



Introduction to

# API Technical Writing

Sarah Maddox | February 2015

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# contents

What is an API?

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Components of API documentation

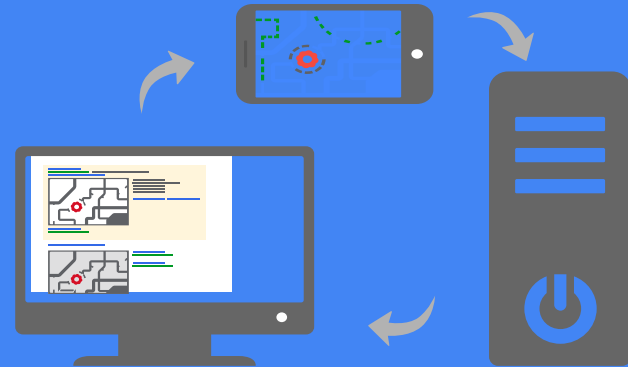
Examples of API documentation

A day in the life

How to get started

WHY?

# What is an API?



**A way for apps to  
exchange information  
with each other**

# What is an API?

Application Programming Interface (API)

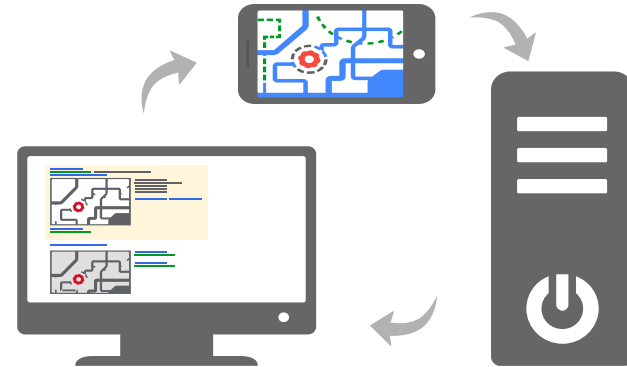
A means of communication

- App to app
- Automated

A description of the communication methods allowed

- Requesting information
- Sending information
- Updating information

The mechanisms supporting those interactions



**A way for apps to  
exchange information  
with each other**

# What is an API?

Usually not UI

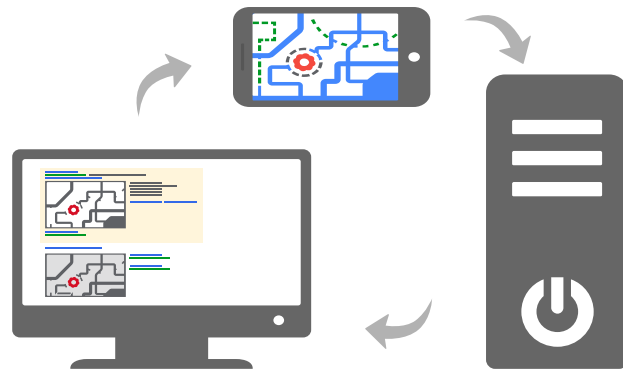
- Software-to-software interaction, not user interaction
- May provide a UI widget

“Components” rather than “apps”?

- Yes, that’s more precise
- But “app” is good for most purposes

“APIs” = features within an API?

