



Back-End (Part 2)

Node.JS Basics

Dr. Omar Hammad

-
- A vertical timeline chart showing the evolution of Node.js. A single vertical white line serves as the timeline, with various colored circular markers placed along it at specific years. To the left of each marker is the year, and to the right is a descriptive text entry.
- 1995 JavaScript
 - 2008 Chrome
 - 2009 Node.js
 - 2011 Uber, LinkedIn, etc.
 - 2014 ES6 Support
 - 2015 Foundation > MS, IBM
 - 2020 Github acquires npm

<https://www.section.io/engineering-education/history-of-nodejs/>

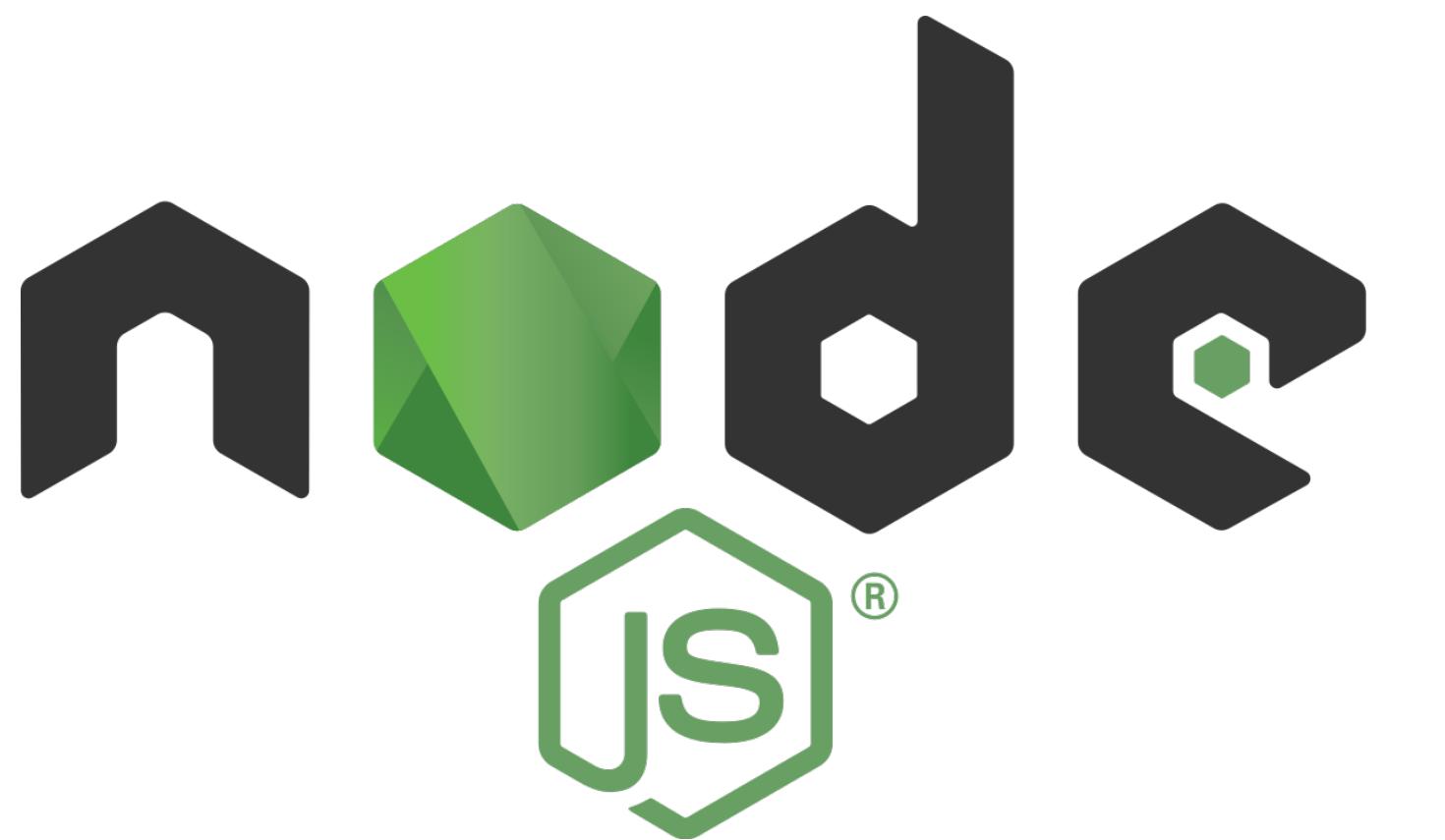
https://en.wikipedia.org/wiki/Ryan_Dahl

<https://www.freecodecamp.org/news/what-exactly-is-node-guide-for-beginners/>



Simple HTTP Server

```
1  var http = require('http');
2
3  http.createServer(function (req, res) {
4    res.writeHead(200, {'Content-Type': 'text/plain'});
5    res.end('Hello World\n');
6  }).listen(1337);
7
8  console.log('Server running at http://127.0.0.1:1337/');
```

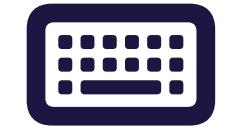




**Single
Threaded**

**Event Loop
Model**

**Async
operations**



Demo

Let's install Node JS

Node.js® is an open-source, cross-platform JavaScript runtime environment.

Download Node.js®

20.9.0 LTS

Recommended For Most Users

21.1.0 Current

Latest Features

[Other Downloads](#) | [Changelog](#) | [API Docs](#) [Other Downloads](#) | [Changelog](#) | [API Docs](#)

For information about supported releases, see the [release schedule](#).

Core globals

fs

path

process

events

http

Importing a module

```
const fs = require('...');
```

fs

`fs.read()`

`fs.write()`

`fs.mkdir()`

• • •

`fs.read()` `fs.readSync()`

path

path.basename()

path.join()

path.relative()

... . .

process

process.argv

process.stdin

process.exit()

events

e.emit()

e.on()

e.once()

... . . .

EventEmitter



http

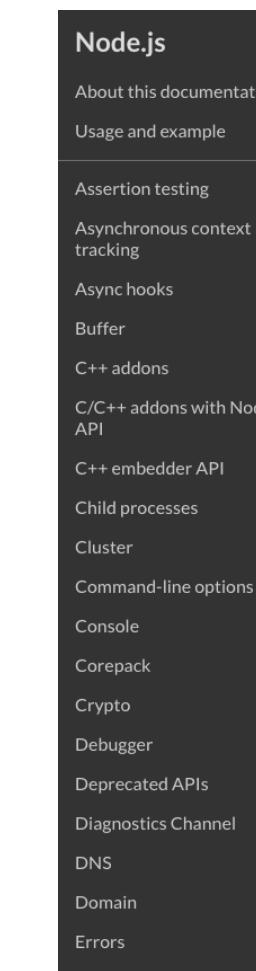
http.get()

http.request()

http.createServer()

• • •

Let's Explore Node.js API



Node.js v20.9.0 documentation

▶ Other versions | ▶ Options

- About this documentation
- Usage and example
- Assertion testing
- Asynchronous context tracking
- Async hooks
- Buffer
- C++ addons
- C/C++ addons with Node-API
- C++ embedder API
- Child processes
- Cluster
- Command-line options
- Console
- Corepack
- Crypto
- Debugger
- Deprecated APIs
- Diagnostics Channel
- DNS
- Domain
- Errors
- Events
- File system
- Globals
- HTTP
- HTTPS