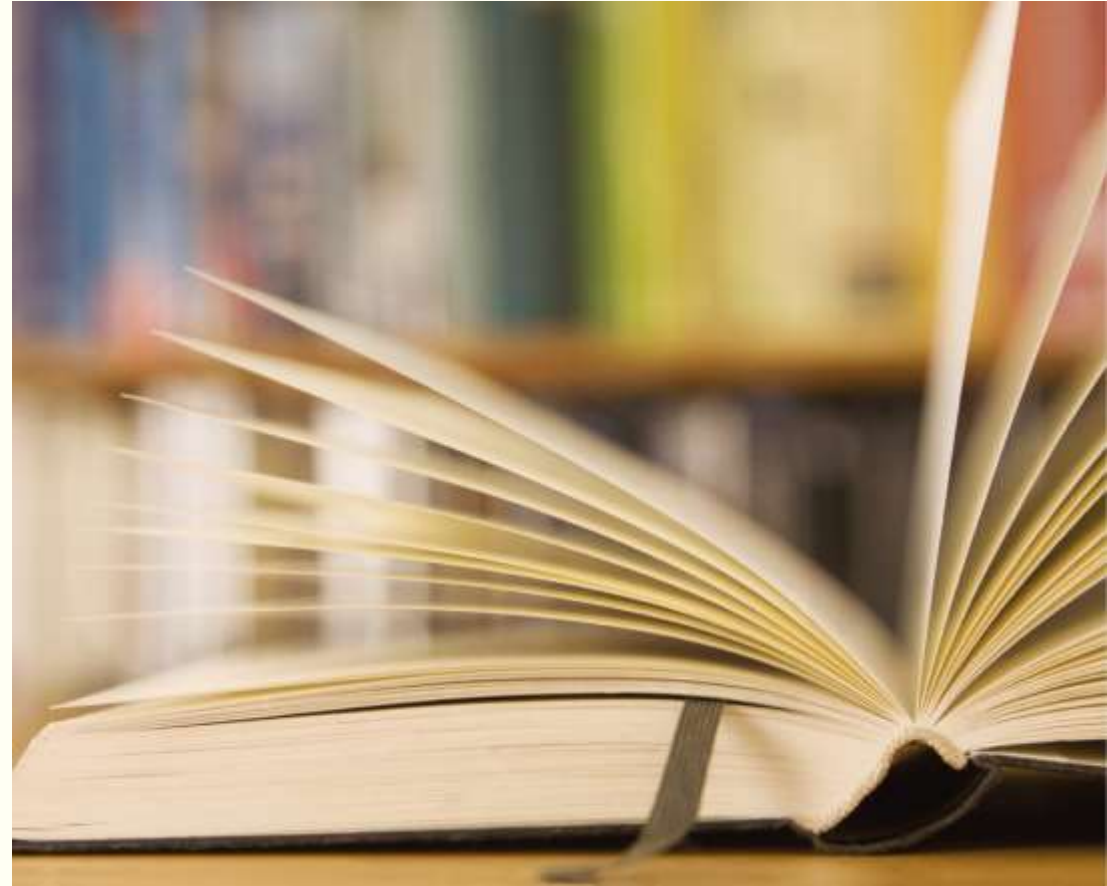




jQuery AJAX & JSON

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API

API

An API (application programming interface) allows other developers to use some of the app's functionality without sharing the code.

The endpoints are exposed by the developers while the API can control access with an API key. Examples of well-made APIs are those created by Facebook, Twitter, and Google for their web services.

Data formats

Data is stored in the structure called a data format.

1. **JSON** – JavaScript Object Notation is a syntax for storing and exchanging data (just like XML). It is currently becoming the most popular data format out there.
2. **XML** – Predominantly used by Microsoft systems, it used to be the most popular data format
3. **CSV** – is data formatted by commas; for example Excel data



JSON

JSON

- JSON (JavaScript Object Notation) is a lightweight data-interchange format. It is easy for humans to read and write.
- JSON is a text format that is completely language independent but uses conventions that are familiar to programmers of the C-family of languages, including C, C++, C#, Java, JavaScript, Perl, Python, and many others.
- This makes JSON an ideal data-interchange language.
- Code for parsing and generating JSON data is readily available for a large variety of programming languages.