- No, although fairly common usage
- Those are classes, methods, endpoints, etc

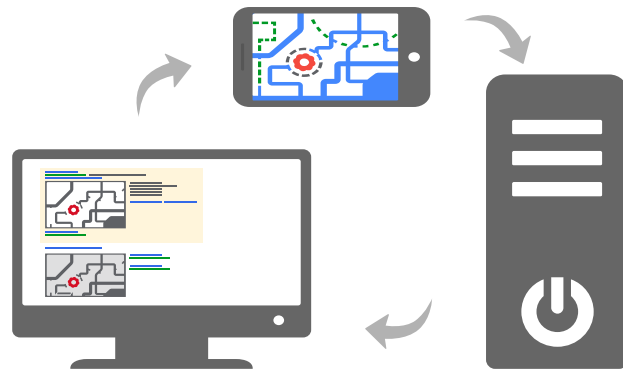


# What an app needs

## The rules / protocol

- Documentation
- WSDL
- WADL

## Code libraries



# Web services

WWW

URI or URL

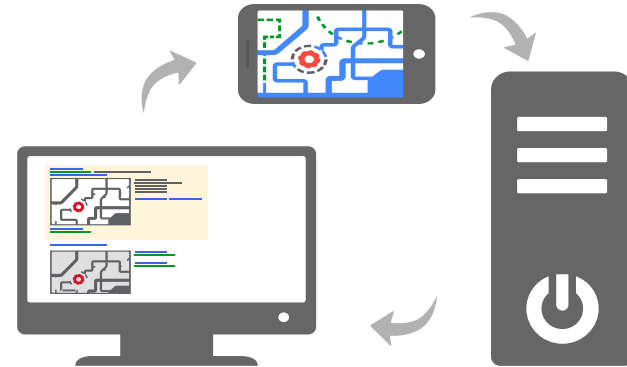
HTTP or HTTPS

Web service APIs

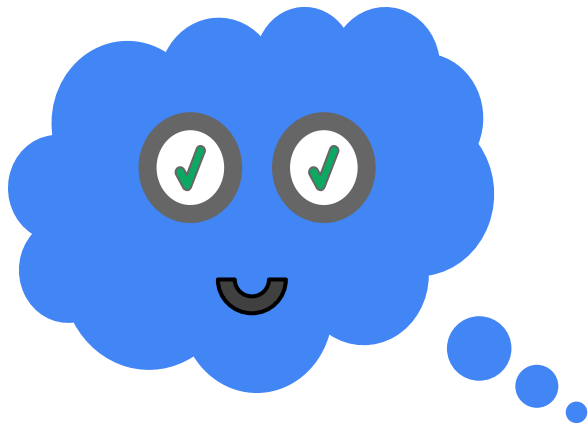
SOAP

XML-RPC and JSON-RPC

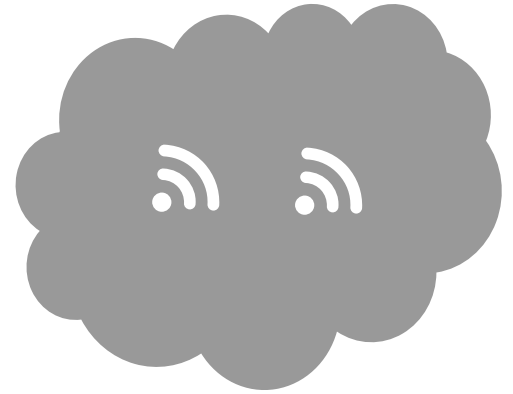
REST

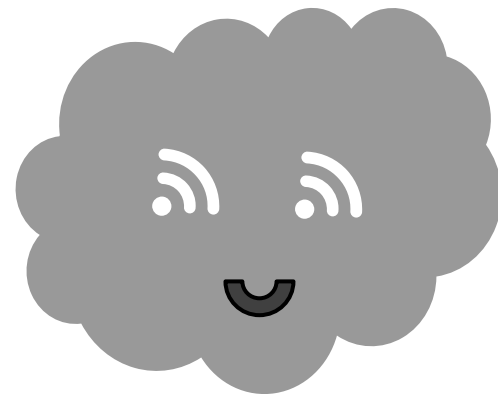


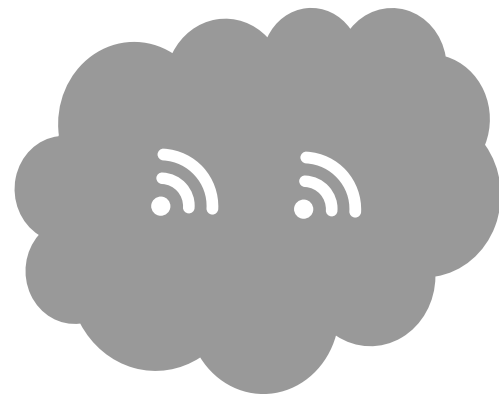
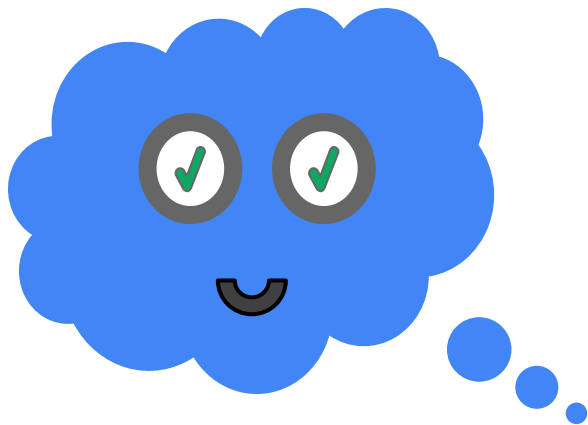




