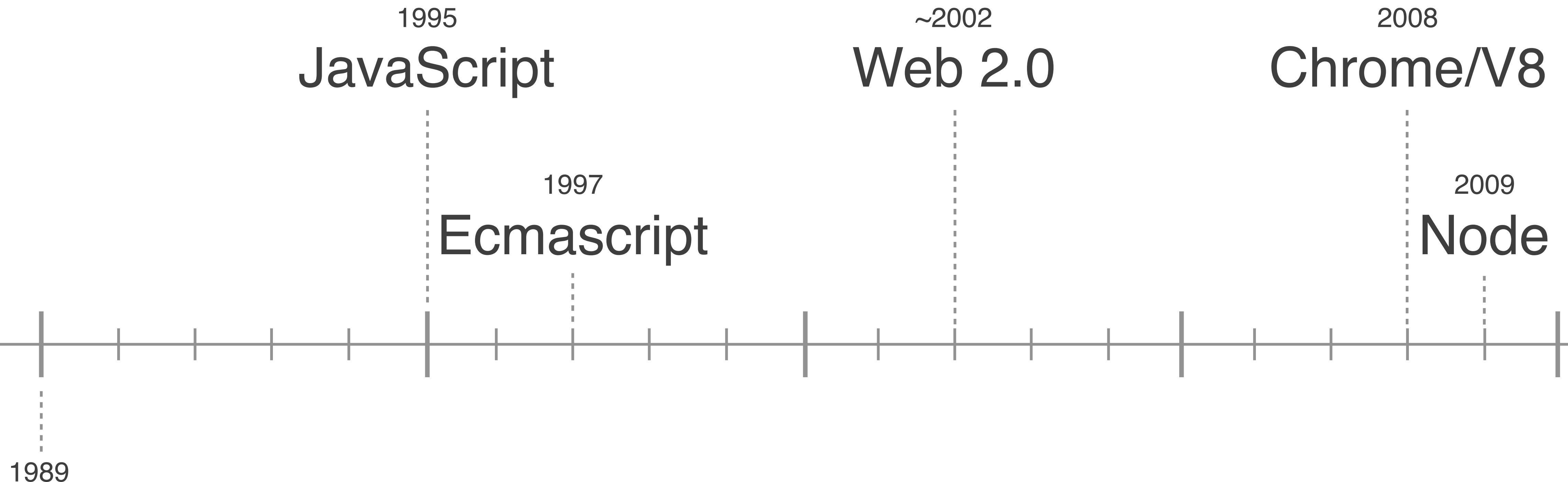


```
NODE.INTRO((err, ideas) => {  
  if (err) throw new Question(err)  
  else understand(ideas)  
})
```

