




Javascript: Background & Tools

JS 

Introduction 



JavaScript

PLAY VIDEO

Place javascript in its proper context, and explore its relationship to the browser.

Background & Tools

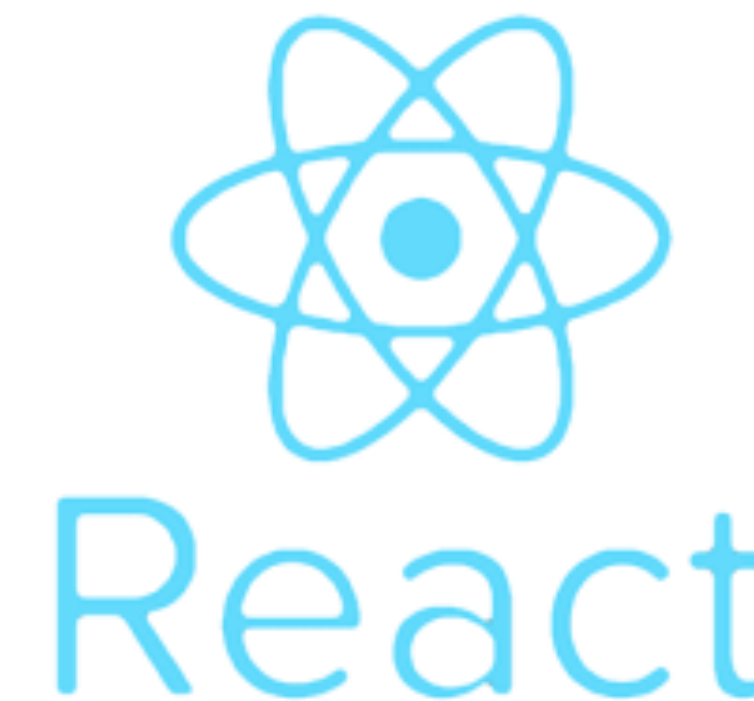
- Define what JavaScript is, where it can be used, and how it came to be
- Describe the evolution of JavaScript and how it has changed rapidly
- Show messages using alert and console.log
- Include a script in an HTML file

What is Javascript?

- A programming language that can be used in many contexts:
 - Front End
 - Back End
 - Desktop
 - IoT

What is Javascript? - Front End

- A programming language that is essential for web development.
- For a web page you interact with, JavaScript provides the action on the page:
 - Change the status of a button when it is clicked on
 - Create a chat window at the bottom of your screen
 - Create a web-based game

