Introduction to Javascript

Beginners' guide

What is Javascript?

Javascript is a versatile language used for coding in multiple environments. Javascript can run on almost any machine. You can run javascript on the browser, you can run it on web servers, it also runs on smart devices, mobile phones (used for building mobile applications), it can also run on wearables, i.e. smart watches etc.

If it runs code, it can run javascript!

Our Focus

Javascript is ubiquitous and versatile. Our focus for this lesson will be to understand javascript basics and be able to read and write simple syntax.

The Syntax

Code is all about syntax (and semantics). The syntax for javascript that runs on any machine is the same!

This difference lies in the APIs (Application Programming Interface) that is available on each environment. More on that later.

First, let's look at general Javascript syntax.

The Syntax (cond.)

Variables

Javascript like any other language has things known as variables. A variable is something that holds a value in memory.

The examples below show two variables. first_name, last_name

```
let first_name = "Maryann"
let  last_name =  "Davies"
```

The 'let' is called a keyword. It is what tells Javascript that you want to define a variable.

The Syntax (contd.)

A short snippet

```
let first_name = "Maryann"
let last_name = "Davies"


If (first_name == 'Maryann') {
  console.log("Happy to see you!")
} else {
  console.log("Welcome !")
}
```

More code samples

```
1   //Variable Definitions
2
3   let first_name = "Idris"
4   let last_name = "Lawal"
5
6
7   console.log(first_name+ " "+last_name);
8
9   let sentence = "A stitch in time save nine"
10
11  console.log(sentence)
12
13
14
15  //Outputing information on the console
16
17  console.log("i am happy")
18  console.table(['a', 'b', 'c'])
```

More code samples

```
//Arithmetic Operations

// addition
let first_number = 12
let second_number = 24

let result = first_number + second_number
console.log(result)

//subtraction


result = first_number - second_number
console.log(result)

//division


result = first_number / second_number
console.log(result)

//multiplication


result = first_number * second_number
console.log(result)
```

What is Node.js?

Node.js is a runtime, it basically allows us run Javascript code on the server.

It is written in C++.

It runs on the v8 javascript engine.

Allows us use javascript as a server side language.

Concepts to know

- HTTP Requests (Status codes, headers etc.)
- JSON (Javascript Object Notation)
- Arrow functions (and function scopes)
- Promises
- MVC pattern

Why go with Node.js

- Node.js is very popular in the industry, used by a lot of startups
- Node.js is fast and scalable
- With Node.js you use the same language on the frontend and backend. Hence, it's a good skill for someone looking to go full-stack.
- Node.js is non-blocking and is single threaded.

What Non-Blocking means

Other backend languages like PHP that run synchronously. Which means it waits for one process to end before running another.

