

What is “Ajax”?

Asynchronous JavaScript And XML



Mostly a “historic term” that represents a general idea: **Sending Http requests via JavaScript**

Two Built-in Browser-side JavaScript Features

XMLHttpRequest

fetch()

Why?

Sending Http requests **without** Ajax

Enter a URL
(sends a GET request to URL)

Click a link
(sends a GET request to URL)

Submit a form
(sends a GET or POST request to URL)

Absolutely fine but always leads to a new page being loaded

Sending Http requests **with** Ajax

Send a Http request via browser-side JavaScript

Handle response in same script code

You have full control over the browser behavior and can prevent loading a new page

XMLHttpRequest

XMLHttpRequest


An object built-into browser-side JavaScript that contains utility methods for sending Http requests via JavaScript



Originally developed to send XML data



A bit clunky to use



Typically used indirectly via third-party libraries (e.g. "axios")

Extensible Markup Language (XML)

```
<post-comment>  
  <title>This was great!</title>  
  <comment-text>Thanks a lot - this was really helpful!</comment-text>  
</post-comment>
```

XML is a data format for formatting / structuring text data in a machine-readable way

Looks like HTML – because HTML is based on XML



HTML is standardized, XML is not

Use JSON Instead Of XML

Nowadays, XML isn't really used anymore for transmitting data – it's too verbose



Instead, JSON (JavaScript Object Notation) is used

```
{  
  "title": "This was great!",  
  "commentText": "Thanks a lot - this was really helpful!"  
}
```

Like JavaScript objects, but all **keys (property names)** are **between double quotes**, all text values are between double quotes. Other value types like numbers, booleans or nested arrays and objects are also supported.

fetch() – A Modern Alternative To XMLHttpRequest

fetch()

An object built-into browser-side JavaScript that contains utility methods for sending Http requests via JavaScript

Uses modern JS features like Promises

Relatively straightforward to use

Alternative to XMLHttpRequest and libraries like “axios”

More HTTP Methods!

Default browser
Http methods

GET

Fetch some
data

Enter a URL
method='GET'

Click a link

Form with
method="GET"

POST

Request Body

Store some
data

method='POST'

Form with
method="POST"

PUT

Request Body

Replace /
update some
data

method: 'PUT'

PATCH

Request Body

Update some
data

method:
'PATCH'

DELETE

Delete some
data

method:
'DELETE'

Available via Ajax / JS-driven Http requests