



Controlling Devices Over the Internet > Introduction to Javascript

Ajax in Javascript

In the last chapters, we learned about the `setTimeout` and the `setInterval` functions, and how you can use these functions to do certain actions in a periodic manner, or after a certain time interval.

In this chapter, we will learn about AJAX, which helps us make calls to web APIs.

Well to learn what AJAX is, you need to know what web APIs are.

A web API as the name suggests is an API (short for application program interface) over the web which can be accessed using HTTP protocol.

A web API is a method that an online program uses to allows other to talk to it.

When you type in the link to a website, in the browsers and press enter, the browser using the link to make a call to the web API made available by the website. The website then responds to the API call, with an HTML page, which the browsers parses and displays on the browser.

Based on this description, you might think that web APIs are only used to make websites. But that wouldn't be right. Certain web APIs respond to the calls HTML pages that the calling program can display, other web APIs however, respond with strings, codes, numbers etc. They even tell the web server (a program which makes its web API available), that certain actions have to be done. Interesting isn't it?

So the question now comes to, why do we need to learn AJAX?

Well, while calling most web APIs will give you a response quickly, there are certain web API which takes a bit of time, before you get a response from them. If you make calls to these web API, your web program may hang while it waits for the web server to respond.

This is why we use AJAX, which is short for Asynchronous Javascript and XML.

Lets now learn how to make web API calls using AJAX.

To do an AJAX call to a web API, we first need a web API that the. We have you covered on that. For the web API we will be using the web API by reqres.in. You can check out their website by clicking [`here`](https://reqres.in/)

Create a new document with the name `ajax_test.html`, using a text editor, and write the following code into it.



BOLT

```
<!DOCTYPE html>
<html>
  <body>
    <div>
      User Number<input id='user_num' type='number'></input>
      <div id='user_data'>This is where the user data will be
displayed</div>
      <button type="button" onclick="loadUserData()">Update
Content</button>
    </div>
    <script>
      function loadUserData() {
        var xhttp = new XMLHttpRequest();
        xhttp.onreadystatechange = function() {
          if (this.readyState == 4 && this.status == 200) {
            user_data.innerHTML = this.responseText;
          }
        };
        var user_number=user_num.value;
        xhttp.open("GET",
"https://regres.in/api/users/"+user_number, true);
        xhttp.send();
      }
    </script>
  </body>
</html>
```

Open the HTML file in a browser, enter a number in the User Number field, and click on 'Update content' button.



What this code basically does, is it reads the number you entered into the input box, append the number after the API link 'https://reqres.in/api/users/', call the API and update the content within the web page.

You can try running these links inside the browser directly. They will display data similar to what the page displays.