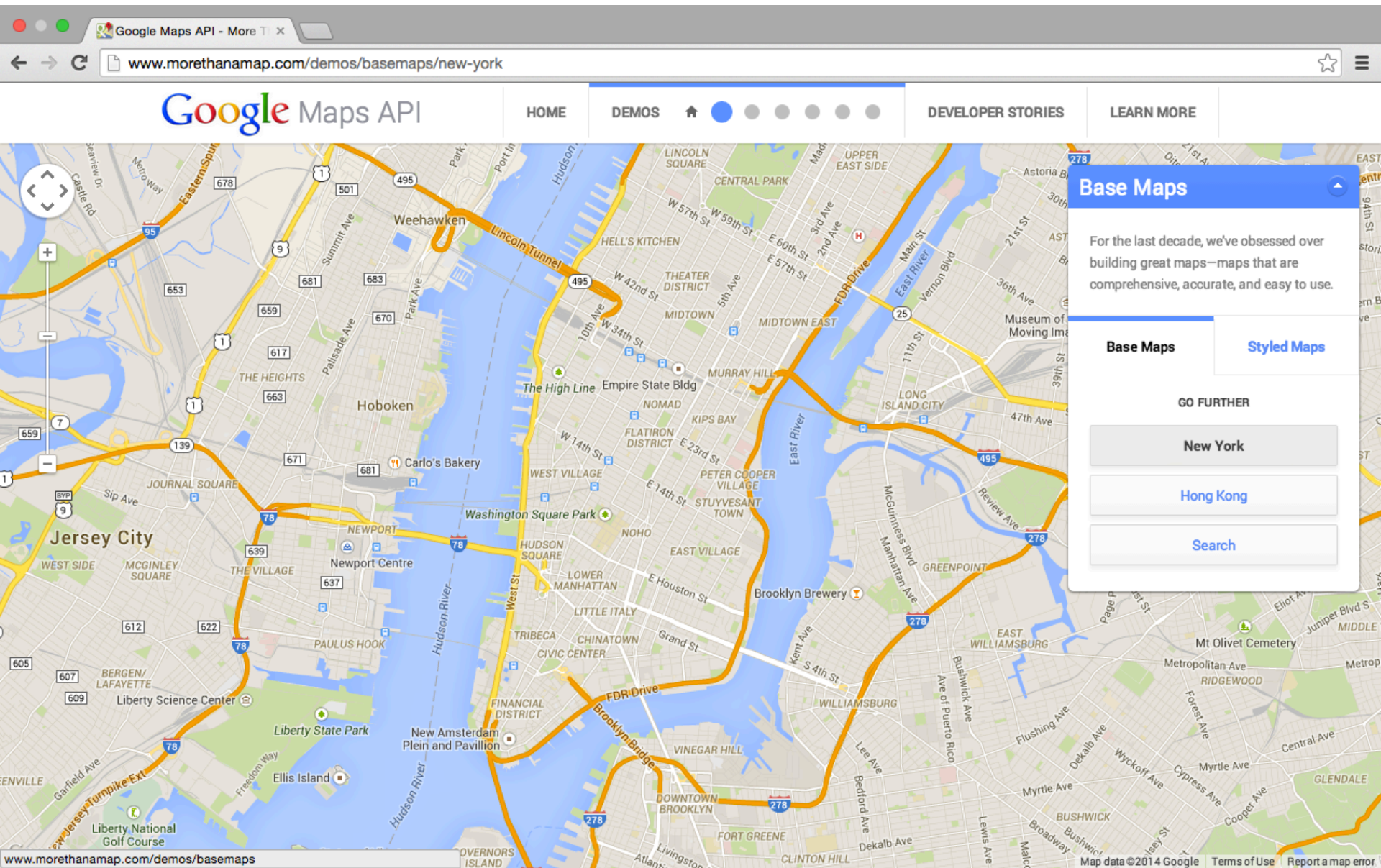
<http://www.morethanamap.com/>

Google Maps API Demos



<http://www.morethanamap.com/demos>

Google Maps API Demos



The screenshot displays the Google Maps API Demos page for New York City. The browser's address bar shows the URL www.morethanamap.com/demos/basemaps/new-york. The page features a navigation bar with links to HOME, DEMOS (which is active), DEVELOPER STORIES, and LEARN MORE. Below the navigation bar is a map of New York City, showing various neighborhoods and landmarks. A sidebar on the right side of the map contains the following elements:

- Base Maps** (selected)
- For the last decade, we've obsessed over building great maps—maps that are comprehensive, accurate, and easy to use.
- Base Maps** (selected) and **Styled Maps**
- GO FURTHER**
- New York** (selected)
- Hong Kong**
- Search**

The map itself shows a detailed view of New York City, including the Hudson River, East River, and various neighborhoods like Manhattan, Brooklyn, and Jersey City. The map is styled with a blue background and orange lines for major roads.

