Javascript: Background & Tools

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

Variables

- Initialize and assign variables in JavaScript

- Store variables using the prompt function

- Write comments in your JavaScript code

- List all of the data types in JavaScript

- Compare and contrast primitive data types with objects

Boolean Logic

- Write conditional logic using boolean operators

- List all of the falsey values in JavaScript

- Use if/else and switch statements to include conditional logic in your JavaScript code

- Explain the difference between == and === in JavaScript

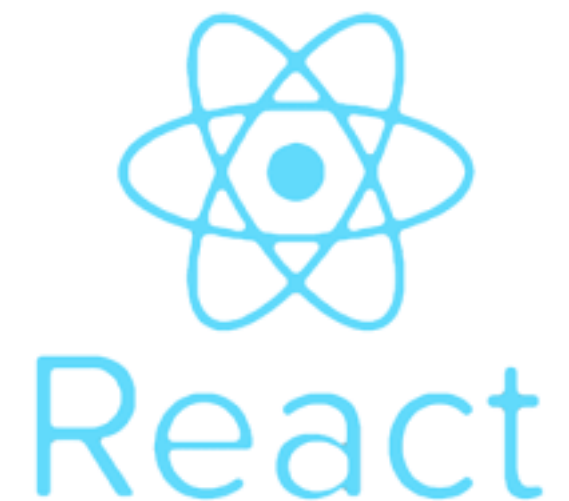- Convert between data types explicitly in JavaScript

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
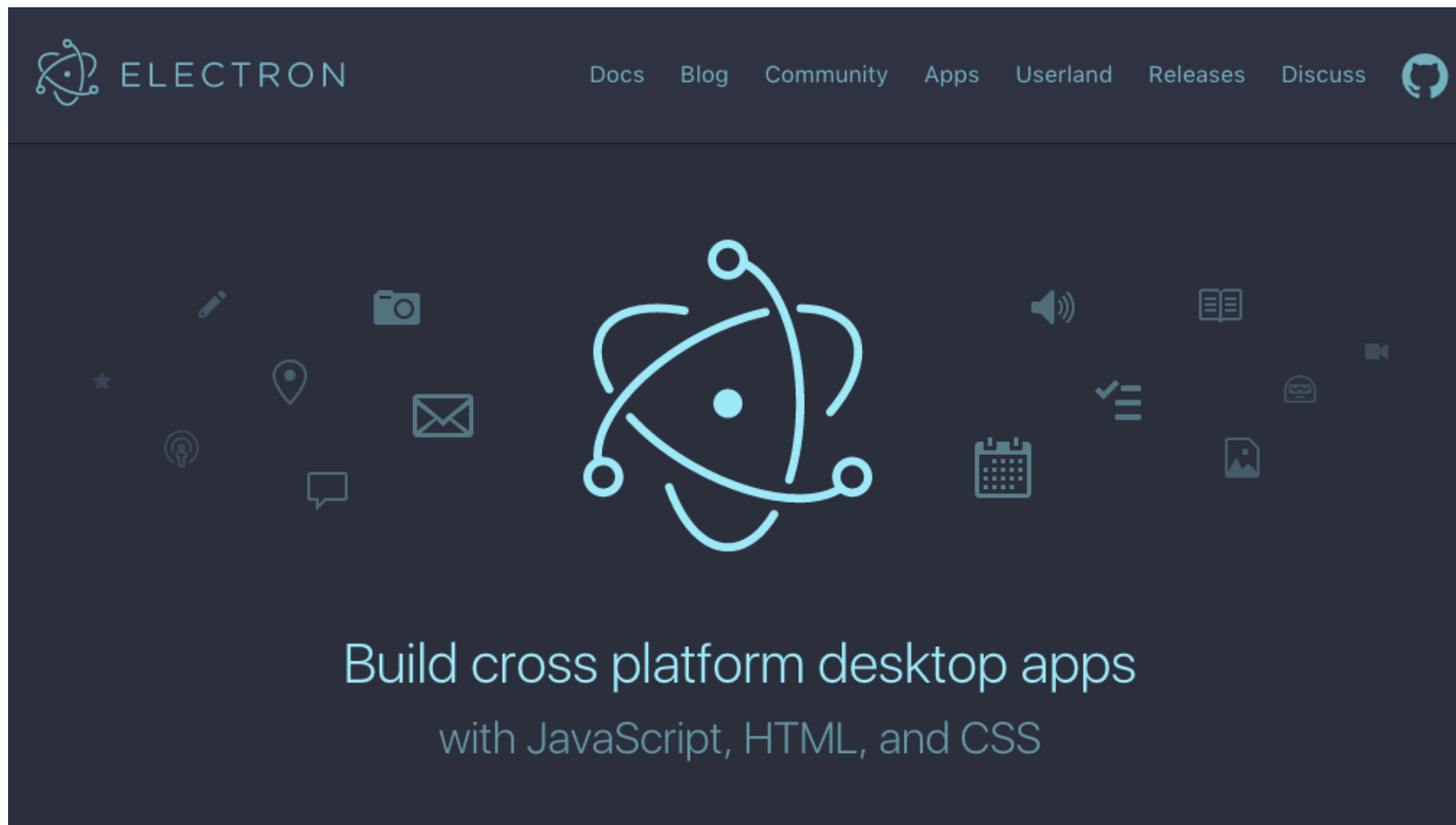
What is Javascript? - Back End

