El maravilloso mundo de las APIs

O EL RETORNO DE JSON

```
()
             Listado de APIs for free: https://github.com/public-apis/public-apis
+
     [1] ▶ MI
                  import json
                  import requests
                 import pandas as pd
               from pandas.io.json import json_normalize
      [2] ▶ MI
                 url_s = "https://favqs.com/"
endpoint = "api/qotd"
              url_w = url_s + endpoint
      [3] Þ MI
              requests.get(url_w)
             <Response [200]>
      [4] ⊳ Mi
                 qotd = requests.get(url_w).json()
                 aotd
             {'qotd_date': '2020-07-30T00:00:00.000+00:00',
  'quote': {'id': 62736,
  'dialogue': False,
  'source': 'https://www.goodreads.com/author/quotes/19010963.Giovanni_Morassutti',
  'private': False,
                'private': False,

'tags': [],

'url': 'https://favqs.com/quotes/giovanni-morasutti/62736-average-actin-',

'favorites_count': 1,

'downvotes_count': 0,

'author': 'Giovanni Morasutti',

'author_permalink': 'giovanni-morasutti',

'body': 'Average acting is like jerking without an orgasm'}}
    [5] Þ MI
               print("La frase del dia", qotd["qotd_date"][:10], "es de", qotd["quote"]["author"], "y es la siguiente -->", qotd["quote"]["body"])
             La frase del dia 2020-07-30 es de Giovanni Morasutti y es la siguiente --> Average acting is like jerking without an orgasm
```

API sin token

¿Qué es súper importante cuando tratamos con APIs? Leer la documentación, porque si no, no sabemos como usarla.