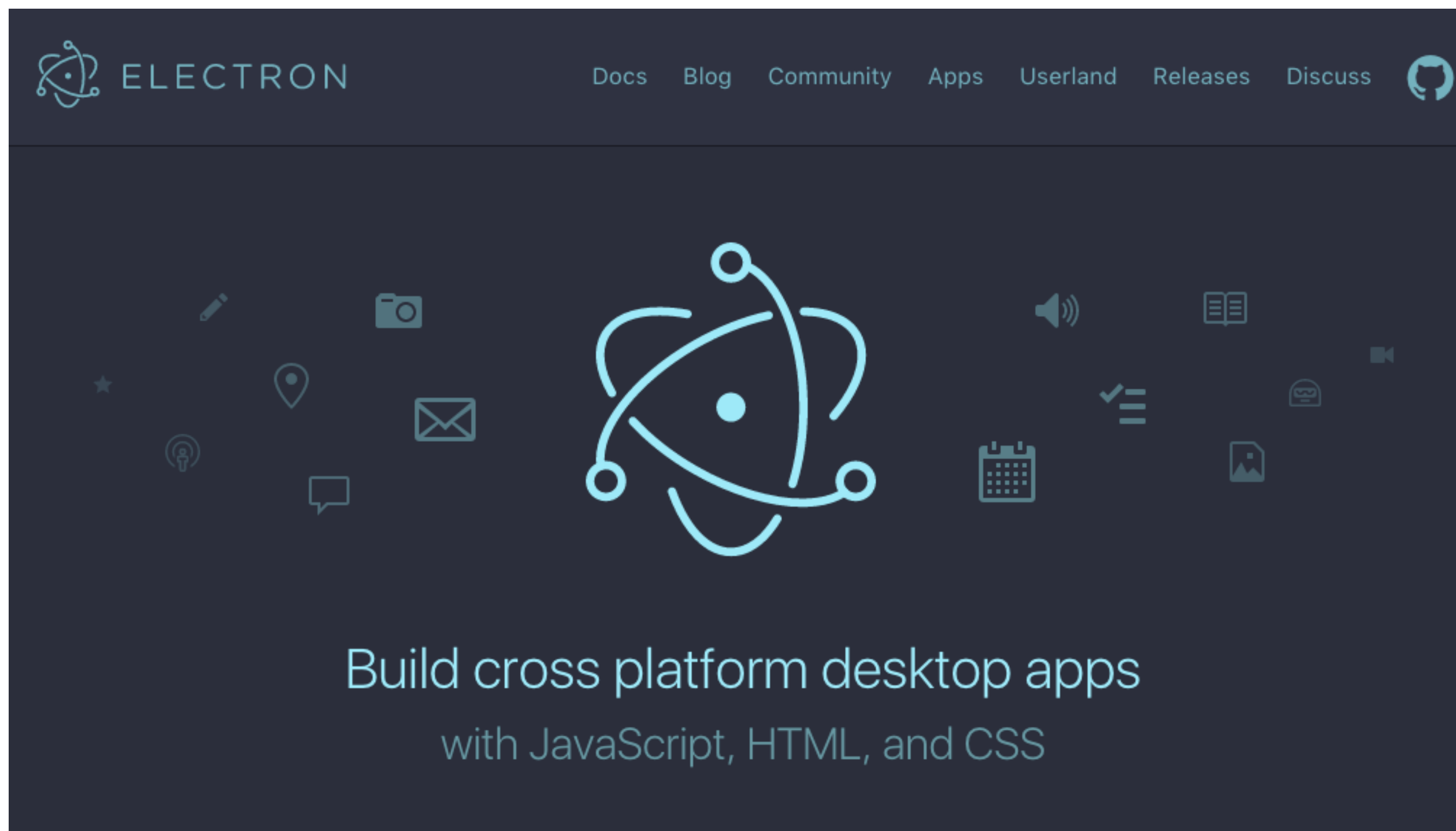


What is Javascript? - Back End

- Javascript can also be used independently of the browser.
- Using a javascript library called *node.js*, it can be used to develop web applications - the so called 'back end':
- These applications enable users to:
 - sign up / log in
 - support forms
 - send/retrieve information to/from databases
 - communicate with other applications



What is Javascript? - Desktop



- Standalone Applications that run on a workstation.
- Typically provide Graphic User Interface capabilities
- Project Electron: a framework for building desktop apps

What is Javascript? - IoT

- Run on embedded devices, communicate with sensors, robotics, monitor environment....



The image is a screenshot of the CYLON.JS website banner. It has a dark red background. At the top left is the CYLON.JS logo, which consists of a stylized robot head icon and the text 'CYLON.JS'. To the right of the logo are navigation links: 'Docs', 'Platforms', 'Resources', 'Blog', and 'Github'. The main heading is 'JavaScript Robotics, By Your Command' in large white font. Below it is the sub-heading 'Next generation robotics framework with support for 43 different platforms'. A red button with white text says 'Get Started'. At the bottom left, there are social media icons and counts: 'Star 2,764', 'Fork 233', 'Tweet', and 'Follow @cylonjs'. On the right side of the banner is a large illustration of a white robot head with a red sensor on its forehead, saluting with its right hand.