- 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
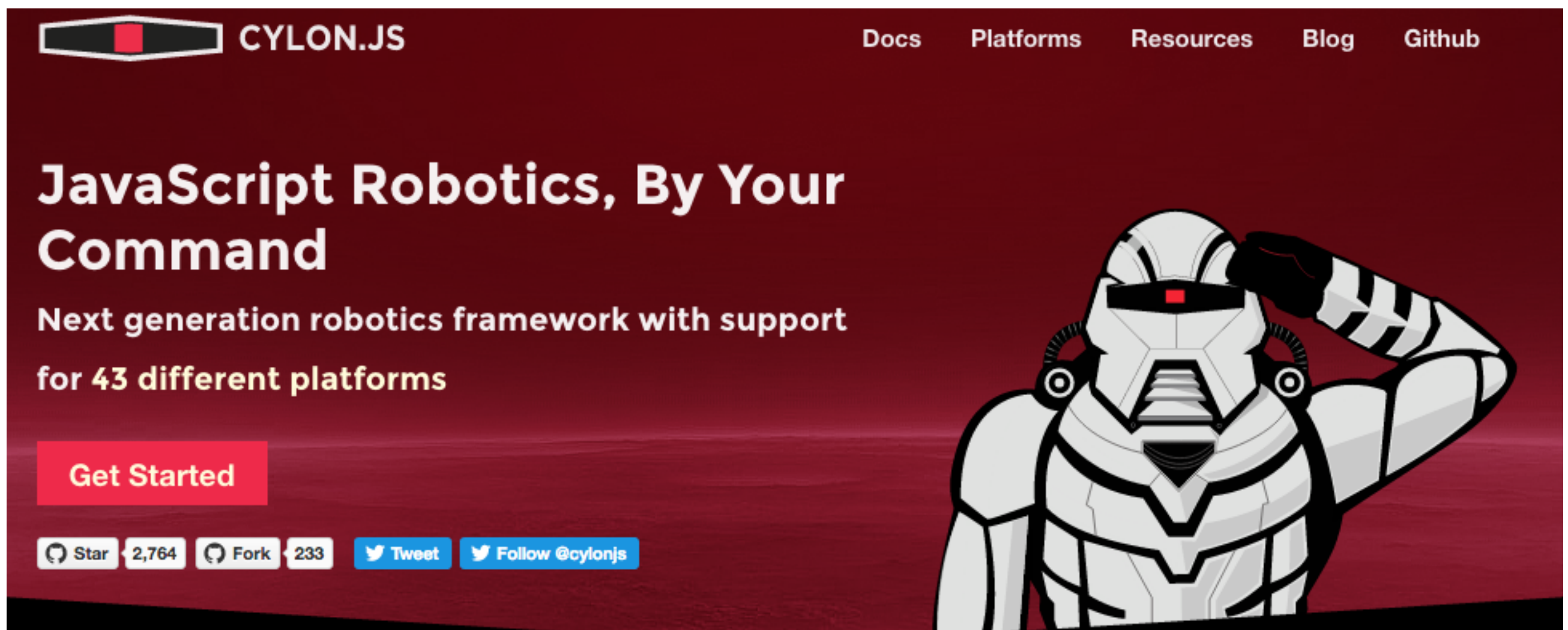
What is Javascript? - Desktop