https://pokeapi.co/docs/v2#pokemon

```
1 b MI
                     poke_json["next"]
             https://pokeapi.co/api/v2/pokemon?offset=20&limit=20'
                     requests.get("https://pokeapi.co/api/v2/pokemon?offset=40&limit=32").json()
            {'count': 964,
  'next': 'https://pokeapi.co/api/v2/pokemon?offset=72&limit=32'
                 'revious': 'https://pokeapi.co/api/v2/pokemon?offset=8&limit=32',
'results': [{'name': 'zubat', 'url': 'https://pokeapi.co/api/v2/pokemon/41/'},
{'name': 'golbat', 'url': 'https://pokeapi.co/api/v2/pokemon/42/'},
{'name': 'oddish', 'url': 'https://pokeapi.co/api/v2/pokemon/43/'},
{'name': 'gloom', 'url': 'https://pokeapi.co/api/v2/pokemon/44/'},
                                                 'gloom', u.-
'vileplume', 'url':
'paras', 'url': 'ht'
'parasect', 'url':
'manat', 'url':
                                                                                            'url': 'https://pokeapi.co/api/v2/pokemon/45/'},
': 'https://pokeapi.co/api/v2/pokemon/46/'},
url': 'https://pokeapi.co/api/v2/pokemon/47/'},
                        name'
                                                  parasect,
venonat', 'url':
'venomoth', 'url':
'alett', 'url':
                        name'
                                                                                                            https://pokeapi.co/api/v2/pokemon/48/'}
https://pokeapi.co/api/v2/pokemon/49/'
                        name
                        name'
                                                 'venomou.
'diglett', 'url':
'dugtrio', 'url':
                                                                                                           'https://pokeapi.co/api/v2/pokemon/50/'},
'https://pokeapi.co/api/v2/pokemon/51/'},
                        name'
                                                  'meowth',
'persian',
                                                                                                           https://pokeapi.co/api/v2/pokemon/52/'},
'https://pokeapi.co/api/v2/pokemon/53/'},
'https://pokeapi.co/api/v2/pokemon/54/'},
                         name
                                                                                   'url
                         name
                                                   psyduck',
                                                                                    'url'
                         name
                        name
                                                   golduck'
                                                                                                         'https://pokeapi.co/api/v2/pokemon/55/'},
'https://pokeapi.co/api/v2/pokemon/56/'},
'https://pokeapi.co/api/v2/pokemon/57/'}
                                                 golduck', uri:
'mankey', 'url': 'https://pokeapi.co/api/v2/pokemon/57/
'primeape', 'url': 'https://pokeapi.co/api/v2/pokemon/58/
'growlithe', 'url': 'https://pokeapi.co/api/v2/pokemon/58/
'arcanine', 'url': 'https://pokeapi.co/api/v2/pokemon/69/'
'poliwag', 'url': 'https://pokeapi.co/api/v2/pokemon/61/
'wal': 'https://pokeapi.co/api/v2/pokemon/62/
                         name'
                         name
                         name
                                                  'poliwag', 'url': 'https://pokeapi.co/api/v2/pokemon/60/},
'poliwhirl', 'url': 'https://pokeapi.co/api/v2/pokemon/61/'},
'poliwrath', 'url': 'https://pokeapi.co/api/v2/pokemon/62/'},
                        name'
                         name'
                                                'poliwrath', 'url': 'https://pokeapi.co/api/v2/pokemon/62/'}, 'abra', 'url': 'https://pokeapi.co/api/v2/pokemon/63/'}, 'kadabra', 'url': 'https://pokeapi.co/api/v2/pokemon/64/'}, 'alakazam', 'url': 'https://pokeapi.co/api/v2/pokemon/65/'}, 'machop', 'url': 'https://pokeapi.co/api/v2/pokemon/66/'}, 'machoke', 'url': 'https://pokeapi.co/api/v2/pokemon/67/'}, 'machamp', 'url': 'https://pokeapi.co/api/v2/pokemon/68/'}, 'bellsprout', 'url': 'https://pokeapi.co/api/v2/pokemon/69/'}, 'weepinbell', 'url': 'https://pokeapi.co/api/v2/pokemon/79/'}, 'victreebel', 'url': 'https://pokeapi.co/api/v2/pokemon/71/'}, 'tentacool', 'url': 'https://pokeapi.co/api/v2/pokemon/72/'}]}