Javascript Origins

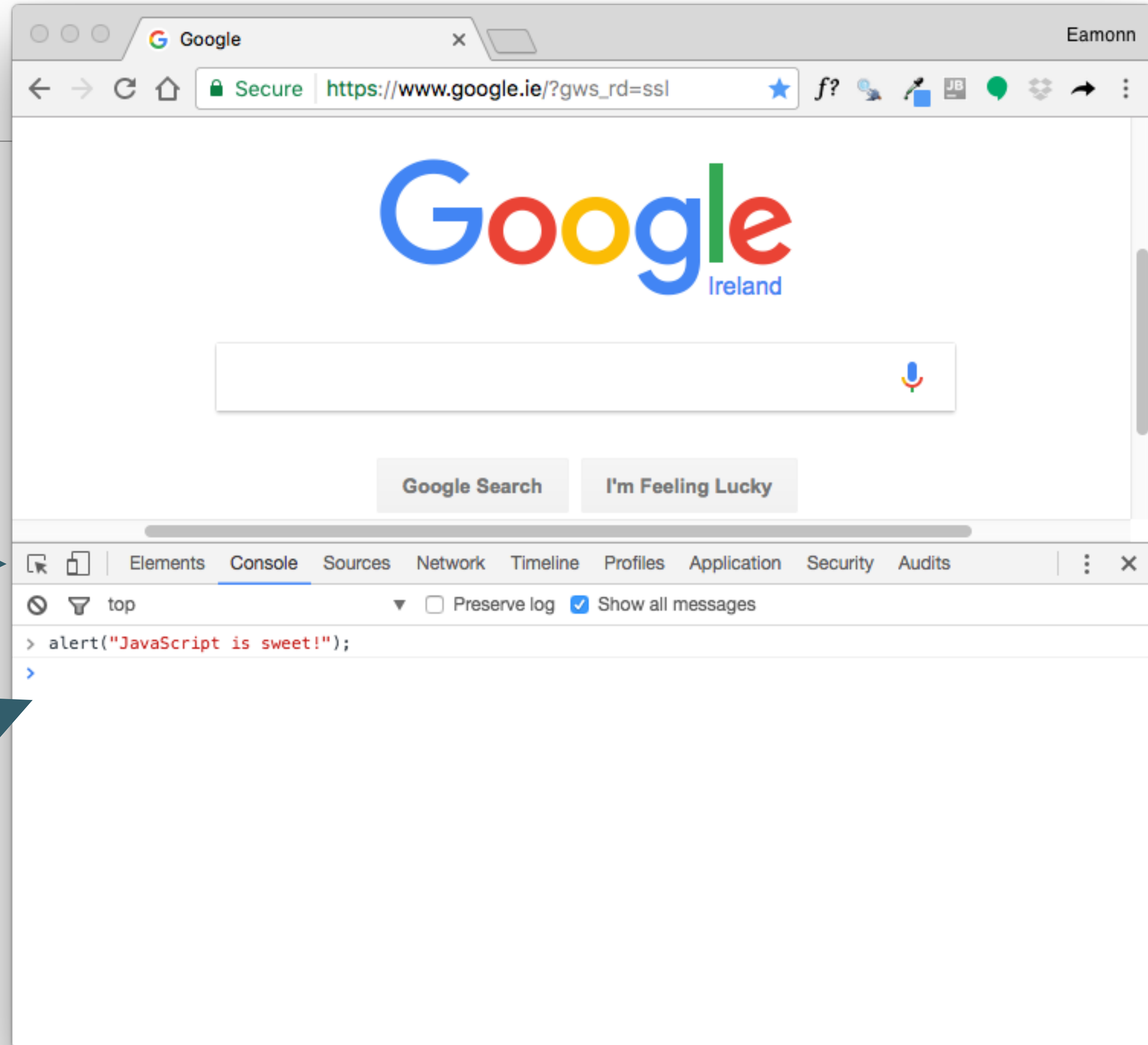
“JavaScript, not to be confused with Java, was created in 10 days in May 1995 by Brendan Eich, then working at Netscape and now of Mozilla. JavaScript was not always known as JavaScript: the original name was Mocha, a name chosen by Marc Andreessen, founder of Netscape. In September of 1995 the name was changed to LiveScript, then in December of the same year, upon receiving a trademark license from Sun, the name JavaScript was adopted. This was somewhat of a marketing move at the time, with Java being very popular around then.”