# BACKGROUND



# TIMELINE



**Invention of World  
Wide Web**

**What is node?**

**A JavaScript runtime environment**

**That doesn't help**

**...a tool**

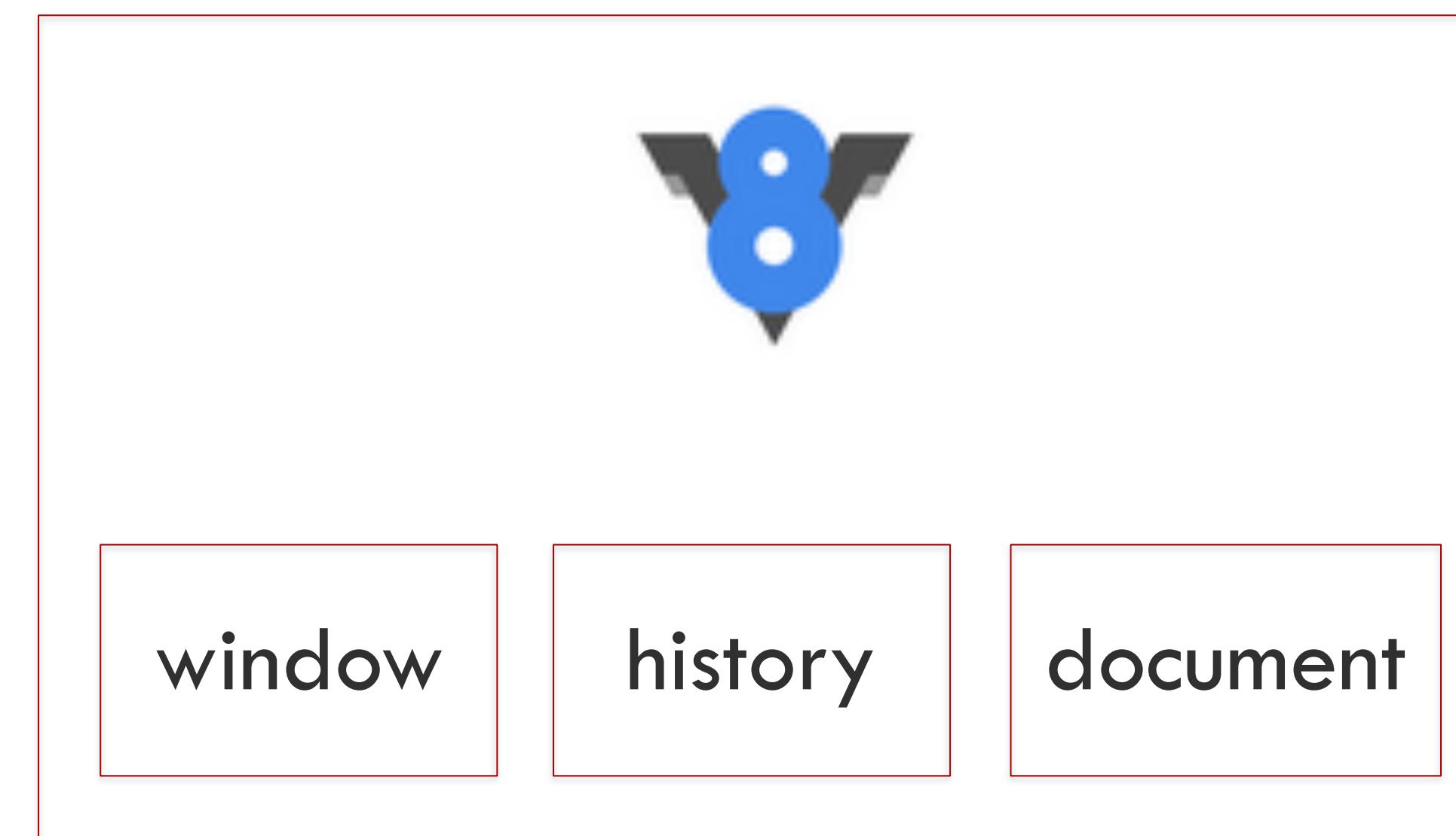
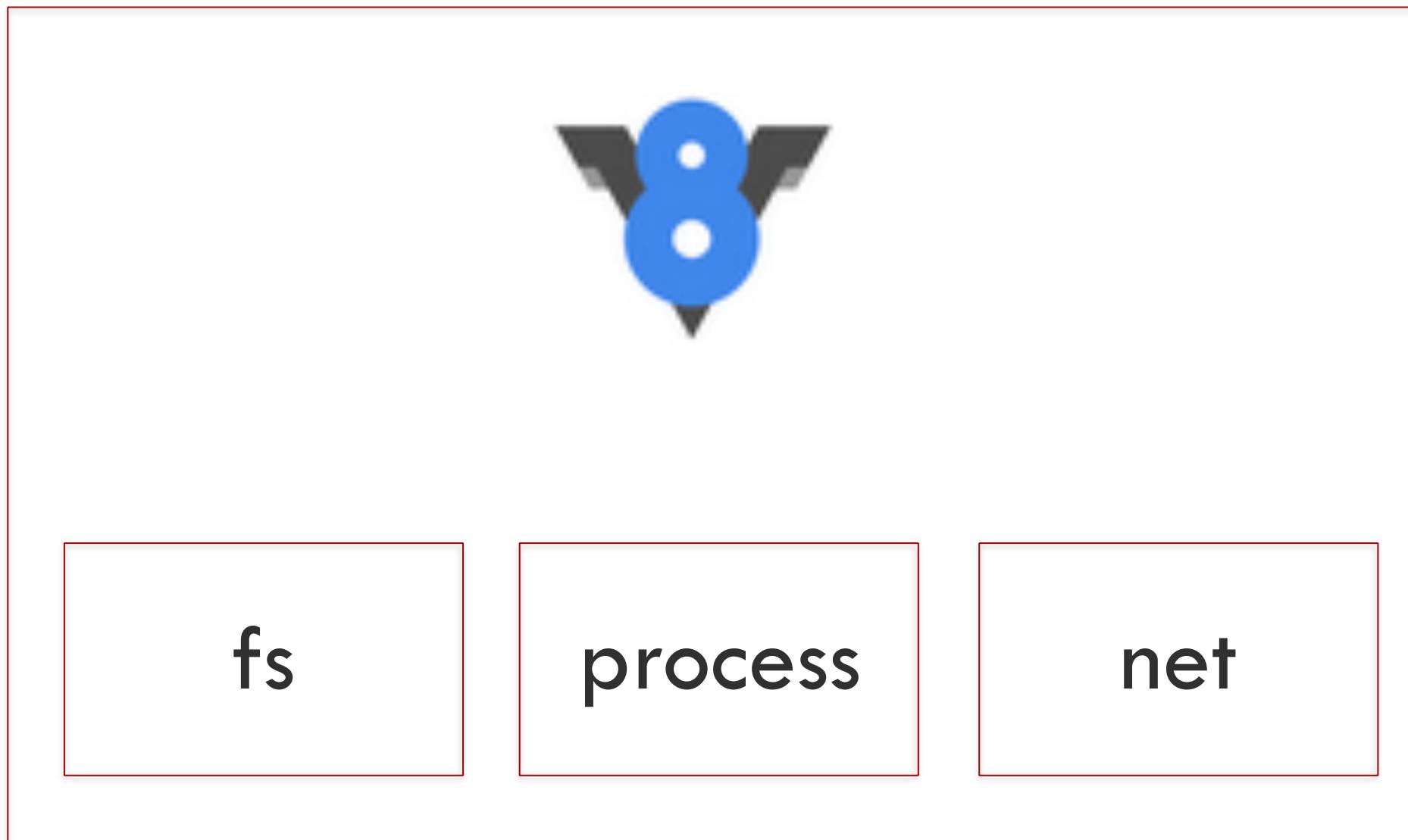
**What does it do?**