JSON

JSON's basic types are:

- Number
- String
- Boolean
- Array - an ordered list of zero or more values, each of which may be of any type. Arrays use square bracket notation with elements being comma-separated.
- Object - an unordered collection of name/value pairs where the names (also called keys) are strings. Objects are delimited with curly brackets and use commas to separate each pair, while within each pair the colon ':' character separates the key or name from its value.
- Null - An empty value, using the word null.

JSON

The following example shows a possible JSON representation describing a person.

```
{
  "firstName": "Anil",
  "lastName": "Kumar",
  "isAlive": true,
  "age": 45,
  "address": {
    "streetAddress": "21 2nd Street",
    "city": "New Hampshire",
    "state": "NH",
    "postalCode": "10021-3100"
  },
  "phoneNumbers": [
    {
      "type": "home",
      "number": "212 555-1234"
    },
    {
      "type": "office",
      "number": "646 555-4567"
    }
  ],
  "children": [],
  "spouse": null
}
```

JSON

JSON Schema

JSON Schema specifies a JSON-based format to define the structure of JSON data for validation, documentation, and interaction control.

Example JSON Schema:

```
{
  "name": "Product",
  "type": "object",
  "required": ["name", "price"],
  "properties": {
    "name": {
      "type": "string",
      "description": "Name of the product"
    },
    "price": {
      "type": "number",
      "minimum": 0
    },
    "tags": {
      "type": "array",
      "items": {
        "type": "string"
      }
    }
  }
}
```


JSON

The JSON Schema above can be used to test the validity of the JSON code below:

```
{
  "name": "Dove",
  "price": 123,
  "tags": [
    "Soap",
    "Baby Soap"
  ]
}
```



jQuery *AJAX*

jQuery AJAX

AJAX is the art of exchanging data with a server, and updating parts of a web page - without reloading the whole page.

jQuery AJAX

What is AJAX?

AJAX = Asynchronous JavaScript and XML.

AJAX is about loading data in the background and display it on the webpage, without reloading the whole page.

Examples of applications using AJAX: Gmail, Google Maps, Youtube, and Facebook tabs.

jQuery and AJAX?

jQuery provides several methods for AJAX functionality.

With the jQuery AJAX methods, you can request text, HTML, XML, or JSON from a remote server using both HTTP Get and HTTP Post - And you can load the external data directly into the selected HTML elements of your web page!

jQuery AJAX

jQuery AJAX Methods

jQuery load() Method

The **load()** method loads data from a server and puts the returned data into the selected element.

Syntax:

```
$(selector).load(URL,data,callback);
```

- The required URL parameter specifies the URL you wish to load.
- The optional data parameter specifies a set of querystring key/value pairs to send along with the request.
- The optional callback parameter is the name of a function to be executed after the load() method is completed.

The callback function can have different parameters:

- responseTxt - contains the resulting content if the call succeeds.
- statusTxt - contains the status of the call.
- xhr - contains the XMLHttpRequest object.

jQuery AJAX

jQuery – AJAX **get()** and **post()** Methods

The jQuery **get()** and **post()** methods are used to request data from the server with an HTTP GET or POST request.

jQuery **\$.get()** Method

The \$.get() method requests data from the server with an HTTP GET request.

Syntax:

```
$.get(URL,callback);
```

jQuery **\$.post()** Method

The \$.post() method requests data from the server using an HTTP POST request.

Syntax:

```
$.post(URL,data,callback);
```

jQuery AJAX

jQuery – AJAX `getJSON()` Method

The `getJSON()` method in jQuery fetches JSON-encoded data from the server using a GET HTTP request.

Syntax:

`$(selector).getJSON(url,data,success(data,status,xhr))`

url: It is a required parameter. It is used to specify the URL in the form of a string to which the request is sent

data: It is an optional parameter that specifies data that will be sent to the server.

callback: It is also an optional parameter that runs when the request succeeds.



THANK YOU