                                                                        'url':
                         name
                         name
                         name'
                         name'
                         name'
                        name':
                        'name':
                        'name':
     [9] ▷ MI
                               pokemon = [] # para contener todos los resultados de la api
                               poke_dict = {"name":[],"url":[]}
                               pokemon.extend(poke_json["results"])
                               while len(pokemon) < 40:
                               #while poke_json["next"] != None:
                                           poke_json = requests.get(poke_json["next"]).json()
                                             pokemon.extend(poke_json["results"])
     [10] ⊳ Mi
                              pokemon
                                             'bulbasaur', 'url': 'https://pokeapi.co/api/v2/pokemon/1/'},
'ivysaur', 'url': 'https://pokeapi.co/api/v2/pokemon/2/'},
'venusaur', 'url': 'https://pokeapi.co/api/v2/pokemon/3/'},
'charmander', 'url': 'https://pokeapi.co/api/v2/pokemon/4/'},
'charmeleon', 'url': 'https://pokeapi.co/api/v2/pokemon/6/'},
'charizard', 'url': 'https://pokeapi.co/api/v2/pokemon/6/'},
               [{'name':
                       'name':
                       name
                                             'charizaru ,
'squirtle', 'url':
'wartortle', 'url':
'blastoise', 'url':
'arterpie', 'url':
                                             charizard', 'url': 'https://pokeapi.co/api/v2/pokemon/6/'},
'squirtle', 'url: 'https://pokeapi.co/api/v2/pokemon/7'},
'wartortle', 'url: 'https://pokeapi.co/api/v2/pokemon/8'},
'blastoise', 'url': 'https://pokeapi.co/api/v2/pokemon/9/'},
'caterpie', 'url': 'https://pokeapi.co/api/v2/pokemon/10/'},
'metapod', 'url': 'https://pokeapi.co/api/v2/pokemon/11/'},
'butterfree', 'url': 'https://pokeapi.co/api/v2/pokemon/12/'},
'weedle', 'url': 'https://pokeapi.co/api/v2/pokemon/13/'},
'kakuna', 'url': 'https://pokeapi.co/api/v2/pokemon/14/'},
'bederill', 'url': 'https://pokeapi.co/api/v2/pokemon/16/'},
'pidgeotto', 'url': 'https://pokeapi.co/api/v2/pokemon/17/'},
'pidgeotto', 'url': 'https://pokeapi.co/api/v2/pokemon/18/'},
'rattata', 'url': 'https://pokeapi.co/api/v2/pokemon/18/'},
                       name
                        name
                        name
                       name
                       name
                       name
                                             beedri.
'pidgey', 'ur_
'pidgeotto', 'url'
'nidgeot', 'url':
'a', 'url':
'url'
                       name
                        name
                        name
                       name
                                             raticate', 'url':
'spearow', 'url': 'fearow', 'url': 'l'
'ekans', 'url': 'ht
'pikachu', 'url': 'ht
'pikachu', 'url': 'ht
'sandshrew', 'url':
'sandshrew', 'url':
'nidoran-f', 'url':
'nidorina', 'url':
'nidoqueen', 'url':
'nidorino', 'url':
'nidorino', 'url':
'nidorino', 'url':
'nidorino', 'url':
'nidorino', 'url':
'nidorino', 'url':
'nidokino', 'url':
'nidokino', 'url':
'nidokino', 'url':
'nidokino', 'url':
                                                                                'url': 'https://pokeapi.co/api/v2/pokemon/20/
                       name
                                                                                              : https://pokeapi.co/api/v2/pokemon/21/'),
'https://pokeapi.co/api/v2/pokemon/22/'),
'https://pokeapi.co/api/v2/pokemon/23/'),
'https://pokeapi.co/api/v2/pokemon/24/'),
                       name
                       'name
                                                                                                 "https://pokeapi.co/api/v2/pokemon/25/"),
"https://pokeapi.co/api/v2/pokemon/25/"),
"https://pokeapi.co/api/v2/pokemon/27/"),
" 'https://pokeapi.co/api/v2/pokemon/27/"),
" 'https://pokeapi.co/api/v2/pokemon/28/"),
                        name
                        name
                       name
                                                                                                        https://pokeapi.co/api/v2/pokemon/28/'},
'https://pokeapi.co/api/v2/pokemon/39/'},
