Python Script 10: Collecting one million website links (/post/545/python-script-10-collecting-one-million-website-links/)

scraping (/tag/scraping/) beautifulsoup (/tag/beautifulsoup/) 0 2055

I needed a collection of different website links to experiment with Docker cluster. So I created this small script to collect one million website URLs.

Code is available on Github (https://github.com/anuragrana/Python-Scripts) too.

Running script:

Either create a new virtual environment using python3 or use existing one in your system.
Install the dependencies.

```
pip install requests, BeautifulSoup
```

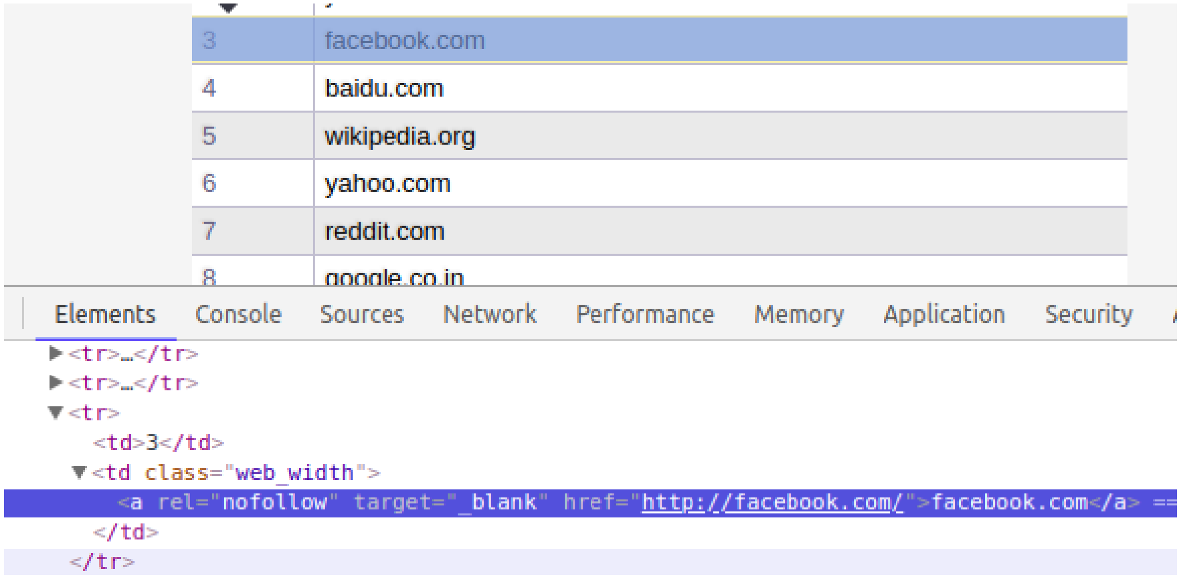
Activate the virtual environment and run the code.

```
python one_million_websites.py
```

Code:

```
import requests
from bs4 import BeautifulSoup
import sys
import time


headers = {
    "Accept": "text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,image/apng,*/*;q=0.8",
    "Accept-Language": "en-GB,en-US;q=0.9,en;q=0.8",
    "User-Agent": "Mozilla/5.0 (X11; Linux x86_64) AppleWebKit/537.36 (KHTML, like Gecko) Ubuntu Chromiu
}

site_link_count = 0

for i in range(1, 201):
    url = "http://websitelists.in/website-list-" + str(i) + ".html"
    response = requests.get(url, headers = headers)
    if response.status_code != 200:
        print(url + str(response.status_code))
        continue

    soup = BeautifulSoup(response.text, 'lxml')
    sites = soup.find_all("td",{"class": "web_width"})

    links = ""
    for site in sites:
        site = site.find("a")["href"]
        links += site + "\n"
        site_link_count += 1

    with open("one_million_websites.txt", "a") as f:
        f.write(links)

    print(str(site_link_count) + " links found")

    time.sleep(1)
```

We are scraping links from site `http://www.websitelists.in/` . If you inspect the webpage, you can see anchor tag inside `td` tag with class `web_width` .
We will convert the page response into BeautifulSoup object and get all such elements and extract the `HREF` value of them.