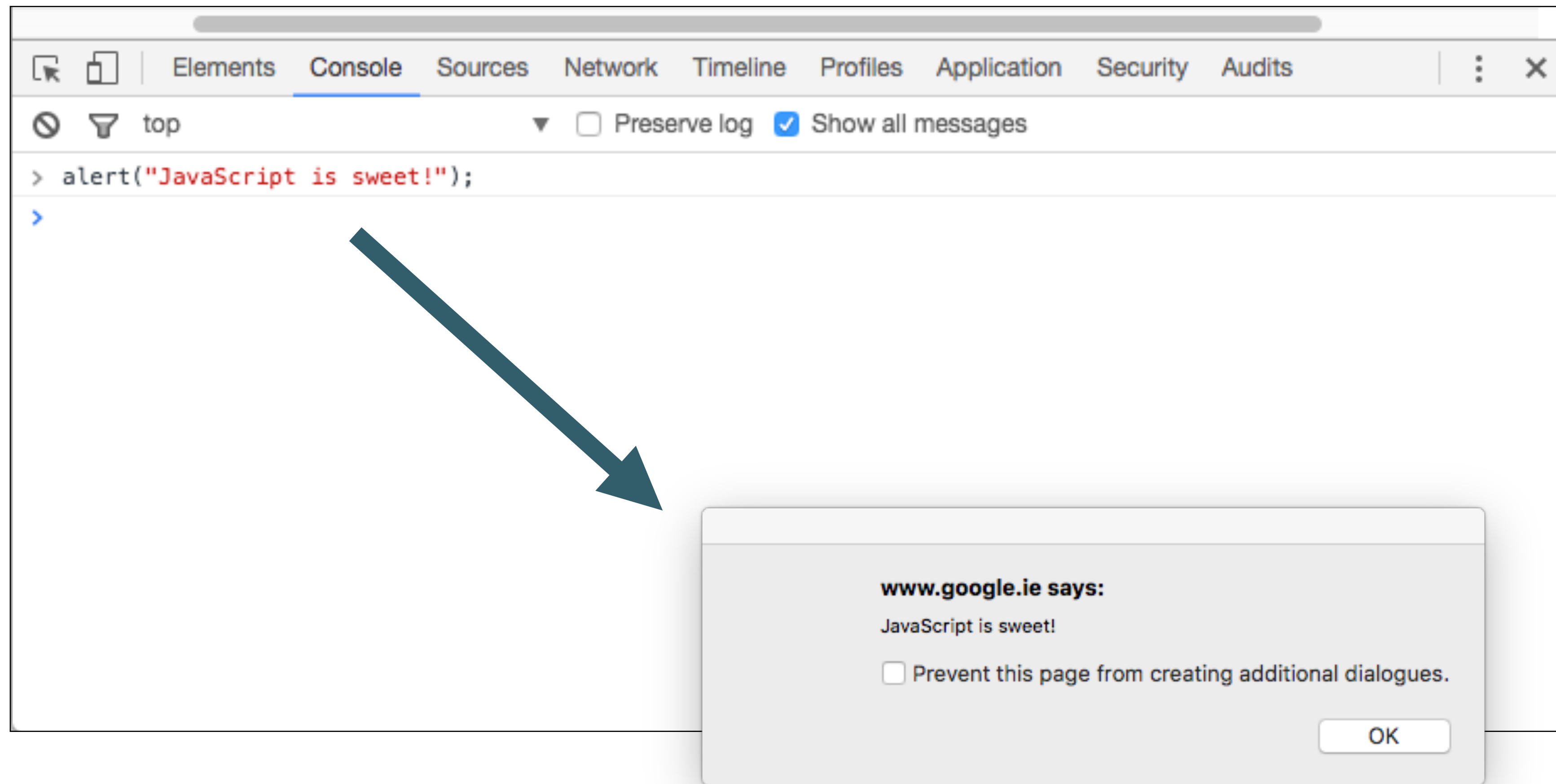


Javascript in a Browser

- Javascript console

- Javascript program Fragment



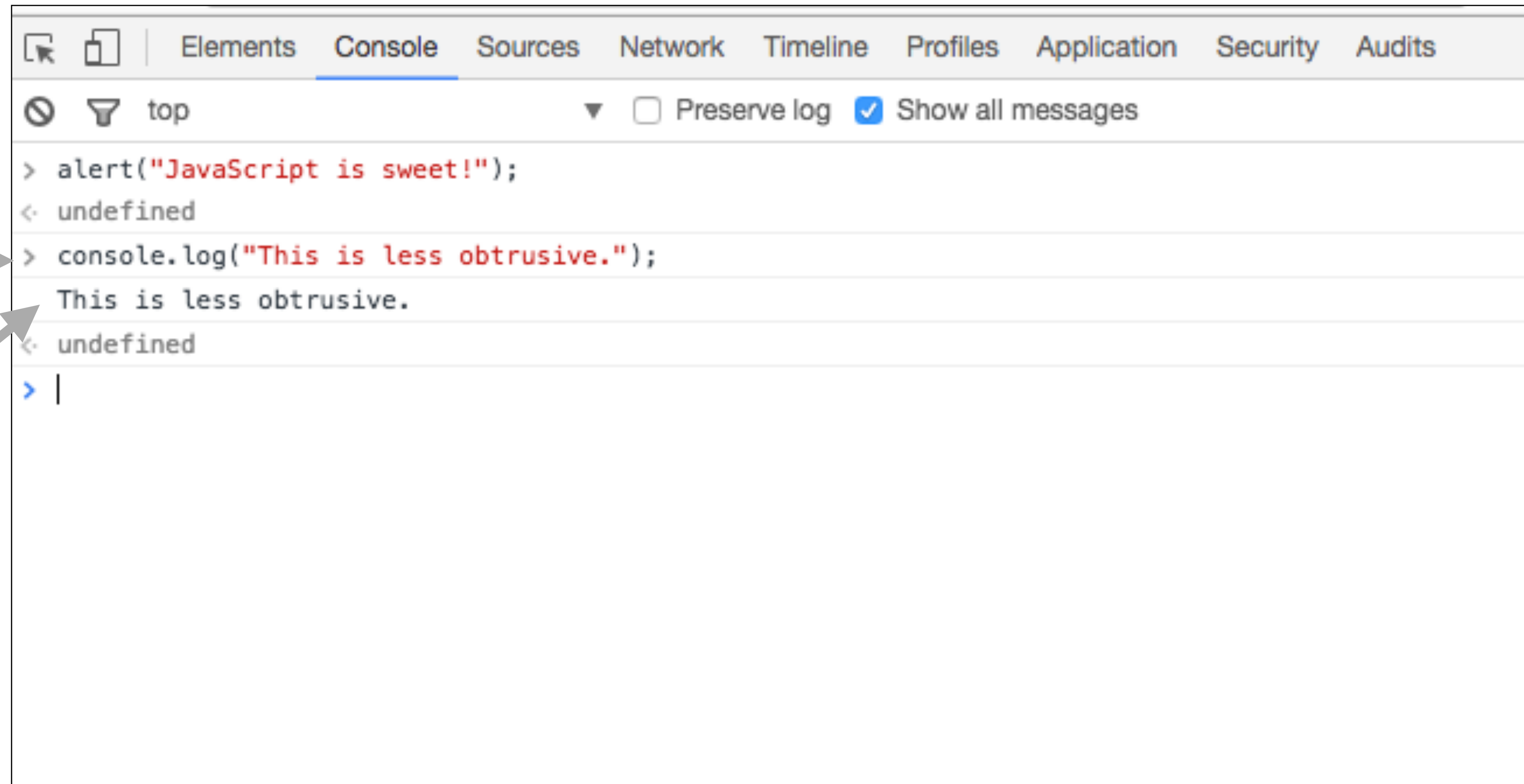


- alert causes dialog window to appear...

