

Brewery_API

March 21, 2024

0.1 Open Brewery Database API

```
[5]: import requests
import pandas as pd
import numpy as np
import datetime as dt
from requests.exceptions import HTTPError
import json
```

0.2 Retrieve data from API

- Approximately 7971 breweries in the United State
- API has data for multiple countries
- Max per call: 200
- Openbrewery Database Public API

```
[141]: brewery_data = []
brewery_response = {}

base_url = "https://api.openbrewerydb.org/v1/breweries"

for i in range(1,45):

    pg = str(i)
    url = base_url + "?page=" + pg + "&per_page=200"

    try:
        response = requests.get(url)
        print(f"page {i} {response.status_code} url: {url}")
    except HTTPError as http_err:
        print(f'HTTP error occurred: {http_err}')
    except Exception as err:
        print(f'Other error occurred: {err}')
    else:
        brewery_response = response.json()
        brewery_data = [*brewery_data, *brewery_response]
```


0.3 Store data in a file

```
[143]: # Store the JSON data in a file
with open("brewery_data.json", "w") as file:
    json.dump(brewery_data, file)

print("Data stored successfully!")
```

Data stored successfully!

0.4 Retrieve data from file and format data

```
[15]: # retrieve JSON data from the file
with open("brewery_data.json", "r") as file:
    brewery_js = json.load(file)
```

```
[17]: # format data
brewery_formatted = json.dumps(brewery_js[8242:8247], indent=2)
print(brewery_formatted)
```

```
[
  {
    "id": "57a70f5c-a995-4be1-949c-99244450940f",
    "name": "\ud50c\ub808\uc774\uadf8\ub77c\uc6b4\ub4dc\ube0c\ub8e8\uc5b4\ub9ac(playground Brewery)",
    "brewery_type": "brewpub",
    "address_1": "246-13, Isanpo-gil",
    "address_2": "Ilsanseo-gu",
    "address_3": null,
    "city": "Goyang-si",
    "state_province": "Gyeonggido",
    "postal_code": "10203",
    "country": "South Korea",
    "longitude": "126.7020113",
    "latitude": "37.66779467",
    "phone": "031-912-2463",
    "website_url": "https://www.playgroundbrewery.com/",
    "state": "Gyeonggido",
    "street": "246-13, Isanpo-gil"
  },
  {
    "id": "64a4f65c-47a9-4d8e-ad2e-3cc898b9689c",
    "name": "\ud578\ub4dc\uc564\ubab0\ud2b8 (Hand and Malt)",
    "brewery_type": "brewpub",
    "address_1": "19, Hangang-daero 38ga-gil",
    "address_2": null,
    "address_3": null,
    "city": "Yongsan-gu",
```

```

    "state_province": "Seoul",
    "postal_code": "04386",
    "country": "South Korea",
    "longitude": "126.9705831",
    "latitude": "37.52985655",
    "phone": "070-7178-4011",
    "website_url": "http://handandmalt.com/",
    "state": "Seoul",
    "street": "19, Hangang-daero 38ga-gil"
  },
  {
    "id": "a9541aa9-5c12-469b-8cbb-01fb5619cefc",
    "name": "\ud5c8\uc2ec\uccad\uube0c\ub8e8\uc789(Hursimchung Bru)",
    "brewery_type": "brewpub",
    "address_1": "23, Geumganggongwon-ro 20beon-gil",
    "address_2": null,
    "address_3": null,
    "city": "Dongnae-gu",
    "state_province": "Busan",
    "postal_code": "47709",
    "country": "South Korea",
    "longitude": "129.0826027",
    "latitude": "35.21990206",
    "phone": "051-550-2345",
    "website_url":
"https://www.hotelnongshim.com/kr/index.php?pCode=hbrau_info",
    "state": "Busan",
    "street": "23, Geumganggongwon-ro 20beon-gil"
  },
  {
    "id": "6f317bdc-458e-466f-bd2a-9ab398d46631",
    "name": "\ud5e4\uc774\uc2a4\ud0c1 \ube0c\ub8e8\uc5b4\ub9ac(Haystack
Brewery)",
    "brewery_type": "brewpub",
    "address_1": "25, Pangyogongwon-ro 3-gil",
    "address_2": "Bundang-gu",
    "address_3": null,
    "city": "Seongnam-si",
    "state_province": "Gyeonggido",
    "postal_code": "13477",
    "country": "South Korea",
    "longitude": "127.0890607",
    "latitude": "37.39125615",
    "phone": "070-7631-1110",
    "website_url": null,
    "state": "Gyeonggido",
    "street": "25, Pangyogongwon-ro 3-gil"
  },

```

```
{
  "id": "a1308963-b966-49f7-8f84-97ba37775d14",
  "name": "\ud654\uc774\ud2b8\ud06c\ub85c\uc6b0 \ube0c\ub8e8\uc789(Whitecrow
Brewing)",
  "brewery_type": "brewpub",
  "address_1": "65,Gowon-ro",
  "address_2": "Bangnim-myeon",
  "address_3": null,
  "city": "Pyeongchang-gun",
  "state_province": "Gangwondo",
  "postal_code": "25364",
  "country": "South Korea",
  "longitude": "128.2515424",
  "latitude": "37.47598351",
  "phone": "033-333-1201",
  "website_url": "https://www.instagram.com/whitecrowbrewing/",
  "state": "Gangwondo",
  "street": "65,Gowon-ro"
}
```

