

# Web APIs

- As more data is generated and more apps are written, 10,000s of web APIs are coming online.
- (API = Application Program Interface)
- web API: An interface defining a request/response system, typically returning data in the form of xml or json (usually via an http request).
- For the coursework we'll use the <https://api.forecast.io> service
- Try: E.g.  
<https://api.forecast.io/forecast/6c8485e693d2f834905eea450403ac9c/0.31,32.58>

# APIs

- To learn about APIs, we'll be using the GeoNames webservice.

<http://www.geonames.org/export/ws-overview.html>

- Example: Go to:

<http://api.geonames.org/countryInfoJSON?>

[formatted=true&lang=it&country=UK&username=demo&style=full](http://api.geonames.org/countryInfoJSON?formatted=true&lang=it&country=UK&username=demo&style=full)

# JSON

- The API might output the result as XML or JSON (or sometimes CSV).

```
{"geonames": [{  
  "countryName": "Regno  
Unito",  
  "currencyCode": "GBP",  
  "fipsCode": "UK",  
  "countryCode": "GB",  
  "isoNumeric": "826",  
  "north": 59.360249,  
  "capital": "Londra",  
  "continentName": "Europa",  
  "areaInSqKm": "244820.0",  
  "languages": "en-GB,cy-  
GB,gd",  
  "isoAlpha3": "GBR",  
  "continent": "EU",  
  "south": 49.906193,  
  "east": 1.759,  
  "geonameId": 2635167,  
  "west": -8.623555,  
  "population": "62348447"  
}]}
```

# Getting the website in Python

- Before we parse the JSON data, we need to download it:

```
import urllib2;  
website = urllib2.urlopen('a.com');  
content = website.read();
```

# Parsing JSON

- Parsing JSON in python:

```
import json
```

```
data = json.loads(content)
```

# Today's Work

- Write a python script which uses:  
<http://api.geonames.org/countryInfoJSON>
- To get the location of a country.
- Then uses these coordinates to get relevant wikipedia articles or place names! Or both!
- Bonus: If this is made as a webpage.