With Node.js processes run asynchronously, which means one process does not need to complete before another starts to run. This uses a background system known as the event loop.
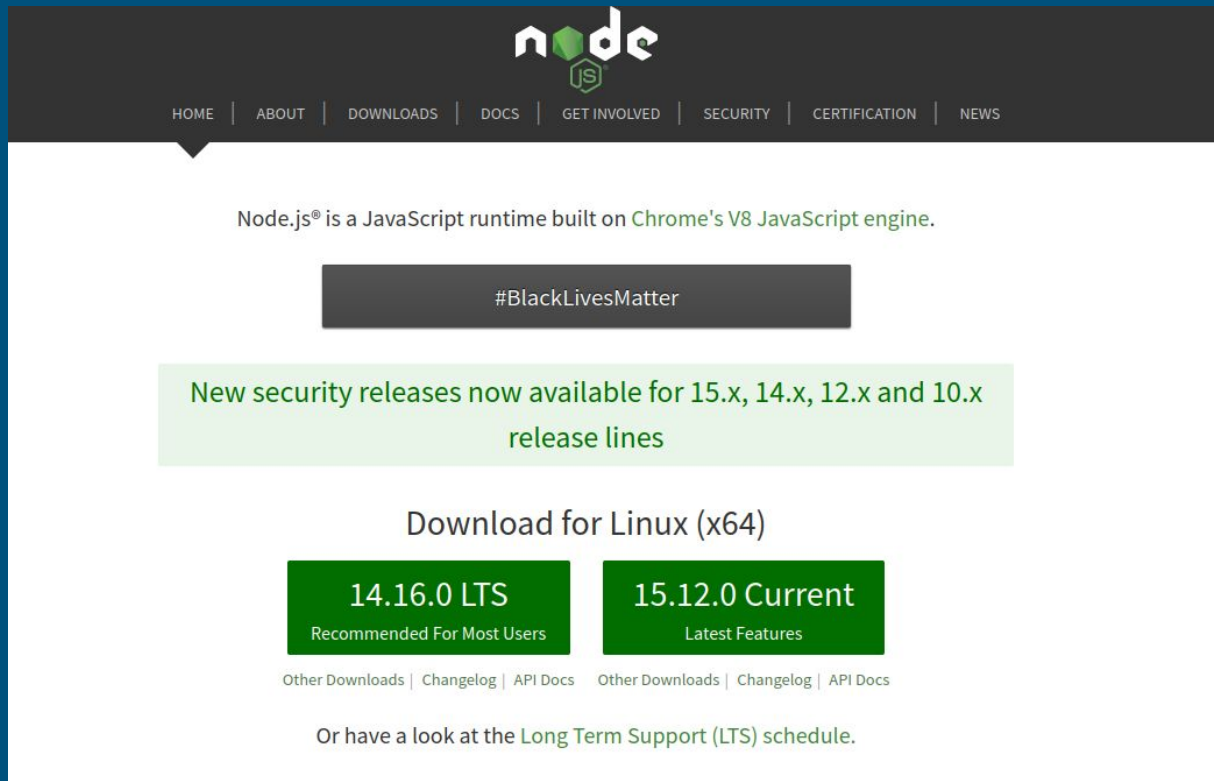
Popular Startups That Use Node.js

- Netflix
- Uber
- Linkedin
- Mozilla
- Ebay

How To Install Node.js
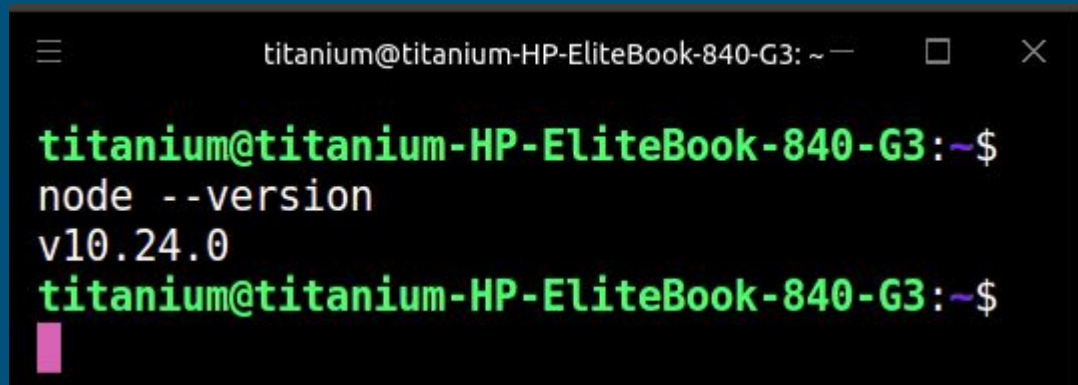
Steps

- Visithttps://nodejs.org
- The website automatically detects your operating system and provides you with down options. "LTS" or "Current". You can download the "LTS". Both are fine though.
- Run the installer package on your computer to install node.

What the Node website looks like

Verifying your installation

To verify your installation is good run the command below in your terminal and you should see the expected response with the version of your installation.

Brief About What a Terminal is

A terminal is an environment on your computer where you directly run commands for the computer to do things you can or cannot achieve by using the normal user interface.

On mac, the default terminal is called "Terminal".

On Linux, the default terminal is also called "Terminal".

On windows, the default terminal is the "command prompt", you can also use the windows "powershell".