

17. AJAX, jQuery AJAX

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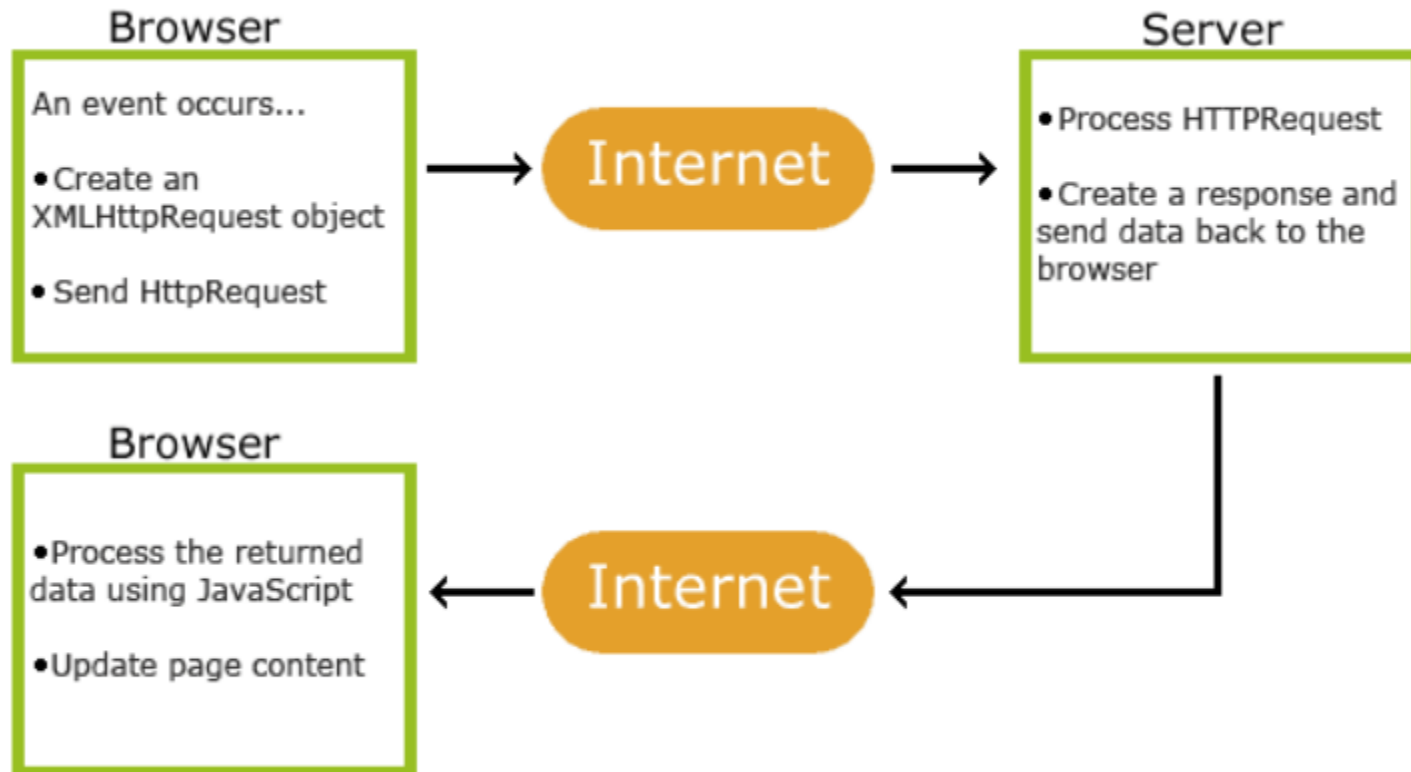
AJAX Intro

What is AJAX?

- Asynchronous JavaScript and XML
- Technique for creating fast and dynamic web pages
- It is possible to update parts of a web page, without reloading the whole page.
- Examples of applications
 - Google Maps, Gmail, Youtube, and Facebook tabs.

AJAX Intro (cont'd)

How AJAX Works



AJAX Intro (cont'd)

❏ AJAX is Based on Internet Standards

- ❏ Uses a combinations of :
 - XMLHttpRequest Object (to exchange data asynchronously with a server)
 - JavaScript/DOM (to display/interact with the information)
 - CSS (to style the data)
 - XML (often used as the format for transferring data)

❏ Google Suggest

- ❏ AJAX was made popular in 2005 by Google, with Google Suggest
- ❏ When you start typing in Google's search box, JavaScript sends the letters off to a server and the server returns a list of suggestions

❏ AJAX Example *Try it!*

AJAX – Create an XMLHttpRequest Object

❏ The XMLHttpRequest Object

- Is used to exchange data with a server behind the scenes.

