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**

O1 APIs

O2 USING APIs

O3 BUILDING APIs

## **APIs**

WHAT Interface to access data or services programmatically.

WHY Allows modularity and access to external tools and data.

Python requests library

• Python requests library

• API specific software development kit (SDK)



### **USING APIS**

#### **AUTHENTICATION**

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

#### REQUESTS

```
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**

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

#### TOOLS

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