3	facebook.com
4	baidu.com
5	wikipedia.org
6	yahoo.com
7	reddit.com
8	google.co.in

```
▶<tr>…</tr>
▶<tr>…</tr>
▼<tr>
   <td>3</td>
 ▼<td class="web_width">
     <a rel="nofollow" target="_blank" href="http://facebook.com/">facebook.com</a> ==
   </td>
 </tr>
```

Although there is natural delay of more than 1 second between consecutive requests which is pretty slow but is good for server. I still introduced one second delay to avoid 429 HTTP status.

Scraped links will be dumped in text file in same directory.

Hosting Django App for free on PythonAnyWhere Server. (https://www.pythoncircle.com/post/18/how-to-host-django-app-on-pythonanywhere-for-free/)

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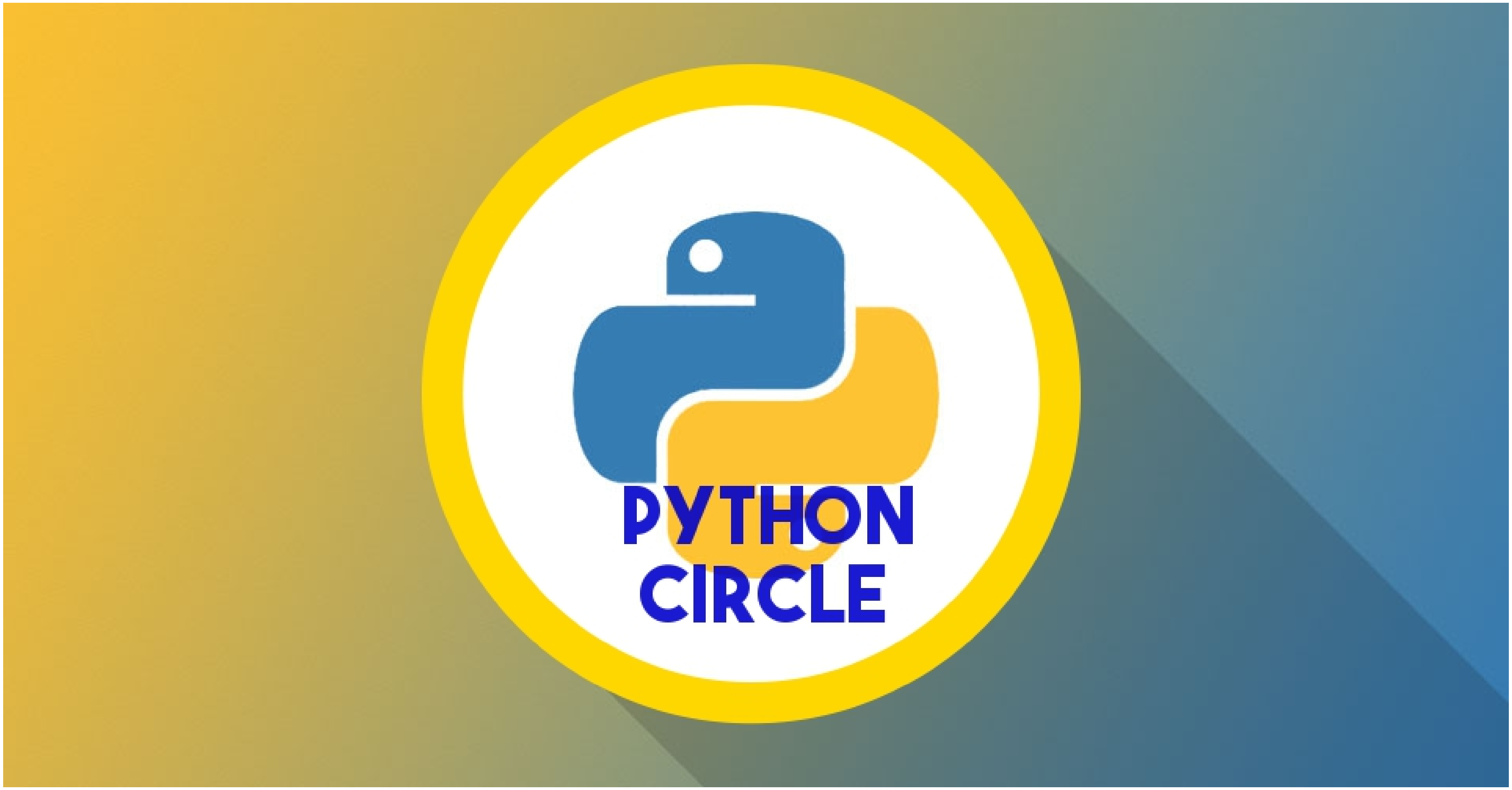