- 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

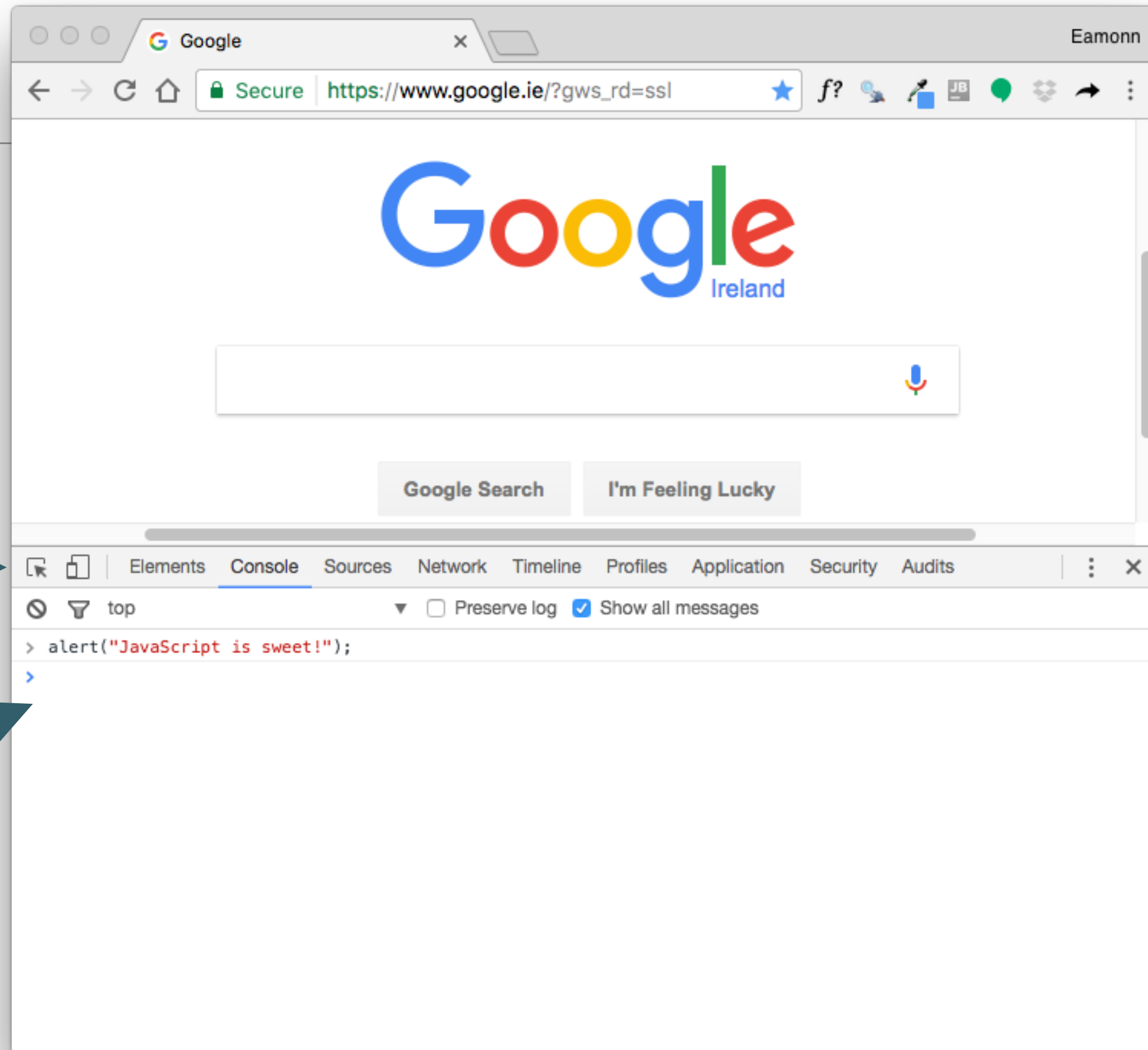- Run on embedded devices, communicate with sensors, robotics, monitor environment….