console.log

javascript
fragment

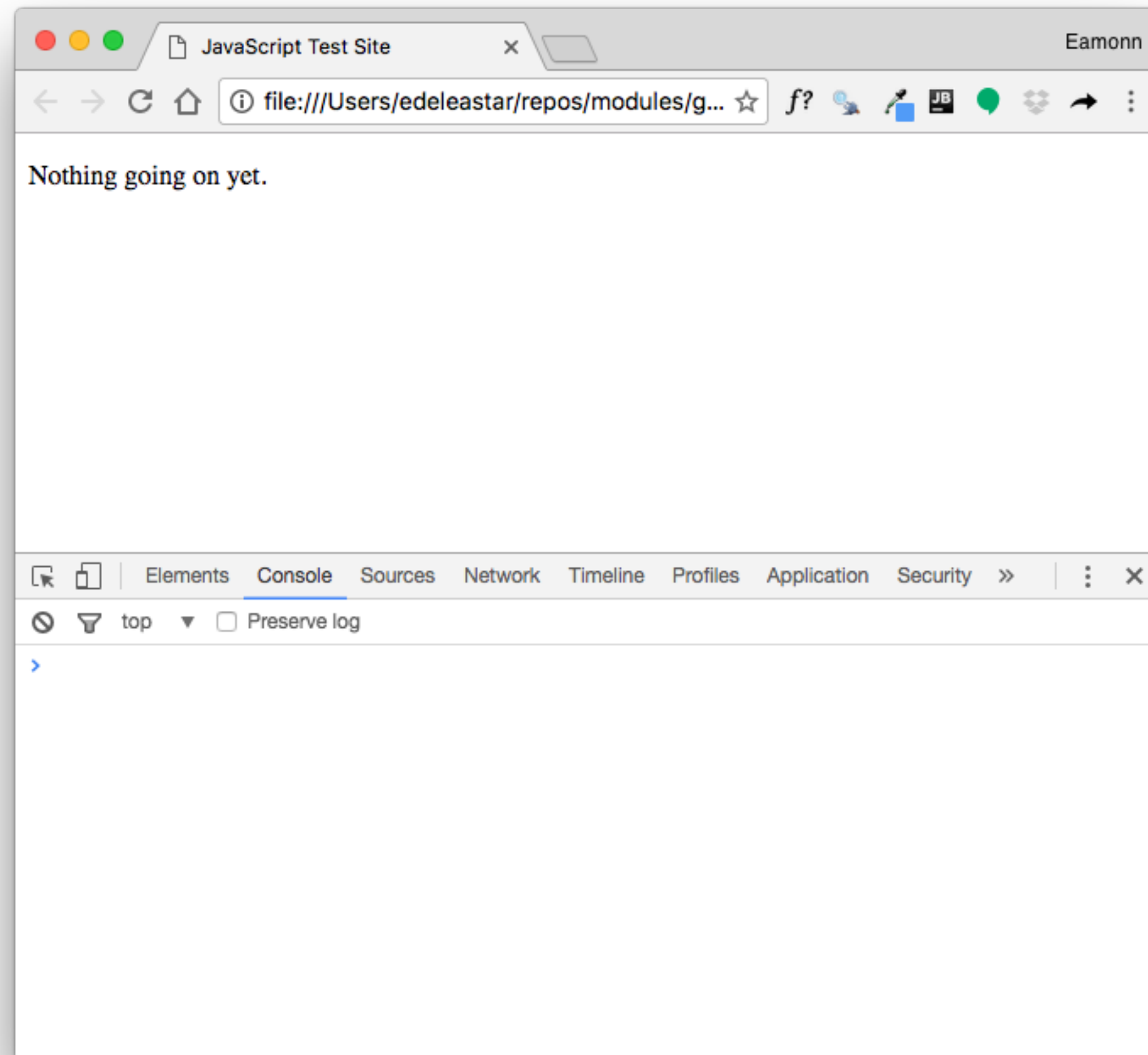
output of
console.log
function



```
Elements Console Sources Network Timeline Profiles Application Security Audits
top [ ] Preserve log [x] Show all messages
> alert("JavaScript is sweet!");
< undefined
> console.log("This is less obtrusive.");
This is less obtrusive.
< undefined
> |
```

