

# REST

## What is REST?

- Representational state transfer
- A method centered HTTP verbs for getting and receiving resources.

## How does REST work?

- REST uses URLs and HTTP verbs to standardized the sharing of resources via APIs
- REST puts 3 things together to help create clear APIs
  - 1) a way give things on the internet a location (URLs)
  - 2) standard verbs / methods to act on those things (HTTP)
  - 3) common format for data (JSON)

## What is a URL?

- Uniform Resource Locator
- A URL is an Address like `www.github.com/pykafe`

## What is HTTP?

- HyperText Transfer Protocol
- It is the protocol of the web.
- It is the `http://` of a web address (URL)

## What is an HTTP verb?

- HTTP verbs are standard methods for URLs.
- We use `GET` , `POST` , `PUT` , `'HEAD'` , `DELETE` every day.

## What is an API?

- Application Programming Interface
- An API defines how programs can talk to each other.

## Example of a NON-REST API

VERB	URL
GET	<code>/API/todo/my_task/view</code>
GET	<code>/API/todo/my_task/delete</code>
GET	<code>/API/todo/my_task/update</code>
GET	<code>/API/todo/my_task/create</code>

## Example of a REST API

VERB	URL
GET	<code>/API/todo/my_task/</code> # view
DELETE	<code>/API/todo/my_task/</code> # delete
PUT	<code>/API/todo/my_task/</code> # update
POST	<code>/API/todo/my_task/</code> # create

## What is JSON?

- JavaScript Object Notation
- JSON is a common format for sharing data
- JSON is just a set of key, value pairs just like a Python Dictionary (dict)
- example: `{'name': 'Jose Soares'}`

## What is AJAX?

- Asynchronus JavaScript and XML
  - but can use with JSON!
- A way to talk to a server from JavaScript