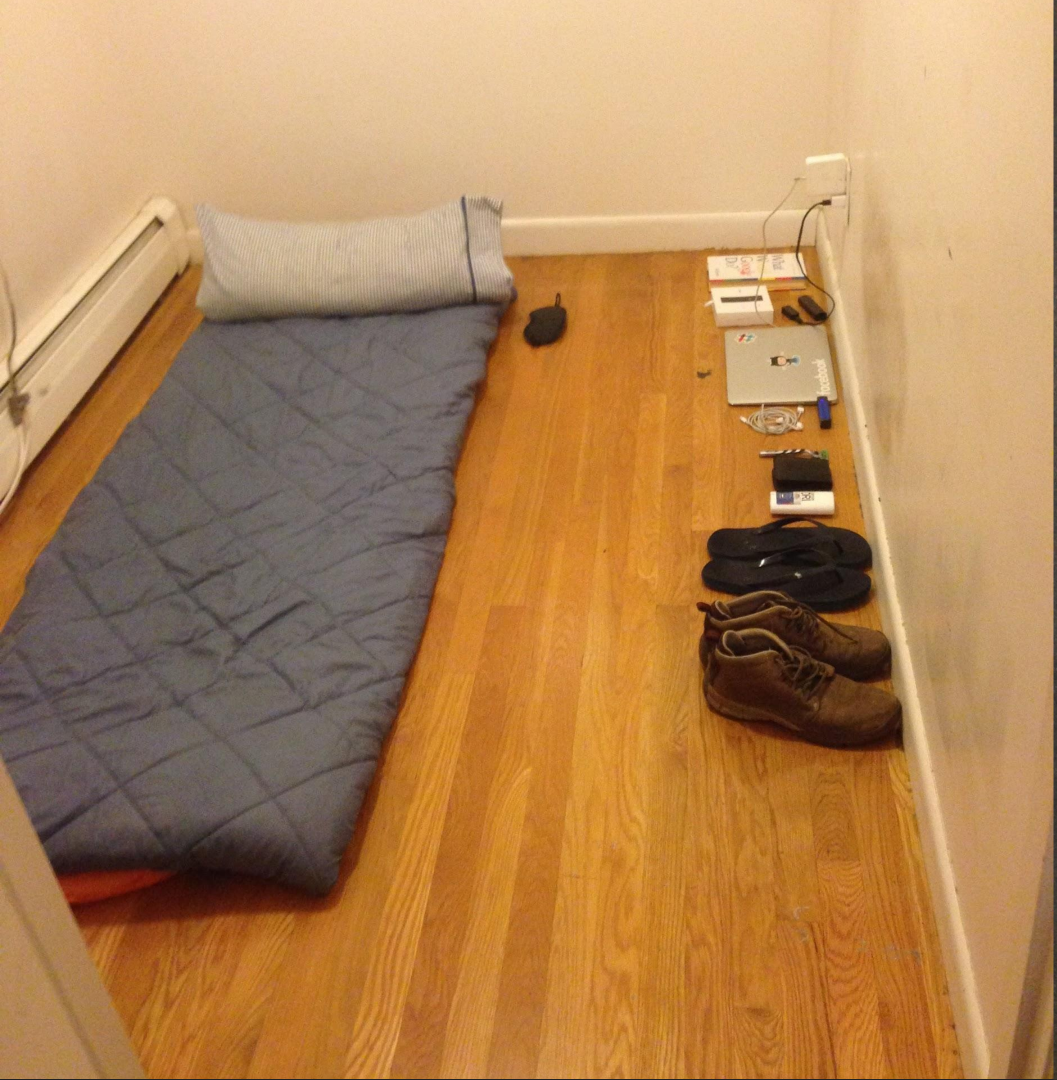
Don’t build that app!

No Babel. No Webpack. No Worries.

@lukejacksonn

Frontend Developer at Formidable



CS50

FAIR

Northwest Science

MONDAY 10 DECEMBER @ 11:30 – 16:30

CS50

HACKATHON

HBS Hives

THURSDAY 1 DECEMBER @ 19:00 – 7:00

CS50

PUZZLE DAY

HBS Hives

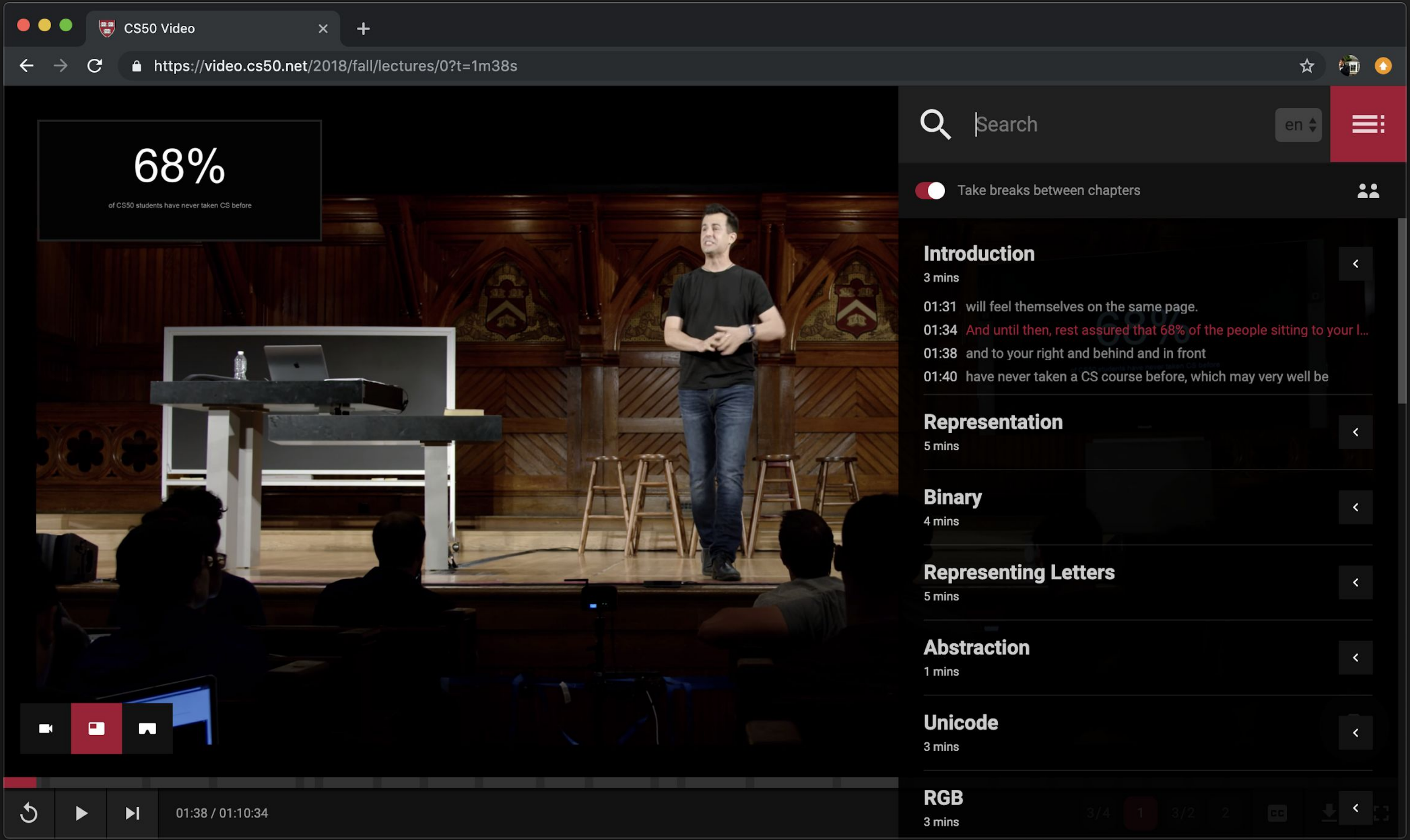
SATURDAY 3 SEPTEMBER @ 12:00 – 13:30

CS50

CODING CONTEST

hackerrank.com/cs50

FRIDAY 29 JULY @ 18:00


CS50 Video
https://video.cs50.net/2018/fall/lectures/0?t=1m38s
68%
of CS50 students have never taken CS before
Search
en
Take breaks between chapters
01:38 / 01:10:34