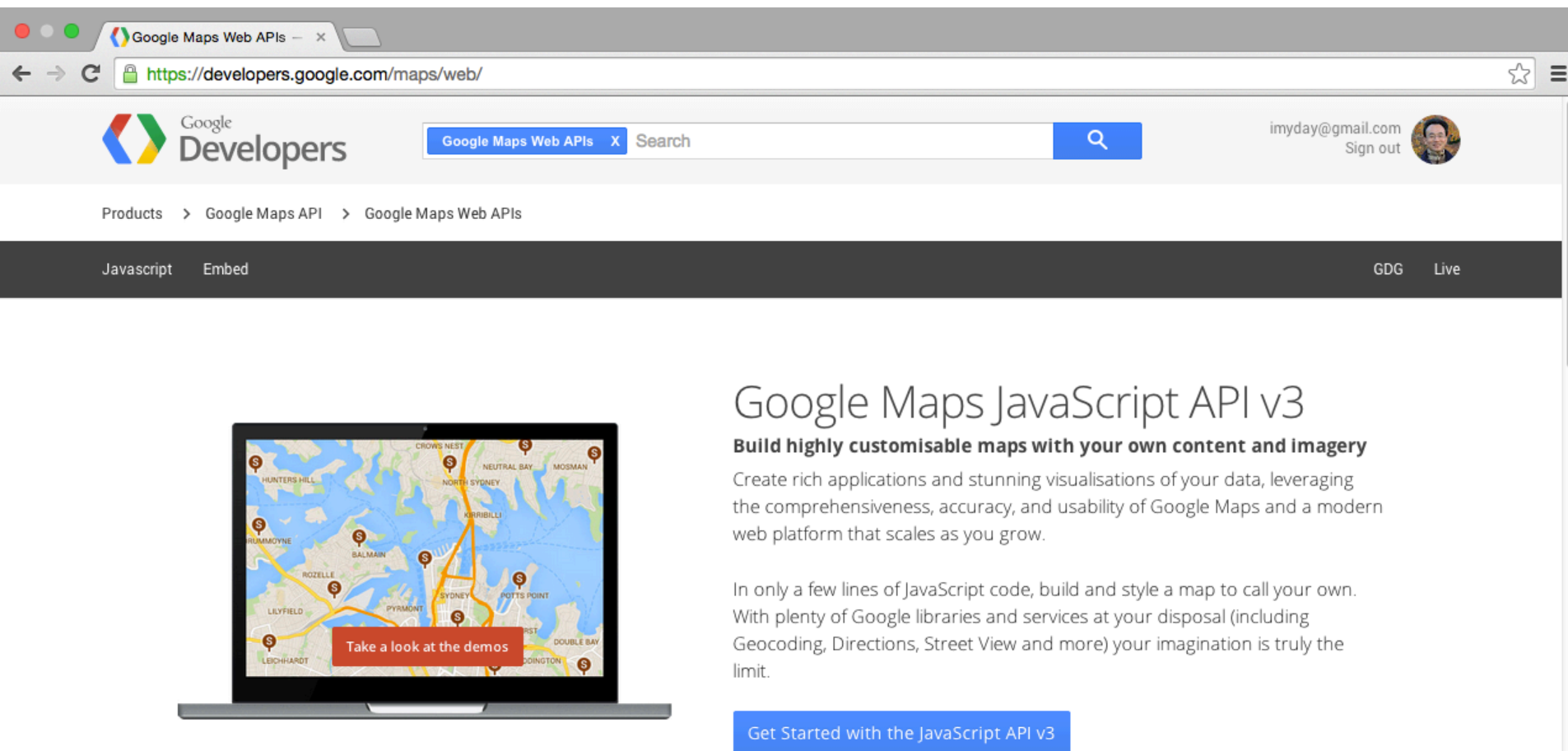
<http://www.morethanamap.com/demos/basemaps/new-york>

Google Maps API Demos

The screenshot displays a web browser window with the address www.morethanamap.com/demos/routing/cycling. The page features a navigation bar with links to HOME, DEMOS (which is active), DEVELOPER STORIES, and LEARN MORE. Below the navigation bar is a map of Stockholm, Sweden, with a blue line indicating a cycling route. Two red diamond markers are placed on the route. A 'Routing' panel is open on the right side of the map, containing the following text: 'In a car, on a bike, on foot, or riding a subway, help users find the best route. Use elevation profiles and live traffic to guide the way.' Below this text, under the heading 'SHOW ME:', are three buttons: 'Cycling through Stockholm' (highlighted), 'Public Transit in Sydney', and 'Elevation in San Francisco'. The map shows various districts of Stockholm, including Vasastan, Östermalm, and Södermalm. The Google logo is visible in the bottom left corner of the map area.

<http://www.morethanamap.com/demos/routing/cycling>

Google Maps JavaScript API v3



Google Maps Web APIs — x

← → ↺ <https://developers.google.com/maps/web/> ☆ ☰

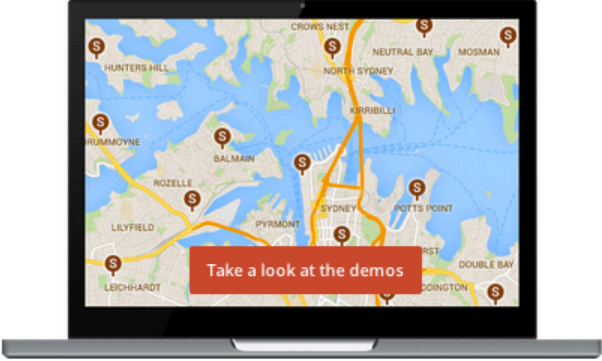
 Google Developers

Google Maps Web APIs X Search

imyday@gmail.com Sign out

Products > Google Maps API > Google Maps Web APIs

Javascript Embed GDG Live



Google Maps JavaScript API v3

Build highly customisable maps with your own content and imagery

Create rich applications and stunning visualisations of your data, leveraging the comprehensiveness, accuracy, and usability of Google Maps and a modern web platform that scales as you grow.

In only a few lines of JavaScript code, build and style a map to call your own. With plenty of Google libraries and services at your disposal (including Geocoding, Directions, Street View and more) your imagination is truly the limit.

Get Started with the JavaScript API v3

Google Maps Embed API

Make places easily discoverable with interactive maps built for your users

<https://developers.google.com/maps/web/>

Google Maps JavaScript API

The screenshot shows a web browser window with the URL <https://developers.google.com/maps/documentation/javascript/tutorial>. The page is the "Getting Started" guide for the Google Maps JavaScript API v3. The header includes the Google Developers logo, a search bar, and a user profile for "imyday@gmail.com". The breadcrumb trail is "Products > Google Maps API > Google Maps JavaScript API v3". The main navigation bar contains links for "Get Started", "Documentation", "Reference", "Showcase", "Support", and "Blog". The page title is "Google Maps JavaScript API v3" with a Google+ badge showing 507 likes. A link to "Report documentation issue" is in the top right. The left sidebar lists the "Developer's Guide" sections: "Getting Started" (highlighted), "Usage Limits and Billing", "Concepts", "Signed-in Maps", "Map Types", "Styles", "Controls", "Drawing on the Map", "Layers", "Events", "Services", "Libraries", and "API Reference". The main content area has the heading "Getting Started" and a list of links: "Audience", "Obtaining an API Key", "Hello, World", "Declaring Your Application as HTML5", "Loading the Google Maps API", "Map DOM Elements", "Map Options", "The Map Object", "Loading the Map", and "Troubleshooting". Below this is the "Audience" section, which states that the documentation is for those familiar with JavaScript and object-oriented programming, and mentions the availability of many JavaScript tutorials on the web. A second paragraph begins with "This conceptual documentation is designed to let you quickly start exploring and developing applications with the Google Maps API. We also".

