Asynchronous JavaScript and XML, sometimes known as Ajax, is a collection of web development methods that uses a variety of client-side web technologies to construct asynchronous online applications. Ajax allows web applications to transmit and receive data asynchronously (in the background) from a server without changing how the page looks or behaves. Ajax enables web pages and, by extension, web applications to change content dynamically without having to reload the entire page by detaching the data exchange layer from the presentation layer. Modern implementations frequently use JSON rather than XML in the real world.

A set of web development methods called Ajax uses several client-side web technologies to build asynchronous web applications. Ajax enables web applications to send and receive data asynchronously from a server without changing how a page looks or functions.

By secretly sharing small quantities of data with the server, AJAX enables web pages to be updated asynchronously. This indicates that a web page can be updated in sections without requiring a page reload. If the content of a traditional web page changes (one that does not use AJAX), the complete page must be reloaded.

Ajax is a programming concept rather than a piece of hardware. To mark up and style information, HTML and CSS can be combined. JavaScript can alter the website such that the new content is dynamically displayed and the user can engage with it. Websites can load content onto the screen without refreshing by using the built-in XMLHttpRequest object to run Ajax on the page. Both Ajax and the language it is written in are not new concepts. Instead, it is the utilisation of current technologies in novel ways.

Let's first define what asynchronous means in real terms. Asynchronous and synchronous requests are the two different types of requests. Synchronous requests are those that are made sequentially; for example, if one process is running and another wants to start at the same time, it won't be possible, therefore only one process will be run at a time. This is bad because the CPU spends the majority of this type of process doing nothing, such as during I/O operations, which are an order of magnitude slower than the CPU processing instructions. Use asynchronous calls in order to fully utilise the CPU and other resources.