Introduction
3 mins

01:31 will feel themselves on the same page.
01:34 And until then, rest assured that 68% of the people sitting to your l...
01:38 and to your right and behind and in front
01:40 have never taken a CS course before, which may very well be

Representation
5 mins

Binary
4 mins

Representing Letters
5 mins

Abstraction
1 mins

Unicode
3 mins

RGB
3 mins

1. Browser support for language features
2. Splitting up your code into modules

Gulp

browserify

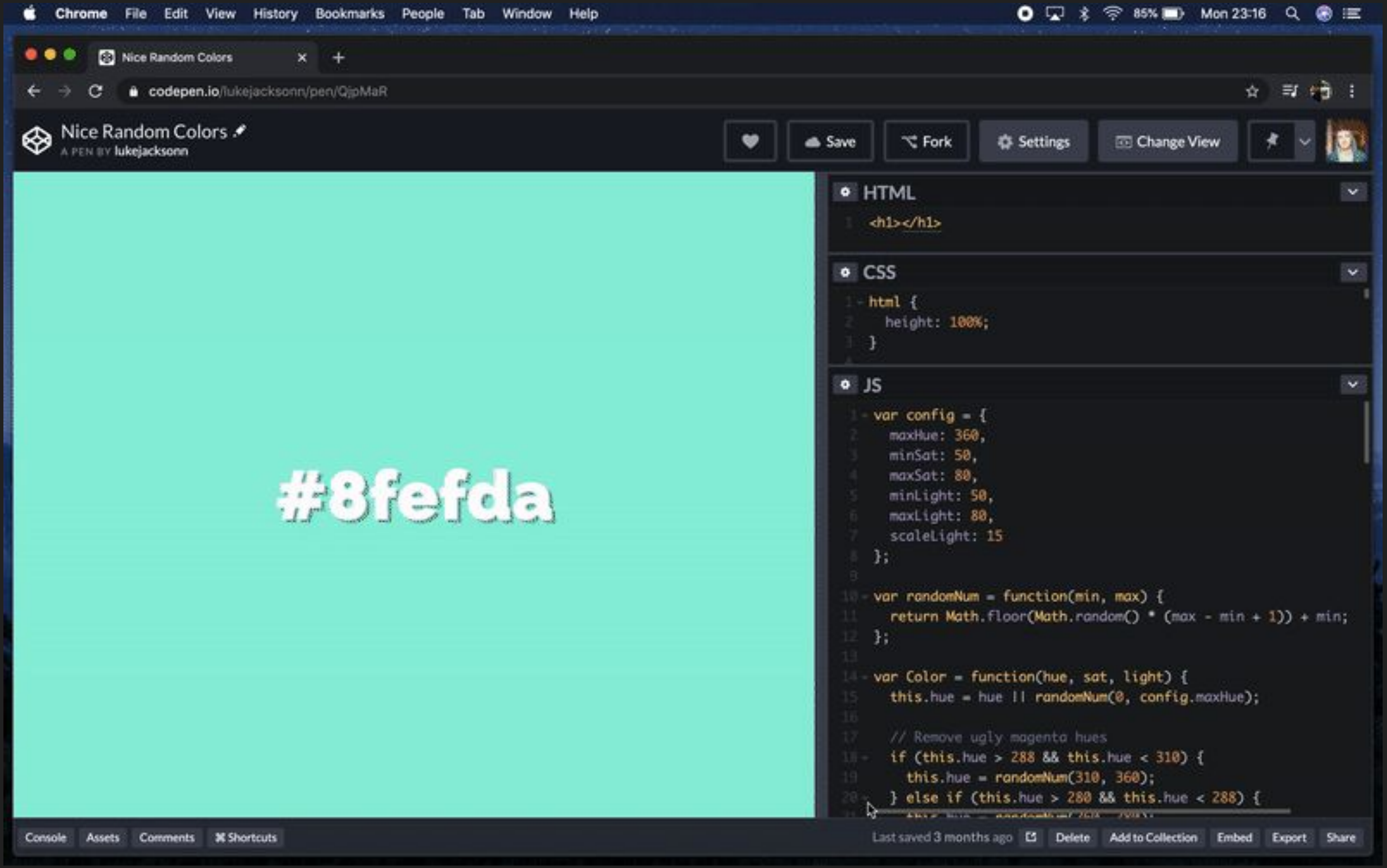
webpack

npm

BABEL

Oh I’m sorry.. I just wanted to write some HTML, CSS and a bit of JS

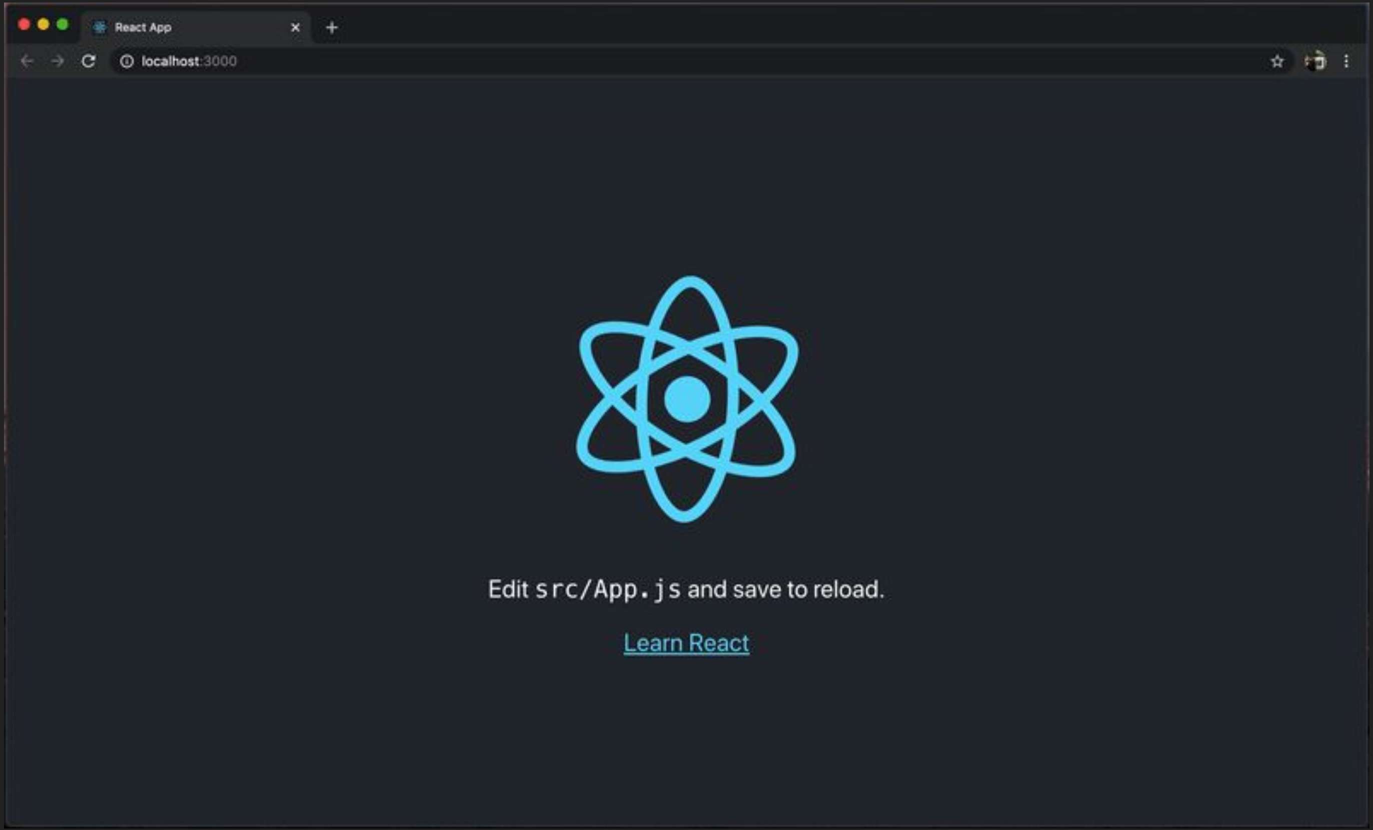
Me, when some peer dependency of a dev dependency needs updating which prevents the project from building and that requires fixing before I can actually do my job.



```html
<h1></h1>
```

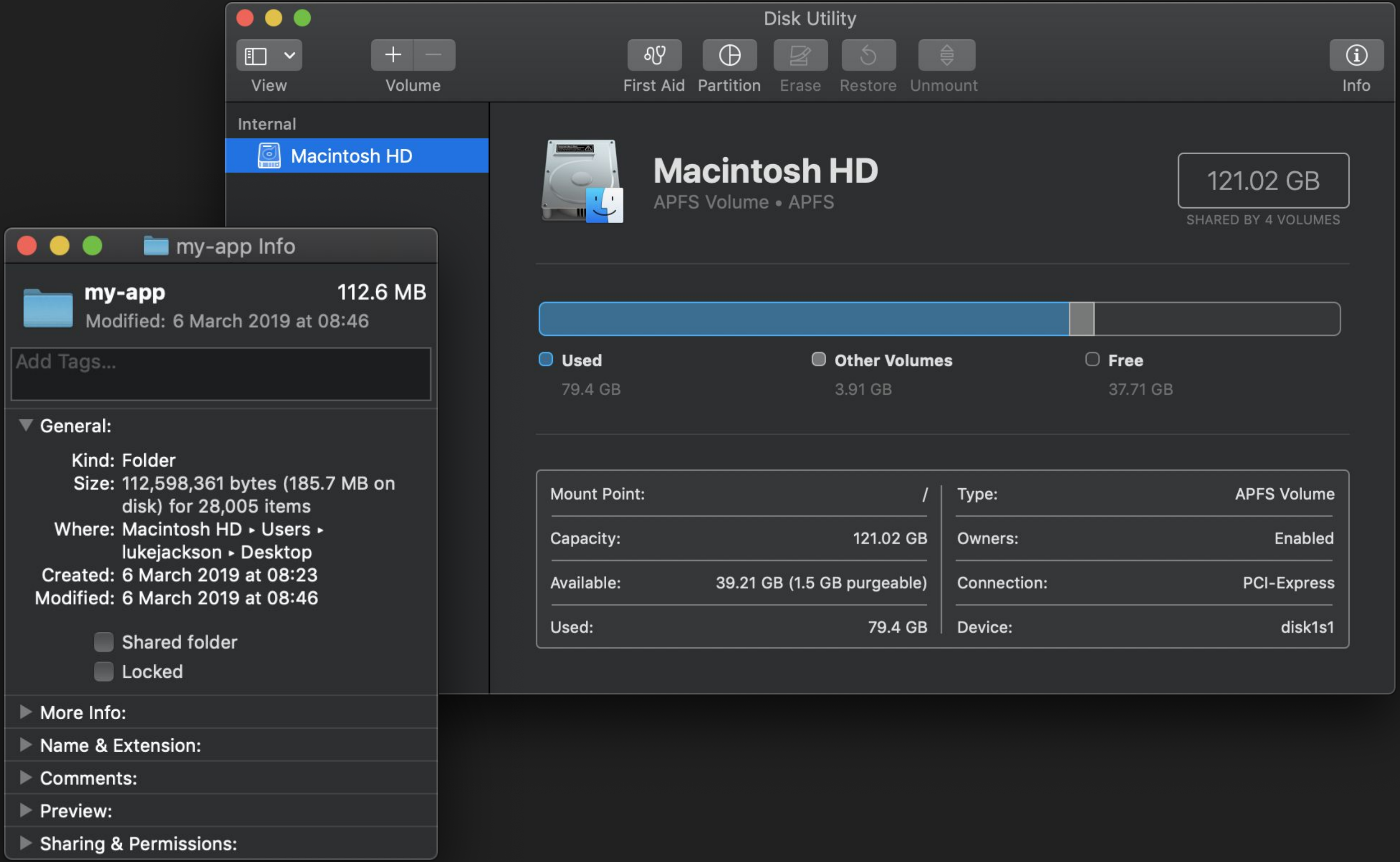
```css
html {
  height: 100%;
}
```

```javascript
var config = {
  maxHue: 360,
  minSat: 50,
  maxSat: 80,
  minLight: 50,
  maxLight: 80,
  scaleLight: 15
};

var randomNum = function(min, max) {
  return Math.floor(Math.random() * (max - min + 1)) + min;
};

var Color = function(hue, sat, light) {
  this.hue = hue || randomNum(0, config.maxHue);

  // Remove ugly magenta hues
  if (this.hue > 288 && this.hue < 310) {
    this.hue = randomNum(310, 360);
  } else if (this.hue > 280 && this.hue < 288) {
```



Edit `src/App.js` and save to reload.

Learn React



Macintosh HD

APFS Volume • APFS

121.02 GB

SHARED BY 4 VOLUMES

● **Used** 79.4 GB

● **Other Volumes** 3.91 GB

○ **Free** 37.71 GB

Mount Point:	/	Type:	APFS Volume
Capacity:	121.02 GB	Owners:	Enabled
Available:	39.21 GB (1.5 GB purgeable)	Connection:	PCI-Express
Used:	79.4 GB	Device:	disk1s1

my-app Info

my-app 112.6 MB

Modified: 6 March 2019 at 08:46

Add Tags...