Getting Started - Google Maps API v3

Google Developers

Google Maps JavaScript API v3

Get Started Documentation Reference Showcase Support Blog

GDG Live

Google Maps JavaScript API v3 g+ 507 [Report documentation issue](#)

Developer's Guide

- Getting Started
- Usage Limits and Billing
- Concepts
- Signed-in Maps
- Map Types
- Styles
- Controls
- Drawing on the Map
- Layers
- Events
- Services
- Libraries
- API Reference

Getting Started

- [Audience](#)
- [Obtaining an API Key](#)
- [Hello, World](#)
- [Declaring Your Application as HTML5](#)
- [Loading the Google Maps API](#)
- [Map DOM Elements](#)
- [Map Options](#)
- [The Map Object](#)
- [Loading the Map](#)
- [Troubleshooting](#)

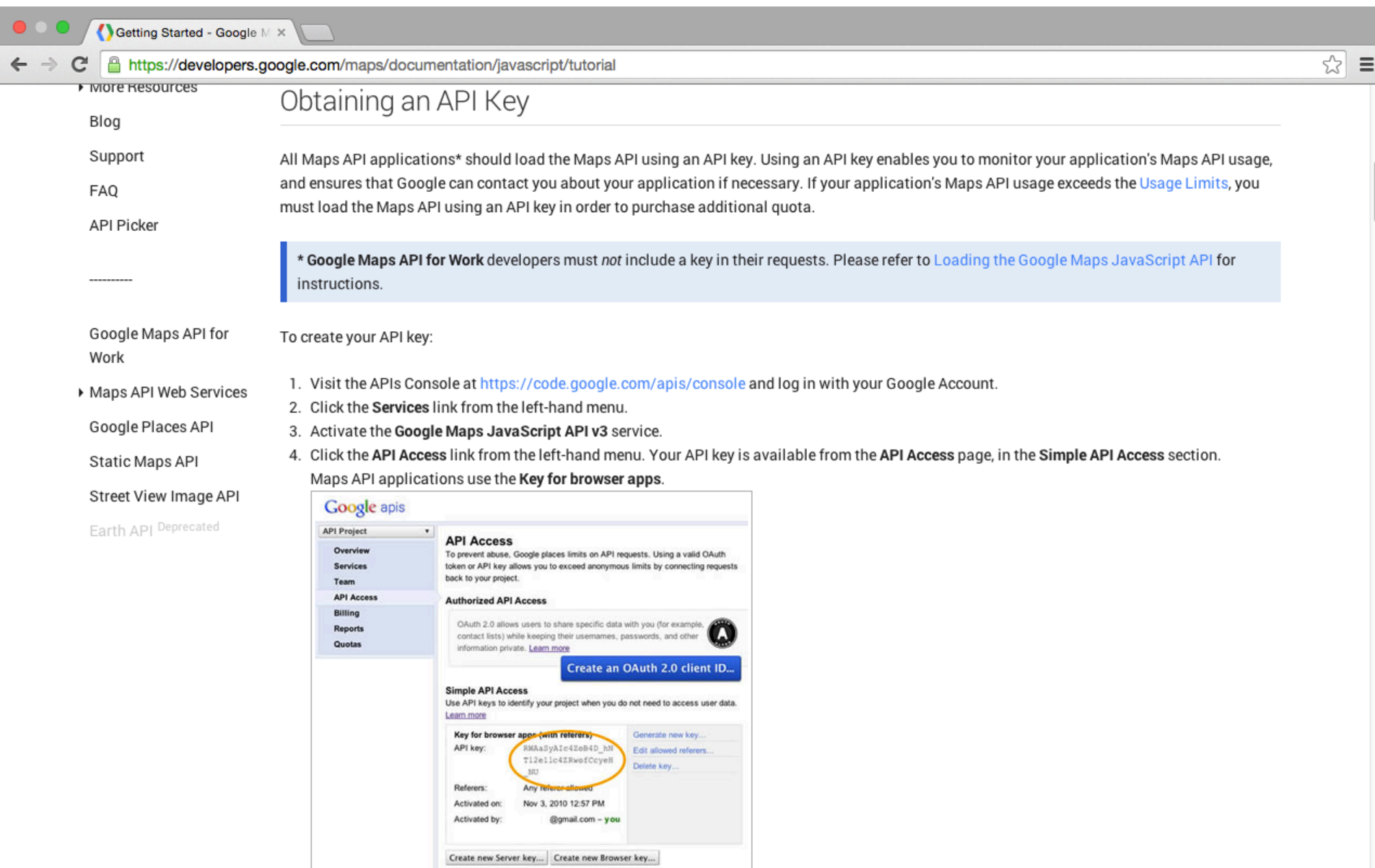
Audience

This documentation is designed for people familiar with [JavaScript](#) programming and object-oriented programming concepts. You should also be familiar with [Google Maps](#) from a user's point of view. There are many [JavaScript tutorials](#) available on the Web.

This conceptual documentation is designed to let you quickly start exploring and developing applications with the Google Maps API. We also

<https://developers.google.com/maps/documentation/javascript/tutorial>

Obtaining an Google Maps API Key



Getting Started - Google Maps API

https://developers.google.com/maps/documentation/javascript/tutorial

Obtaining an API Key

All Maps API applications* should load the Maps API using an API key. Using an API key enables you to monitor your application's Maps API usage, and ensures that Google can contact you about your application if necessary. If your application's Maps API usage exceeds the [Usage Limits](#), you must load the Maps API using an API key in order to purchase additional quota.

* Google Maps API for Work developers must *not* include a key in their requests. Please refer to [Loading the Google Maps JavaScript API](#) for instructions.

To create your API key:

1. Visit the APIs Console at <https://code.google.com/apis/console> and log in with your Google Account.
2. Click the **Services** link from the left-hand menu.
3. Activate the **Google Maps JavaScript API v3** service.
4. Click the **API Access** link from the left-hand menu. Your API key is available from the **API Access** page, in the **Simple API Access** section.