J5
News

Johnny-Five

The JavaScript
pcDuino
Robotics & IoT Platform

CYLON.JS

Docs   Platforms   Resources   Blog   Github

JavaScript Robotics, By Your Command

Next generation robotics framework with support

for 43 different platforms

Get Started

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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."
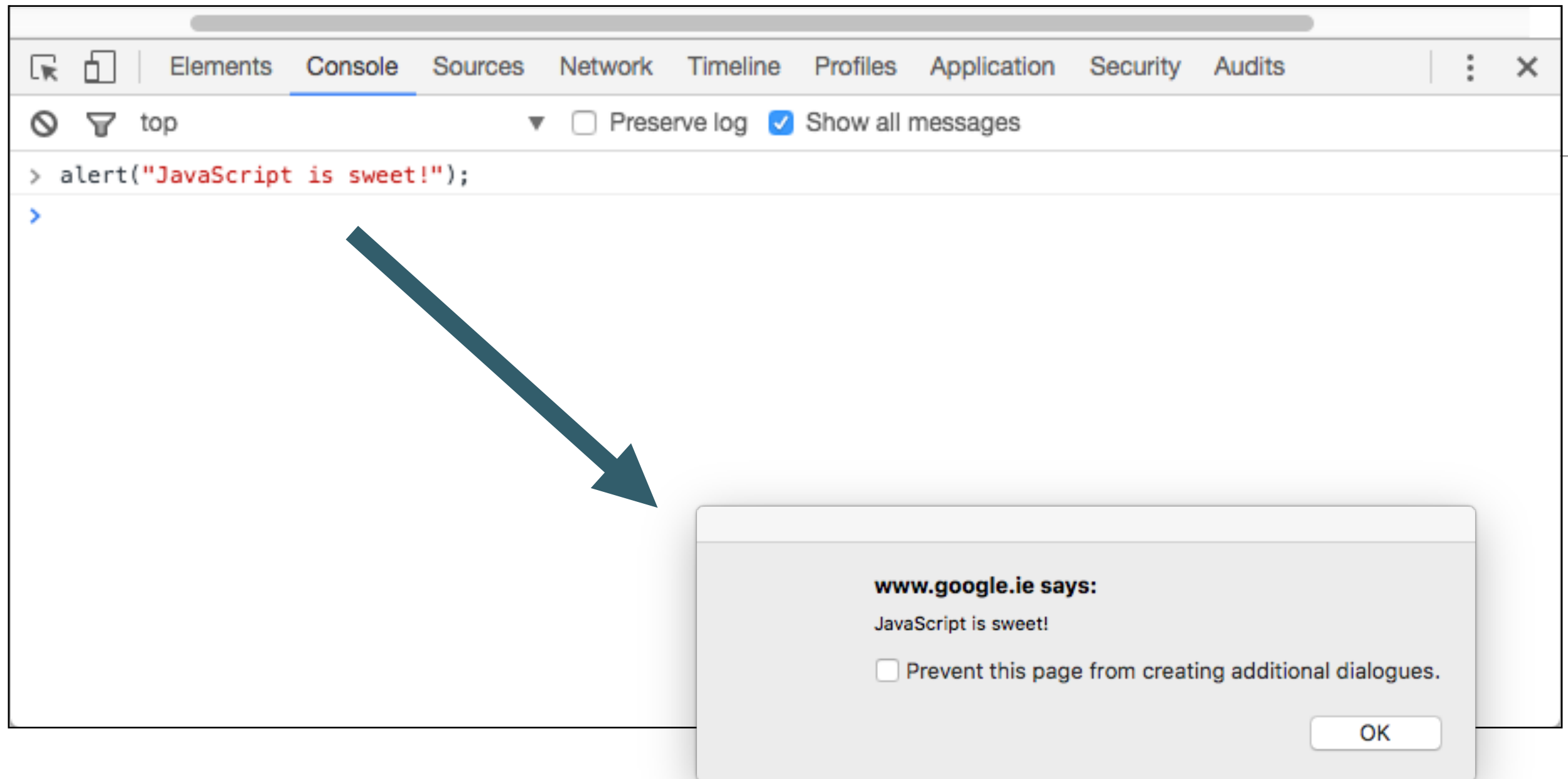
- W3C