Running Javascript from a Web Page

inded.html



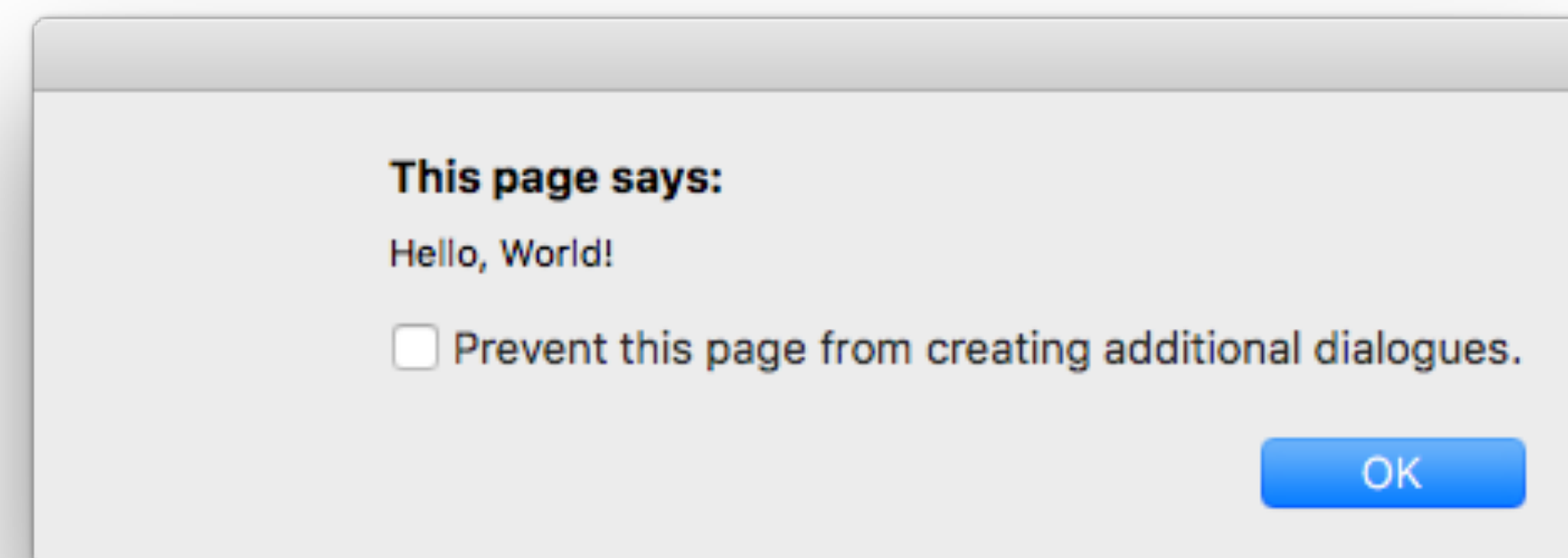
```
<!DOCTYPE html>
<html>
  <head>
    <title>JavaScript Test Site</title>
    <script>

      alert("Hello, World!");

    </script>
  </head>
  <body>

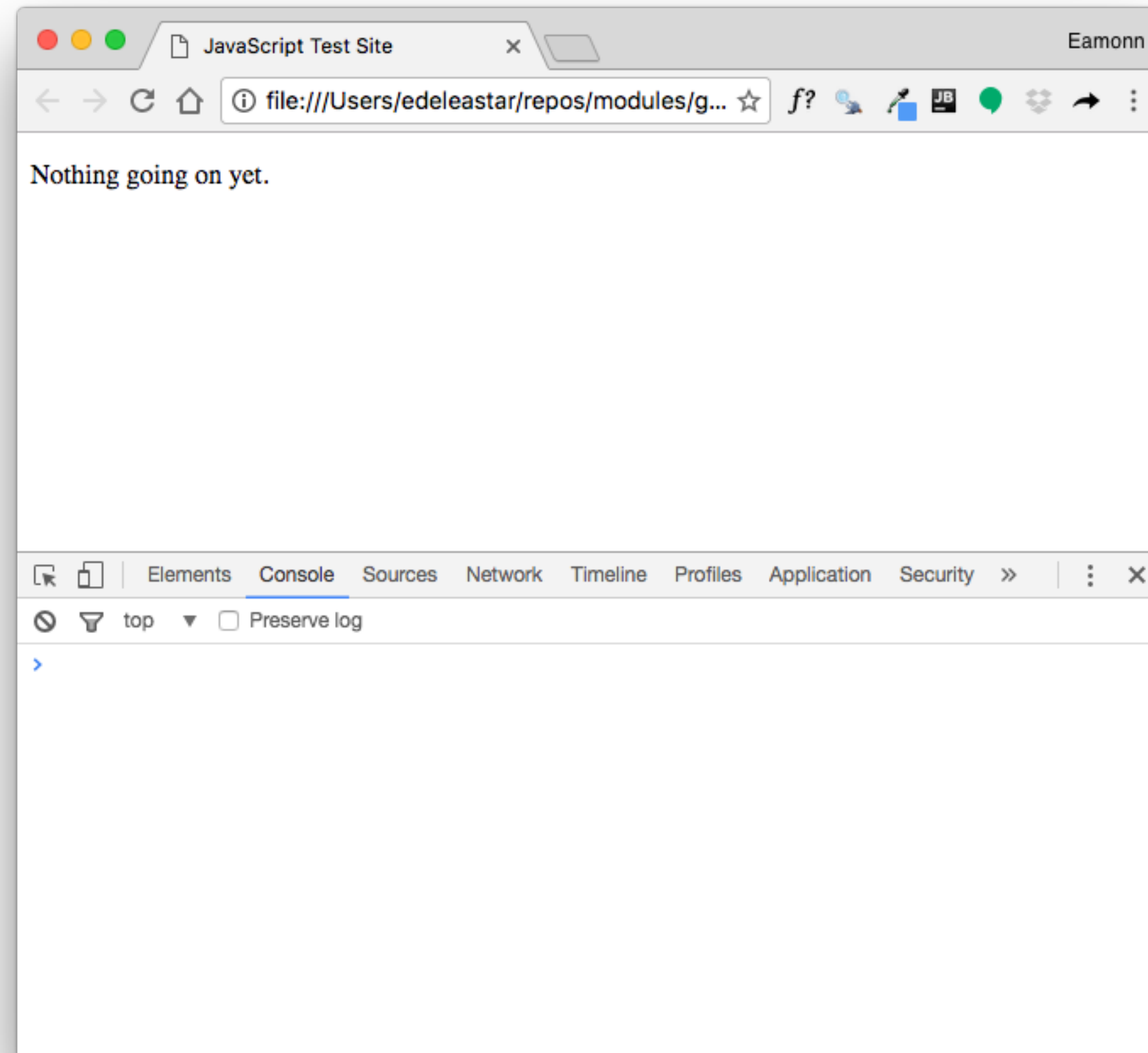
    <p>Nothing going on yet.</p>

  </body>
</html>
```