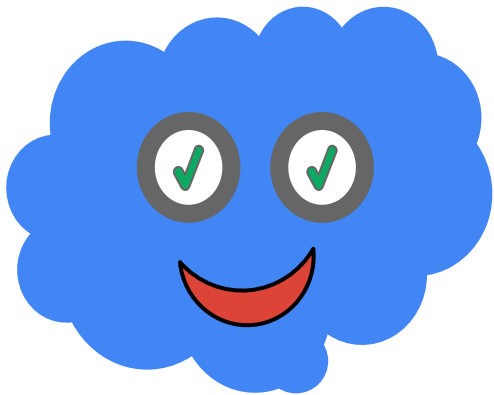
**Well, hello there!**



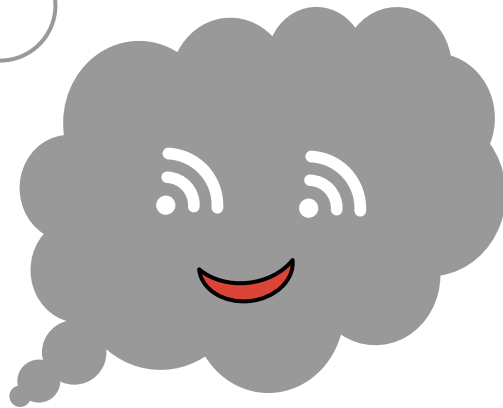




`http://www.greyccloudapp.com/connection/xml?type=hello`



```
<?xml version="1.0"
encoding="utf-8" ?>
<GreyCloudAppResponse>
  <status>OK</status>
  <result>
    <type>greeting</type>
    <text>hello back</text>
  </result>
</GreyCloudAppResponse>
```



# The role of an API tech writer



# What does an API technical writer do?

**Help people complete a task  
or use a product**

Explain concepts

Show people how to do something

Publish the terms of service of a product

Notify people of changes and new features

else

What ^ does an API technical writer do?

Advise developers on naming conventions

Stand up for code readability

Write sample code

Write video scripts

Present videos, workshops, webinars

**Opportunities for creativity  
as well as writing/coding zone**

# Developer products

APIs

SDKs

IDE plugins

Libraries

XML specs

Templates

UI guidelines



# You mean you spend your day on stuff like this?

```
<script type='text/javascript'>
  // Say hello world until the user starts questioning
  // the meaningfulness of their existence.
  function helloWorld(world) {
    for (var i = 42; i > 0; i--) {
      alert ('Hello' + String(world));
    }
  }
</script>
```

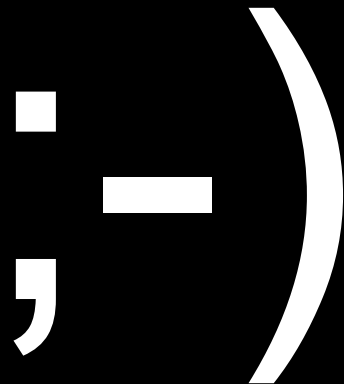
# You mean you spend your day on stuff like this?

```
<script type='text/javascript'>
```

```
// Say hello world until the user starts questioning  
// the meaningfulness of their existence.
```

```
function helloWorld(world) {  
    for (var i = 42; i > 0; i--) {  
        alert ('Hello' + String(world));  
    }  
}
```

```
</script>
```



# Who's our audience?



# Who uses APIs?

**Developers.  
They're our audience.**

**Inventive  
Innovative  
Entrepreneurial**



Web apps  
iOS  
Android  
Desktop  
Wearable  
youNameIt

# APIs in the real world

- Display your Twitter stream on your Wordpress blog
- Add Flickr photos to Confluence wiki pages
- Embed YouTube videos all over the show



# API types



# A classification of APIs

## **Web service APIs**

SOAP

XML-RPC and JSON-RPC

REST

## **WebSocket APIs**

## **Library-based APIs**

JavaScript

TWAIN

## **Class-based APIs (object orientation)**

Java API

Android API

## **OS functions and routines**

Access to file system

Access to user interface

## **Object remoting APIs**

CORBA

.NET Remoting

## **Hardware APIs**

Video acceleration

Hard disk drives

PCI buses

More details of API types

<http://goo.gl/tTqyne>

Long link:

