JSON Feeds

Using data in your websites

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Today

- Introducing Web APIs.

- Introducing JSON.

- Using JSON in PHP.

- Using AJAX to load JSON in JavaScript.

Web APIs

Another piece of software that can talk to your software, to provide a specific service.

It's "web" because it talks over HTTP.

It has an "endpoint", where your software can talk to it (usually a URL).

Any software can use a Web API.

Web APIs

A human may read *information* on the Web published by other humans.

A computer may read *data* on the web, published by other computers.

Data Sources

- Loads of data is published on Web APIs. e.g. FB, Twitter, etc...

- A Web API is relatively easy to build. Great for mobile apps.

Web APIs are Everywhere!

Most mobile devices use them for everything.

JSON

A language-independent format for exchanging data.

Just another format for exchanging data between computers.

Others include XML and SOAP.

JSON Data Structures

	Array	*Object*
Delimiter	[...]	{ ... }
Keyed	✘	✓
Type	List	Dictionary

JSON Arrays

```
var list = [
        "one potato",
        "two potato",
        "three potato",
        "four potato",
        "ad infinitum"
];
```

- Not keyed

- Must iterate (for{}) to access each item.

JSON Objects

```
var item = {
    "name" : "potato",
    "edible" : true
};
```

- Represents a "thing" with properties.

- Keyed.

- Access each item by key.
  e.g. item.name; and item.edible;

Blended Types

```
var vegetables = [
    {
        "name" : "potato",
        "edible" : true
    }, {
        "name" : "carrot",
        "edible" : true
    }, {
        "name" : "cauliflower",
        "edible" : false
    }
];
```

This is an **array** of **objects**.

Talking to APIs with JSON

1. Send a request to API's URL.
   Including any parameters in the URL.

2. API sends back a JSON response.

3. The response is loaded as a variable in your code.

4. You use the variable!

JSON Example

Time for a live demo. Call:

http://www.flickr.com/services/rest/?method=flickr.photos.getRecent&format=json&api_key=389c98f2a6fac56759610b8bbaa26ea8

Key	Value
method	flickr.photos.getRecent
format	json
api_key	389c98f2a6fac56759610b8bbaa26ea8

Getting JSON in PHP

1. Grab the JSON with file_get_contents();
   e.g. $json = file_get_contents($url);
   This returns a string.

2. **Convert** the JSON string into a PHP array, so we can read it.
   e.g. $data = json_decode($json);

Getting JSON in JavaScript

Using jQuery is easiest:

```javascript
var url = "http://source.com/data.json";

$.getJSON(url, function(data) {
    // Code here runs when the JSON is received.
    // var data contains the response JSON.

    // We might console.log the data to check it.
    console.log(data);
});
```

Reference

- www.programmableweb.com
  A directory of web services, filter on JSON.

- Google for: jQuery getJSON
  jQuery getJSON reference + examples.

- php.net/json_decode
  PHP JSON decode reference.