External Javascript File

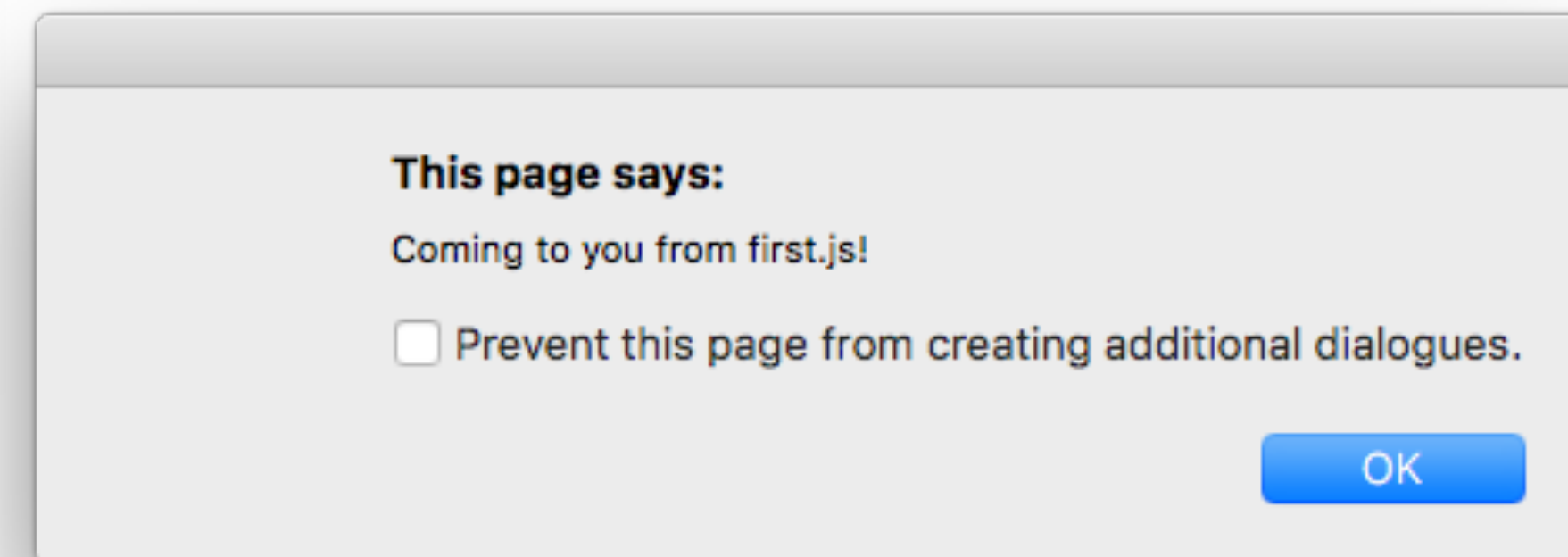
inded.html

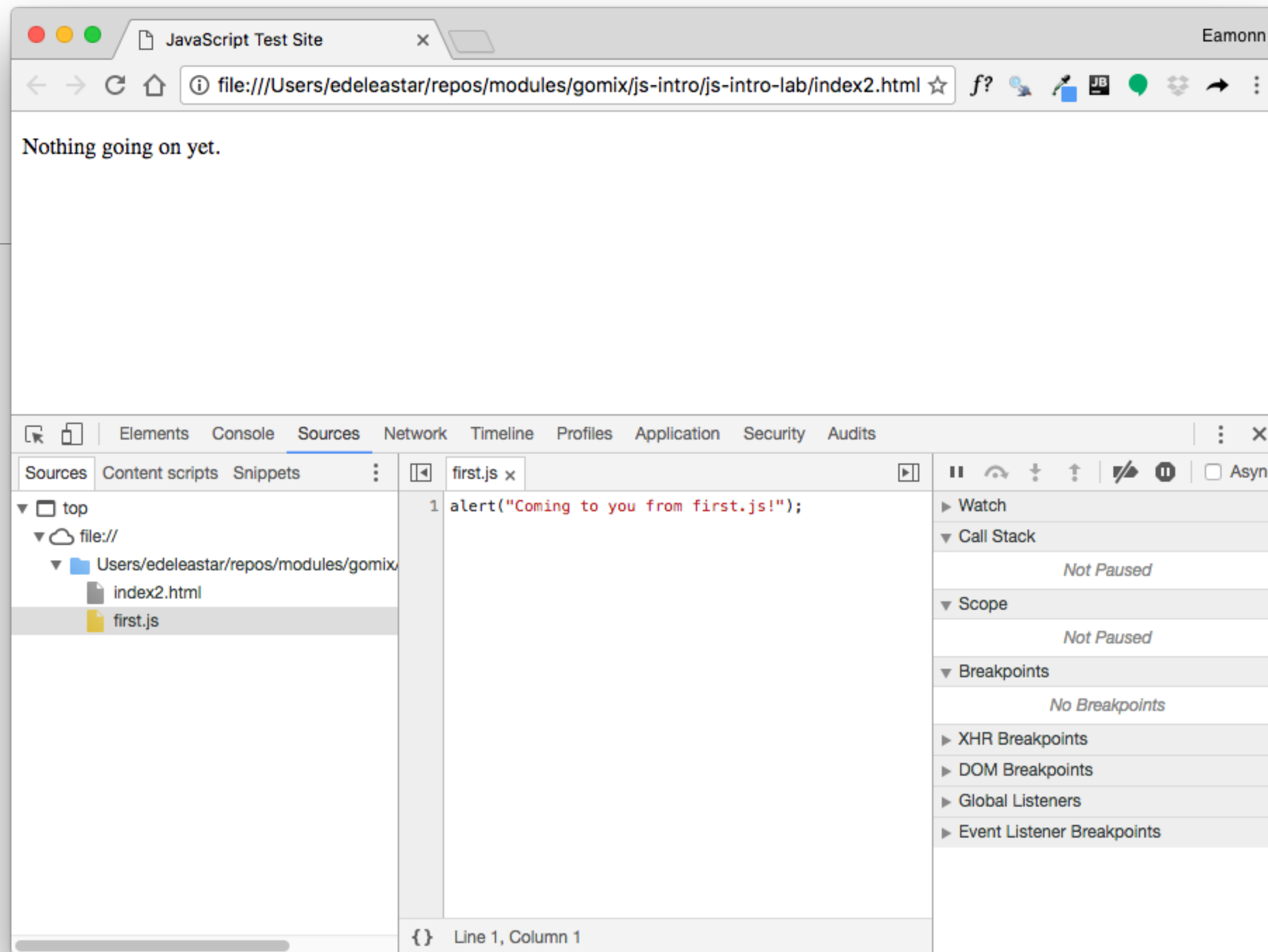


```
<!DOCTYPE html>
<html>
  <head>
    <title>JavaScript Test Site</title>
    <script src="first.js"></script>
  </head>
  <body>
    <p>Nothing going on yet.</p>
  </body>
</html>
```

first.js

```
alert("Coming to you from first.js!");
```





- Chrome tools enable external scripts to be examined in detail, stopped, started and inspected