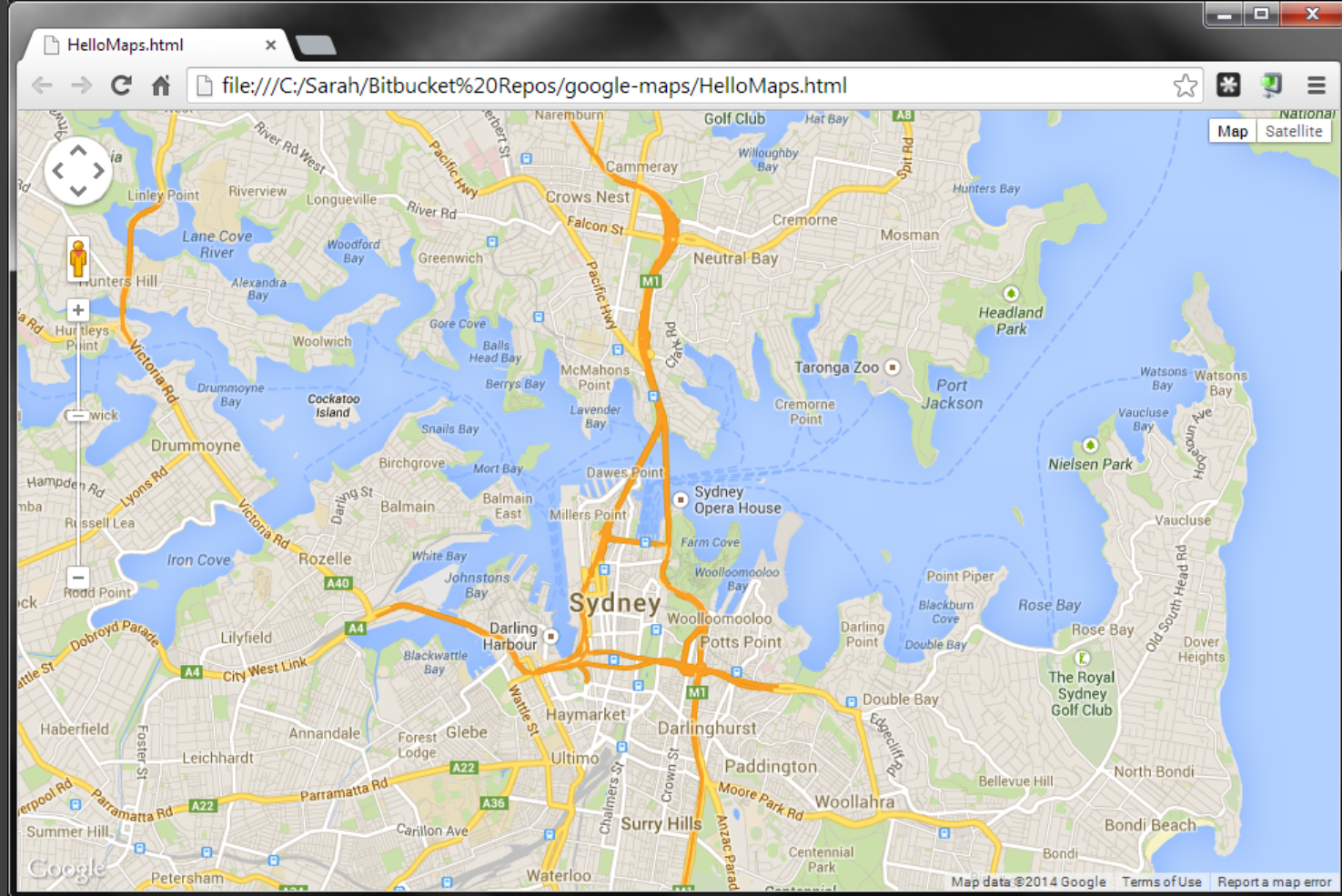
<http://ffeathers.wordpress.com/2014/02/16/api-types>



# Demo of a JavaScript API

# Google Maps JavaScript API

## <example>



# Google Maps JavaScript API

```
<!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=AIzaSyCQh5S1cRrYBglcC-DsmvMT2lpaVLkhrF8">
    </script>
    <script type="text/javascript">
      function initialize() {
        var mapOptions = {
          center: new google.maps.LatLng(-33.857, 151.215),
          zoom: 13,
        };
        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>
```

```
<body>
```

```
  <div id="map-canvas" />
```

```
</body>
```

