

# APIs and data journalism

Paul Bradshaw

# What do you need to know?

What are APIs?

How they're used in data journalism

Why you might use them

# API?

**Application** (for apps...)

**Programming** (...using code...)

**Interface** (...to interact)



TweetDeck

“Give me tweets with  
the hashtag  
#bcujournos & in  
descending order”

“Here are tweets with  
the hashtag  
#bcujournos & in  
order=descending”

# API?

Ask a question (**query**) - by 'calling' a URL or feed

Result - the **endpoint** -  
supplies **data or media**:

JSON, XML, HTML, CSV, image etc.



“Give me a map at  
this lat & lon & at  
zoom level 4”





## Overview

## Hello, Charts!

## Quickstart

## Load the Charts Library

## Prepare the Data

## Customize the Chart

## Draw the Chart

## Draw Multiple Charts

## Chart Types

## Chart Gallery

## Annotation Charts

## Area Charts

## Bar Charts

## Bubble Charts

## Calendar Charts

## Candlestick Charts

## Column Charts

## Combo Charts

## Diff Charts

## Donut Charts

## Gantt Charts

## Geo Charts

Home &gt; Products &gt; Charts &gt; Guides

Rate and review



# Chart Gallery

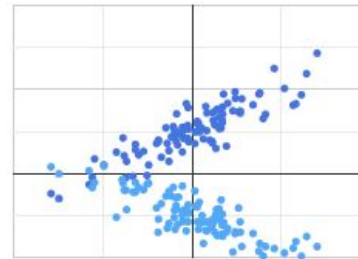
Our gallery provides a variety of charts designed to address your data visualization needs. These charts are based on pure HTML5/SVG technology (adopting VML for old IE versions), so no plugins are required. All of them are interactive, and many are pannable and zoomable. Adding these charts to your page can be done in [a few simple steps](#).

Some additional community-contributed charts can be found on the [Additional Charts page](#).

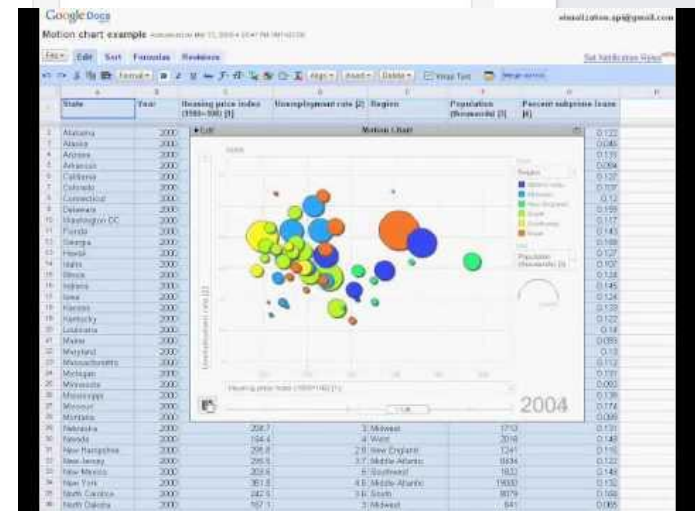
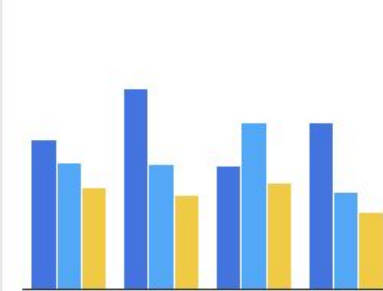
Geo Chart



Scatter Chart

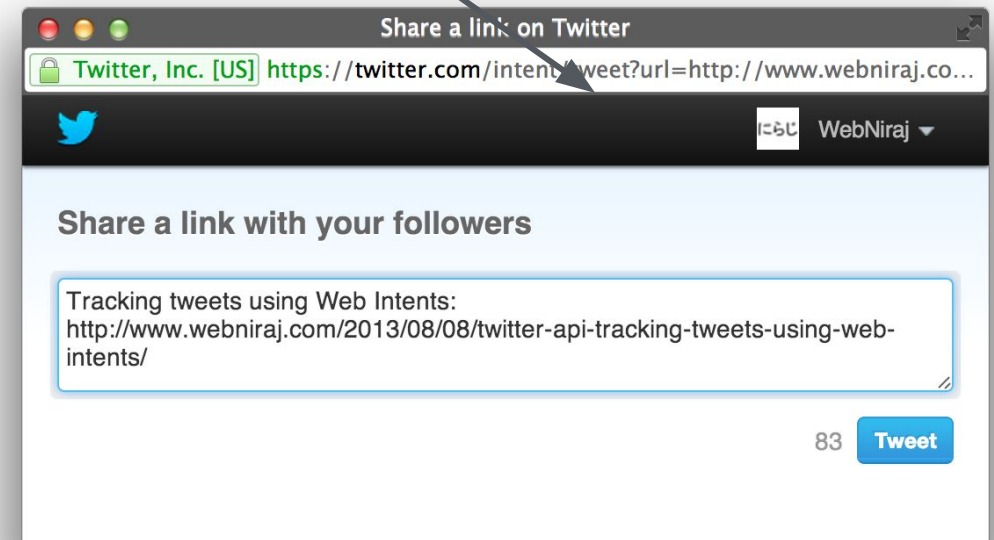


Column Chart



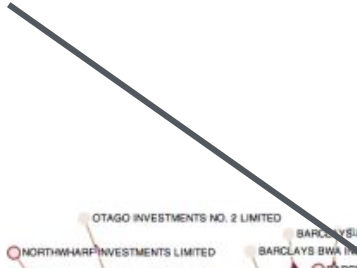


“Make a tweet  
containing this text &  
a link to this URL”





● ● ● ● ●



# Festivals dominated by male acts, study shows, as Glastonbury begins

By Pete Sherlock and Paul Bradshaw

BBC News

🕒 22 June 2017



Spotify Web API





global witness

*Report / 23 Oct 2015*

# JADE: MYANMAR'S "BIG STATE SECRET"

## The biggest natural resources heist in modern history?

### Reconciliation with OpenCorporates API

Transliteration always introduces some ambiguity and there are often numerous ways to convert a specific company name from one script to another. Fortunately, OpenCorporates has a service that lets users find company names in the database that are near but not exact matches. This all happens via an [‘endpoint’](#) through which users can load the data they want to reconcile into [OpenRefine](#). OpenCorporates will then return a likely set of matches against the company names you have imported. In the case of this investigation, many of the companies returned multiple matches. The mining, gems and trading arms of companies were often separated into different legal entities under the same name. Take for example, Max Burma Company: there is a [general limited company](#), a [gems and jewellery arm](#) as well as a [construction company](#).