▼ General:

Kind: Folder
Size: 112,598,361 bytes (185.7 MB on disk) for 28,005 items
Where: Macintosh HD ▸ Users ▸ lukejackson ▸ Desktop
Created: 6 March 2019 at 08:23
Modified: 6 March 2019 at 08:46

□ Shared folder
□ Locked

▶ More Info:

▶ Name & Extension:

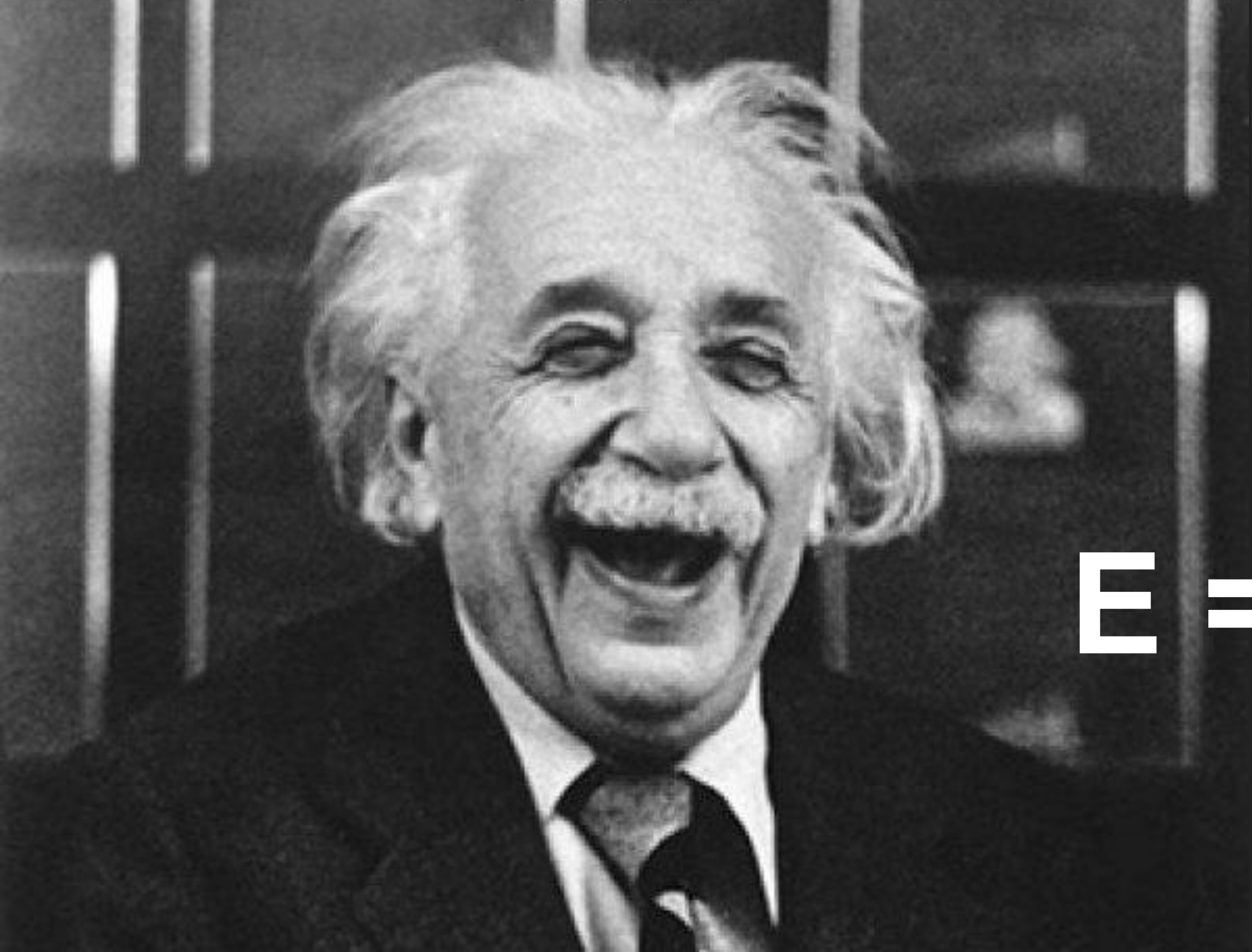
▶ Comments:

▶ Preview:

▶ Sharing & Permissions:

5.4

create-react-app
per gigabyte

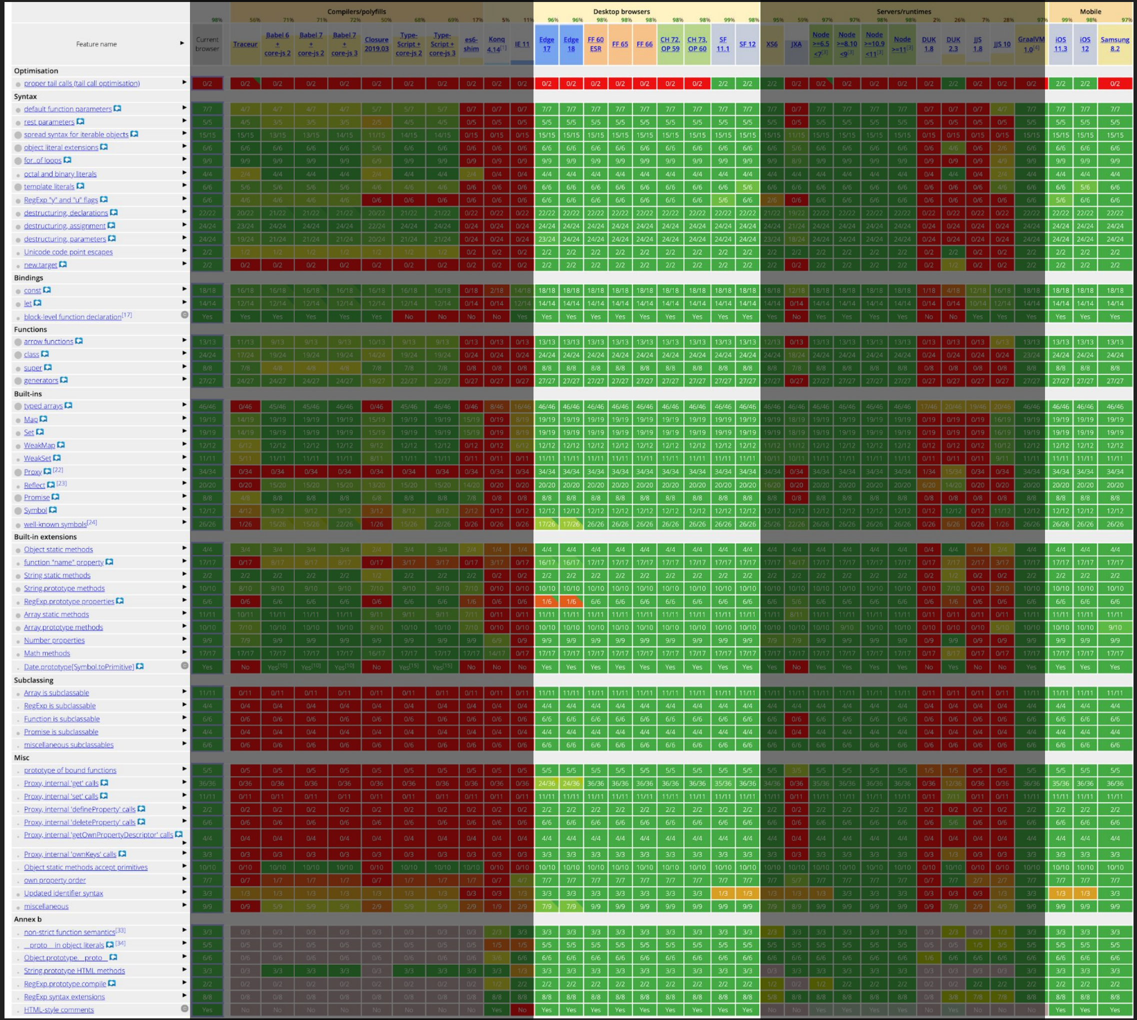


$$E = mc^2$$

> I don't know what's the matter with people: they don't learn by understanding, they learn by some other way — by rote or something. Their knowledge is so fragile!
>
> — Richard Feynman