# Google Maps JavaScript API

```
<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>
  [[SNIP]]
</head>
```

# Google Maps JavaScript API

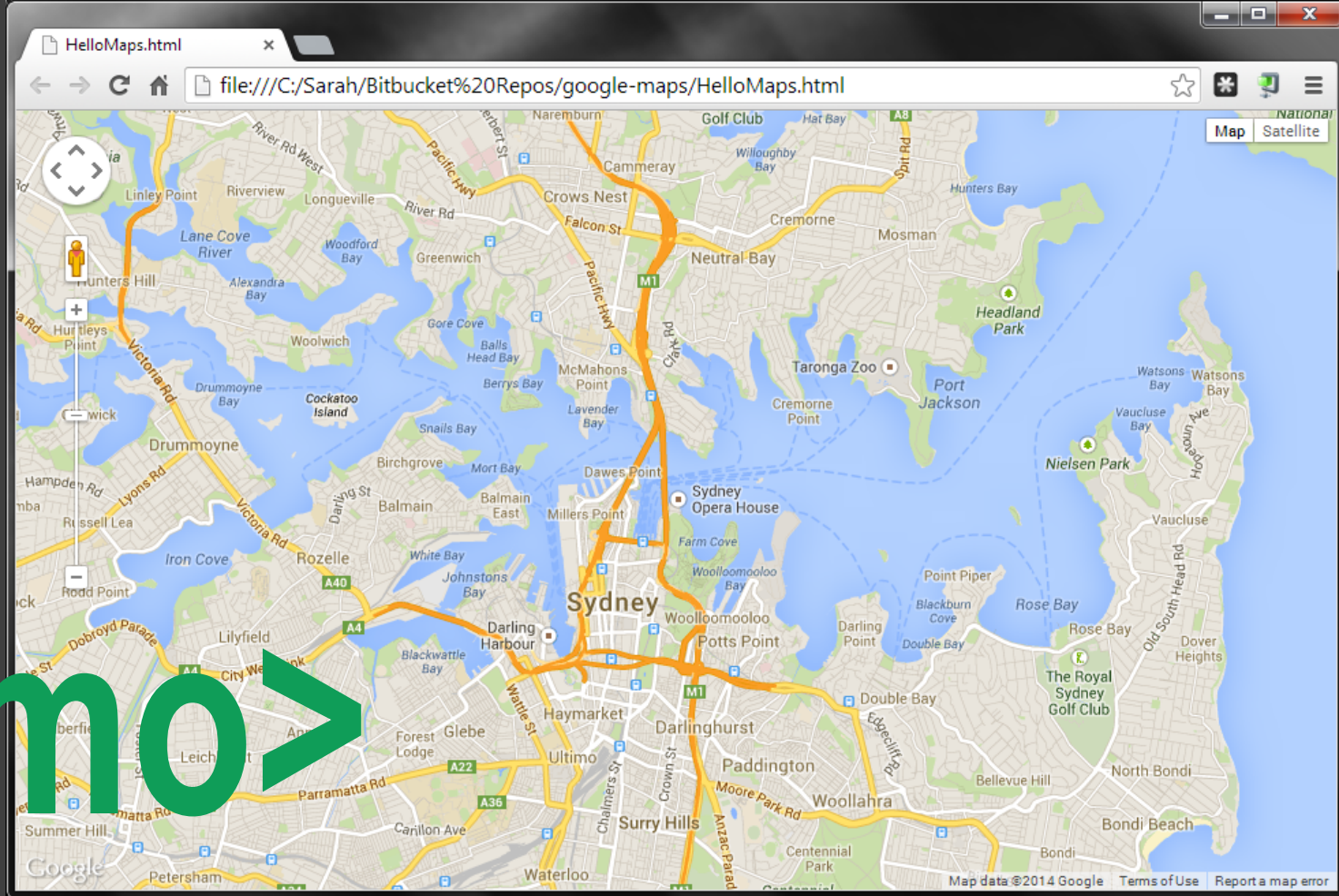
```
<script type="text/javascript"  
    src="https://maps.googleapis.  
com/maps/api/js  
        ?key=MY-KEY-HERE">  
</script>
```

# Google Maps JavaScript API

```
<script type="text/javascript">  
  function initialize() {  
    var mapOptions = {  
      center: new google.maps.LatLng(-33.857, 151.215),  
      zoom: 13,  
    };  
    var map = new google.maps.Map(  
      document.getElementById("map-canvas"),  
      mapOptions);  
  }  
  google.maps.event.addDomListener(window, 'load',  
    initialize);  
</script>
```

# Google Maps JavaScript API

<demo>





# Demo of a REST API

# Web services

WWW

URI or URL

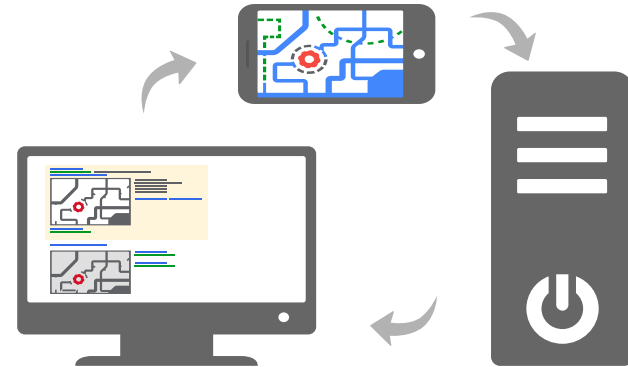
HTTP or HTTPS

Web service APIs

SOAP

XML-RPC and JSON-RPC

**REST**



# Calling the Flickr API

# <example>

Get a list:

- Request
- Response

Get a photo:

- Request
- Response



```
<?xml version="1.0" encoding="utf-8" ?>
<rsp stat="ok">
<photos page="1" pages="7" perpage="100" total="606">
<photo id="8554933095" owner="31065906@N08" secret="211xxxxxxx" server="8380"
farm="9" title="IMG_4536" ispublic="1" isfriend="0" isfamily="0" />
<photo id="8556044604" owner="31065906@N08" secret="b7bxxxxxxx" server="8368"
farm="9" title="IMG_4533" ispublic="1" isfriend="0" isfamily="0" />
<photo id="8556045230" owner="31065906@N08" secret="847xxxxxxx" server="8505"
farm="9" title="IMG_4529" ispublic="1" isfriend="0" isfamily="0" />
<photo id="8554934541" owner="31065906@N08" secret="9b38xxxxxx" server="8112"
farm="9" title="IMG_4527" ispublic="1" isfriend="0" isfamily="0" />
```