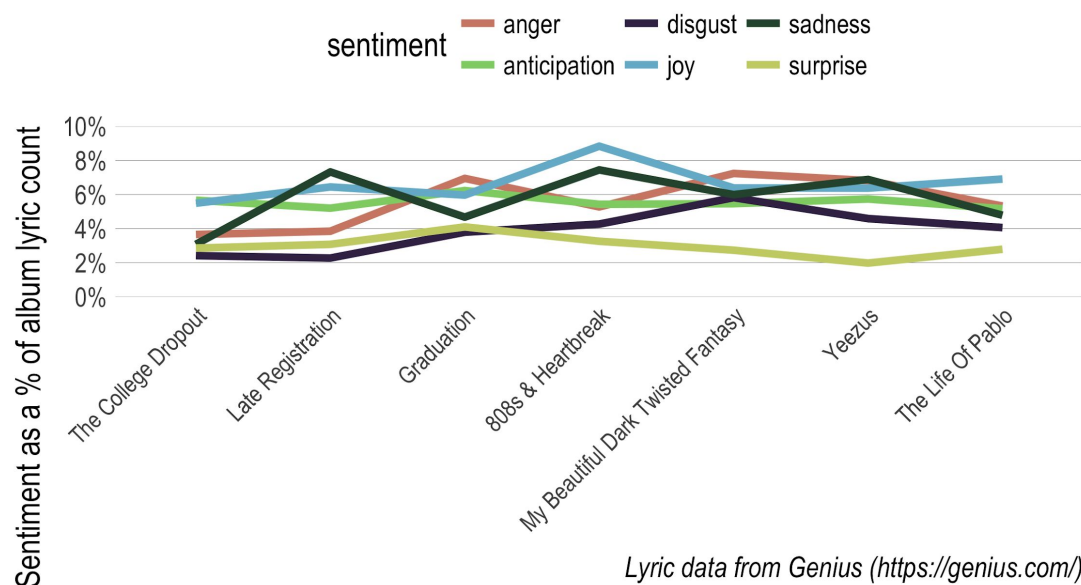
Made using the [Open Corporates API](#) ([source](#))

# A Sentiment Analysis of Kanye West Album Lyrics

📅 20 March, 2017 ⌚ 8 mins read

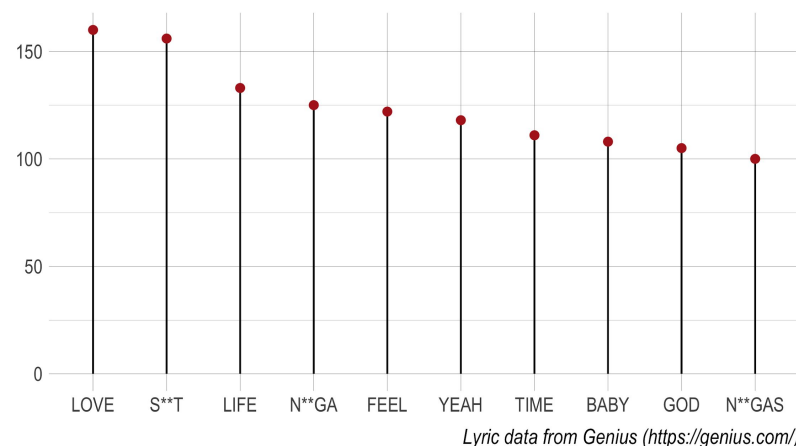
## Sentiment in Kanye West albums

Powered by the NRC lexicon



## Most common lyrics in Kanye West albums

Ranked by word count



```
## LAST FM API -----
#
# #function to get artist album details from Last.fm's API
# getAlbum <- function(artist, album) {
#   url <- paste0("http://ws.audioscrobbler.com/2.0/?method=album.getinfo&api_key=", API_key,
#                 "&artist=", artist, "&album=", album, "&format=json")
#   album_info <- getURL(url)
#   album_info <- fromJSON(album_info)
#   tracks <- do.call("rbind", album_info$album$tracks)
#   tracks <- select(tracks, ~@attr~, ~streamable)
#   tracks$album <- as.character(album_info$album$name)
#   tracks$artist <- as.character(album_info$album$artist)
#   tracks$track_no <- seq.int(nrow(tracks))
#   tracks
# }
#
# # GENIUS API -----
#
# #functions adapted from Charlie Thompson - http://rcharlie.com/2017-02-16-fitter-happier/
#
# # function to get artist details from Genius
# genius_get_artists <- function(artist_name, n_results = 10) {
```