'https://pokeapi.co/api/v2/pokemon/30/'},
'https://pokeapi.co/api/v2/pokemon/31/'},
'https://pokeapi.co/api/v2/pokemon/32/'},
'https://pokeapi.co/api/v2/pokemon/32/'},
                        name
                       name
                                                                                                         https://pokeapi.co/api/v2/pokemon/33/
                       name
                                                                                                        https://pokeapi.co/api/v2/pokemon/34/
https://pokeapi.co/api/v2/pokemon/35/
https://pokeapi.co/api/v2/pokemon/36/
                        name
                                               'nidoking', 'url'
                        name
                                                                             url':
                                              'vulpix', 'url': 'https://pokeapi.co/api/v2/pokemon/37/'},
'ninetales', 'url': 'https://pokeapi.co/api/v2/pokemon/38/'},
'jigglypuff', 'url': 'https://pokeapi.co/api/v2/pokemon/99/'},
'wigglytuff', 'url': 'https://pokeapi.co/api/v2/pokemon/40/'}]
                       name
                        name
```

```
[11] Þ MI
        for i, e in enumerate(pokemon):
    poke_dict["name"].append(pokemon[i]["name"])
    poke_dict["url"].append(pokemon[i]["url"])
[12] b Mi
     poke_dict["url"][0]
     'https://pokeapi.co/api/v2/pokemon/1/'
[13] Þ MI
        {\tt con\_uno = requests.get(poke\_dict["url"][0])}
      con_uno
     <Response [200]>
[14] Þ MI
     con_uno.json()["types"]
     [{'slot': 1,
   'type': {'name': 'grass', 'url': 'https://pokeapi.co/api/v2/type/12/'}},
   ('slot': 2,
   'type': {'name': 'poison', 'url': 'https://pokeapi.co/api/v2/type/4/'}}]
[15] Þ MI
      #requests.get('https://pokeapi.co/api/v2/type/12/').json()
[16] Þ MI
        #elegimos solo aquellos datos que queremos agregar al diccionario
        #keys_list = ["height","id","order","weight","types"]
[17] ⊳ Mi
     p_dict[k].append(jotason[k])
return p_dict
[18] Þ MI
    jota = requests.get(poke_dict["url"][4]).json()
jota.keys()
   dit_keys(['ablities', 'base_experience', 'forms', 'game_indices', 'height', 'held_items', 'id', 'is_default', 'location_area_encounters', 'moves', 'name', 'order', 'species', 'sprites', 'stats', 'types', 'weight'])
 [19] ▶ MI
         # map a mano
          for url in poke_dict["url"]:
          poke_dict = get_info(url, poke_dict)
      done
      done
      done
      done
      done
 [20] Þ MI
      #map(get_info, poke_dict["url"])
 [21] b Mi
        poke_df = pd.DataFrame(poke_dict)
      poke_df.head()
                                                   url height id order weight
                                                                              69 [{'slot': 1, 'type': {'name': 'grass', 'url': ...
     bulbasaur https://pokeapi.co/api/v2/pokemon/1/
                                                       7 1
 1 ivysaur https://pokeapi.co/api/v2/pokemon/2/ 18 2
                                                                           130 [{'slot': 1, 'type': {'name': 'grass', 'url': ...
  2 venusaur https://pokeapi.co/api/v2/pokemon/3/
                                                        28 3
                                                                      3 1000 [{'slot': 1, 'type': {'name': 'grass', 'url': ...
  3 charmander https://pokeapi.co/api/v2/pokemon/4/
                                                           6 4
                                                                      5
                                                                             85 [{'slot': 1, 'type': {'name': 'fire', 'url': '...
                                                                           198 [{'slot': 1, 'type': {'name': 'fire', 'url': '...
  4 charmeleon https://pokeapi.co/api/v2/pokemon/5/
                                                          11 5
                                                                       6
```

```
¡Qué sorpresa! Un json salvaje apareció en mi dataframe. Por suerte, no es la primera vez que me pasa esto...

22] D MU
```

```
[{'slot': 1,
   'type': {'name': 'grass', 'url': 'https://pokeapi.co/api/v2/type/12/'}},
{'slot': 2,
   'type': {'name': 'poison', 'url': 'https://pokeapi.co/api/v2/type/4/'}}]
```