Javascript in a Browser

- Javascript console

- Javascript program Fragment
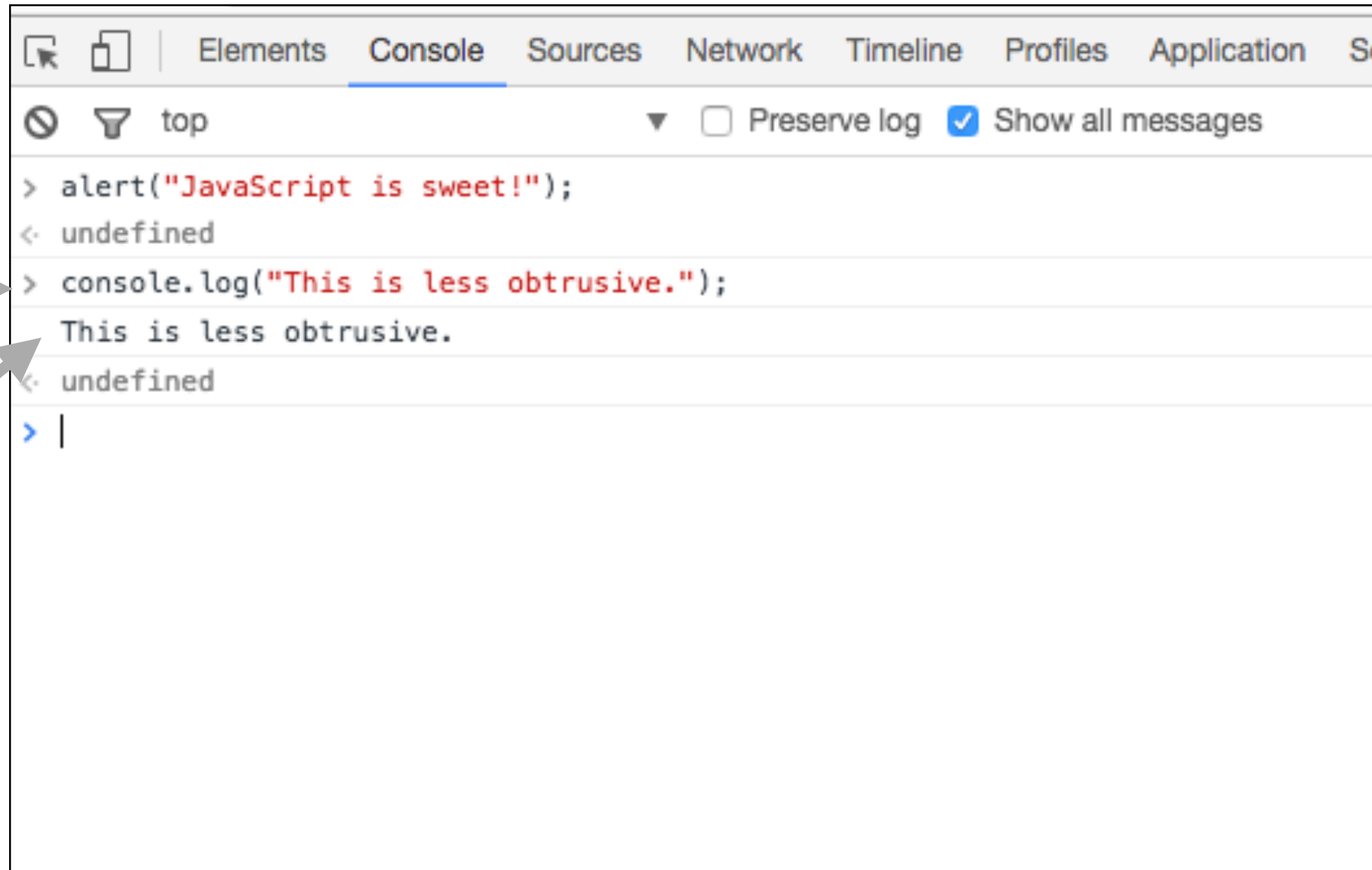
- alert causes dialog window to appear…