# On the Trump Emoto-Coaster

*The emotional highs and lows of Donald Trump*

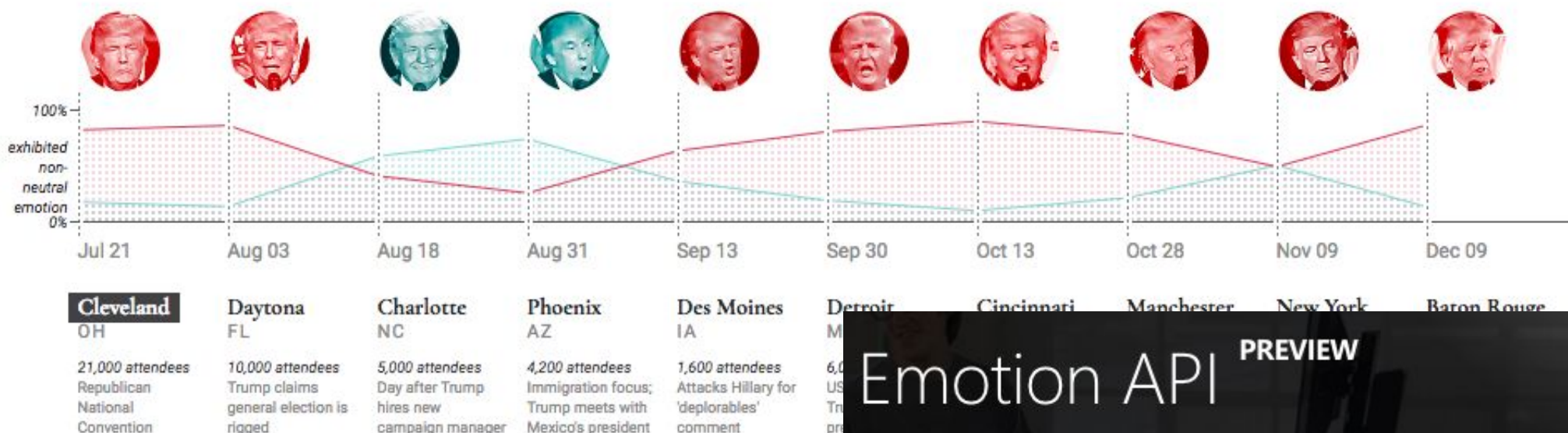
If it felt like you were on an emotional rollercoaster during this past Presidential election, just look at what was happening to Donald Trump. As shown in ten of the major speeches he gave from July through December, there's a rise and fall of intense emotion: anger, contempt, disgust, fear, sadness, happiness and surprise.

These emotions were isolated using Microsoft's Cognitive Services API, and charted below to show the volatility and frequency of each. Each speech shows the breakdown of emotions, viewable as you explore its corresponding video. Dominant emotions are indicated at the top of each column. Neutral emotions are represented as gaps in the visualization.

## Dominant Emotions

Donald Trump's dominant emotions are similar to the 7 most widely identified emotions cross-culturally. While Microsoft's API seems to consistently identify his emotions correctly, expressions of mocking or dominance were often lumped into the categories of sadness or happiness. While not a thorough analysis of every speech given by Mr. Trump, a visible and somewhat atypical pattern of anger and sadness is apparent.

Interact with the charts below to reveal additional information, as well as the matching video segment for each emotion.



## Emotion API

PREVIEW

Analyse faces to detect a range of feelings and personalise your app's responses.

Made using the [Microsoft Emotion API](#) ([source](#))

# Online fashion twice as 'racy' as High Street

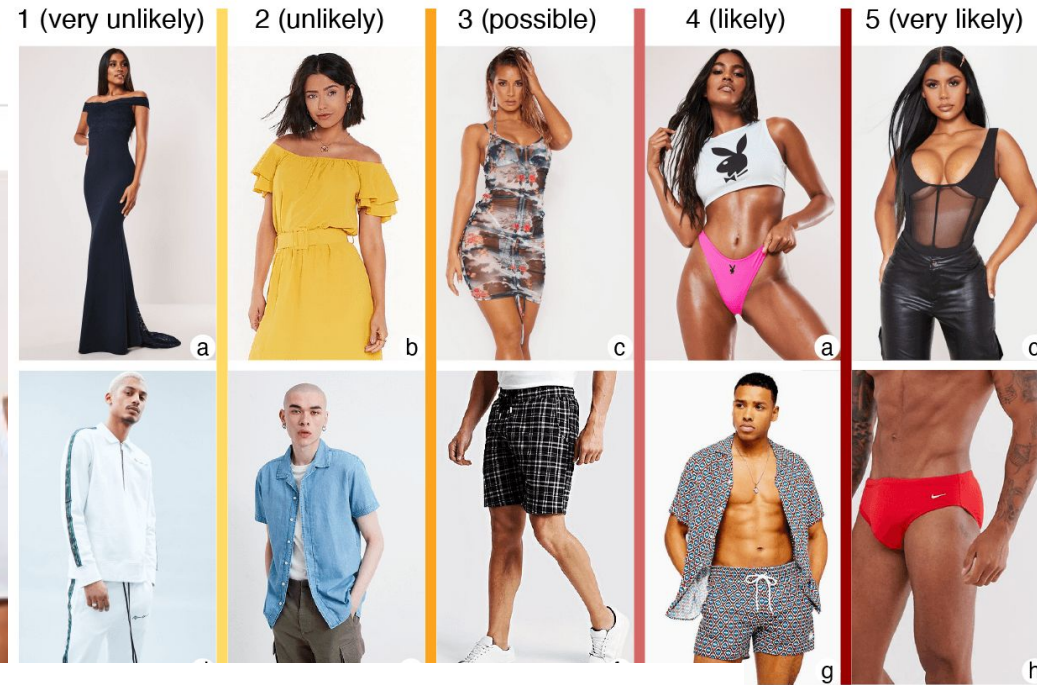
By Will Dahlgreen & Colletta Smith  
BBC News

🕒 17 October 2019



## How Google defines 'racy'

Scores given by Google Vision AI



Google's software scores images from one to five in terms of how likely they are to be, what they call, "racy".

It is part of their "Safe Search" tool, which detects adult, spoof, medical, violent and "racy" images.

The BBC's analysis only counted images with a score of four ('likely racy') or five ('very likely racy') as "racy". For comparison, the average picture in lads magazine FHM's "100 Sexiest Women" 2005 edition had a "racy" score of four.