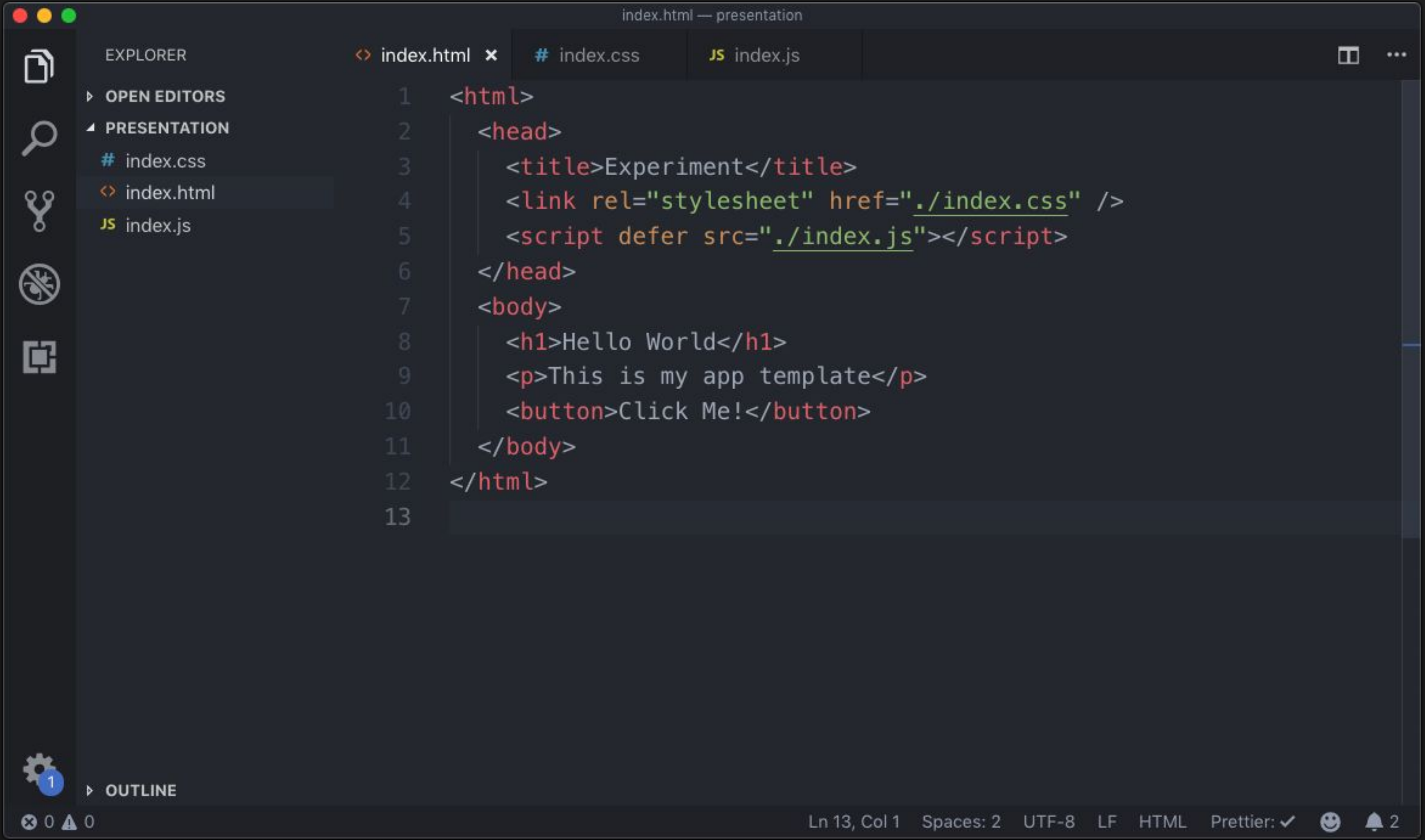
REBUILD ALL THE TOOLING MYSELF

1. Browser support for language features
2. Splitting up your code into modules

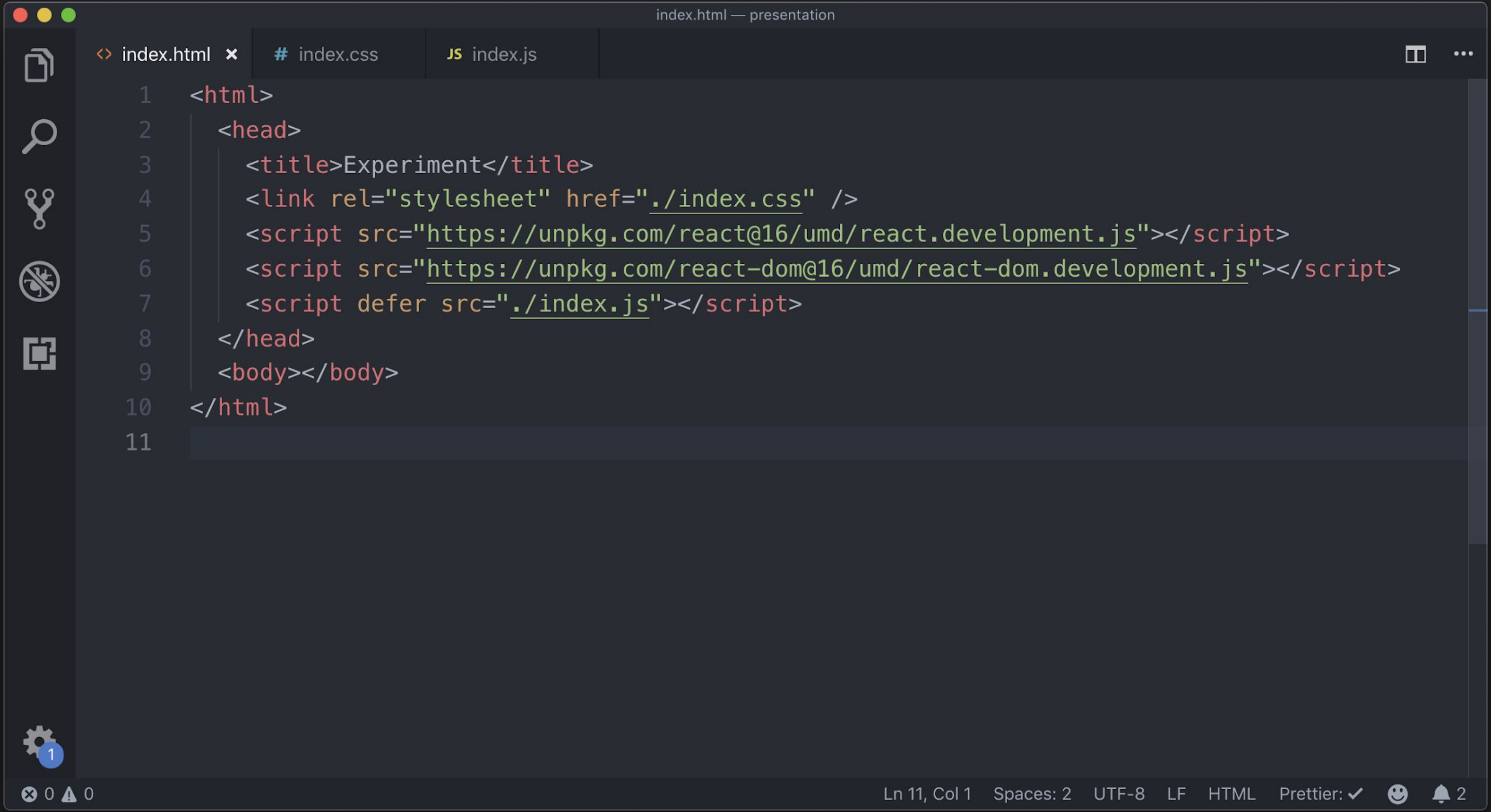


		Compilers/polyfills										Desktop browsers									Servers/runtimes											Mobile		
	98%	56%	71%	71%	72%	50%	68%	69%	17%	5%	11%	96%	96%	98%	98%	98%	98%	98%	99%	98%	95%	59%	97%	97%	98%	98%	2%	26%	7%	28%	97%	99%	98%	97%
Feature name ▶	Current browser	Traceur	Babel 6 + core-js 2	Babel 7 + core-js 2	Babel 7 + core-js 3	Closure 2019.03	Type-Script + core-js 2	Type-Script + core-js 3	es6-shim	Konq 4.14[1]	IE 11	Edge 17	Edge 18	FF 60 ESR	FF 65	FF 66	CH 72, OP 59	CH 73, OP 60	SF 11.1	SF 12	XS6	JXA	Node >=6.5 <7[3]	Node >=8.10 <9[3]	Node >=10.9 <11[3]	Node >=11[3]	DUK 1.8	DUK 2.3	JJS 1.8	JJS 10	GraalVM 1.0[4]	iOS 11.3	iOS 12	Samsung 8.2
Optimisation																																		
proper tail calls (tail call optimisation) ▶	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	2/2	2/2	2/2	0/2	0/2	0/2	0/2	0/2	0/2	2/2	0/2	0/2	0/2	2/2	2/2	0/2
Syntax																																		
default function parameters ▶	7/7	4/7	4/7	4/7	4/7	5/7	5/7	5/7	0/7	0/7	0/7	7/7	7/7	7/7	7/7	7/7	7/7	7/7	7/7	7/7	7/7	0/7	7/7	7/7	7/7	7/7	0/7	0/7	0/7	4/7	7/7	7/7	7/7	7/7
rest parameters ▶	5/5	4/5	3/5	3/5	3/5	2/5	4/5	4/5	0/5	0/5	0/5	5/5	5/5	5/5	5/5	5/5	5/5	5/5	5/5	5/5	5/5	0/5	5/5	5/5	5/5	5/5	0/5	0/5	0/5	0/5	5/5	5/5	5/5	5/5
spread syntax for iterable objects ▶	15/15	15/15	13/15	13/15	14/15	11/15	14/15	14/15	0/15	0/15	0/15	15/15	15/15	15/15	15/15	15/15	15/15	15/15	15/15	15/15	15/15	11/15	15/15	15/15	15/15	15/15	0/15	0/15	0/15	0/15	15/15	15/15	15/15	15/15
object literal extensions ▶	6/6	6/6	6/6	6/6	6/6	5/6	6/6	6/6	0/6	0/6	0/6	6/6	6/6	6/6	6/6	6/6	6/6	6/6	6/6	6/6	6/6	5/6	6/6	6/6	6/6	6/6	0/6	4/6	0/6	2/6	6/6	6/6	6/6	6/6
for..of loops ▶	9/9	9/9	9/9	9/9	9/9	6/9	9/9	9/9	0/9	0/9	0/9	9/9	9/9	9/9	9/9	9/9	9/9	9/9	9/9	9/9	9/9	8/9	9/9	9/9	9/9	9/9	0/9	0/9	0/9	4/9	9/9	9/9	9/9	9/9
octal and binary literals ▶	4/4	2/4	4/4	4/4	4/4	2/4	4/4	4/4	2/4	0/4	0/4	4/4	4/4	4/4	4/4	4/4	4/4	4/4	4/4	4/4	4/4	4/4	4/4	4/4	4/4	4/4	0/4	4/4	0/4	2/4	4/4	4/4	4/4	4/4
template literals ▶	6/6	5/6	5/6	5/6	5/6	4/6	4/6	4/6	0/6	0/6	0/6	6/6	6/6	6/6	6/6	6/6	6/6	6/6	6/6	5/6	6/6	6/6	6/6	6/6	6/6	6/6	0/6	0/6	0/6	4/6	6/6	6/6	5/6	6/6
RegExp "y" and "u" flags ▶	6/6	4/6	4/6	4/6	4/6	0/6	0/6	0/6	0/6	0/6	0/6	6/6	6/6	6/6	6/6	6/6	6/6	6/6	5/6	6/6	2/6	0/6	6/6	6/6	6/6	6/6	0/6	0/6	0/6	0/6	6/6	5/6	6/6	6/6
destructuring, declarations ▶	22/22	20/22	21/22	21/22	21/22	20/22	21/22	21/22	0/22	0/22	0/22	22/22	22/22	22/22	22/22	22/22	22/22	22/22	22/22	22/22	21/22	19/22	22/22	22/22	22/22	22/22	0/22	0/22	0/22	0/22	22/22	22/22	22/22	22/22
destructuring, assignment ▶	24/24	23/24	24/24	24/24	24/24	22/24	24/24	24/24	0/24	0/24	0/24	24/24	24/24	24/24	24/24	24/24	24/24	24/24	24/24	24/24	24/24	21/24	24/24	24/24	24/24	24/24	0/24	0/24	0/24	0/24	24/24	24/24	24/24	24/24