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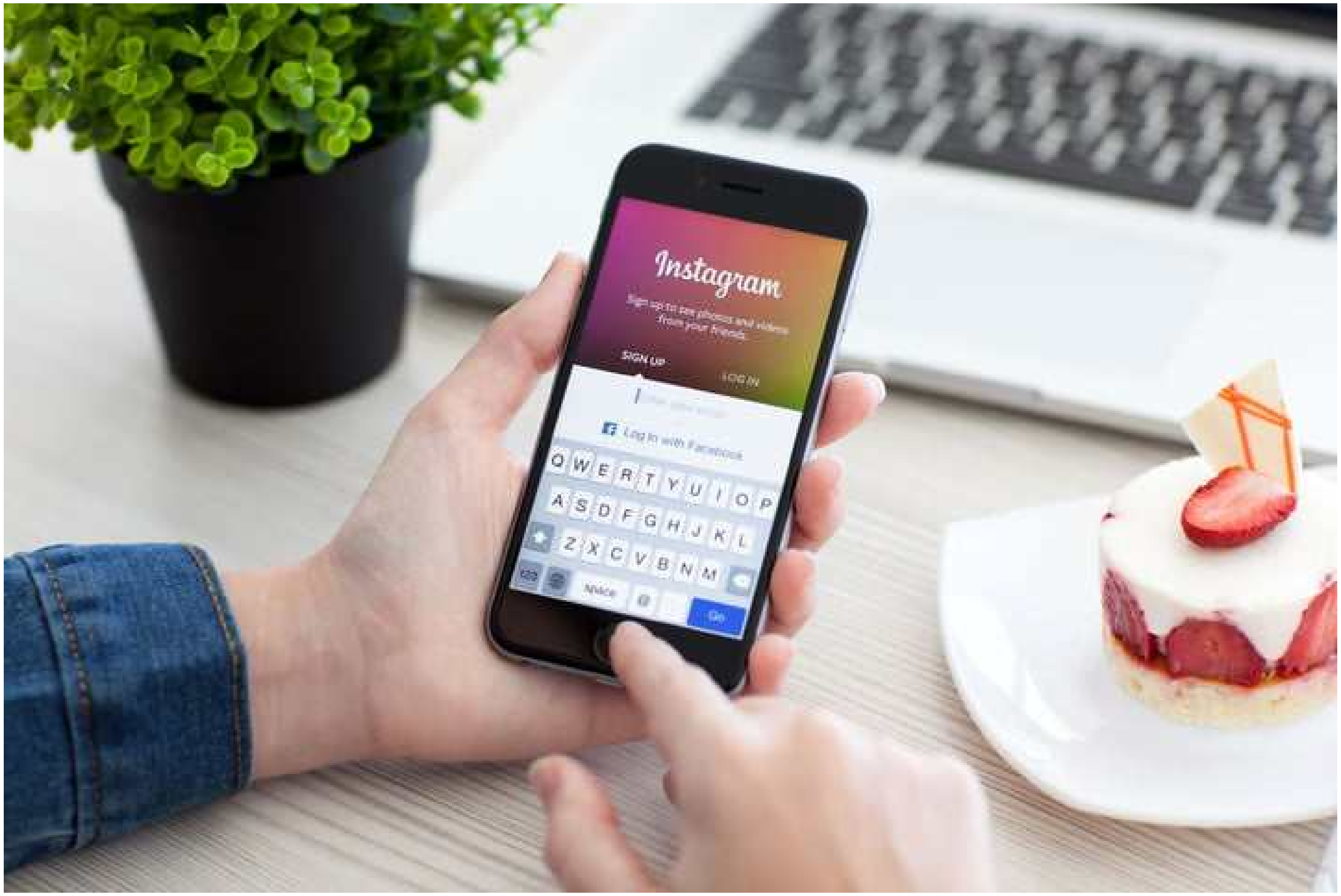

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