Maps API applications use the **Key for browser apps**.

API Access

To prevent abuse, Google places limits on API requests. Using a valid OAuth token or API key allows you to exceed anonymous limits by connecting requests back to your project.

Authorized API Access

OAuth 2.0 allows users to share specific data with you (for example, contact lists) while keeping their usernames, passwords, and other information private. [Learn more](#)

[Create an OAuth 2.0 client ID...](#)

Simple API Access

Use API keys to identify your project when you do not need to access user data. [Learn more](#)

Key for browser apps (with referers)

API key: **AIzaSyA1c42e84D_hhT12e1lc42RwofCeyellSU**

Referers: Any Referer allowed

Activated on: Nov 3, 2010 12:57 PM

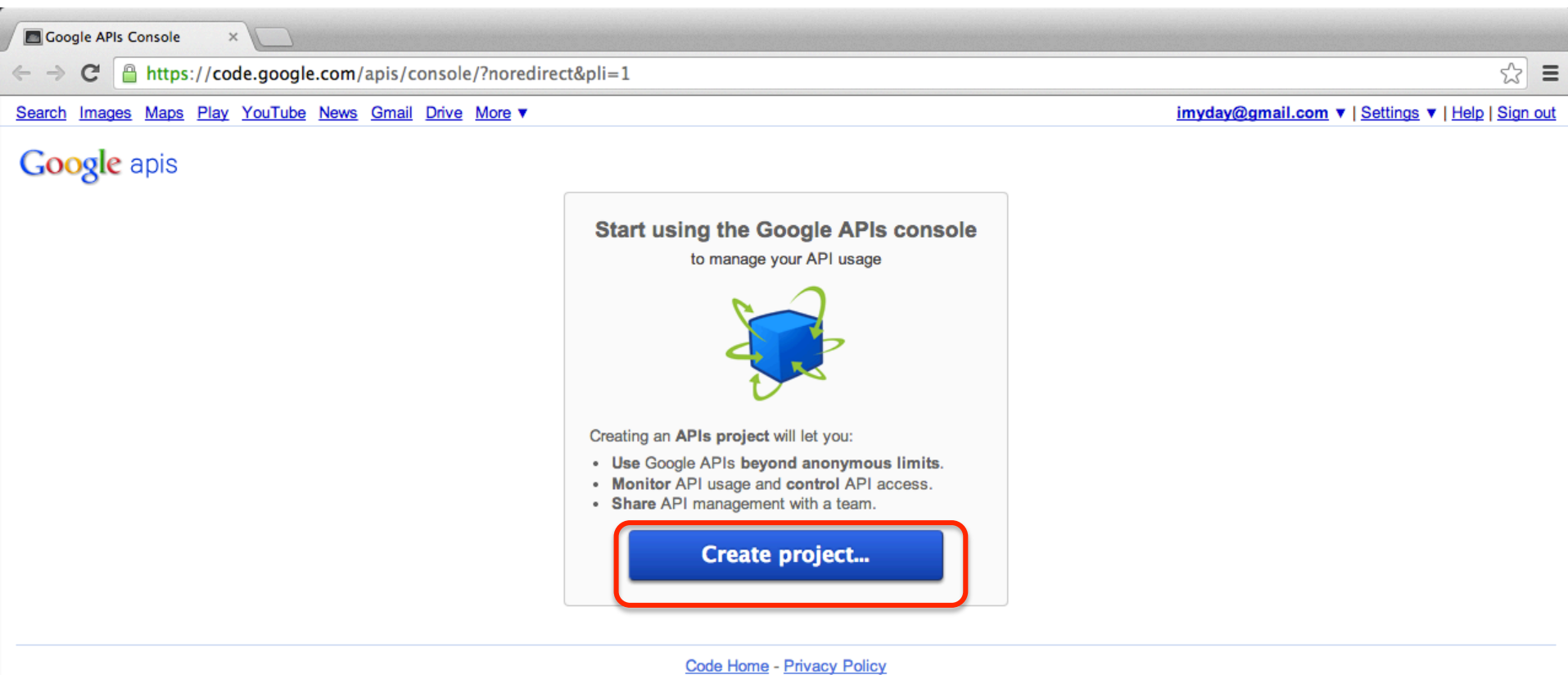
Activated by: @gmail.com - you

[Generate new key...](#)
[Edit allowed referers...](#)
[Delete key...](#)

[Create new Server key...](#) [Create new Browser key...](#)

Demo:
Integrate
Google Maps JavaScript API
with
jQuery Mobile

Start using the Google APIs console



The screenshot shows the Google APIs Console interface in a web browser. The browser's address bar displays the URL <https://code.google.com/apis/console/?noredirect&pli=1>. The page header includes navigation links for Search, Images, Maps, Play, YouTube, News, Gmail, Drive, and More. The user's email address, imyday@gmail.com, is shown along with links for Settings, Help, and Sign out. The main content area features the Google APIs logo and a central card titled "Start using the Google APIs console to manage your API usage". This card contains a 3D blue cube icon with green arrows, a list of benefits for creating an API project, and a prominent blue "Create project..." button highlighted with a red border. The footer includes links for Code Home and Privacy Policy.

Google APIs

Start using the Google APIs console
to manage your API usage



Creating an **APIs project** will let you:

- Use Google APIs **beyond anonymous limits**.
- **Monitor** API usage and **control** API access.
- **Share** API management with a team.

Create project...

[Code Home](#) - [Privacy Policy](#)

<https://code.google.com/apis/console>

<https://code.google.com/apis/console/?noredirect&pli=1>

Send Feedback

Google APIs Console

Google APIs Console

https://code.google.com/apis/console/?noredirect&pli=1#project:841318404499:services

Search Images Maps Play YouTube News Gmail Drive More

imyday@gmail.com | Settings | Help | Sign out

Google apis

We are improving the experience. Try the new [Cloud Console](#).

API Project

Overview
Services
Team
API Access

All (71) Active (0) Inactive (71) Google Cloud Platform

All services

Select services for the project.

