RESTful APIs

REpresentational State Transfer
Application Programming Interface

A way for apps to communicate over HTTP.

HTTP is stateless

- HTTP provides no way to maintain state (or memory) from one request to another.

- Browsers overcome this with cookies / sessions

- Other clients (mobile apps) may pass a token with every requests.

JSON

JavaScript Object Notation

```json
{
    "id": 1,
    "email": "brad@bradmontgomery.net",
    "first_name": "Brad",
    "last_name": "Montgomery",
    "is_staff": true
}
```

XML

```xml
<user>
    <id>1</id>
    <email>brad@bradmontgomery.net</email>
    <firstname>Brad</firstname>
    <lastname>Montgomery</lastname>
    <staff>true"</staff>
</user>
```

HTTP Methods
(or Verbs)

```html
<form action="/login" method="post">
    ...
</form>
```

HTTP Verbs

Verb / Method	CRUD Action	Expected Status
GET	Read	200
POST	Create	201
PUT	Update	200 / 204
DELETE	Delete	200 / 202 / 204

Full list of HTTP status codes

https://httpstatuses.com/

Tools for testing

- curl - a command-line utility available for most OSes.

- Browser: Most browsers have developer tools that will allow you do inspect HTTP requests.

- Postman: A (freeware) commercial tool designed for testing Restful APIs.

- HTTPie: A really nice open-source command line tool.

- http://httpbin.org/ - a Server for testing clients.

Demo Time!

github.com/bradmontgomery/restful_api_example