

02. AJAX XMLHttpRequest.

2.1. The XMLHttpRequest Object

The keystone of AJAX is the **XMLHttpRequest** object.

All modern browsers support the XMLHttpRequest object.

The XMLHttpRequest object can be used to exchange data with a web server behind the scenes. This means that it is possible to update parts of a web page, without reloading the whole page.

2.2. Create an XMLHttpRequest Object

All modern browsers (Chrome, Firefox, IE7+, Edge, Safari, Opera) have a built-in XMLHttpRequest object.

Syntax for creating an XMLHttpRequest object:

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

Example:

```
var xhttp = new XMLHttpRequest();
```

2.3. Access Across Domains

For security reasons, modern browsers do not allow access across domains.

This means that both the web page and the XML file it tries to load, must be located on the same server.

If you want to use the example above on one of your own web pages, the XML files you load must be located on your own server.

2.4. Older Browsers (IE5 and IE6)

Old versions of Internet Explorer (5/6) use an ActiveX object instead of the XMLHttpRequest object:

```
variable = new ActiveXObject("Microsoft.XMLHTTP");
```

To handle IE5 and IE6, check if the browser supports the XMLHttpRequest object, or else create an ActiveX object:

Example:

```
if (window.XMLHttpRequest) {  
    // code for modern browsers  
    xmlhttp = new XMLHttpRequest();  
} else {  
    // code for old IE browsers  
    xmlhttp = new ActiveXObject("Microsoft.XMLHTTP");  
}
```

2.5. XMLHttpRequest Object Methods

| Method | Description |
|--|--|
| new XMLHttpRequest() | Creates a new XMLHttpRequest object |
| abort() | Cancels the current request |
| getAllResponseHeaders() | Returns header information |
| getResponseHeader() | Returns specific header information |
| open(<i>method</i> , <i>url</i> , <i>async</i> , <i>user</i> , <i>psw</i>) | Specifies the request <i>method</i> : the request type GET or POST <i>url</i> : the file location <i>async</i> : true (asynchronous) or false (synchronous) <i>user</i> : optional user name <i>psw</i> : optional password |
| send() | Sends the request to the server |

| | |
|-----------------------|---|
| send(<i>string</i>) | Used for GET requests Sends the request to the server. Used for POST requests |
| setRequestHeader() | Adds a label/value pair to the header to be sent |

2.6. XMLHttpRequest Object Properties

| Property | Description |
|--------------------|--|
| onreadystatechange | Defines a function to be called when the readyState property changes |
| readyState | Holds the status of the XMLHttpRequest. 0: request not initialized 1: server connection established 2: request received 3: processing request 4: request finished and response is ready |
| responseText | Returns the response data as a string |
| responseXML | Returns the response data as XML data |
| status | Returns the status-number of a request 200: "OK" 403: "Forbidden" 404: "Not Found" ... For a complete list go to the Http Messages Reference |
| statusText | Returns the status-text (e.g. "OK" or "Not Found") |