destructuring, parameters ▶	24/24	19/24	21/24	21/24	21/24	20/24	21/24	21/24	0/24	0/24	0/24	23/24	24/24	24/24	24/24	24/24	24/24	24/24	24/24	24/24	23/24	18/24	24/24	24/24	24/24	24/24	0/24	0/24	0/24	0/24	24/24	24/24	24/24	24/24
Unicode code point escapes ▶	2/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	0/2	0/2	0/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	0/2	2/2	0/2	0/2	2/2	2/2	2/2	2/2
new.target ▶	2/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	0/2	2/2	2/2	2/2	2/2	0/2	1/2	0/2	0/2	2/2	2/2	2/2	2/2
Bindings																																		
const ▶	18/18	16/18	16/18	16/18	16/18	16/18	16/18	16/18	0/18	2/18	14/18	18/18	18/18	18/18	18/18	18/18	18/18	18/18	18/18	18/18	18/18	12/18	18/18	18/18	18/18	18/18	1/18	4/18	12/18	16/18	18/18	18/18	18/18	18/18
let ▶	14/14	12/14	12/14	12/14	12/14	12/14	12/14	12/14	0/14	0/14	12/14	14/14	14/14	14/14	14/14	14/14	14/14	14/14	14/14	14/14	14/14	0/14	14/14	14/14	14/14	14/14	0/14	0/14	10/14	12/14	14/14	14/14	14/14	14/14
block-level function declaration[17]	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Functions																																		
arrow functions ▶	13/13	11/13	9/13	9/13	9/13	10/13	9/13	9/13	0/13	0/13	0/13	13/13	13/13	13/13	13/13	13/13	13/13	13/13	13/13	13/13	12/13	0/13	13/13	13/13	13/13	13/13	0/13	0/13	0/13	6/13	13/13	13/13	13/13	13/13
class ▶	24/24	17/24	19/24	19/24	19/24	14/24	19/24	19/24	0/24	0/24	0/24	24/24	24/24	24/24	24/24	24/24	24/24	24/24	24/24	24/24	24/24	18/24	24/24	24/24	24/24	24/24	0/24	0/24	0/24	0/24	23/24	24/24	24/24	24/24
super ▶	8/8	7/8	4/8	4/8	4/8	7/8	7/8	7/8	0/8	0/8	0/8	8/8	8/8	8/8	8/8	8/8	8/8	8/8	8/8	8/8	8/8	7/8	8/8	8/8	8/8	8/8	0/8	0/8	0/8	0/8	8/8	8/8	8/8	8/8
generators ▶	27/27	24/27	24/27	24/27	24/27	19/27	22/27	22/27	0/27	0/27	0/27	27/27	27/27	27/27	27/27	27/27	27/27	27/27	27/27	27/27	27/27	0/27	27/27	27/27	27/27	27/27	0/27	0/27	0/27	0/27	27/27	27/27	27/27	27/27
Built-ins																																		
typed arrays ▶	46/46	0/46	45/46	45/46	46/46	0/46	45/46	46/46	0/46	8/46	16/46	46/46	46/46	46/46	46/46	46/46	46/46	46/46	46/46	46/46	46/46	46/46	46/46	46/46	46/46	46/46	17/46	20/46	19/46	20/46	46/46	46/46	46/46	46/46
Map ▶	19/19	14/19	19/19	19/19	19/19	15/19	19/19	19/19	15/19	0/19	8/19	19/19	19/19	19/19	19/19	19/19	19/19	19/19	19/19	19/19	19/19	18/19	19/19	19/19	19/19	19/19	0/19	0/19	0/19	16/19	19/19	19/19	19/19	19/19
Set ▶	19/19	14/19	19/19	19/19	19/19	15/19	19/19	19/19	15/19	0/19	8/19	19/19	19/19	19/19	19/19	19/19	19/19	19/19	19/19	19/19	19/19	18/19	19/19	19/19	19/19	19/19	0/19	0/19	0/19	16/19	19/19	19/19	19/19	19/19
WeakMap ▶	12/12	6/12	12/12	12/12	12/12	9/12	12/12	12/12	0/12	0/12	6/12	12/12	12/12	12/12	12/12	12/12	12/12	12/12	12/12	12/12	11/12	11/12	12/12	12/12	12/12	12/12	0/12	0/12	0/12	10/12	12/12	12/12	12/12	12/12
WeakSet ▶	11/11	5/11	11/11	11/11	11/11	8/11	11/11	11/11	0/11	0/11	0/11	11/11	11/11	11/11	11/11	11/11	11/11	11/11	11/11	11/11	10/11	10/11	11/11	11/11	11/11	11/11	0/11	0/11	0/11	9/11	11/11	11/11	11/11	11/11