Service	Status	Notes
Ad Exchange Buyer API	☐ OFF	Courtesy limit: 1,000 requests/day
Ad Exchange Seller API	☐ OFF	Courtesy limit: 10,000 requests/day
Admin SDK	☐ OFF	
AdSense Host API	Request access...	Courtesy limit: 100,000 requests/day
AdSense Management API	☐ OFF	Courtesy limit: 10,000 requests/day
Analytics API	☐ OFF	Courtesy limit: 50,000 requests/day
Audit API	☐ OFF	Courtesy limit: 10,000 requests/day
BigQuery API	☐ OFF	Courtesy limit: 10,000 requests/day • Pricing
Blogger API v3	Request access...	Courtesy limit: 10,000 requests/day
Books API	☐ OFF	Courtesy limit: 1,000 requests/day
CalDAV API	☐ OFF	Courtesy limit: 1,000,000 requests/day
Calendar API	☐ OFF	Courtesy limit: 100,000 requests/day
Chrome Web Store API	☐ OFF	

Send Feedback

Google APIs Console

Google APIs Console

https://code.google.com/apis/console/?noredirect&pli=1#project:841318404499:services

	Google Apps Reseller API		☐ OFF	Courtesy limit: 10,000 requests/day
	Google Civic Information API		☐ OFF	Courtesy limit: 25,000 requests/day
	Google Cloud Datastore API		☐ OFF	Courtesy limit: 10,000,000 requests/day
	Google Cloud Messaging for Android		☐ OFF	
	Google Cloud Messaging for Chrome		☐ OFF	Courtesy limit: 10,000 requests/day
	Google Cloud SQL		☐ OFF	Pricing
	Google Cloud SQL API		☐ OFF	
	Google Cloud Storage		☐ OFF	Pricing
	Google Cloud Storage JSON API		☐ OFF	
	Google Compute Engine		☐ OFF	Pricing
	Google Contacts CardDAV API		☐ OFF	Courtesy limit: 10,000 requests/day
	Google Maps Android API v2		☐ OFF	
	Google Maps API v3		☐ OFF	Courtesy limit: 25,000 requests/day • Pricing
	Google Maps Coordinate API		☐ OFF	Courtesy limit: 1,000 requests/day
	Google Maps Engine API		☐ OFF	Courtesy limit: 10,000 requests/day
	Google Maps Geolocation API		☐ OFF	Courtesy limit: 0 requests/day • Pricing
	Google Maps SDK for iOS		☐ OFF	
	Google Maps Tracks API		☐ OFF	

Send Feedback

Google APIs Console

Google APIs Console

https://code.google.com/apis/console/?noredirect&pli=1#project:841318404499:services

Search Images Maps Play YouTube News Gmail Drive More ▼

imyday@gmail.com ▼ | Settings ▼ | Help | Sign out

Google apis

We are improving the experience. Try the new [Cloud Console](#).

Review terms of service

Print

Google Maps/Google Earth APIs Terms of Service

Last Updated: May 10, 2013

1. Your relationship with Google.

1.1 Use of the Service is Subject to these Terms. Your use of any of the Google Maps/Google Earth APIs (referred to in this document as the **"Maps API(s)"** or the **"Service"**) is subject to the terms of a legal agreement between you and Google (the **"Terms"**). "Google" means either (a) Google Ireland Limited, with offices at Gordon House, Barrow Street, Dublin 4, Ireland, if Customer's billing address is in any country within Europe, the Middle East, or Africa (**"EMEA"**); (b) Google Asia Pacific Pte. Ltd., with offices at 8 Marina View Asia Square 1 #30-01 Singapore 018960, if Customer's billing address is in any country within the Asia Pacific region (**"APAC"**); or (c) Google Inc., with offices at 1600 Amphitheatre Parkway, Mountain View, California 94043, USA, if Customer's billing address is in any country in the world other than those in EMEA and APAC.

1.2 The Terms include Google's Legal Notices and Privacy Policy.

(a) Unless otherwise agreed in writing with Google, the Terms will include the following:

- (i) the terms and conditions set forth in this document (the **"Maps APIs Terms"**);
- (ii) the [Legal Notices](#); and
- (iii) the [Privacy Policy](#).

☒ I agree to these terms.

Accept Decline

[Code Home](#) - [Privacy Policy](#)

0 of 1 terms of service accepted.
Google Maps/Earth APIs

Send Feedback

Google APIs Console

The screenshot shows the Google APIs Console interface. The browser address bar displays the URL: <https://code.google.com/apis/console/?noredirect&pli=1#project:841318404499:services>. The page header includes the Google APIs logo and a notification: "We are improving the experience. Try the new [Cloud Console](#)." The left sidebar contains navigation links: Overview, Services, Team, API Access, Billing, Reports, and Quotas. The main content area shows the "Active services" section, which is highlighted with a red box. This section includes a table with the following data:

