

API Practice Challenges

Python API Practice Challenges (Standard Library Only)

Challenge 1: Simulated GET Request

Goal:

- Use urllib to make a GET request to a local server.
- Parse the JSON response.

Steps:

1. Create a simple HTTP server that responds with JSON.
2. In a separate script, use urllib.request to GET data.
3. Use json.loads() to print the parsed result.

Bonus: Print HTTP status code and headers.

Challenge 2: Local POST with JSON

Goal:

- Simulate sending data to a local server using POST.

Steps:

1. Set up a local http.server with a custom BaseHTTPRequestHandler.
2. In the handlers do_POST, read request body and respond with a message.
3. In the client script, send a POST request with urllib and json payload.

Bonus: Echo the received JSON back in the response.

Challenge 3: Parse XML from Simulated API

Goal:

- Serve XML from a local API and parse it.

API Practice Challenges

Steps:

1. Create a local server that serves an XML file as a response.
2. In a separate client script, request the XML endpoint.
3. Use `xml.etree.ElementTree` to parse and print tags and attributes.

Bonus: Recursively print all nodes in the XML tree.

Notes:

- All challenges should work fully offline.
- Use Python standard libraries only: `urllib`, `http.server`, `json`, `xml.etree`.

Happy hacking!