Proxy [22] ▶	34/34	0/34	0/34	0/34	0/34	0/34	0/34	0/34	0/34	0/34	0/34	34/34	34/34	34/34	34/34	34/34	34/34	34/34	34/34	34/34	34/34	0/34	34/34	34/34	34/34	34/34	1/34	15/34	0/34	0/34	34/34	34/34	34/34	34/34
Reflect [23] ▶	20/20	0/20	15/20	15/20	15/20	13/20	15/20	15/20	14/20	0/20	0/20	20/20	20/20	20/20	20/20	20/20	20/20	20/20	20/20	20/20	16/20	0/20	20/20	20/20	20/20	20/20	6/20	14/20	0/20	0/20	20/20	20/20	20/20	20/20
Promise ▶	8/8	4/8	8/8	8/8	8/8	6/8	8/8	8/8	7/8	0/8	0/8	8/8	8/8	8/8	8/8	8/8	8/8	8/8	8/8	8/8	8/8	0/8	8/8	8/8	8/8	8/8	0/8	0/8	0/8	0/8	8/8	8/8	8/8	8/8
Symbol ▶	12/12	4/12	9/12	9/12	9/12	3/12	8/12	8/12	2/12	0/12	0/12	12/12	12/12	12/12	12/12	12/12	12/12	12/12	12/12	12/12	12/12	12/12	12/12	12/12	12/12	12/12	0/12	12/12	0/12	11/12	12/12	12/12	12/12	12/12
well-known symbols[24] ▶	26/26	1/26	15/26	15/26	22/26	1/26	15/26	22/26	0/26	0/26	0/26	17/26	17/26	26/26	26/26	26/26	26/26	26/26	26/26	26/26	25/26	22/26	26/26	26/26	26/26	26/26	0/26	6/26	0/26	1/26	26/26	26/26	26/26	26/26
Built-in extensions																																		
Object static methods ▶	4/4	3/4	3/4	3/4	3/4	2/4	3/4	3/4	2/4	1/4	1/4	4/4	4/4	4/4	4/4	4/4	4/4	4/4	4/4	4/4	4/4	4/4	4/4	4/4	4/4	4/4	0/4	4/4	1/4	2/4	4/4	4/4	4/4	4/4
function "name" property ▶	17/17	0/17	8/17	8/17	8/17	0/17	3/17	3/17	0/17	3/17	0/17	16/17	16/17	17/17	17/17	17/17	17/17	17/17	17/17	17/17	17/17	14/17	17/17	17/17	17/17	17/17	0/17	7/17	2/17	3/17	17/17	17/17	17/17	17/17
String static methods ▶	2/2	2/2	2/2	2/2	2/2	1/2	2/2	2/2	2/2	0/2	0/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	0/2	1/2	0/2	0/2	2/2	2/2	2/2	2/2
String.prototype methods ▶	10/10	8/10	9/10	9/10	9/10	7/10	9/10	9/10	7/10	0/10	0/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	0/10	7/10	0/10	2/10	10/10	10/10	10/10	10/10
RegExp.prototype properties ▶	6/6	0/6	6/6	6/6	6/6	0/6	6/6	6/6	1/6	0/6	0/6	1/6	1/6	6/6	6/6	6/6	6/6	6/6	6/6	6/6	6/6	5/6	6/6	6/6	6/6	6/6	0/6	1/6	0/6	0/6	6/6	6/6	6/6	6/6
Array static methods ▶	11/11	10/11	11/11	11/11	11/11	9/11	9/11	9/11	7/11	0/11	0/11	11/11	11/11	11/11	11/11	11/11	11/11	11/11	11/11	11/11	11/11	8/11	11/11	11/11	11/11	11/11	0/11	0/11	0/11	0/11	11/11	11/11	11/11	11/11
Array.prototype methods ▶	10/10	7/10	10/10	10/10	10/10	8/10	10/10	10/10	7/10	0/10	0/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	9/10	10/10	10/10	0/10	0/10	0/10	5/10	10/10	10/10	10/10	9/10
Number properties ▶	9/9	7/9	9/9	9/9	9/9	9/9	9/9	9/9	9/9	6/9	0/9	9/9	9/9	9/9	9/9	9/9	9/9	9/9	9/9	9/9	7/9	7/9	9/9	9/9	9/9	9/9	0/9	9/9	0/9	0/9	9/9	9/9	9/9	9/9
Math methods ▶	17/17	17/17	17/17	17/17	17/17	16/17	17/17	17/17	17/17	14/17	0/17	17/17	17/17	17/17	17/17	17/17	17/17	17/17	17/17	17/17	17/17	17/17	17/17	17/17	17/17	17/17	0/17	8/17	0/17	0/17	17/17	17/17	17/17	17/17
Date.prototype[Symbol.toPrimitive]	Yes	No	Yes[10]	Yes[10]	Yes[10]	No	Yes[15]	Yes[15]	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No	Yes	No	No	Yes	Yes	Yes	Yes
Subclassing																																		
Array is subclassable ▶	11/11	0/11	0/11	0/11	0/11	0/11	0/11	0/11	0/11	0/11	0/11	11/11	11/11	11/11	11/11	11/11	11/11	11/11	11/11	11/11	11/11	11/11	11/11	11/11	11/11	11/11	0/11	0/11	0/11	0/11	11/11	11/11	11/11	11/11