# flickr.com

<http://www.flickr.com/photos/31065906@N08/12376039474>

# Flickr API request

```
https://api.flickr.com/services/rest/?
```

# Flickr API request

```
https://api.flickr.com/services/rest/?  
&method=flickr.people.getPublicPhotos
```

# Flickr API request

```
https://api.flickr.com/services/rest/?  
&method=flickr.people.getPublicPhotos  
&user_id=31065906@N08
```

# Flickr API request

```
https://api.flickr.com/services/rest/?  
&method=flickr.people.getPublicPhotos  
&user_id=31065906@N08  
&api_key=KEY-GOES-HERE
```

<http://www.flickr.com/services/api/keys/apply/>





Testing web services and REST APIs

# Advanced REST Client

**A Chrome add-on**

# Calling the Flickr API

# <demo>

```
<?xml version="1.0" encoding="utf-8" ?>
<rsp stat="ok">
  <photos page="1" pages="7" perpage="100" total="606">
    <photo id="8554933095" owner="31065906@N08" secret="211xxxxxxx" server="8380" farm="9"
    title="IMG_4536" ispublic="1" isfriend="0" isfamily="0" />
    <photo id="8556044604" owner="31065906@N08" secret="b7bxxxxxxx" server="8368" farm="9"
    title="IMG_4533" ispublic="1" isfriend="0" isfamily="0" />
    <photo id="8556045230" owner="31065906@N08" secret="847xxxxxxx" server="8505" farm="9"
    title="IMG_4529" ispublic="1" isfriend="0" isfamily="0" />
    <photo id="8554934541" owner="31065906@N08" secret="9b38xxxxxxx" server="8112" farm="9"
    title="IMG_4527" ispublic="1" isfriend="0" isfamily="0" />
```

# <demo>

<http://www.flickr.com/photos/31065906@N08/12376039474>

# HTTP protocol - what we've ignored

## Types of requests:

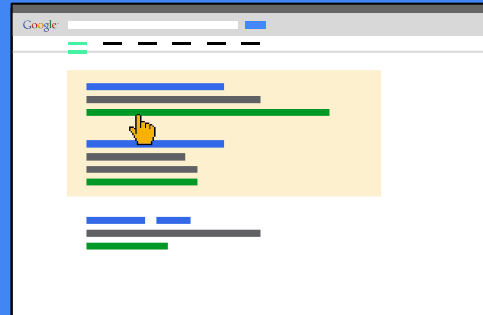
- GET
- POST, PUT, DELETE, more

## Request/response:

- Header and body
- Status
- Data types

```
<?xml version="1.0" encoding="utf-8" ?>
<rsp stat="ok">
  <photos page="1" pages="7" perpage="100" total="606">
    <photo id="8554933095" owner="31065906@N08" secret="211xxxxxx" server="8380"
    farm="9" title="IMG_4536" ispublic="1" isfriend="0" isfamily="0" />
    <photo id="8556044604" owner="31065906@N08" secret="b7bxxxxxx" server="8368"
    farm="9" title="IMG_4533" ispublic="1" isfriend="0" isfamily="0" />
    <photo id="8556045230" owner="31065906@N08" secret="847xxxxxx" server="8505"
    farm="9" title="IMG_4529" ispublic="1" isfriend="0" isfamily="0" />
    <photo id="8554934541" owner="31065906@N08" secret="9b38xxxxxx" server="8112"
    farm="9" title="IMG_4527" ispublic="1" isfriend="0" isfamily="0" />
```

# Components of API documentation



# What's in API docs

## Conceptual

- Overviews

- Concepts

- Use cases

## Practical

- Quick start

- Tutorials

- Sample code

## Reference documentation

- Hand-written

- Auto-generated (Javadoc and others)

- Advantages of auto-generation

# What's in REST API docs

**Resources** - URL paths

**Media types** - JSON, XML, etc

**HTTP methods** - GET, PUT, POST, DELETE, etc

**Requests** - input parameters and/or fields

**Responses** - the fields returned by the API

**Success/failure messages** - HTTP status codes and specific error codes

**Authentication and authorisation** - OAuth

**Client library methods** - where available

# Generated docs - Javadoc comments

```
/**
```

- \* Short description here.
- \* More description.
- \* Can contain links to other parts of the doc: {@link NAME}.
- \* Can contain <strong>HTML tags</strong>.
- \* Ends with special "block tags" denoting specific sections of the page.
- \*
- \* @param argument1 description of a parameter
- \* @param argument2 description of a parameter
- \* @return description of what the method returns
- \*/



