

Python - REST API's, Requests and JSON

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What is an API

- Application Programming Interface
- SOA - Service Oriented Architecture

What is a REST API

Representational State Transfer

- API Key
- Limits
- Rate Limiting
- Caching ???
- A web page for computers...
 - Provides data in XML, JSON or HTML
- Example =
 - <https://www.ipify.org/>
 - <https://ip-api.com/>
 - <https://restcountries.com/>
 - <https://github.com/public-apis/public-apis>

What is JSON

- JavaScript Object Notation
- Standardized way to send data on Internet.
- Name/ Value Pairs
- Example = <http://ip-api.com/json/151.101.3.5>

Requests Module

- `python3 -m pip install requests`
- `get('http://www.cnn.com')`
 - Allows you to pull in the data from a web page as a variable value
- Example = `get.py`

Reading REST Response

- `.status_code`
- `.headers`
- `.text`
- `.json()`
- Example = Next Slide / IPIFY Example

IPIFY.org - External IP Address

- <https://www.ipify.org/>
 - Free Use Without Limit
- <https://api.ipify.org>
- <https://api.ipify.org?format=json>
- Example = ipify.py

Pretty JSON - dumps

- Think of JSON as Nested Sets
- dumps turns JSON into formatted String
- Example = `json-pretty.py`

Labs

- `lab-restrict.py`
- `lab-language.py`
- `lab-geo.py`