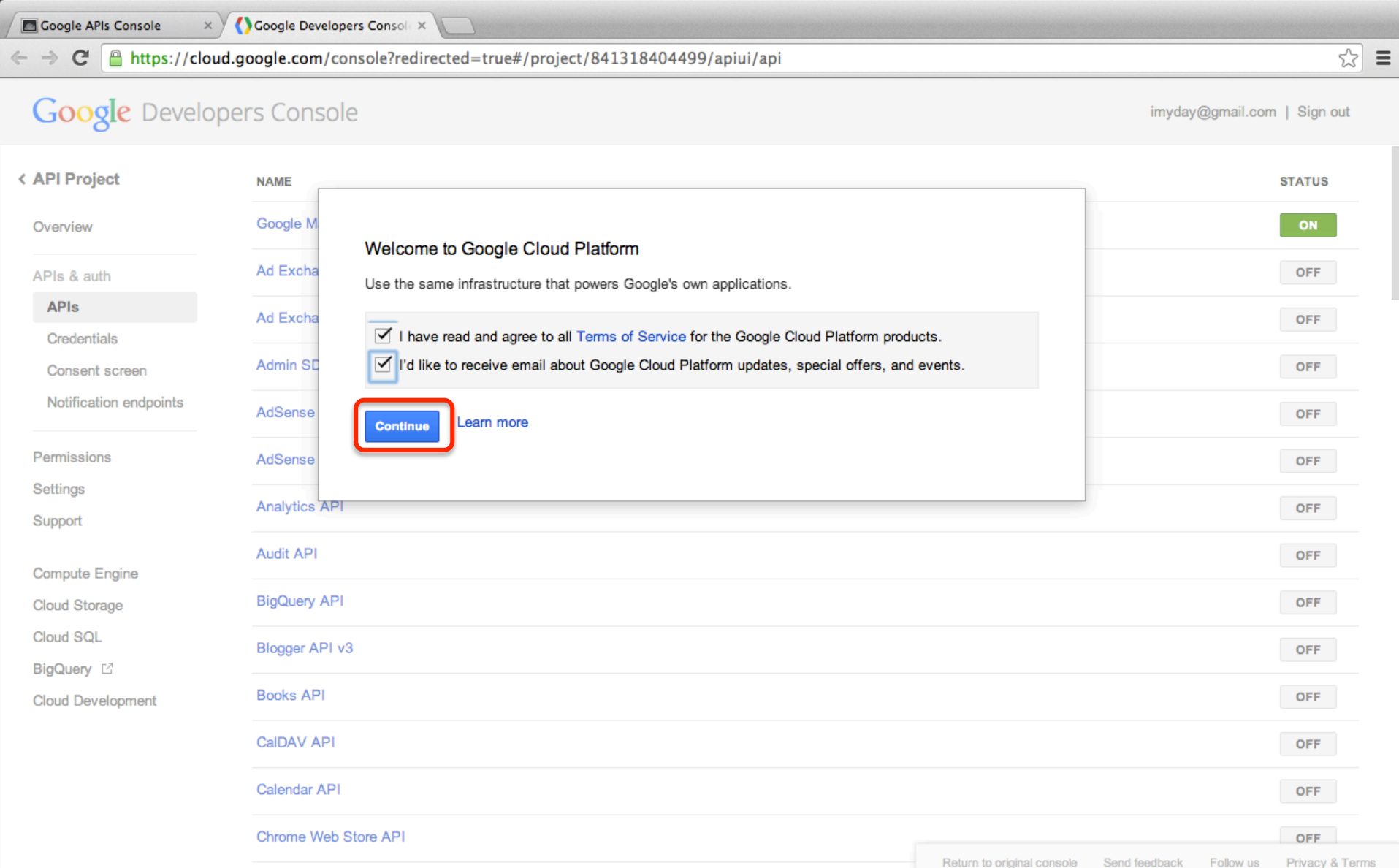
Service	Status	Notes
Google Maps API v3	☒ ON	Courtesy limit: 25,000 requests/day • Pricing

[Code Home](#) - [Privacy Policy](#)

Send Feedback

Google Developers Console

Google Cloud Platform



The screenshot shows the Google Developers Console interface. A modal dialog titled "Welcome to Google Cloud Platform" is centered on the screen. The dialog contains the following text and elements:

- Welcome to Google Cloud Platform**
- Use the same infrastructure that powers Google's own applications.
- Two checked checkboxes:
 - ☒ I have read and agree to all [Terms of Service](#) for the Google Cloud Platform products.
 - ☒ I'd like to receive email about Google Cloud Platform updates, special offers, and events.
- A blue **Continue** button, which is highlighted with a red rectangular box.
- A [Learn more](#) link.

The background of the console shows a list of APIs under the heading "API Project". The list includes:

NAME	STATUS
Google Maps API	ON
Ad Exchange Reporting API	OFF
Ad Exchange Reporting API	OFF
Admin SDK API	OFF
AdSense Reporting API	OFF
AdSense Reporting API	OFF
Analytics API	OFF
Audit API	OFF
BigQuery API	OFF
Blogger API v3	OFF
Books API	OFF
CalDAV API	OFF
Calendar API	OFF
Chrome Web Store API	OFF

At the bottom of the console, there are links for "Return to original console", "Send feedback", "Follow us", and "Privacy & Terms".

Google Maps API v3

The screenshot shows the Google Developers Console interface. The browser's address bar displays the URL: https://cloud.google.com/console?redirected=true#/project/841318404499/apiui/api/maps_backend. The page header includes the Google Developers Console logo and the user's email address, `imyday@gmail.com`, with a "Sign out" link. On the left, a sidebar lists various services under the heading "API Project", including Overview, APIs & auth (with "APIs" selected), Credentials, Consent screen, Notification endpoints, Permissions, Settings, Support, Compute Engine, Cloud Storage, Cloud SQL, BigQuery, and Cloud Development. The main content area features a card for "Google Maps API v3" with a green "ON" status button and links for "Quota" and "Reports". Below this, a description states: "The Google Maps API lets you embed Google Maps in your own web pages with Javascript." followed by a "Learn more" link. At the bottom right, there are links for "Return to original console", "Send feedback", "Follow us", and "Privacy & Terms".

Google APIs Console x Google Developers Console x

← → ↻ https://cloud.google.com/console?redirected=true#/project/841318404499/apiui/api/maps_backend ☆ ≡

Google Developers Console `imyday@gmail.com` | Sign out

< API Project

Overview

APIs & auth

APIs

Credentials

Consent screen

Notification endpoints

Permissions

Settings

Support

Compute Engine

Cloud Storage

Cloud SQL

BigQuery ↗

Cloud Development

Google Maps API v3 **ON** [Quota](#) [Reports](#)

The Google Maps API lets you embed Google Maps in your own web pages with Javascript. [Learn more](#)

[Return to original console](#) [Send feedback](#) [Follow us](#) [Privacy & Terms](#)

Credentials: Public API access

Get Google Maps API Key

The screenshot shows the Google Developers Console interface. The left sidebar contains a menu with 'Credentials' highlighted. The main content area is divided into two sections: 'OAuth' and 'Public API access'. The 'Public API access' section contains a table with details for a new API key, including the key itself, referers, activation date, and the user who activated it. A large red text 'API key' is overlaid on the right side of the console. At the bottom, there are links for 'Return to original console', 'Send feedback', 'Follow us', and 'Privacy & Terms'.

Google Developers Console

OAuth

OAuth 2.0 allows users to share specific data with you (for example, contact lists) while keeping their usernames, passwords, and other information private.

[Learn more](#)

[CREATE NEW CLIENT ID](#)

API key

Public API access

Use of this key does not require any user action or consent, does not grant access to any account information, and is not used for authorization.