**It executes JavaScript on an operating system, instead of in a web browser**

files (e.g. app.js)



<script></script>s



*“Node.js® is a JavaScript runtime built on Chrome's V8 JavaScript engine. Node.js uses an event-driven, non-blocking I/O model that makes it lightweight and efficient.”*

– NODEJS.ORG.



# WHY CARE?

*If you want to create a server and know JavaScript*



# WHY CREATE A SERVER?

*If you want to create a custom website or webapp*



# SERVER

- **A program running on a computer connected to the internet**
- **Serves content requested by remote clients**

# IF PROGRAMMING WERE COOKING...

# Program vs. Process

- "recipe"
- **Program is data**
    - machine code (pre-compiled)
    - bytecode (re-compiled by a VM)
    - text file (can be interpreted)
  - **Inert — not doing anything**
  - **Ready to be run as a process**
  - **Process is execution "cooking"**
    - memory allocated
    - CPU performing steps
  - **"Live"**
  - **Produces results**
  - **Interactive**
  - **Can be started/stopped**
  - **Multiple processes from one program...**



# COOKING METAPHOR

	(term)	(metaphor)
<code>log('hi');</code>	program	recipe
JavaScript	programming language	recipe language
V8	engine/VM/interpreter	chef
Node	runtime environment	kitchen
Sierra	operating system	building (restaurant?)

# MODULES AND THE NODE ENVIRONMENT

# GLOBAL VARIABLES

**Every module in Node has access to the same set of global variables**

process

global

console

setTimeout/clearTimeout

setInterval/clearInterval

# “MODULE” VARIABLES

- Every module in Node has its OWN set of “module” variables that are available in the default scope

`__dirname`

`__filename`

`module`

`require`



# module

- **Object**
- **Represents the module itself**
- **Most importantly, has a property called exports**



# module.exports

- Initially an empty object
- Assign it the data you want to expose
- A require of this file (“module”) will return its module.exports



# require

- **Finds a file**
  - **Executes it**
  - **Imports that file's exports**
  - You can leave off the .js in a file path
  - A path to a directory will look for index.js
- 
- path
- no path
- follows that path
- tries
- ./node\_modules
  - ../node\_modules
  - ../../node\_modules
  - (...etc)

# DEMO



# NPM

- **node package manager**
- **Command line tool**
- **Can find libraries of code online**
- **Downloads them locally or globally (into node\_modules directory)**
- **Keeps list of project dependencies in package.json**



# package.json

*Describes your project, e.g. its dependencies...*

- **Collaboration within your team**
- **Sharing within the node community**



# SUMMARY

- **Node allows for server-side JavaScript**
- **require pulls in what module.exports exposes**