(d),

BBC

Faces

Objects

Labels

Web

Text

Properties

Safe Search



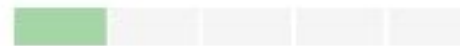
305799.jpg

Adult



Unlikely

Spoof



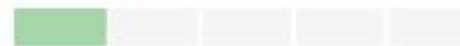
Very Unlikely

Medical



Unlikely

Violence



Very Unlikely

Racy



Likely

Likelihood values are Unknown, Very Unlikely, Unlikely, Possible, Likely, and Very Likely

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



Faces

Objects

Labels

Web

Text

Properties

Safe Search



305799.jpg

+Page 1

+Block 1

17

+Block 2

AVAILABLE IN BIG , TALL & SHORT

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



England



# Rail season tickets cost 10% of net pay

By Daniel Wainwright  
BBC News

🕒 12 September 2016 | 💬



## Most expensive rail season tickets

Prices of annual passes mile mile travelled for full time workers

■ Pence per mile



Source: campaign for Better Transport/Google Places

BBC

Made using the [Google Maps Distance Matrix API](#) ([source](#))

# Useful APIs

Geo: UK Postcodes, Google Maps

Social: Twitter, Facebook, Flickr

Politics: They Work For You, Data.gov.uk



News: Guardian, NYT, USA Today, NPR

Health, business, Spotify, etc.

Search for specific ones

# Postcode & Geolocation API for the UK

Free, Open Source and based solely on Open Data

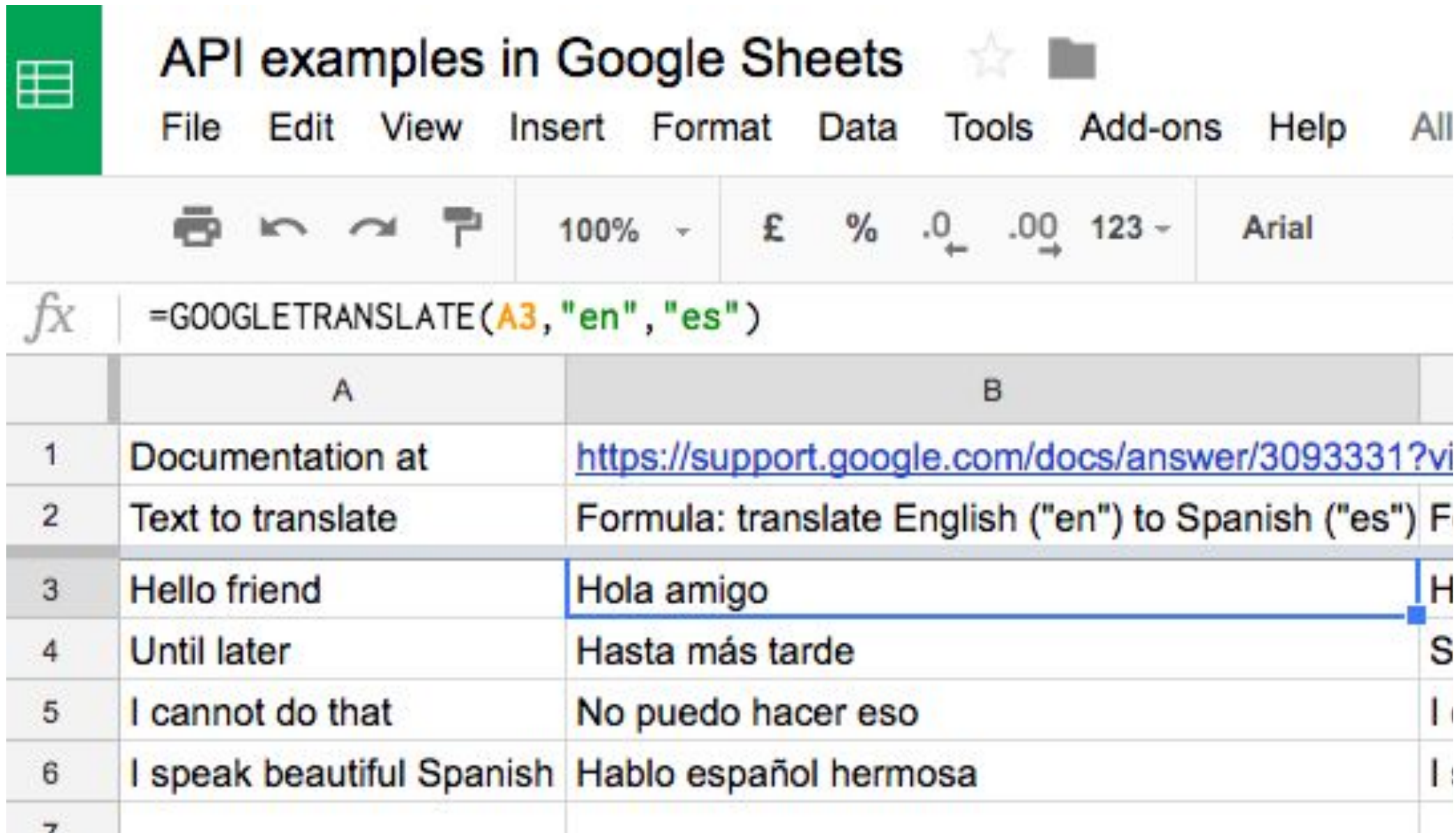
 Star 495  Fork 64



# APIs

**AV Live Logging**[Download](#)[⚙ Learn more](#)[☰ Explore data](#)**Bills**[Download](#)[⚙ Learn more](#)[☰ Explore data](#)**Committee Reports**[⌚ Release TBC](#)[⚙ Learn more](#)**Commons Answered Questions**[Download](#)[⚙ Learn more](#)[☰ Explore data](#)**Commons Committee Inquiries**[⌚ Release TBC](#)[⚙ Learn more](#)**Commons Committee Publications**[⌚ Release TBC](#)[⚙ Learn more](#)**Commons Divisions**[Download](#)[⚙ Learn more](#)[☰ Explore data](#)**Commons Oral Question Times**[Download](#)[⚙ Learn more](#)[☰ Explore data](#)**Commons Oral Questions**[Download](#)[⚙ Learn more](#)[☰ Explore data](#)

