COURSEWARE

Intro

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Overview

Node provides a JavaScript runtime.
This means we can separate JS from the web browser and use it for the *back-end* of an application instead of just the front-end.
Node is often described as *single-threaded event-driven non-blocking I/O*

Single-threaded

JS runs on a *single thread*, this means that it can only perform *one* operation at a time.

Event-driven

Exactly what it sounds like - code execution is driven by *events*.
These events are usually either some kind of user action (like a mouse click, form submit, etc) or receiving an external request.

Non-blocking I/O

In/Out operations are basically any process that requires going outside of JS (such as reading/writing to a file).
Non-blocking means that these operations do not halt the flow of execution of your program.
This is accomplished using *callbacks* - giving a function another function to execute when it has finished or failed.
By doing this it is possible to significantly improve capacity

Installation

Windows

First navigate to the node.js website, you may find the documentation here useful in the future.

https://nodejs.org/en/download/

Download the correct version of Node for your machine, for the Academy PC's it should be the 64-bit .msi, the LTS is recommended for its stability.

Once this has downloaded it is a simple process of running the file and following the instructions.
Follow the wizard and you can click next for all of the prompts, you do not need to make any changes here.

Once the wizard has finished you will have Node.js installed on your machine, the wizard even modified your PATH so you can access it immediately.

Open a Command Prompt on your machine and type **node**

Ubuntu

Run this command

```
curl -sL https://deb.nodesource.com/setup_13.x | sudo -E bash -
sudo apt-get install -y nodejs
```

Tutorial

Open a terminal on your machine and type **node**.

If all has gone well you should now be able to run JS from this window - try entering **console.log('Hello, world!');**.

Exercises

There are no exercises for this module.