2025

4Geeks Academy: data science cohort 12

DAY 8: API REQUESTS

TODO

API REQUESTS

Use case, tools and strategies.

WEB SCRAPING PROJECT

Submit Web Scraping with Python (web scraping module) if you haven't done so already.

API PROJECT

Work on Interaction with an API using Python (API requests module) plan to finish before class on Monday.

TOPICS

APIs

WHAT Interface to access data or services programmatically.

WHY Allows modularity and access to external tools and data.

HOW • Python requests library
         • API specific software development kit (SDK)

openai-python library

OpenAI

USING APIS

AUTHENTICATION

- APIs often require an account/authentication
- Usually API token or key
- Provided via environment variable, request header or client argument

REQUESTS

```python
api_key = 'your_api_key_here'
api_url = 'https://api.openai.com/v1/responses'

payload = {
    'model': 'gpt-4.1',
    'input': 'What is the meaning of life?'
}

headers = {
    'Content-Type': 'application/json',
    'Authorization': f'Bearer {api_key}'
}

response = requests.post(api_url, headers=headers, json=payload)
```

Check API documentation for Python SDK

BUILDING APIs

WHY
- Split a project into reusable/independent microservices
- Allow others to access your data or service

TOOLS
- **Flask**: lightweight Python web application framework
- **FastAPI**: fast Python web framework specifically for building APIs