poke_df["types"][1]

type : { name : poison , uri : nttps://pokeapi.co/api/v2/type/4/ }}]

	name	url	height	id	order	weight	types
Θ	bulbasaur	https://pokeapi.co/api/v2/pokemon/1/	7	1	1	69	{'slot': 1, 'type': {'name': 'grass', 'url': '
Θ	bulbasaur	https://pokeapi.co/api/v2/pokemon/1/	7	1	1	69	{'slot': 2, 'type': {'name': 'poison', 'url':
1	ivysaur	https://pokeapi.co/api/v2/pokemon/2/	10	2	2	130	{'slot': 1, 'type': {'name': 'grass', 'url': '
1	ivysaur	https://pokeapi.co/api/v2/pokemon/2/	10	2	2	130	{'slot': 2, 'type': {'name': 'poison', 'url':
2	venusaur	https://pokeapi.co/api/v2/pokemon/3/	28	3	3	1000	{'slot': 1, 'type': {'name': 'grass', 'url': '

```
0 {'slot': 1, 'type': {'name': 'grass', 'url': '...
0 {'slot': 2, 'type': {'name': 'poison', 'url': ...
Name: types, dtype: object
```

	name	url	height	id	order	weight	types.slot	types.type.name	types.type.url
6	bulbasaur	https://pokeapi.co/api/v2/pokemon/1/	7	1	1	69	1	grass	https://pokeapi.co/api/v2/type/12/
1	bulbasaur	https://pokeapi.co/api/v2/pokemon/1/	7	1	1	69	2	poison	https://pokeapi.co/api/v2/type/4/
2	ivysaur	https://pokeapi.co/api/v2/pokemon/2/	10	2	2	138	1	grass	https://pokeapi.co/api/v2/type/12/
3	ivysaur	https://pokeapi.co/api/v2/pokemon/2/	10	2	2	130	2	poison	https://pokeapi.co/api/v2/type/4/
4	venusaur	https://pokeapi.co/api/v2/pokemon/3/	20	3	3	1000	1	grass	https://pokeapi.co/api/v2/type/12/

API con token

```
[26] > MU
    json_fullpath = "settings.json"
    # settings.json estará en el .gitignore
[27] > MU
    with open(json_fullpath, "r+") as outfile:
        json_readed = json.load(outfile)
```