# Example of a Javadoc comment

```
/**
 * Prints the user's favourite toy.
 * The printed string includes some predefined text and the
 * <strong>color</strong> and <strong>type</strong> of the toy.
 *
 * @param color A string containing the color of the toy.
 * @param toy A string containing the type of toy.
 */
private void printToy(String color, String toy) {
    String s = String.format("My favorite toys are %s %s.", color, toy);
    System.out.println(s);
}
```

# Google Maps Android API reference docs

<http://goo.gl/sa2ao>



Developers ▾

Design

Develop

Distribute



Training

API Guides

Reference

Tools

Google Services

Samples

GoogleMap.UnMapClickListener

GoogleMap.OnMapLoadedCallback

GoogleMap.OnMapLongClickListener

GoogleMap.OnMarkerClickListener

GoogleMap.OnMarkerDragListener

GoogleMap.OnMyLocationButtonClickListener

GoogleMap.OnMyLocationChangeListener

GoogleMap.SnapshotReadyCallback

LocationSource

LocationSource.OnLocationChangedListener

—CLASSES—

CameraUpdate

CameraUpdateFactory

[GoogleMap](#)

GoogleMapOptions

MapFragment

public final class

Summary: [Nested Classes](#) | [Constants](#) | [Methods](#) | [Inherited Methods](#) | [\[Expand All\]](#)

## GoogleMap

extends Object

java.lang.Object

↳ com.google.android.gms.maps.GoogleMap

## Class Overview

This is the main class of the Google Maps Android API and is the entry point for all methods related to the map. You cannot instantiate a [GoogleMap](#) object directly, rather, you must obtain one from the [getMap\(\)](#) method on a [MapFragment](#) or [MapView](#) that you have added to your application.

Note: Similar to a [View](#) object, a [GoogleMap](#) can only be read and modified from the main thread. Calling [GoogleMap](#) methods from another thread will result in an exception.

## Developer Guide

To get started, read the [Google Maps Android API v2](#) developer guide.

## Summary

### Nested Classes

interface

[GoogleMap.CancelableCallback](#)

A callback interface for reporting when a task is complete or cancelled.



# Examples of API documentation

# Example documentation for a JavaScript API

## Google Maps JavaScript API

**Getting started:** <http://goo.gl/uc8nL>

**How-to guides for common use cases:** <http://goo.gl/IDmSPg>

**Reference:** <http://goo.gl/W2yaZ>

# Example documentation for a REST API

## Twitter REST API

**Overview and getting started:** <http://goo.gl/QVRN8y>

**How-to guides for common use cases:** <http://goo.gl/B46St5>

**Reference:** <http://goo.gl/ie0gpE>

# Example documentation for a Java-based API

## Google Maps Android API

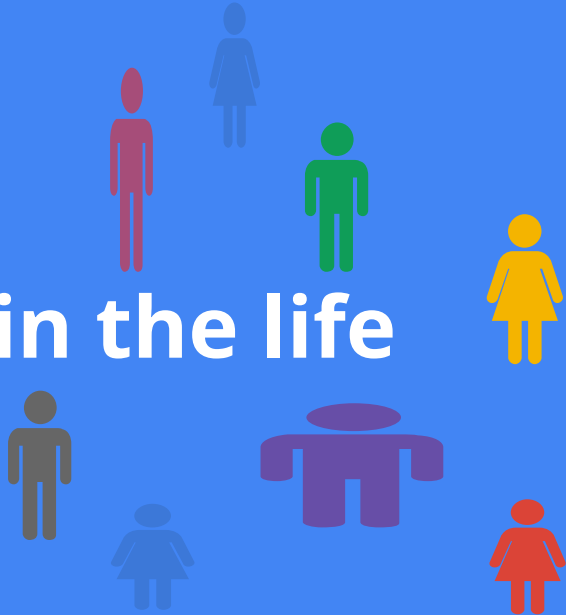
**Overview:** <http://goo.gl/pPAMq>

**Getting started:** <http://goo.gl/fgdUM>

**How-to guides for common use cases:** <http://goo.gl/JlVOcQ>

**Reference:** <http://goo.gl/ky1ijm>

# A day in the life



# A day in the life of an API tech writer

Start with a plan

Own a task tracker

Love your laptop

Grok teamwork

Be the advocate for your customers - often external developers

List end-of-day achievements



# All about information

Use the developers' tools

Use all channels available

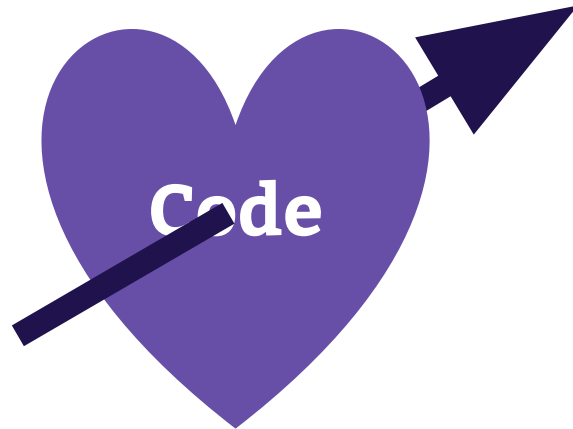
Lurk on code reviews, then take active part

