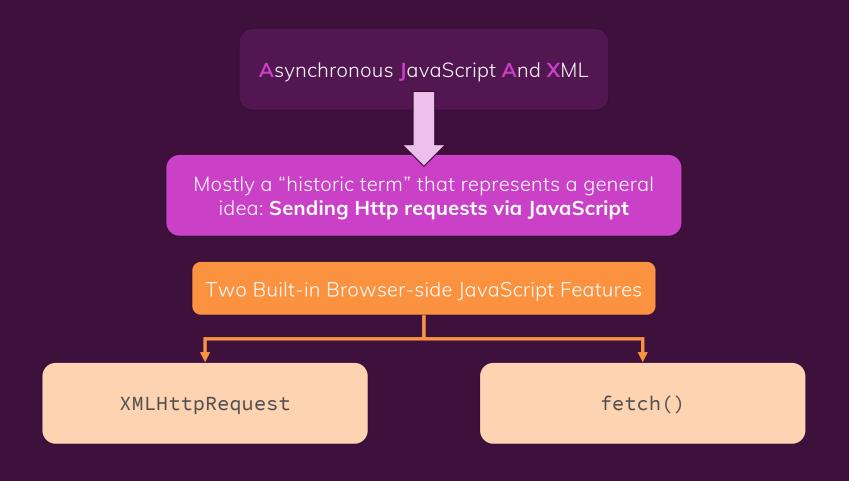


# What is "Ajax"?





#### 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 us $\epsilon$ 

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

Available via Ajax / JS-driven Http requests

**GET** 

**POST**Request Body

Request Body

**PATCH** Request Body DELETE

Fetch some data

Store some data

Replace / update some data

Update some data

Delete some data

Enter a URL method='GET'

method='POST'

method: 'PUT'

method: 'PATCH'

method: 'DELETE'

Click a link

Form with method="GET"

Form with method="POST"