# Use Google APIs in Sheets



The image shows a Google Sheets document titled "API examples in Google Sheets". The interface includes a menu bar (File, Edit, View, Insert, Format, Data, Tools, Add-ons, Help, All) and a toolbar with icons for printing, undo, redo, and a text box. The formula bar shows the formula `=GOOGLETRANSLATE(A3, "en", "es")`. The spreadsheet has two columns, A and B, and seven rows. Row 1 contains the text "Documentation at" in column A and a URL in column B. Row 2 contains the text "Text to translate" in column A and the formula "Formula: translate English ('en') to Spanish ('es') F" in column B. Row 3 contains the text "Hello friend" in column A and the translated text "Hola amigo" in column B. Row 4 contains the text "Until later" in column A and the translated text "Hasta más tarde" in column B. Row 5 contains the text "I cannot do that" in column A and the translated text "No puedo hacer eso" in column B. Row 6 contains the text "I speak beautiful Spanish" in column A and the translated text "Hablo español hermosa" in column B. Row 7 is empty.

API examples in Google Sheets

File Edit View Insert Format Data Tools Add-ons Help All

100% £ % .0 .00 123 Arial

`=GOOGLETRANSLATE(A3, "en", "es")`

	A	B
1	Documentation at	<a href="https://support.google.com/docs/answer/3093331?vi">https://support.google.com/docs/answer/3093331?vi</a>
2	Text to translate	Formula: translate English ("en") to Spanish ("es") F
3	Hello friend	Hola amigo
4	Until later	Hasta más tarde
5	I cannot do that	No puedo hacer eso
6	I speak beautiful Spanish	Hablo español hermosa
7		

# Why use an API?

**Add data** to your own

To **visualise or map** data

To connect to **social media**

Create apps that use **live data**



# **APIs and data journalism: Methods, arguments + jargon**

Data Journalism  
Paul Bradshaw

# Functions (methods)

Just like in Excel, different functions do different things. Function is specified in the URL, e.g. 'getConstituency', 'forces', 'nearest', 'postcode'

**Check documentation** for guidance and examples



## API Functions

- [convertURL](#)  
Converts a parliament.uk Hansard URL into a TheyWorkForYou one, if possible
- [getConstituency](#)  
Searches for a UK Parliament constituency and returns details
- [getConstituencies](#)  
Returns list of UK Parliament constituencies
- [getPerson](#)  
Returns main details for a person
- [getMP](#)  
Returns main details for an MP
- [getMPInfo](#)  
Returns extra information for a person

## Methods

The following is a list of available API methods

## Postcode Lookup

Lookup a postcode. Returns all available data if found. Returns 404 if postcode does not exist.

```
https://api.postcodes.io/postcodes/:postcode
```

## Bulk Postcode Lookup

Accepts a JSON object containing an array of postcodes. Returns a list of matching postcodes and respective available data.

## Methods

[Availability](#)

### Force related:

[Forces](#)

[Specific force](#)

[Force senior officers](#)

### Crime related:

[Street level crimes](#)

[Street level outcomes](#)

[Crimes at location](#)

[Crimes with no location](#)

[Crime categories](#)

[Last updated](#)

[Outcomes for a specific crime](#)

# <https://data.police.uk/api/forces>

```
[
  - {
    id: "avon-and-somerset",
    name: "Avon and Somerset Constabulary"
  },
  - {
    id: "bedfordshire",
    name: "Bedfordshire Police"
  },
  - {
    id: "cambridgeshire",
    name: "Cambridgeshire Constabulary"
  },
  - {
    id: "cheshire",
    name: "Cheshire Constabulary"
  },
]
```

# Specifying what you want: arguments

Added to the URL to specify extra information about your request, including format you want

**Key=value** pairs (key is like column)

Use **&** to separate each argument

[http://api.postcodes.io/  
postcodes/b422su](http://api.postcodes.io/postcodes/b422su)

```
{
  status: 200,
  - result: {
    postcode: "B42 2SU",
    quality: 1,
    eastings: 407067,
    northings: 291048,
    country: "England",
    nhs_ha: "West Midlands",
    longitude: -1.89728701783489,
    latitude: 52.5172741346402,
    european_electoral_region: "West Midlands",
    primary_care_trust: "Heart of Birmingham Teaching",
    region: "West Midlands",
    lsoa: "Birmingham 033F",
```



## TheyWorkForYou API

**<http://www.theyworkforyou.com/api/getConstituency>**

## Fetch a UK Parliament constituency.

## Arguments

## name

Fetch the data associated to the constituency with this name.

## Explorer

Try out this function without writing any code!

**postcode**

Fetch the consti

name: Birmingham, Perry Barr

postcode:

Output: ☒ JS ☐ XML ☐ Serialised PHP ☐ RABX

### Output

URL for this: <http://www.theyworkforyou.com/api/getConstituency?>

**name=Birmingham%2C+Perry+Bar** **&postcode=B422su** **&output=js**

```
{
  "bbc_constituency_id" : "59",
  "guardian_election_results" : "http://www.guardian.co.uk/politics/constituency/720/birmingham",
  "guardian_id" : "720",
  "guardian_name" : "Birmingham Perry Barr",
  "pa_id" : "63",
}
```

## Overview

1. **Get an API key.**
2. All requests are made by GETting a particular URL with a number of parameters. *key* is required; *output* is optional, and defaults to `js`.

**`http://www.theyworkforyou.com/api/function?  
key=key&output=output&other_variables`**

The current version of the API is *1.0.0*. If we make changes to the API functions, we'll increase the version number and make it an argument so you can still use the old version.

### Outputs

The *output* argument can take any of the following values:

**xml.** XML. The root element is `twfy`.

**php.** Serialized PHP, that can be turned back into useful information with the `unserialize()` command. Quite useful in Python as well, using **PHPUnserialize**.

**js.** A JavaScript object. You can provide a callback function with the *callback* variable, and then that function will be called with the data as its argument.