[Learn more](#)

[CREATE NEW KEY](#)

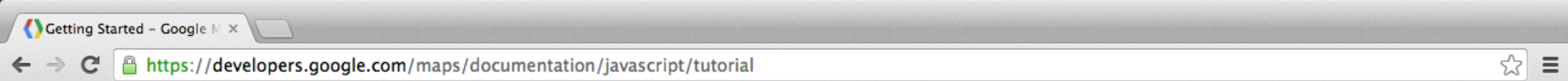
Key for browser applications	
API key	AIzaSyBk9zQmepC
Referers	Any referer allowed
Activation date	
Activated by	@gmail.com (you)

[Edit allowed referers](#) [Regenerate key](#) [Delete](#)

[Return to original console](#) [Send feedback](#) [Follow us](#) [Privacy & Terms](#)

Google Map JavaScript API

Hello, World



Hello, World

The easiest way to start learning about the Google Maps API is to see a simple example. The following web page displays a map centered on Sydney, New South Wales, Australia:

```
<!DOCTYPE html>
<html>
  <head>
    <meta name="viewport" content="initial-scale=1.0, user-scalable=no" />
    <style type="text/css">
      html { height: 100% }
      body { height: 100%; margin: 0; padding: 0 }
      #map-canvas { height: 100% }
    </style>
    <script type="text/javascript"
      src="https://maps.googleapis.com/maps/api/js?key={API_KEY}&sensor=SET_TO_TRUE_OR_FALSE">
    </script>
    <script type="text/javascript">
      function initialize() {
        var mapOptions = {
          center: new google.maps.LatLng(-34.397, 150.644),
          zoom: 8
        };
        var map = new google.maps.Map(document.getElementById("map-canvas"),
          mapOptions);
      }
      google.maps.event.addDomListener(window, 'load', initialize);
    </script>
  </head>
  <body>
    <div id="map-canvas"/>
  </body>
</html>
```

[View example \(map-simple.html\)](#)

Even in this simple example, there are a few things to note:
<https://developers.google.com/maps/documentation/javascript/tutorial>

Google Map JavaScript API

Hello, World

API key

```
<!DOCTYPE html>
<html>
  <head>
    <meta name="viewport" content="initial-scale=1.0, user-scalable=no" />
    <style type="text/css">
      html { height: 100% }
      body { height: 100%; margin: 0; padding: 0 }
      #map-canvas { height: 100% }
    </style>
    <script type="text/javascript"
      src="https://maps.googleapis.com/maps/api/js?key=API_KEY&sensor=SET_TO_TRUE_OR_FALSE">
    </script>
    <script type="text/javascript">
      function initialize() {
        var mapOptions = {
          center: new google.maps.LatLng(-34.397, 150.644),
          zoom: 8
        };
        var map = new google.maps.Map(document.getElementById("map-canvas"),
          mapOptions);
      }
      google.maps.event.addDomListener(window, 'load', initialize);
    </script>
  </head>
  <body>
    <div id="map-canvas"/>
  </body>
</html>
```

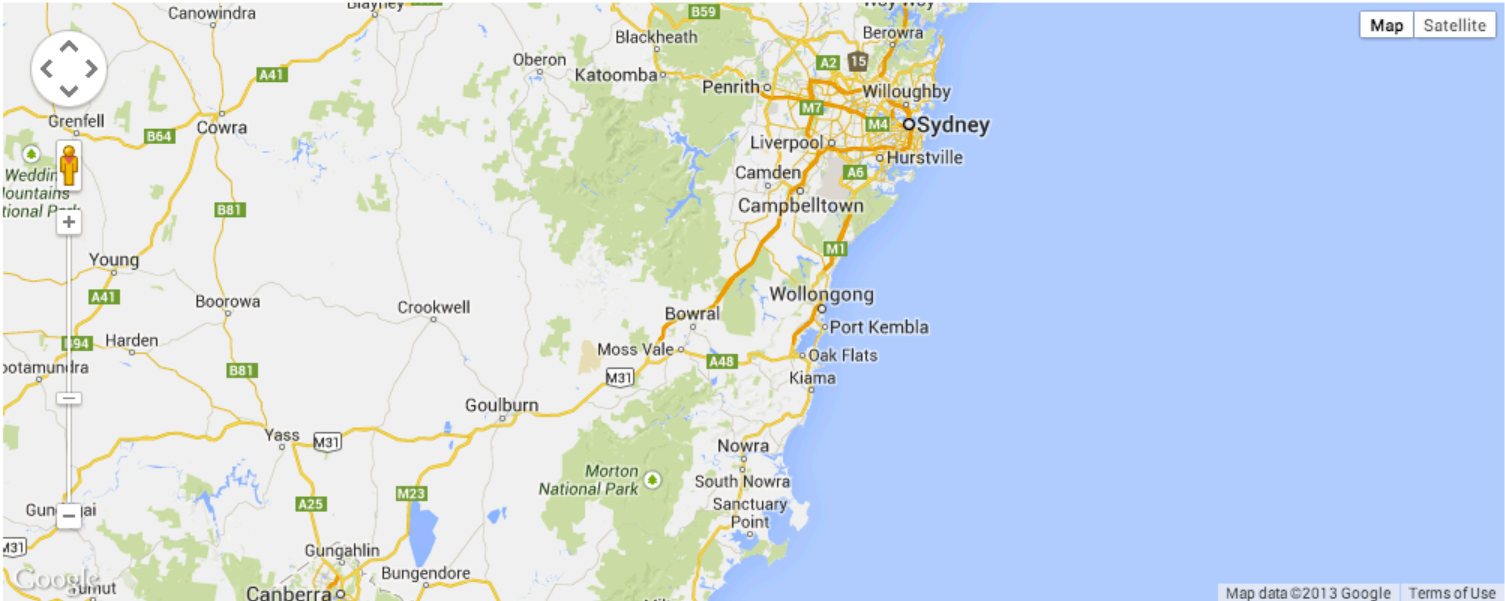
Google Maps JavaScript API: Simple Map

Simple Map – Google Maps

← → ↺ <https://developers.google.com/maps/documentation/javascript/examples/map-simple> ☆ ☰

- Developer's Guide
 - API Reference
 - Code Samples
 - Basics
 - Simple map**
 - Visual Refresh
 - Showing pixel and tile coordinates
 - Geolocation
 - Localizing the map
 - Right-to-left languages
 - Asynchronous loading
 - Custom map projections
 - Events
 - Controls
 - Styles
 - Drawing on the Map
 - Layers
 - MapTypes
 - Services
 - Libraries
 - Demo Gallery
 - More Resources

Simple Map



Map data ©2013 Google Terms of Use

View this example [full screen](#).

