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<div align="center">AJAX, JSON, and XML</div>

AJAX is short for Asynchronous JavaScript and XML. It is not a programming language; rather, it is a way to access web servers from a web page. AJAX receives data from a web server using the XMLHttpRequest object and displays or uses the data with JavaScript and HTML DOM. AJAX can send and receive this data in various formats, including JSON, XML, HTML, and text files. W3Schools calls AJAX a "developer's dream." It can update a web page without reloading the page, request and/or receive data from a server after the page has loaded, and send data to a server in the background.

JSON stands for JavaScript Object Notion. It is a lightweight format for storing and transporting data, often used when data is sent from a server to a web page. JSON format follows the same syntax that is used for object creation in JavaScript, allowing for simple conversion from JSON data into JavaScript objects. This does not limit JSON to being used with JavaScript; JSON data can be read and generated with any programming language. JSON data is written as name/value pairs; for example, "zipCode":"15317" would have a field name of zipCode and the value is 15317. Objects are contained in curly braces and may have many name/value pairs. Arrays are contained inside square brackets. The built-in JavaScript function JSON.parse() converts the JSON data string into a JavaScript object.

XML stands for eXtensible Markup Language. It is a tool used for storing and transporting data that does not depend on software or hardware. XML does not perform any

actions; it does not send, receive, or interpret information. XML is simply information wrapped in tags; another piece of software must be created/used to send, receive, store, or display XML. Unlike HTML, XML tags are not predefined, and the author of the XML document creates the tags used inside. XML simplifies data sharing, transport, platform changes, and data availability. When computers need to exchange data in incompatible formats, XML can be used to transfer this data in plain text format instead.

References

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