**rabx.** "RPC over Anything But XML".

### Errors

If there's an error, either in the arguments provided or in trying to perform the request, this is returned as a top-level error string, ie. in XML it returns `<twfy><error>ERROR</error></twfy>`; in JS `{"error": "ERROR"}`; and in PHP and RABX a serialised array containing one entry with key `error`.

# API keys

Sometimes needed - apply through the site

Use it in the request as a password



# TheyWorkForYou.com

Keeping tabs on the UK's parliaments & assemblies

Search

Sign in Join

## TheyWorkForYou API

### API Keys

TheyWorkForYou API calls require a key, so that we can monitor usage of the service, and provide usage stats to you. Please see [the API overview](#) for how to use your key. The key is tied to your TheyWorkForYou account, so if you don't yet have one, please [sign up](#), then return here to get a key.

**Sign in** (or **sign up**) to get an API key.



# API limits

Can prevent you getting data for all your records.

Try multiple APIs or split your data into multiple sheets - or buy a licence

# Put it all together...

The API **documentation** should list different **functions/methods** that allow you to get different info. You request data by encoding your query in the form of a **URL** (sometimes including your **key**) and the resulting page (**endpoint**) contains the answer, typically in **JSON** or XML.

# Key points

An API may have different **methods** (or functions) to get different info

You may have to specify **parameters** such as the postcode you want data on

You might need an API **key** (normally included in the query)

# PS: You can make your own!

An RSS feed is a kind of API

Scraping tools like **Morph.io**  
create an API

Data entry tool + API: **airtable.com**

Google Sheets API: **Sheetsu**

# APIs and data formats

JSON, XML...

## Output

URL for this: **`http://www.theyworkforyou.com/api/getConstituency?name=Birmingham%2C+Perry+Barr&postcode=b422su&output=js`**

```
{
  "bbc_constituency_id" : "59",
  "guardian_election_results" : "http://www.guardian.co.uk/politics/constituency/720/birmingham-perry-barr",
  "guardian_id" : "720",
  "guardian_name" : "Birmingham Perry Barr",
  "pa_id" : "63",
  "name" : "Birmingham, Perry Barr"
}
```

# XML and JSON

Tree structure:

Books > Book > author

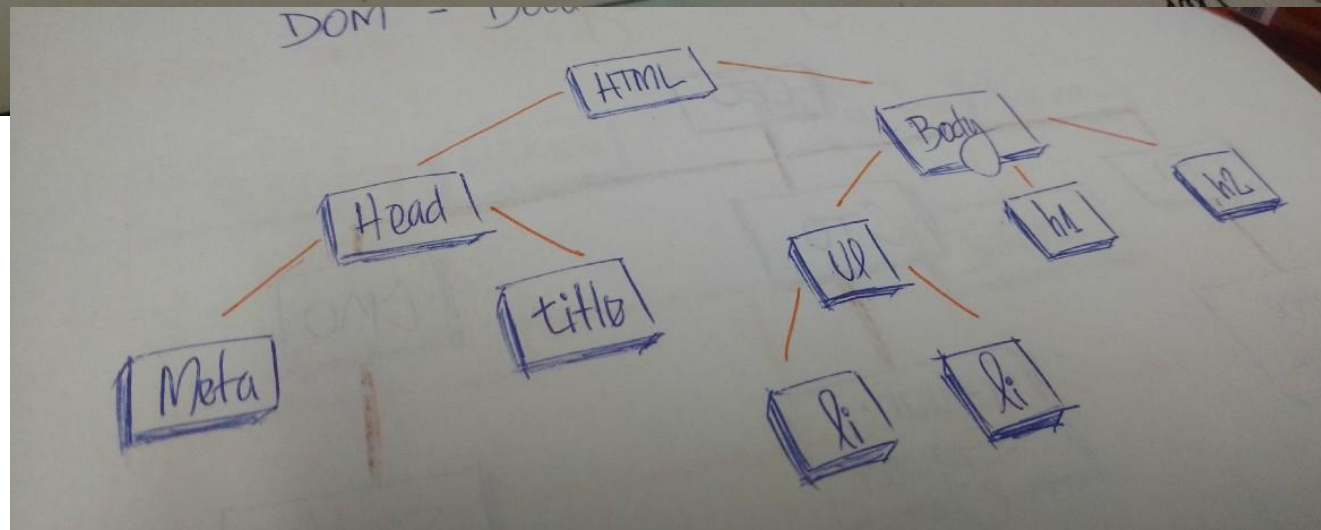
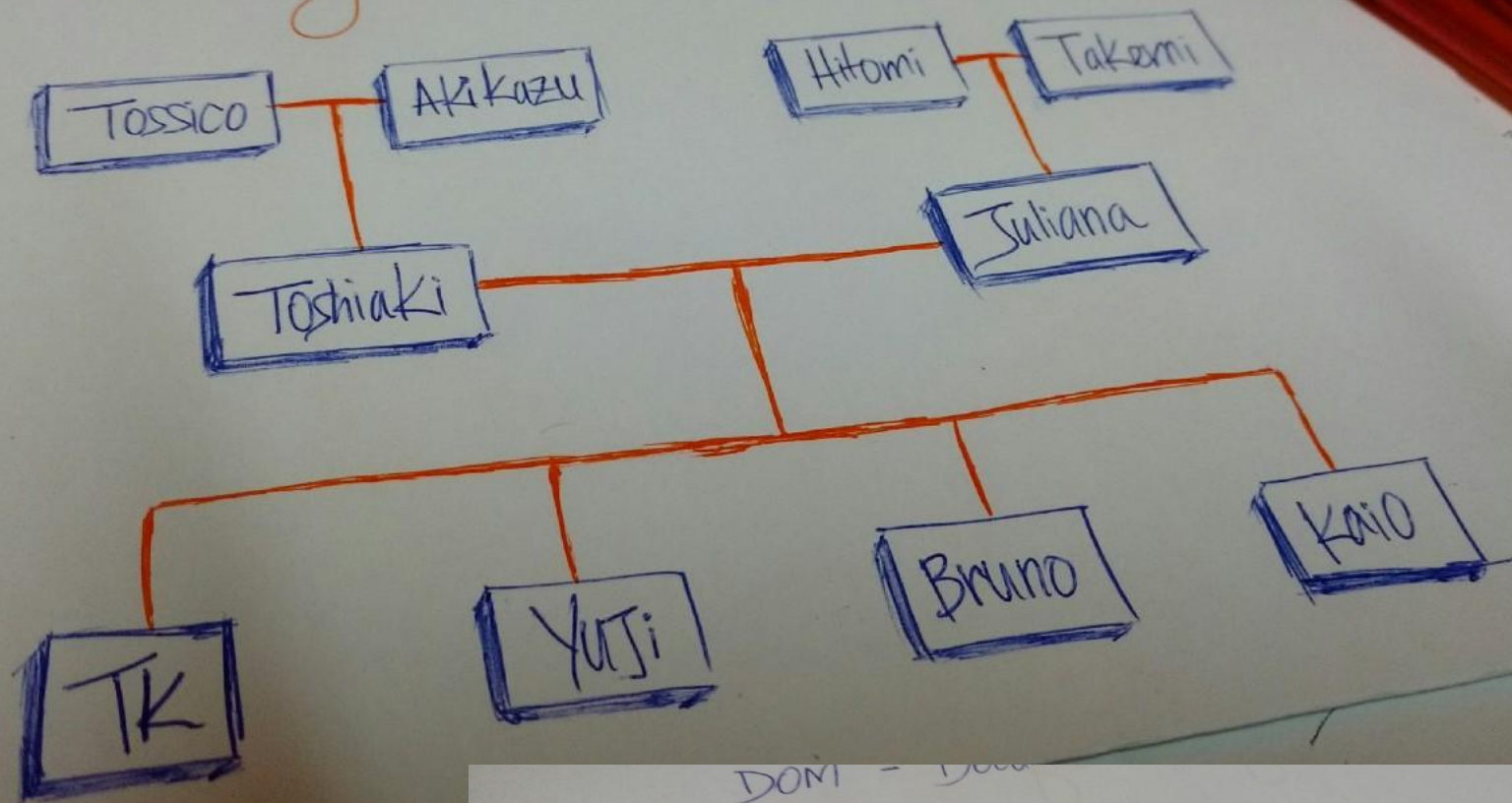
Can have multiple branches