DOCUMENTACIÓN DE LA API

--> https://developer.foursquare.com/docs/places-api/ <--

```
# para sacar las coordenadas podrías usar una API pero también...
# https://www.123coordenadas.com/coordinates/
lat = 40.4226767
lon = -3.6922754
```

```
[30] ▶ MI
                         resp = requests.get(url=url, params=params)
                      data = json.loads(resp.text)
               data["response"].keys()
               dict_keys(['suggestedFilters', 'suggestedRadius', 'headerLocation', 'headerFullLocation', 'headerLocationGranularity', 'query', 'totalResults', 'suggestedBounds', 'groups'])
[32] ▶ MI
                data["response"]['groups'][0].keys()
              dict keys(['type', 'name', 'items'])
                data["response"]['groups'][0]["items"][0].keys()
               dict_keys(['reasons', 'venue', 'referralId'])
[34] ⊳ MI
               data["response"]['groups'][0]["items"][0]["venue"]
            {'id': '5ac924f0a22db76045072b51',
    'name': 'Charrua',
    'contact': {},
    'location': {'lat': 40.422416,
    'lng': -3.693999,
    'labeledLatLngs': ['label': 'display', 'lat': 40.422416, 'lng': -3.693999}],
    'distance': 148,
    'postalCode': '28004',
    'cr': 'ES'.
             'distance': 1-w,
'postalCode': '28004',
'cc': 'ES',
'city': 'Madrid',
'state': 'Madrid',
'country': 'España',
'formattedAddress': ['28004 Madrid Madrid', 'España']},
'categories': [{'id': '4bf58dd8d48988d1df931735',
'name': 'B8Q Joint',
'pluralName': 'B8Q Joints',
'shortName': 'B8D',
'icon': {'prefix': 'https://ss3.4sqi.net/img/categories_v2/food/bbqalt_',
'suffix': '.png'),
'primary': True}],
'verified': False,
'stats': {'tipCount': 0,
'usersCount': 0,
'checkinsCount': 0},
'.isitsCount': 0},
'.isitsCount': 0},
                    'marked': False,
'unconfirmedCount': 0},
'photos': ('count': 0, 'groups': []},
'hereNow': {'count': 0, 'summary': 'Nobody here', 'groups': []}}
           [35] Þ MI
                             data["response"]['groups'][0]["items"][0]["venue"]['name']
                                 for rest in data["response"]['groups'][0]["items"]: print(rest["venue"]["name"])
                             Charrua
                            Charrua
Pelotari
Cannibal Raw Bar
Doki Doki
New York Burger
celicioso
                           celicioso
Pamod
Flavia Restaurante & Bar
Raimunda
la vaca y la huerta
Banzai
DSTAgE
Mamá Chicó
Habbanera
Shuwa Shuwa
Pomme Surre
                             Pomme Sucre
                             Food Truck
El Cafetin De Fernando VI
                             La Tavernetta
                             Adolfo Dominguez Lounge Cafe
Magasand Columela
                            Aarde
El Supremo
Al-Mounia
niMÚ Barquillo
[37] ▶ MI
                          opciones = [rest["venue"]["name"] for rest in data["response"]['groups'][0]["items"]]
                         print(opciones)
                   print(opciones)
['Charrua', 'Pelotari', 'Cannibal Raw Bar', 'Doki Doki', 'New York Burger', 'celicioso', 'Pannod', 'Flavia Restaurante & Bar', 'Raimunda', 'la vaca y la huerta', 'Banzai', 'DoïAge', 'Mama Chico', 'Habanera', 'Shuwa Shuwa', 'Pomme Sucre', 'Food Truck', 'El Caffeii De Fernando VI', 'La Tavernetta', 'Adolfo Dominguez Lounge Cafe', 'Magasand Columela', 'Aarde', 'El Suppeno', 'Al-Hounia', 'naNN Barquillo', 'an.f.l. Tapas & Lounge Bar', 'Bunny's Deli', 'Prep' La Crèpe', 'Rr. Anal', 'Ramser', 'Massai', 'Restiuro', 'El Candelita', 'Santai', 'Sr. Ito', 'La Paraderia de Chimea', 'La Paraderia de Chimea', 'La Paraderia de Chimea', 'La Paraderia de Chimea', 'La Lupita', 'La salacema de Victor Montes (mercado de San Anton)', 'Morgana', 'La Garriga', 'Tienda de Vinco (El Comunitaj)', 'La Primera', 'Roots', 'Capperl Mercato Italiano', 'El Perro y La Galleta', 'Il Tavollo werde', 'Alcoha Pord', 'La Garriga', 'El Primera', 'Reots', 'Capperl Mercato Italiano', 'El Perro y La Galleta', 'Il Tavollo werde', 'Alcoha Pord', 'Rasaderia', 'La Paraderia', 'Revoltora', 'Shikwi, 'Peyote San', 'El Cishe Azu', 'El Carde Turch', 'El Carde Turch', 'El Primera', 'Roots', 'Capperl Mercato Italiano', 'El Perro y La Galleta', 'Il Tavollo werde', 'Alcoha Pord', 'Rasaderia', 'La Paraderia', 'Revoltora', 'Nahikwi, 'Peyote San', 'El Cishe Azu', 'El Carde Turch', '
```

Comprobamos que efectivamente están cerca de The Bridge

Comprobamos que efectivamente están cerca de The Brid	ite están cerca de 1	Comprobamos que efectivamente
---	----------------------	-------------------------------

• Charrua

 $\underline{https://www.google.com/maps/place/Charr%C3\%BAa+Madrid/@40.4213206, -3.6974034, 15z/data=!4m5!3m4!1s0x0:0x8673b16903da6e51!8m2!3d40.4223987!4d-3.6940989912d-3.694098914d-3.694098914d-3$

• Dolotani

httos://www.goggle.com/maps/place/Pelotari/@40.4218322,-3.7011421,15.662/data=14m811m212m11spelotari]3m41s8x442289a8d2d74cb:0x2b6420709612ce5318m213d40.422223214d-3.6906525

• Doki doki

httos://www.google.com/msps/place/Restaurante+Doki+Doki/@48.421846,-3.6919977,17z/data=13m1|db1|4m513m4|1s8x442289a5313ac17:8x27cfb82877487a64|8m2|3d48.421846|4d-3.689889