

Web Technology



AJAX Introduction – Requests and Response

**Department of Computer Science and Engineering
Shiv Nadar University**

Last Class Summary

- **DOM**
- **DHTML**
- **DOM – Finding HTML Elements**
- **DOM – Changing HTML Elements**
- **DOM – Adding and Deleting HTML Elements**
- **DOM – HTML Event Handling**
- **DOM – Finding HTML Objects**
- **DOM – HTML Events**
- **Best Practices**

AJAX – Asynchronous Javascript And XML

- **Asynchronous?**

AJAX – Asynchronous Javascript And XML

- **Asynchronous**
 - **Send request – Server**
 - **Proceeds to next request before response**
 - **Response Handled – Background**

AJAX – Asynchronous Javascript And XML

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- **Features**
 - **Update Pages without Reloading**

AJAX – Asynchronous Javascript And XML

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 - **Request Data – After page load**
 - **Respond Data – After page load**

AJAX – Asynchronous Javascript And XML

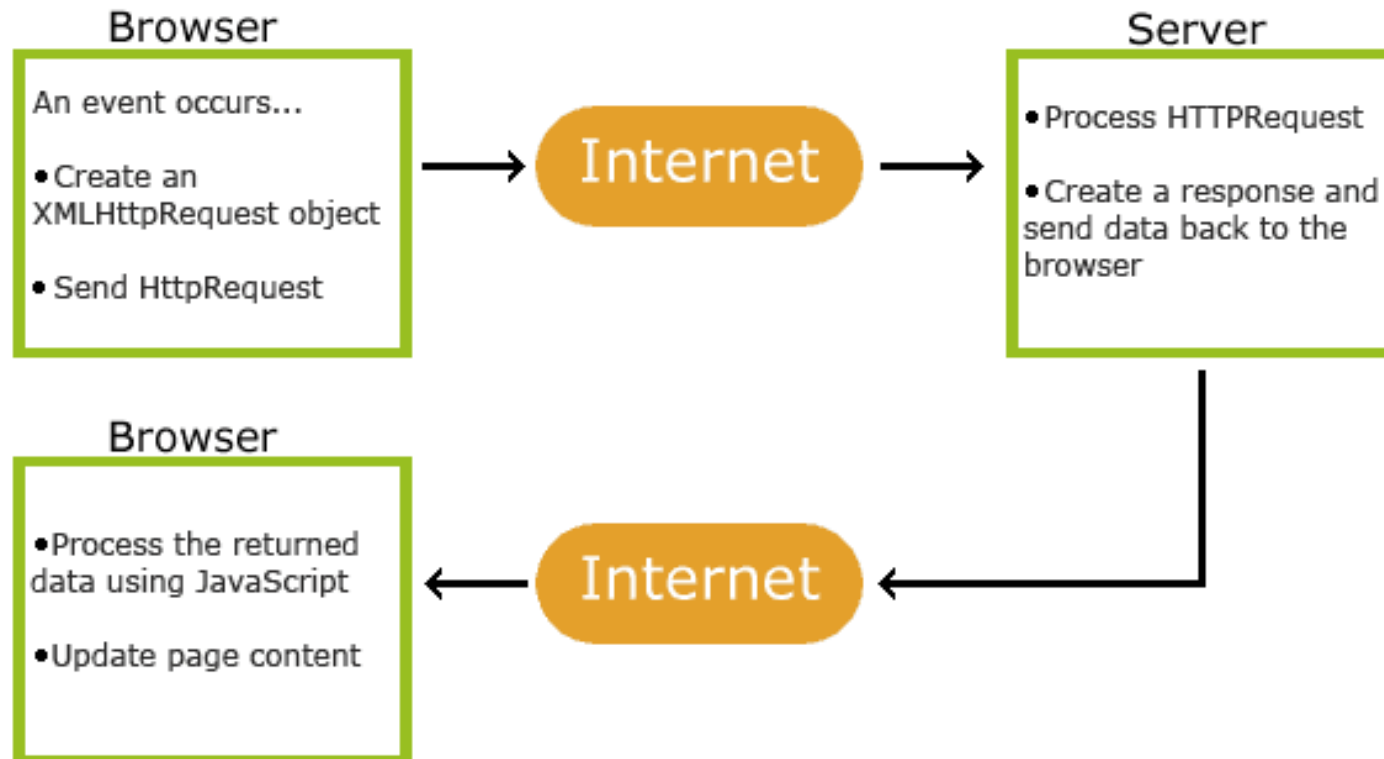
- **Asynchronous**
 - **Send request – Server**
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 - **Response Handled – Background**
- **Features**
 - **Update Pages without Reloading**
 - **Request Data – After page load**
 - **Respond Data – After page load**
 - **Send Data to Server – Background**

AJAX Working

- **AJAX Utilizes**
 - **Browser Built-in XMLHttpRequest object – send request to server**
 - **HTML DOM and Javascript – display data**

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AJAX XMLHttpRequest

- **XMLHttpRequest - Object**

AJAX XMLHttpRequest

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 - **Methods – Background**

AJAX XMLHttpRequest

- **XMLHttpRequest – Object**
 - **Methods – Background**
- **Syntax: identifier_name = new XMLHttpRequest();**

AJAX XMLHttpRequest

- **XMLHttpRequest – Object**
 - **Methods – Background**
- **Syntax: identifier_name = new XMLHttpRequest();**
- **Note: AJAX – Cross domain not allowed.**

AJAX XMLHttpRequest Methods

<code>new XMLHttpRequest()</code>	Creates a new XMLHttpRequest object
<code>abort()</code>	Cancels the current request
<code>getAllResponseHeaders()</code>	Returns header information
<code>getResponseHeader()</code>	Returns specific header information
<code>open(<i>method,url,async,user,psw</i>)</code>	<p>Specifies the request</p> <p><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</p>
<code>send()</code>	<p>Sends the request to the server</p> <p>Used for GET requests</p>
<code>send(<i>string</i>)</code>	<p>Sends the request to the server.</p> <p>Used for POST requests</p>
<code>setRequestHeader()</code>	Adds a label/value pair to the header to be sent

AJAX XMLHttpRequest Methods

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")

AJAX Request and Response

ajax_info.txt

<h1>AJAX</h1>

<p>AJAX is not a programming language.</p>

<p>AJAX is a technique for accessing web servers from a web page.</p>

<p>AJAX stands for Asynchronous JavaScript And XML.</p>

AJAX Request and Response

```
function loadDoc() {  
    var xhttp = new XMLHttpRequest();  
    xhttp.onreadystatechange = function() {  
        if (this.readyState == 4 && this.status == 200) {  
            document.getElementById("demo").innerHTML =  
                this.responseText;  
        }  
    };  
    xhttp.open("GET", "ajax_info.txt", true);  
    xhttp.send();  
}
```

Summary

- **AJAX**
 - **Asynchronous**
 - **Features of AJAX**
- **AJAX Working**
- **AJAX XMLHttpRequest**
- **AJAX Request**
- **AJAX Response**
- **Best Practices**

Unit – 1 – Syllabus

WEB SITE BASICS

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Web Essentials: Introduction to HTML, CSS, JavaScript - Data types, Arrays, Functions, Other built-in objects. DOM - Document tree traversal and manipulations, Event handling. Introduction to AJAX - Request, Response.

References

1. **Paul J Deitel, Harvey M Deitel, and Abbey Deitel, "Internet and the world wide web: How to program," Pearson, Fifth Edition, 2012.**

THANK YOU

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