Books > Book > author > country

> publisher > country

> Book > author > country

## Kinoshita Family Tree





This XML file does not appear to have any style information associated with it. The document tree is shown below.

---

```
▼<FHRSEstablishment xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  ▼<Header>
    <ExtractDate>2013-07-31</ExtractDate>
    <ItemCount>1290</ItemCount>
    <ReturnCode>Success</ReturnCode>
  </Header>
  ▼<EstablishmentCollection>
    ▼<EstablishmentDetail>
      <FHRSID>151320</FHRSID>
      <LocalAuthorityBusinessID>A06G132-38/1</LocalAuthorityBusinessID>
      <BusinessName>1st Stop 2 Shop</BusinessName>
      <BusinessType>Retailers - other</BusinessType>
      <BusinessTypeID>4613</BusinessTypeID>
      <AddressLine1>32-38 Fintry Drive</AddressLine1>
      <AddressLine2>Dundee</AddressLine2>
      <PostCode>DD4 9PB</PostCode>
      <RatingValue>Pass</RatingValue>
      <RatingKey>fhis_pass_en-GB</RatingKey>
      <RatingDate>2011-06-22</RatingDate>
      <LocalAuthorityCode>772</LocalAuthorityCode>
      <LocalAuthorityName>Dundee City</LocalAuthorityName>
    </EstablishmentDetail>
    ▼<LocalAuthorityWebSite>
      http://www.dundee.gov.uk/environment/hygieneinfo/
    </LocalAuthorityWebSite>
    <LocalAuthorityEmailAddress>food.safety@dundee.gov.uk</LocalAuthorityEmailAddress>
    <Scores/>
    <SchemeType>FHIS</SchemeType>
  </EstablishmentCollection>
</FHRSEstablishment>
```

```
[{"nid": "25674", "title": "<a href='\"\\\"/buildings\\/202-anglers-road\"' hreflang='\"und\">202 Anglers Road<\\/a>", "lat": "0", "lng": "0", "type": "463", "image": "", "type_label": "Building", "build_img": "", "cont  
hreflang='\"und\">204 Anglers<\\/a>", "lat": "0", "lng": "0", "type": "463", "image": "", "type_label": "Buildi  
href='\"\\\"/buildings\\/104-beebe-avenue\"' hreflang='\"und\">104 Beebe  
Avenue<\\/a>", "lat": "38.776808", "lng": "-75.142949", "type": "463", "image": "", "type_label": "Building", "  
href='\"\\\"/buildings\\/106-beebe-avenue\"' hreflang='\"und\">106 Beebe  
Avenue<\\/a>", "lat": "38.770182", "lng": "-75.142674", "type": "463", "image": "", "type_label": "Building", "  
href='\"\\\"/buildings\\/106-beebe-avenue-0\"' hreflang='\"und\">106 Beebe  
Avenue<\\/a>", "lat": "38.770182", "lng": "-75.142674", "type": "463", "image": "", "type_label": "Building", "  
href='\"\\\"/buildings\\/107-109-beebe-avenue\"' hreflang='\"und\">107 -109 Beebe  
Avenue<\\/a>", "lat": "38.770423", "lng": "-75.142371", "type": "463", "image": "", "type_label": "Building", "  
href='\"\\\"/buildings\\/107-109-beebe-avenue-0\"' hreflang='\"und\">107 -109 Beebe  
Avenue<\\/a>", "lat": "38.770423", "lng": "-75.142371", "type": "463", "image": "", "type_label": "Building", "  
{"nid": "25681", "title": "<a href='\"\\\"/buildings\\/108-beebe-avenue\"' hreflang='\"und\">108 Beebe  
Avenue<\\/a>", "lat": "38.770072", "lng": "-75.142588", "type": "463", "image": "", "type_label": "Building", "  
href='\"\\\"/buildings\\/108-beebe-avenue-0\"' hreflang='\"und\">108 Beebe  
Avenue<\\/a>", "lat": "38.770072", "lng": "-75.142588", "type": "463", "image": "", "type_label": "Building", "  
href='\"\\\"/buildings\\/110-beebe-avenue\"' hreflang='\"und\">110 Beebe  
Avenue<\\/a>", "lat": "38.770038", "lng": "-75.142438", "type": "463", "image": "", "type_label": "Building", "  
href='\"\\\"/buildings\\/110-beebe-avenue-0\"' hreflang='\"und\">110 Beebe  
Avenue<\\/a>", "lat": "38.770038", "lng": "-75.142438", "type": "463", "image": "", "type_label": "Building", "  
{"nid": "25685", "title": "<a href='\"\\\"/buildings\\/112-beebe-avenue\"' hreflang='\"und\">112 Beebe
```