0.5 Convert data to a dataframe

```
[19]: # Convert data from JSON to DataFrame
df = pd.DataFrame.from_dict(brewery_js, orient='columns')
df
```

```
[19]:
```

	id	name \
0	5128df48-79fc-4f0f-8b52-d06be54d0cec	(405) Brewing Co
1	9c5a66c8-cc13-416f-a5d9-0a769c87d318	(512) Brewing Co
2	34e8c68b-6146-453f-a4b9-1f6cd99a5ada	1 of Us Brewing Company
3	ef970757-fe42-416f-931d-722451f1f59c	10 Barrel Brewing Co
4	6d14b220-8926-4521-8d19-b98a2d6ec3db	10 Barrel Brewing Co
...
8242	57a70f5c-a995-4be1-949c-99244450940f	(playground Brewery)
8243	64a4f65c-47a9-4d8e-ad2e-3cc898b9689c	(Hand and Malt)
8244	a9541aa9-5c12-469b-8cbb-01fb5619cefc	(Hursimchung Bru)
8245	6f317bdc-458e-466f-bd2a-9ab398d46631	(Haystack Brewery)
8246	a1308963-b966-49f7-8f84-97ba37775d14	(Whitecrow Brewing)

	brewery_type	address_1	address_2	address_3 \
0	micro	1716 Topeka St	None	None
1	micro	407 Radam Ln Ste F200	None	None
2	micro	8100 Washington Ave	None	None
3	large	1501 E St	None	None
4	large	62970 18th St	None	None
...

8242	brewpub	246-13, Isanpo-gil	Ilsanseo-gu	None
8243	brewpub	19, Hangang-daero 38ga-gil	None	None
8244	brewpub	23, Geumganggongwon-ro 20beon-gil	None	None
8245	brewpub	25, Pangyogongwon-ro 3-gil	Bundang-gu	None
8246	brewpub	65,Gowon-ro	Bangnim-myeon	None

	city	state_province	postal_code	country	\
0	Norman	Oklahoma	73069-8224	United States	
1	Austin	Texas	78745-1197	United States	
2	Mount Pleasant	Wisconsin	53406-3920	United States	
3	San Diego	California	92101-6618	United States	
4	Bend	Oregon	97701-9847	United States	

...	
8242	Goyang-si	Gyeonggido	10203	South Korea	
8243	Yongsan-gu	Seoul	04386	South Korea	
8244	Dongnae-gu	Busan	47709	South Korea	
8245	Seongnam-si	Gyeonggido	13477	South Korea	
8246	Pyeongchang-gun	Gangwondo	25364	South Korea	

	longitude	latitude	phone	\
0	-97.46818222	35.25738891	4058160490	
1	None	None	5129211545	
2	-87.88336350209435	42.72010826899558	2624847553	
3	-117.129593	32.714813	6195782311	
4	-121.281706	44.08683531	5415851007	
...	
8242	126.7020113	37.66779467	031-912-2463	
8243	126.9705831	37.52985655	070-7178-4011	
8244	129.0826027	35.21990206	051-550-2345	
8245	127.0890607	37.39125615	070-7631-1110	
8246	128.2515424	37.47598351	033-333-1201	

	website_url	state	\
0	http://www.405brewing.com	Oklahoma	
1	http://www.512brewing.com	Texas	
2	https://www.1ofusbrewing.com	Wisconsin	
3	http://10barrel.com	California	
4	http://www.10barrel.com	Oregon	
...	
8242	https://www.playgroundbrewery.com/	Gyeonggido	
8243	http://handandmalt.com/	Seoul	
8244	https://www.hotelnongshim.com/kr/index.php?pCo...	Busan	
8245	None	Gyeonggido	
8246	https://www.instagram.com/whitecrowbrewing/	Gangwondo	

	street
0	1716 Topeka St

```

1          407 Radam Ln Ste F200
2          8100 Washington Ave
3          1501 E St
4          62970 18th St
...
8242          246-13, Isanpo-gil
8243          19, Hangang-daero 38ga-gil
8244  23, Geumganggongwon-ro 20beon-gil
8245          25, Pangyogongwon-ro 3-gil
8246          65,Gowon-ro

```

[8247 rows x 16 columns]

```
[21]: df.nunique()
```

```

[21]: id          8247
      name        8102
      brewery_type    11
      address_1      7378
      address_2       92
      address_3       25
      city          3101
      state_province  116
      postal_code    7992
      country        12
      longitude      5801
      latitude       5801
      phone          7213
      website_url    6715
      state          116
      street         7378
      dtype: int64

```

```
[153]: df.info()
```

```

<class 'pandas.core.frame.DataFrame'>
RangeIndex: 8247 entries, 0 to 8246
Data columns (total 16 columns):
#   Column          Non-Null Count  Dtype
---  -
0   id              8247 non-null  object
1   name            8247 non-null  object
2   brewery_type    8247 non-null  object
3   address_1       7479 non-null  object
4   address_2       94 non-null    object
5   address_3       26 non-null    object
6   city            8247 non-null  object

```

```

7  state_province  8247 non-null  object
8  postal_code    8247 non-null  object
9  country        8247 non-null  object
10 longitude      5920 non-null  object
11 latitude       5920 non-null  object
12 phone         7407 non-null  object
13 website_url    7068 non-null  object
14 state         8247 non-null  object
15 street        7479 non-null  object
dtypes: object(16)
memory usage: 1.0+ MB

```

```
[155]: df[df['country']=='United States'].nunique()
```

```

[155]: id          7970
      name        7825
      brewery_type    11
      address_1     7111
      address_2         4
      address_3         0
      city         2917
      state_province    54
      postal_code     7725
      country          1
      longitude     5535
      latitude     5535
      phone        6988
      website_url   6485
      state         54
      street       7111
      dtype: int64

```

```
[ ]:
```