4/26/24, 3:20 AM about:blank

## **Cheat Sheet: API's and Data Collection**

```
Package/Method Description
                                                                                                         Code Example
                                Syntax:
                                   1. 1
                                   1. attribute = element[(attribute)]
                 Access the
                 value of a
                                Copied!
Accessing
                 specific
                 attribute of an Example:
element attribute
                 HTML
                 element.
                                   1. 1
                                   1. href = link_element[(href)]
                                Copied!
                                Syntax:
                 Parse the
                 HTML content
                                  1. soup = BeautifulSoup(html, (html.parser))
                 of a web page
                 using
BeautifulSoup()
                 BeautifulSoup.
                                Example:
                 The parser
                 type can vary
based on the
                 project.
                                   1. html = (https://api.example.com/data) soup = BeautifulSoup(html, (html.parser))
                                Copied!
                                Syntax:
                 Send a
                 DELETE
                                   1. 1
                 request to
                                   1. response = requests.delete(url)
                 remove data or
                 a resource from the
                                Copied!
delete()
                                Example:
                 DELETE
                 requests delete
                 a specified
                                   1. response = requests.delete((https://api.example.com/delete))
                 resource on
                 the server.
                                Copied!
                                Syntax:
                                   1. 1
                 Find the first
                                   1. element = soup.find(tag, attrs)
                 HTML
                                Copied!
                 element that
find()
                 matches the
                                Example:
                 specified tag
                 and attributes.
                                   1. first_link = soup.find((a), {(class): (link)})
                                Copied!
                                Syntax:
                                   1. elements = soup.find_all(tag, attrs)
                 Find all
                 HTML
                                Copied!
                 elements that
find\_all()
                 match the
                                Example:
                 specified tag
                 and attributes.
                                   1. all_links = soup.find_all((a), {(class): (link)})
                                Copied!
                                Syntax:
                                   1. 1
                                   1. children = element.findChildren()
                 Find all child
                                Copied!
                 elements of an
findChildren()
                 HTML
                                Example:
                 element.
                                   1. child_elements = parent_div.findChildren()
                                Copied!
                 Perform a
                 GET request to retrieve data
                 from a
                                Syntax:
                 specified
URL. GET
                 requests are
                                   1. response = requests.get(url)
                 typically used
                 for reading
                                Copied!
                 data from an
get()
                                Example:
                 API. The
                 response
                 variable will
                 contain the
                                   1. response = requests.get((https://api.example.com/data))
                 server's
                                Copied!
                 response,
                 which you can
                 process
further.
```

```
Include
                                 Syntax:
                  custom
                                   1. 1
                  headers in the
                  request.
                                   1. headers = {(HeaderName): (Value)}
                  Headers can
                                 Copied!
                 provide
Headers
                  additional
                  information to Example:
                 the server.
                  such as
                  authentication
                                   1. base_url = (https://api.example.com/data) headers = {(Authorization): (Bearer YOUR_TOKEN)} response = requests.get(bas
                 tokens or
                                 Copied!
                 content types.
                                 Syntax:
                 Import the
                  necessary
Import Libraries
                 Python
                                   1. from bs4 import BeautifulSoup
                  libraries for
                 web scraping.
                                Copied!
                 Parse JSON
                  data from the
                 response. This Syntax:
                 extracts and
                  works with the
                                    1. data = response.json()
                  data returned
                 by the API.
                                 Copied!
                  The
                 response.json() Example:
json()
                  converts the
                 JSON
                 response into a
                                   1. response = requests.get((https://api.example.com/data))
2. data = response.json()
                  Python data
                  structure
                 (usually a
                                 Copied!
                  dictionary or
                 list).
                                 Syntax:
                                   1. 1
                                   1. sibling = element.find_next_sibling()
                 Find the next
                                 Copied!
                  sibling
next sibling()
                 element in the Example:
                 DOM.
                                   1. 1

    next sibling = current element.find next sibling()

                                 Copied!
                                 Syntax:
                                   1. parent = element.parent
                  Access the
                 parent element Copied!
                  in the
parent
                  Document
                                 Example:
                 Object Model (DOM).
                                   1. parent_div = paragraph.parent
                                 Copied!
                 Send a POST
                 request to a specified URL
                                 Syntax:
                                   1. 1
                  with data.
                  Create or
                                   1. response = requests.post(url, data)
                  update POST
                 requests using Copied!
post()
                  resources on
                 the server. The Example:
                 data parameter
                 contains the
                  data to send to
                                   1. response = requests.post((https://api.example.com/submit), data={(key): (value)})
                 the server,
                 often in JSON Copied!
                 format.
                  Send a PUT
                 request to update data on Syntax:
                  the server.
                 PUT requests
                                   1. response = requests.put(url, data)
                 are used to
                 update an
                                 Copied!
                  existing
put()
                  resource on
                                 Example:
                  the server with
                 the data
                                   1. 1
                 provided in the data
                                   1. response = requests.put((https://api.example.com/update), data={(key): (value)})
                 parameter,
                                 Copied!
                 typically in JSON format.
Query parameters Pass query
                                 Syntax:
                 parameters in
                  the URL to
                 filter or
                                    1. params = {(param_name): (value)}
                 customize the
                 request. Query
                                 Copied!
                  parameters
                                 Example:
                  specify
```

conditions or

1. 1

```
limits for the
                                                     2. 2
3. 3
                          requested data.
                                                    1. base_url = "https://api.example.com/data"
2. params = {"page": 1, "per_page": 10}
3. response = requests.get(base_url, params=params)
                                                 Copied!
                                                 Syntax:
                                                    1. 1
                                                     1. element = soup.select(selector)
                          Select HTML
                          elements from Copied!
                          the parsed HTML using a Example:
select()
                          CSS selector.
                                                     1. titles = soup.select((h1))
                                                 Copied!
                          Check the
                          HTTP status code of the
                                                    1. 1
                          response. The

    response.status_code

                          HTTP status
                          code indicates Copied!
                          the result of
                          the request
                                                 Example:
status_code
                          (success, error,
                          redirection).
                          Use the HTTP
                          status codeIt
                          can be used for

    url = "https://api.example.com/data"
    response = requests.get(url)
    status_code = response.status_code

                          error handling
                          and decision-
                          making in
                          your code.
                                                 Tag Example:
                                                     1. 1
2. 2
3. 3
4. 4
5. 5
6. 6
7. 7
8. 8
9. 9
                          Specify any
                          valid HTML
                          tag as the tag
                          parameter to
                           search for
                          elements of
                                                   10. 10
tags for find()
                          that type. Here

    (a): Find anchor () tags.
    (p): Find paragraph ((p)) tags.
    (h1), (h2), (h3), (h4), (h5), (h6): Find heading tags from level 1 to 6 ( (h1),n (h2)).
    (table): Find table () tags.
    (tr): Find table row () tags.
    (td): Find table cell ((td)) tags.
    (th): Find table header cell ((td))tags.
    (img): Find image ((img)) tags.
    (form): Find form ((form)) tags.
    (button): Find button ((button)) tags.

and find_all()
                          are some
                          common
                          HTML tags
                          that you can
                          use with the
                          tag parameter.
                                                 Copied!
                                                 Syntax:
                                                    1. 1
                                                     1. text = element.text
                          text content of an LITY (
text
                          an HTML
                                                 Example:
                          element.
                                                     1. 1
                                                     1. title_text = title_element.text
                                                 Copied!
```



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