

# What is AJAX?

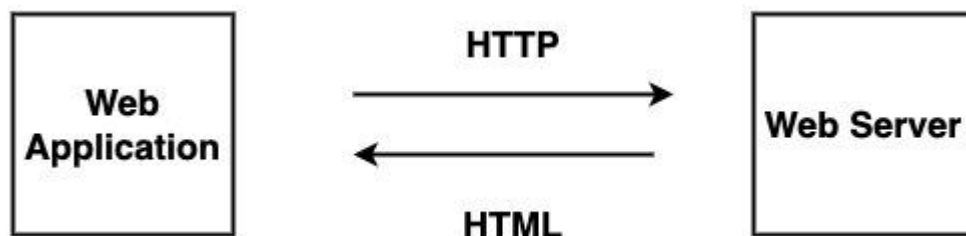
AJAX stands for asynchronous Javascript and XML. AJAX is not a programming language or technology, but it is a combination of multiple web-related technologies like HTML, XHTML, CSS, JavaScript, DOM, XML, XSLT and XMLHttpRequest object. The AJAX model allows web developers to create web applications that are able to dynamically interact with the user. It will also be able to quickly make a background call to web servers to retrieve the required application data. Then update the small portion of the web page without refreshing the whole web page.

AJAX applications are much more faster and responsive as compared to traditional web applications. It creates a great balance between the client and the server by allowing them to communicate in the background while the user is working in the foreground.

In the AJAX applications, the exchange of data between a web browser and the server is asynchronous means AJAX applications submit requests to the web server without pausing the execution of the application and can also process the requested data whenever it is returned. For example, Facebook uses the AJAX model so whenever we like any post the count of the like button increase instead of refreshing the whole page.

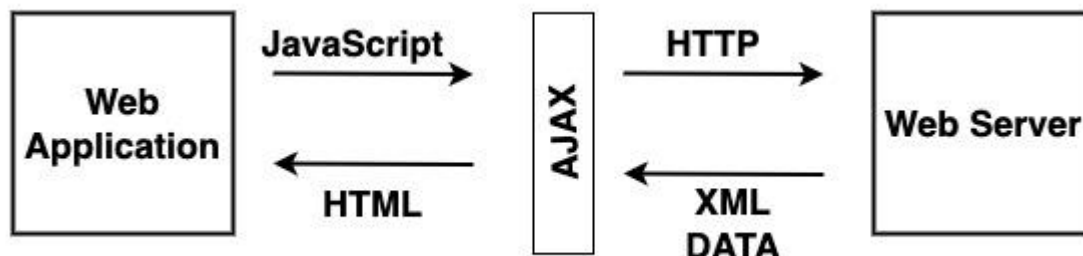
## Working of AJAX

Traditional web applications are created by adding loosely web pages through links in a predefined order. Where the user can move from one page to another page to interact with the different portions of the applications. Also, HTTP requests are used to submit the web server in response to the user action. After receiving the request the web server fulfills the request by returning a new webpage which, then displays on the web browser. This process includes lots of pages refreshing and waiting.



AJAX change this whole working model by sharing the minimum amount of data between the web browser and server asynchronously. It speedup up the working of the web applications. It provides a desktop-like feel by passing the data on the web pages or by allowing the data to be displayed inside the existing web application. It will replace loosely integrated web pages with tightly integrated web pages. AJAX application uses the resources very well. It creates an additional layer known as AJAX engine in between the

web application and web server due to which we can make background server calls using JavaScript and retrieve the required data, can update the requested portion of a web page without causing full reload of the page. It reduces the page refresh timing and provides a fast and responsive experience to the user. Asynchronous processes reduce the workload of the web server by dividing the work with the client computer. Due to the reduced workload web servers become more responsive and fast.



## AJAX Technologies

The technologies that are used by AJAX are already implemented in all the Modern browsers. So the client does not require any extra module to run the AJAX application. The technologies used by AJAX are –

- **Javascript** – It is an important part of AJAX. It allows you to create client-side functionality. Or we can say that it is used to create AJAX applications.
- **XML** – It is used to exchange data between web server and client.
- **The XMLHttpRequest** – It is used to perform asynchronous data exchange between a web browser and a web server.
- **HTML and CSS** – It is used to provide markup and style to the webpage text.
- **DOM** – It is used to interact with and alter the webpage layout and content dynamically.

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## Advantages of AJAX

The following are the advantages of AJAX –

- It creates responsive and interactive web applications.

- It supports the development of patterns and frameworks that decrease the development time.
- It makes the best use of existing technology and feature instead of using some new technology.
- It makes an asynchronous call to the web server which means the client doesn't have to wait for the data to arrive before starting rendering.

## Disadvantages of AJAX

The following are the disadvantages of AJAX –

- AJAX is fully dependent on Javascript. So if anything happens with javascript in the browser AJAX will not support.
- The debugging of AJAX applications is difficult.
- Bookmarking of AJAX-enabled pages required pre-planning.
- If one request can fail then it can fail the load of the whole webpage.
- If JavaScript is disabled in your web browser then you are not able to run the AJAX webpage.

## Conclusion

So to create dynamic web pages or applications AJAX is the best choice. It is faster and more responsive and provides asynchronous interaction between the client and server without refreshing the whole page. Now in the next article, we will see the history of AJAX.