JavaScript JavaScript + HTML

```
<!DOCTYPE html>
<html>
  <head>
    <title>Simple Map</title>
    <meta name="viewport" content="initial-scale=1.0, user-scalable=no">
    <meta charset="utf-8">
    <style>
      html, body, #map-canvas {
        height: 100%;
```

Google Maps JavaScript API Example JavaScript + HTML

```
<!DOCTYPE html>
<html>
  <head>
    <title>Simple Map</title>
    <meta name="viewport" content="initial-scale=1.0, user-scalable=no">
    <meta charset="utf-8">
    <style>
      html, body, #map-canvas {
        height: 100%;
        margin: 0px;
        padding: 0px
      }
    </style>
    <script src="https://maps.googleapis.com/maps/api/js?v=3.exp&sensor=false"></script>
    <script>
      var map;
      function initialize() {
        var mapOptions = {
          zoom: 8,
          center: new google.maps.LatLng(-34.397, 150.644)
        };
        map = new google.maps.Map(document.getElementById('map-canvas'),
          mapOptions);
      }

      google.maps.event.addDomListener(window, 'load', initialize);

    </script>
  </head>
  <body>
    <div id="map-canvas"></div>
  </body>
</html>
```



```
<div style="position:absolute; height:100%; width:100%;">  
  <div id="map-canvas"></div>  
</div>
```



Google Maps JavaScript API

```
<style>
```

```
#map-canvas {  
  height: 100%;  
  margin: 0px;  
  padding: 0px  
}
```

```
</style>
```

```
<script>
```

```
function initialize() {  
  var mapOptions = {  
    zoom: 15,  
    center: new google.maps.LatLng(25.174738, 121.450381)  
  };  
};
```

```
var map = new google.maps.Map(document.getElementById('map-canvas'),  
  mapOptions);  
}
```

```
function loadScript() {  
  var script = document.createElement('script');  
  script.type = 'text/javascript';  
  script.src = 'https://maps.googleapis.com/maps/api/js?v=3.exp&sensor=true&callback=initialize';  
  document.body.appendChild(script);  
}
```

```
window.onload = loadScript;
```

```
</script>
```

```

<!DOCTYPE html>
<html>
<head>
  <title>Google Maps</title>
  <meta charset=utf-8 />
  <meta name="viewport" content="width=device-width, initial-scale=1" />

  <script src="js/jquery.js"></script>
  <link type="text/css" href="css/jquery.mobile-1.3.2.min.css" rel="stylesheet" />
  <script type="text/javascript" src="js/jquery.mobile-1.3.2.min.js"></script>

  <!--PhoneGap-->
  <link rel="stylesheet" type="text/css" href="css/index.css" />
  <!--
  <script type="text/javascript" src="phonegap.js"></script>
  -->
  <script type="text/javascript" src="js/index.js"></script>
  <!--/PhoneGap-->
  <script type="text/javascript">
    app.initialize();
  </script>

  <style>
    #map-canvas {
      height: 100%;
      margin: 0px;
      padding: 0px;
    }
  </style>

  <script>
    function initialize() {
      var mapOptions = {
        zoom: 15,
        center: new google.maps.LatLng(25.174738, 121.450381)
      };

      var map = new google.maps.Map(document.getElementById('map-canvas'),
        mapOptions);
    }

    function loadScript() {
      var script = document.createElement('script');
      script.type = 'text/javascript';
      script.src = 'https://maps.googleapis.com/maps/api/js?v=3.exp&sensor=true&callback=initialize';
      document.body.appendChild(script);
    }

    window.onload = loadScript;
  </script>

</head>

```

```

<body>

  <div data-role="page" id="googlemaps" data-theme="b">
    <div data-role="header" data-position="inline" data-theme="b">
      <a data-icon="back" data-rel="back" back-btn="true">Back</a>
      <h1>Google Maps</h1>
      <a href="index.html#MyHome" rel="external" data-icon="home">Home</a>
    </div><!-- /header -->

    <div style="position:absolute; height:100%; width:100%;">
      <div id="map-canvas"></div>
    </div>

    <div data-role="footer" data-position="fixed" data-theme="b">
      <div data-role="navbar">
        <ul>
          <li><a href="index.html#MyHome" rel="external" class="ui-btn-active ui-state-persist"
            data-transition="fade" data-icon="home">Home</a></li>
          <li><a href="index.html#Research" rel="external" class="ui-btn-active ui-state-persist"
            data-transition="fade" data-icon="star">Research</a></li>
          <li><a href="index.html#Teaching" rel="external" class="ui-btn-active ui-state-persist"
            data-transition="fade" data-icon="check">Teaching</a></li>
          <li><a href="index.html#More" rel="external" class="ui-btn-active ui-state-persist"
            data-transition="fade" data-icon="bars">More</a></li>
          <li><a href="index.html#About" rel="external" class="ui-btn-active ui-state-persist"
            data-transition="fade" data-icon="grid">About</a></li>
        </ul>
      </div>
    </div><!-- /footer -->
  </div><!-- /page Google Map -->
</body>
</html>

```

map.html

Google Maps JavaScript API + jQuery Mobile



<http://mail.tku.edu.tw/myday/app/map.html>

Summary

- **Google App Engine**
 - Google Cloud Platform
 - Google Cloud Datastore
- **Google Maps API**



References

- Google Cloud Platform,
<https://cloud.google.com/>
- Google App Engine,
<https://cloud.google.com/appengine/>
- Google Cloud Datastore,
<https://cloud.google.com/datastore/>
- Google Cloud Endpoints,
<https://cloud.google.com/endpoints/>
- Google Maps API,
<https://developers.google.com/maps/>
- Google Maps JavaScript API v3 Tutorial,
<https://developers.google.com/maps/documentation/javascript/tutorial>
- Google Maps API Tutorial,
<http://www.w3schools.com/googleAPI/>