❏ Create an XMLHttpRequest Object Try it!

- Syntax

```
variable = new XMLHttpRequest( );
```

AJAX – Send a Request To a Server

Send a Request To a Server

- Use the `open()` and `send()` methods of the XMLHttpRequest object

```
xmlhttp.open("GET", "ajax_info.txt", true);  
xmlhttp.send();
```

Method	Description
<code>open(method,url,async)</code>	<p>Specifies the type of request, the URL, and if the request should be handled asynchronously or not.</p> <p><i>method</i>: the type of request: GET or POST <i>url</i>: the location of the file on the server <i>async</i>: true (asynchronous) or false (synchronous)</p>
<code>send(string)</code>	<p>Sends the request off to the server.</p> <p><i>string</i>: Only used for POST requests</p>

AJAX – Send a Request To a Server (cont'd)

❏ GET Requests

- Simple example [Try it!](#)
- If you want to send information with the GET method [Try it!](#)

❏ POST Requests

- Simple example [Try it!](#)
- To POST data like an HTML form [Try it!](#)

Method	Description
<code>setRequestHeader(<i>header,value</i>)</code>	Adds HTTP headers to the request. <i>header</i> : specifies the header name <i>value</i> : specifies the header value

AJAX-Server Response

Server Response

- To get the response from a server, use the `responseText` or `responseXML` Property of the `XMLHttpRequest` object

Property	Description	
<code>responseText</code>	get the response data as a string	<i>Try it!</i>
<code>responseXML</code>	get the response data as XML data	<i>Try it!</i>

AJAX - The onreadystatechange Event

The onreadystatechange event *Try it!*

- When a request to a server is sent, we want to perform some actions based on the response.

Property	Description
onreadystatechange	Stores a function (or the name of a function) to be called automatically each time the readyState property changes
readyState	Holds the status of the XMLHttpRequest. Changes from 0 to 4: 0: request not initialized 1: server connection established 2: request received 3: processing request 4: request finished and response is ready
status	200: "OK" 404: Page not found

jQuery – AJAX Introduction *Try it!*

What About 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
 - You can load the external data directly into the selected HTML elements for your web page!

jQuery - AJAX load() Method

- ❏ Loads data from a server and puts the returned data into the selected element.

❏ Syntax

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

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

jQuery - AJAX load() Method (cont'd)

Content of "demo_test.txt"

```
<h2> jQuery and AJAX is FUN!!!</h2>  
<p id="p1"> This is some text in a paragraph.</p>
```

Example Try it!

- Loads the content of the file "demo_test.txt" into a specific <div> element

Example Try it!

- Loads the content of the element with id="p1", inside the file "demo_test.txt", into a specific <div> element
- Tip : It is possible to add a jQuery selector to the URL parameter

jQuery - AJAX load() Method (cont'd)

❏ The callback function can have different parameters

- responseTxt : contains the resulting content if the call succeed
- statusTxt : contains the status of the call
- xhr : contains the XMLHttpRequest object

❏ Example Try it!

- Displays an alert box after the load() method completes
 - If the load () method has succeed
 - It displays “External content loaded successfully!”,
 - If it fails
 - It displays an error message

❏ jQuery AJAX Reference

jQuery - AJAX Get/Post

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

- jQuery `$.get()` Method

- Requests data from the server with an HTTP GET request

- Syntax

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

- URL parameter (required): specifies the URL you wish to load
- callback parameter (optional) : the name of a function to be executed after the `load()` method is completed

jQuery - AJAX Get/Post (cont'd)

Content of "demo_test.asp"

```
<%  
  response.write ("This is some text from an external ASP file.")  
%>
```

Example Try it!

- Uses the \$.get() method to retrieve data from a file on the server
- First callback parameter holds the content of the page requested
- Second callback parameter holds the status of the request

jQuery - AJAX Get/Post (cont'd)

jQuery \$.post()

- Requests data from the server with an HTTP POST request

Syntax

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

- URL parameter (required): specifies the URL you wish to load
- data parameter (optional) : specifies some data to send along with the request
- callback parameter (optional) : the name of a function to be executed after the load() method is completed

jQuery - AJAX Get/Post (cont'd)

Content of "demo_test_post.asp"

```
<%  
  dim fname, city  
  fname = Request.Form ("name");  
  city = Request.Form ("city");  
  Response.Write("Dear " & fname & ".")  
  Response.Write("Hope you live well in " & city & ".");  
%>
```

Example Try it!

- Uses the \$.post() method to send data along with the request
- Pass in some data to send along with the request(name and city)