

Introduction

- AJAX stands for Aynchronous JavaScript And XML.
- It is not a standalone language or technology.
- It is not a new programming language, but a new way to use existing standards.
- It is art of exchanging data with a server and updating parts of a web page without reloading the whole page.
- It is a client side technology.
- It is a technique for creating better, faster, and more interactive web applications with the help of XML, HTML, CSS and JavaScript.
- AJAX applications are browser independent.
- AJAX applications are platform independent.

Classic Web-Application Model Vs AJAX Web-Application Model

Classic Web-Application Model

- Conventional web application transmit information to and from the sever using synchronous requests.
- Example: - We fill a form, hit submit, and get directed to a new page with new information from the server.

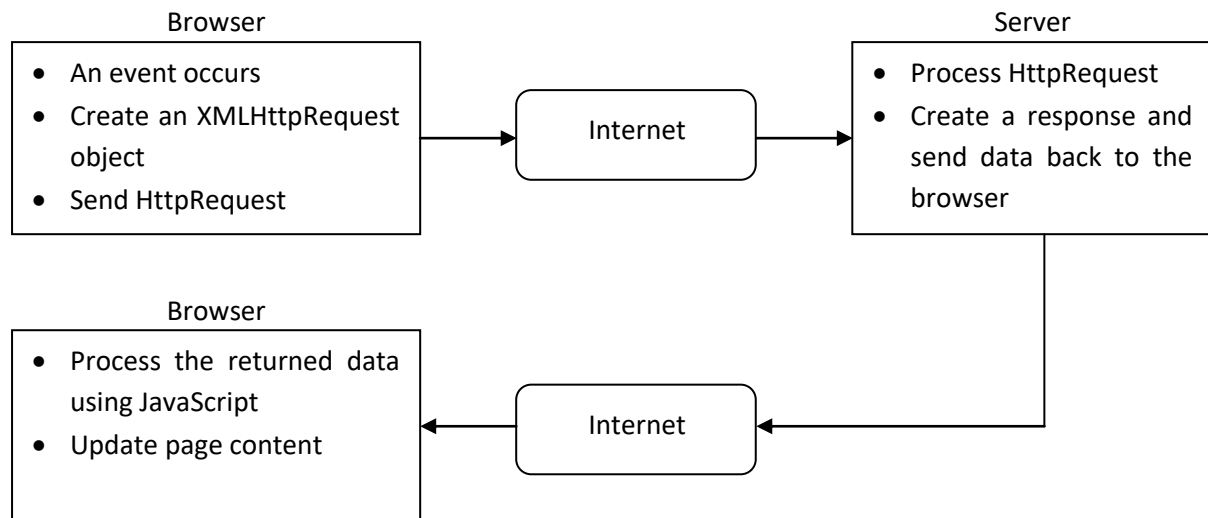
AJAX Web-Application Model

- AJAX web application transmit information to and from the sever using asynchronous requests.
- Example:- when submit is pressed, JavaScript will make a request to the server, interpret the results and update the current screen.

AJAX Examples

- **Google Maps:** Instead of clicking any button user can simply zoom in and zoom out a Google map using the mouse.
- **Yahoo Maps:** Instead of clicking any button user can simply zoom in and zoom out a yahoo map using the mouse.
- **Google Suggest:** When user starts typing Google will offer few suggestons which can be selected bu arrow keys or simply by mouse.
- **Gmail:** When a new mail comes instead of loading whole page some portion of the page is modified.
- **YouTube:** When a user visited a YouTube video and then click on another video (related video) then only the main video and related video changed, without reloading the web page (by changing URL).
- **Facebook:** When a user write a status or upload a photo/vedio, it will be drectly added to that page without reloading the web page.

How AJAX works?



AJAX Technologies

- AJAX is not a technology but group of inter-related technologies.
- AJAX technologies includes:
 - **HTML/XHTML and CSS**
 - These technologies are used for presentation.
 - It is mainly used for displaying content and style.
 - **DOM**
 - It is used for dynamic display and interaction with data.
 - **XML or JSON**
 - It is used for carrying data to and from server.
 - JSON (Javascript Object Notation) is like XML but short and faster than XML.
 - **XMLHttpRequest**
 - For asynchronous communication between client and server.
 - **JavaScript**
 - It is used to bring above technologies together.

Advantages of AJAX

- More responsive interface
- Fast Response time
- Increased performance and speed
- Reduced traffic between client and server
- Communicates over HTTP Protocol

Disadvantages of AJAX

- Increased Complexity.
- Increased cost and development time.
- AJAX-based applications are difficult to test.

- Less secure as JavaScript code is visible to user.
- JavaScript disabled web browsers cannot use AJAX-based applications.
- Due to security constraint information only from the single host (initial server) can be accessed.
- Brower “Back” function does not work as URL of pages doesn’t change.

Difference between AJAX and JavaScript

AJAX and JavaScript are related due to fact that AJAX is the methodology that is used by the JavaScript to get the data from the server. Although AJAX and JavaScript are interrelated but still there are few differences between AJAX and JavaScript.

AJAX	JavaScript
AJAX is a technology.	JavaScript is a programming language.
AJAX supports the server side scripting language.	JavaScript provides support to client side scripting language.
AJAX can load data after loading of web page for the first time.	JavaScript cannot load data once the web page is loaded.
AJAX cannot install Trojan (malicious programs) in the computer.	JavaScript can install Trojan (malicious programs) in the computer.

Example-1: Reading the content of a text file using AJAX.

Example1.html

```

<HTML>
<HEAD>
<SCRIPT>
function Display()
{
    var obj=new XMLHttpRequest();
    obj.onreadystatechange=function()
    {
        if((obj.readyState==4)&&(obj.status==200))
        {
            document.getElementById("one").innerHTML=obj.responseText;
        }
    }
    obj.open("GET","TextFile.txt",true);
    obj.send();
}
</SCRIPT>
</HEAD>
<BODY>
<DIV ID="one">I am Paragraph</DIV>
<INPUT TYPE="button" VALUE="Show Text" ONCLICK="Display()">
</BODY>
</HTML>

```

TextFile.txt

I am in Text File

Output-1:

- In this program we are reading the content of “TextFile.txt” file and displaying it on the web browser when “Show Text” button is clicked. For executing this program both the “Example.html” and “TextFile.txt” files must be in the same folder.

Questions asked in semester paper

Question-What is AJAX? Explain its advantage and its working? Explain with example?

[2017-2018]

Question-Write short notes on:

- (a) AJAX
- (b) EJB Architecture
- (c) AWT

[2016-2017]

Question-What is AJAX? Explain the application of AJAX with the help of suitable examples.

[2015-2016]

Question- What is AJAX? Explain the role of AJAX in the web site development.

[2014-2015]

Question-Write short notes on:

- (a) VB Script

(b) AJAX.

[2013-2014]

Question- Write a note on AJAX.

[2012-2013]

Question-Is AJAX same as JavaScript? How they are related? Justify.

[2012-2013]

Question-What do you mean by AJAX? Explain the application of AJAX with the help of suitable examples.

[2010-2011]

Web Technology

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