Read code comments

Filter, filter, filter

# What about code?

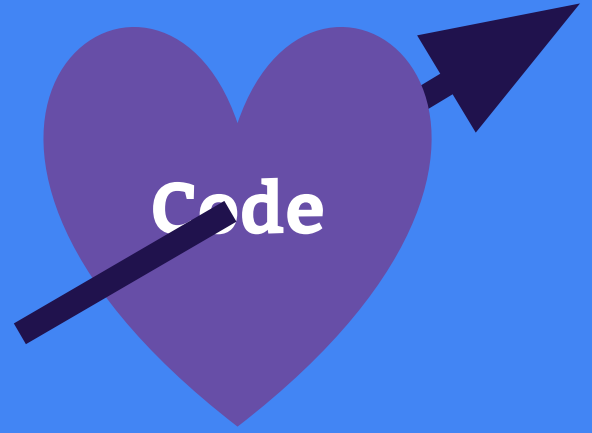
yes yes no  
yes yes  
yes yes  
no yes  
yes no  
yes no yes  
no



<http://goo.gl/JII300>

[http://ffeathers.wordpress.com/  
2013/12/21/how-to-write-sample-code](http://ffeathers.wordpress.com/2013/12/21/how-to-write-sample-code)

# Getting started



# How to get started

Get the tech

Show the 'tude

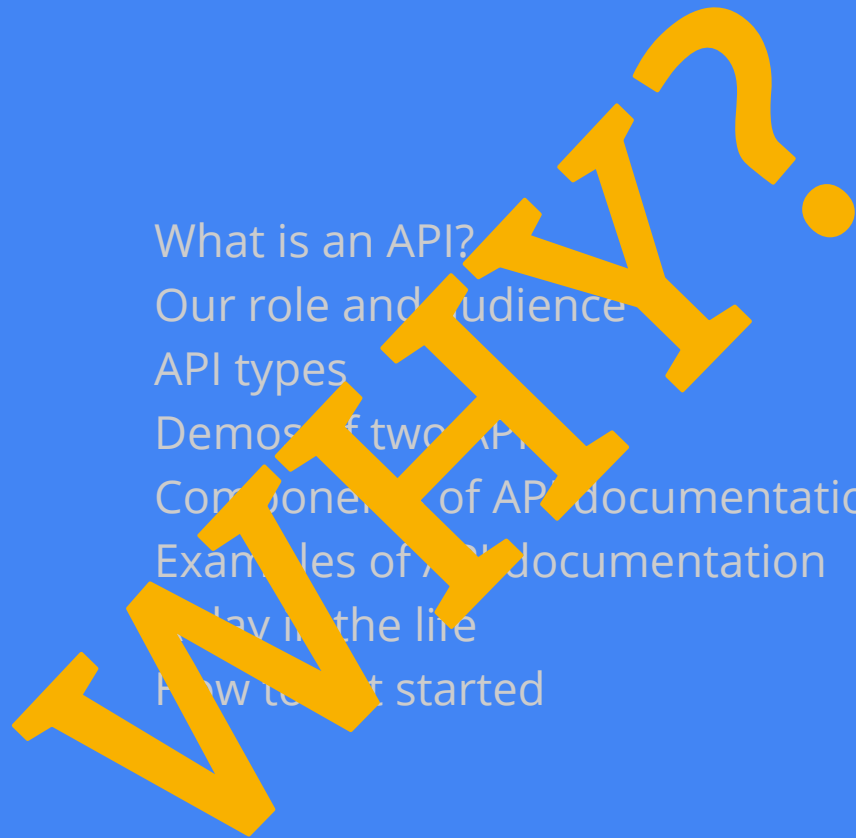
Play with some APIs

Do some docs

Follow Hacker News

<https://news.ycombinator.com>

Follow up on this presentation



What is an API?  
Our role and audience  
API types  
Demos of two APIs  
Components of API documentation  
Examples of API documentation  
APIs in the life  
How to get started

# Why an API tech writer?

**APIs** are the communication channel of the connected world.

**API developers** need help hooking their app up to someone else's API.

**Tech writers** who can give that help are in a very good position.

“There is no line where you suddenly cross over from non-coder to coder, or from fake developer to real developer. There’s no high priesthood. You start learning, and then you just keep going.”

Noah Veltman

Code, the newsroom, and self-doubt

# Contacting me

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Slideshare [sarahmaddox](#)

Blog [ffathers.wordpress.com](http://ffathers.wordpress.com)



**You hang up!**



**No YOU hang up!**