console.log

javascript
fragment

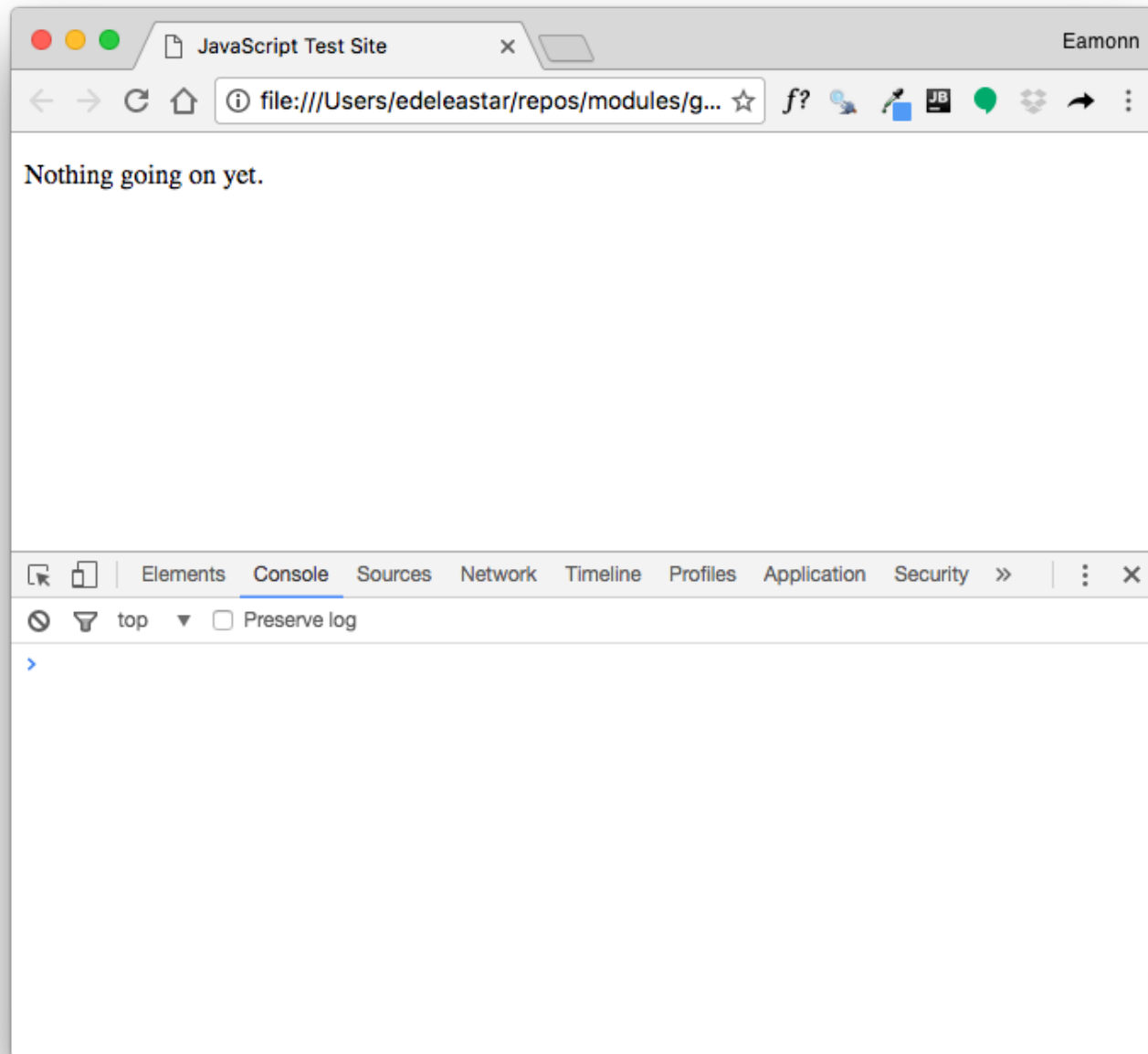output of
console.log
function

Running Javascript from a Web Page

inded.html

```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>
```
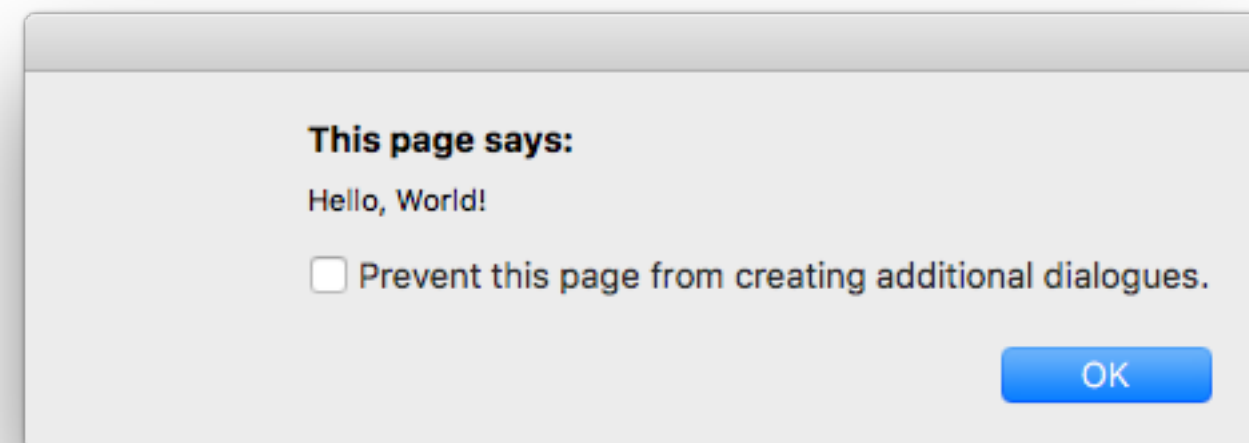
This page says:

Hello, World!

☐ Prevent this page from creating additional dialogues.