# Install JSONView extension



**JSONView**

offered by [gildas](#)

★★★★★ (2598)

[Developer Tools](#)

1,079,459 users

ADDED TO CHROME



OVERVIEW

REVIEWS

SUPPORT

RELATED



```
- indices: [
  119,
  139
],
expanded_url: "https://dev.twitter.com/form/seattle-dev-te",
display_url: "dev.twitter.com/form/seattle-d...",
url: "http://t.co/afOxBauf"
},
- user_mentions: [
  - {
    name: "Twitter API",
    screen_name: "twitterapi",
    id_str: "6253282",
    - indices: [
      80,
      91
    ],
  },
]
```

+ - [View source](#) ⚙



Compatible with your device

Validate and view JSON documents

JSONView port for Chrome.

Original firefox extension is here:

<http://benhollis.net/software/jsonview/>

Notes:

- JSON is validated using a client-side javascript implementation of JSONLint (<http://github.com/zaach/jsonlint>)
- this extension displays JSON text compliant with rfc 4627 (<http://www.ietf.org/rfc/rfc4627.txt>).
- JSONP (<http://en.wikipedia.org/wiki/JSON#JSONP>) is

[Website](#)

```
{
  status: 200,
  - result: {
    postcode: "M18 7HD",
    quality: 1,
    eastings: 389058,
    northings: 395521,
    country: "England",
    nhs_ha: "North West",
    longitude: -2.16625,
    latitude: 53.456326,
    european_electoral_region: "North West",
    primary_care_trust: "Manchester Teaching",
    region: "North West",
    lsoa: "Manchester 023B",
    msoa: "Manchester 023",
    incode: "7HD",
    outcode: "M18",
    parliamentary_constituency: "Manchester, Gorton",
    admin_district: "Manchester",
    parish: "Manchester, unparished area",
    admin_county: null,
    admin_ward: "Gorton & Abbey Hey",
    ced: null,
    ccg: "NHS Manchester",
    nuts: "Manchester",
    - codes: {
      admin_district: "E08000003",
      admin_county: "E99999999",
      admin_ward: "E05011365",
      parish: "E43000157",
      parliamentary_constituency: "E14000808",
      ccg: "E38000217",
      ccg_id: "14L",
      ced: "E99999999",
      nuts: "UKD33"
    }
  }
}
```

result.quality

<http://api.postcodes.io/postcodes/b422su>

# XML

XML uses <> - view in Chrome

```
<books>
```

```
  <book>
```

```
    <author>Bob Jones</author>
```

```
      <country>Australia</country>
```

```
    <publisher>Routledge</publisher>
```

```
      <country>UK</country>
```

```
  <book>
```

```
    <author>Y. Akinbobola</author>
```

```
      <country>Canada</country>
```

# JSON

```
{category : value}  
{category  
  {nested category : value  
    {nested category 2 : value  
  }  
  {category 2 : value}}
```

# JSON

```
{name : "citytown"}
```

```
{geo :
```

```
  {latitude : 42}
```

```
  {longitude : 2}
```

```
}
```

```
{administrative : "citytown council"}
```



# JSON

JSON uses {} and pairs with a colon :

```
{books :
```

```
{book :
```

```
{author : {name : "Bob Jones"} {country : "Ghana"} }
```

```
{publisher : {name : "Routledge"} {country : "UK"} }
```

```
}
```

```
{book :
```

```
...
```

```
}
```

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# Key points

Most APIs return data in **JSON**  
(some in XML)

JSON and XML have a **tree structure** with branches for each piece of information about an item

Use coding to **import and convert** JSON/XML into a table structure and export as CSV

**How to do it.**



# Read the documentation!

Postcodes.io

Documentation

About

Explore

## Documentation

### Overview

Postcodes.io is a free Postcode lookup API and geocoder for the UK

### Endpoint

All services can be accessed from the following HTTP[S] endpoint


```
https://api.postcodes.io
```

# Hackable URLs



A screenshot of a web browser's address bar. The address bar has a light blue background and a thin blue border. On the left, there is a small icon of a document with a folded corner. To the right of the icon, the URL `uk-postcodes.com/postcode/BL23QQ.json` is displayed in a dark blue font. The entire address bar is highlighted with a light blue background.

`uk-postcodes.com/postcode/BL23QQ.json`



A screenshot of a web browser's address bar. The address bar has a light blue background and a thin blue border. On the left, there is a small icon of a document with a folded corner. To the right of the icon, the URL `https://api.postcodes.io/postcodes/GU50BD` is displayed in a dark blue font. The entire address bar is highlighted with a light blue background.

`https://api.postcodes.io/postcodes/GU50BD`

# Key points:

**A source of data:** some data only provided in API format

**Programmable:** APIs allow you to automate data collection/connection

**Interactivity:** make your own API and others can build on it