AJAX

asynchronous javascript and xml

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About the Tutorial

AJAX is a web development technique for creating interactive web applications. If you know JavaScript, HTML, CSS, and XML, then you need to spend just one hour to start with AJAX.

Audience

This tutorial will be useful for web developers who want to learn how to create interactive webpages as well as improve their speed and usability using AJAX.

Prerequisites

It is highly recommended that you are familiar with HTML and JavaScript before attempting this tutorial.

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1. AJAX – Overview

AJAX stands for **A**synchronous **Ja**vaScript and **X**ML. AJAX is a new technique for creating better, faster, and more interactive web applications with the help of XML, HTML, CSS, and Java Script.

- Ajax uses XHTML for content, CSS for presentation, along with Document Object Model and JavaScript for dynamic content display.
- Conventional web applications transmit information to and from the sever using synchronous requests. It means you fill out a form, hit submit, and get directed to a new page with new information from the server.
- With AJAX, when you hit submit, JavaScript will make a request to the server, interpret the results, and update the current screen. In the purest sense, the user would never know that anything was even transmitted to the server.
- XML is commonly used as the format for receiving server data, although any format, including plain text, can be used.
- AJAX is a web browser technology independent of web server software.
- A user can continue to use the application while the client program requests information from the server in the background.
- Intuitive and natural user interaction. Clicking is not required, mouse movement is a sufficient event trigger.
- Data-driven as opposed to page-driven.

Rich Internet Application Technology

AJAX is the most viable Rich Internet Application (RIA) technology so far. It is getting tremendous industry momentum and several tool kit and frameworks are emerging. But at the same time, AJAX has browser incompatibility and it is supported by JavaScript, which is hard to maintain and debug.

AJAX is Based on Open Standards

AJAX is based on the following open standards:

- Browser-based presentation using HTML and Cascading Style Sheets (CSS).
- Data is stored in XML format and fetched from the server.
- Behind-the-scenes data fetches using XMLHttpRequest objects in the browser.
- JavaScript to make everything happen.

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2. AJAX – Technologies

AJAX cannot work independently. It is used in combination with other technologies to create interactive webpages.

JavaScript

- Loosely typed scripting language.
- JavaScript function is called when an event occurs in a page.
- Glue for the whole AJAX operation.

DOM

- API for accessing and manipulating structured documents.
- Represents the structure of XML and HTML documents.

CSS

- Allows for a clear separation of the presentation style from the content and may be changed programmatically by JavaScript.

XMLHttpRequest

- JavaScript object that performs asynchronous interaction with the server.

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