OK

External Javascript File

```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>
```
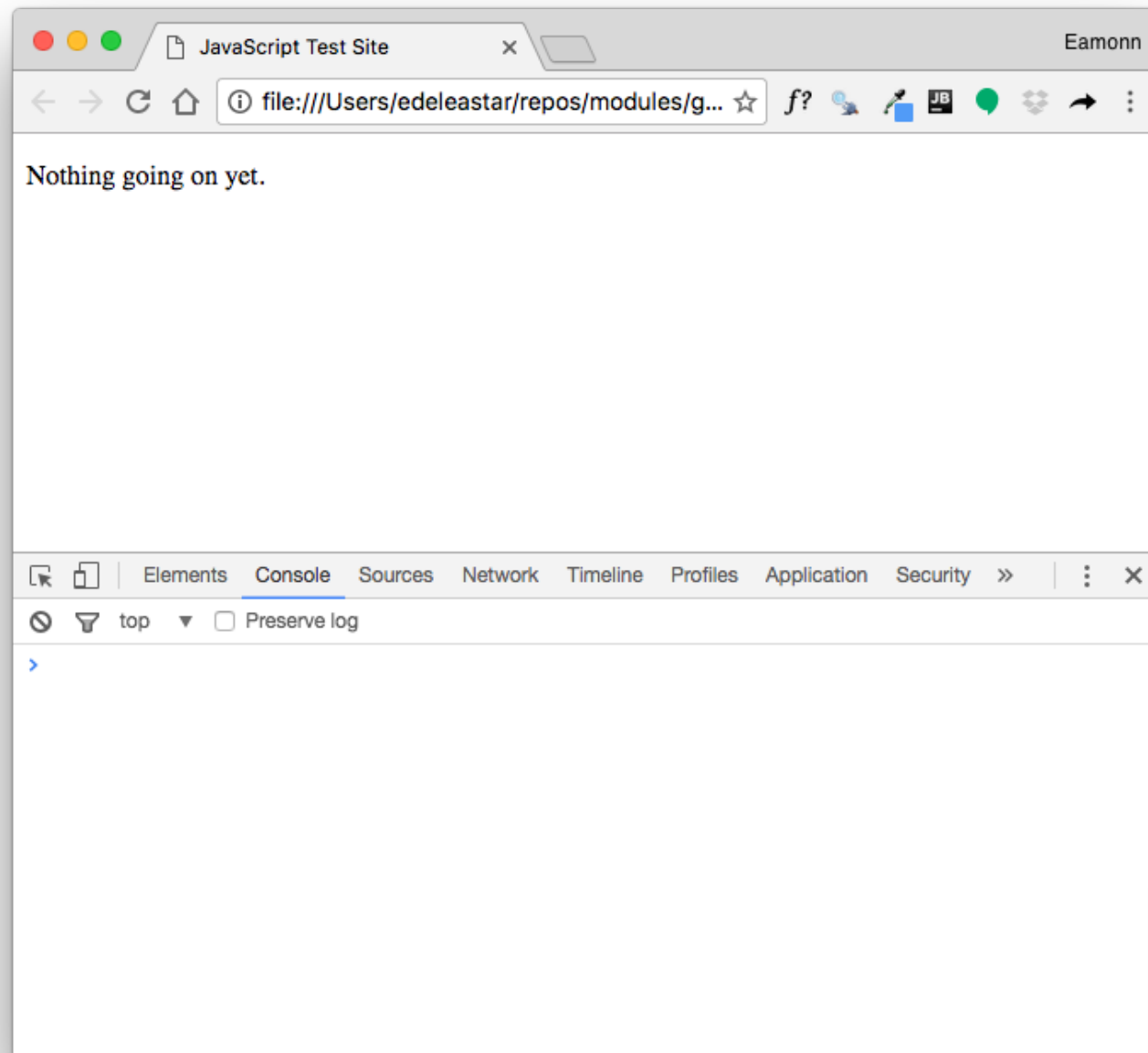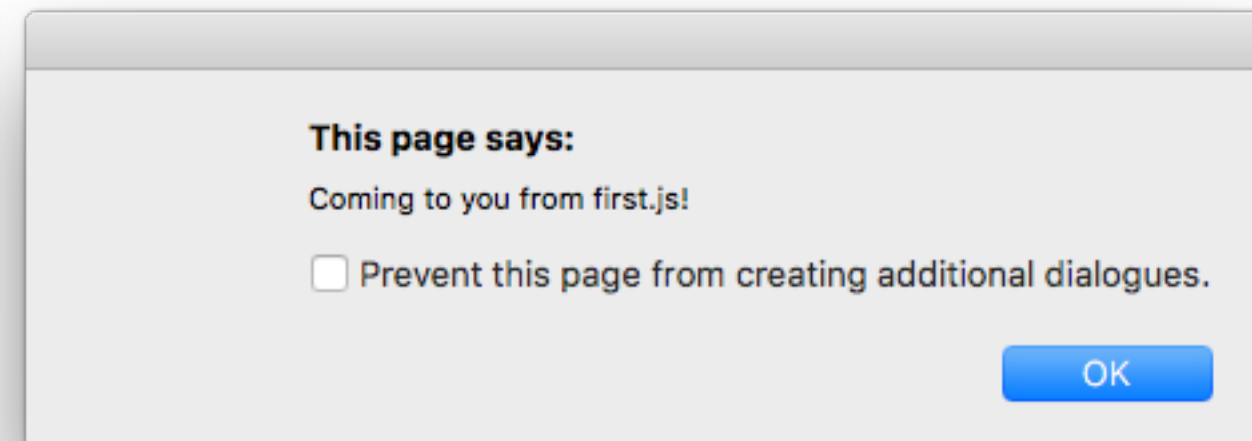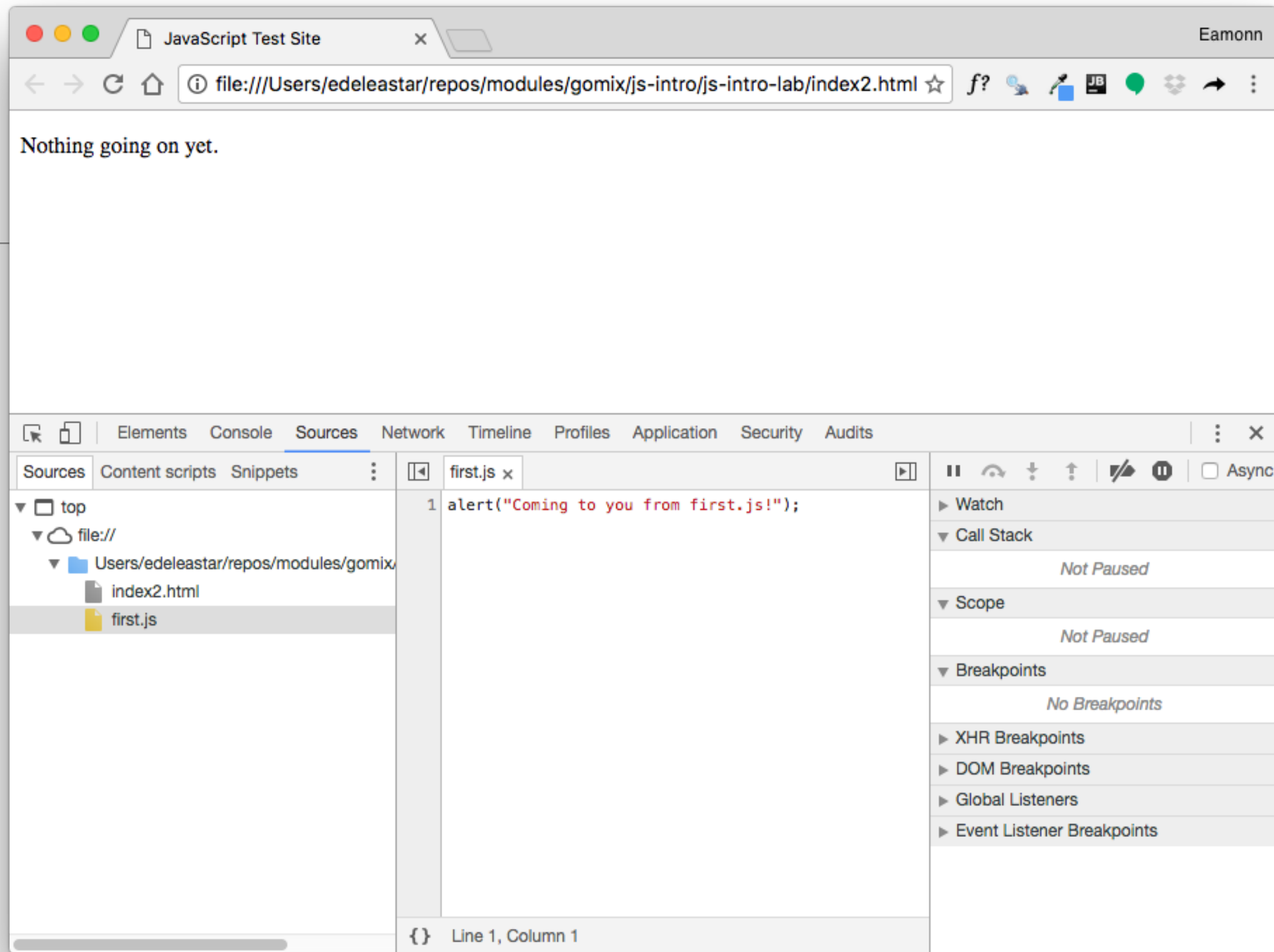
first.js

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

This page says:

Coming to you from first.js!

☐ Prevent this page from creating additional dialogues.

OK

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