RegExp is subclassable ▶	4/4	0/4	0/4	0/4	0/4	0/4	0/4	0/4	0/4	0/4	0/4	4/4	4/4	4/4	4/4	4/4	4/4	4/4	4/4	4/4	4/4	4/4	4/4	4/4	4/4	4/4	0/4	0/4	0/4	0/4	4/4	4/4	4/4	4/4
Function is subclassable ▶	6/6	0/6	0/6	0/6	0/6	0/6	0/6	0/6	0/6	0/6	0/6	6/6	6/6	6/6	6/6	6/6	6/6	6/6	6/6	6/6	6/6	0/6	6/6	6/6	6/6	6/6	0/6	0/6	0/6	0/6	6/6	6/6	6/6	6/6
Promise is subclassable ▶	4/4	0/4	0/4	0/4	0/4	0/4	0/4	0/4	0/4	0/4	0/4	4/4	4/4	4/4	4/4	4/4	4/4	4/4	4/4	4/4	4/4	0/4	4/4	4/4	4/4	4/4	0/4	0/4	0/4	0/4	4/4	4/4	4/4	4/4
miscellaneous subclassables ▶	6/6	0/6	0/6	0/6	0/6	0/6	0/6	0/6	0/6	0/6	0/6	6/6	6/6	6/6	6/6	6/6	6/6	6/6	6/6	6/6	6/6	6/6	6/6	6/6	6/6	6/6	0/6	0/6	0/6	0/6	6/6	6/6	6/6	6/6
Misc																																		
prototype of bound functions ▶	5/5	0/5	0/5	0/5	0/5	0/5	0/5	0/5	0/5	0/5	0/5	5/5	5/5	5/5	5/5	5/5	5/5	5/5	5/5	5/5	5/5	3/5	5/5	5/5	5/5	5/5	1/5	1/5	0/5	0/5	5/5	5/5	5/5	5/5
Proxy, internal 'get' calls ▶	36/36	0/36	0/36	0/36	0/36	0/36	0/36	0/36	0/36	0/36	0/36	24/36	24/36	36/36	36/36	36/36	36/36	36/36	35/36	36/36	34/36	0/36	35/36	36/36	36/36	36/36	0/36	12/36	0/36	0/36	36/36	35/36	36/36	36/36
Proxy, internal 'set' calls ▶	11/11	0/11	0/11	0/11	0/11	0/11	0/11	0/11	0/11	0/11	0/11	11/11	11/11	11/11	11/11	11/11	11/11	11/11	11/11	11/11	11/11	0/11	11/11	11/11	11/11	11/11	0/11	7/11	0/11	0/11	11/11	11/11	11/11	11/11
Proxy, internal 'defineProperty' calls ▶	2/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	0/2	2/2	2/2	2/2	2/2	0/2	0/2	0/2	0/2	2/2	2/2	2/2	2/2
Proxy, internal 'deleteProperty' calls ▶	6/6	0/6	0/6	0/6	0/6	0/6	0/6	0/6	0/6	0/6	0/6	6/6	6/6	6/6	6/6	6/6	6/6	6/6	6/6	6/6	6/6	0/6	6/6	6/6	6/6	6/6	0/6	5/6	0/6	0/6	6/6	6/6	6/6	6/6
Proxy, internal 'getOwnPropertyDescriptor' calls ▶	4/4	0/4	0/4	0/4	0/4	0/4	0/4	0/4	0/4	0/4	0/4	4/4	4/4	4/4	4/4	4/4	4/4	4/4	4/4	4/4	4/4	0/4	4/4	4/4	4/4	4/4	0/4	0/4	0/4	0/4	4/4	4/4	4/4	4/4
Proxy, internal 'ownKeys' calls ▶	3/3	0/3	0/3	0/3	0/3	0/3	0/3	0/3	0/3	0/3	0/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3	0/3	3/3	3/3	3/3	3/3	0/3	1/3	0/3	0/3	3/3	3/3	3/3	3/3
Object static methods accept primitives ▶	10/10	0/10	10/10	10/10	10/10	0/10	10/10	10/10	10/10	0/10	0/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	10/10	0/10	10/10	0/10	0/10	10/10	10/10	10/10	10/10
own property order ▶	7/7	0/7	1/7	1/7	1/7	0/7	1/7	1/7	1/7	0/7	4/7	7/7	7/7	7/7	7/7	7/7	7/7	7/7	7/7	7/7	7/7	5/7	7/7	7/7	7/7	7/7	0/7	7/7	2/7	2/7	7/7	7/7	7/7	7/7
Updated identifier syntax ▶	3/3	1/3	1/3	1/3	1/3	1/3	1/3	1/3	0/3	0/3	1/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3	1/3	1/3	1/3	1/3	1/3	3/3	3/3	3/3	0/3	0/3	0/3	1/3	3/3	1/3	1/3	3/3
miscellaneous ▶	9/9	0/9	5/9	5/9	5/9	2/9	5/9	5/9	2/9	1/9	2/9	7/9	7/9	9/9	9/9	9/9	9/9	9/9	9/9	9/9	7/9	8/9	9/9	9/9	9/9	9/9	0/9	7/9	2/9	4/9	9/9	9/9	9/9	9/9
Annex b																																		
non-strict function semantics[33] ▶	3/3	0/3	0/3	0/3	0/3	0/3	0/3	0/3	0/3	2/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3	2/3	3/3	3/3	3/3	3/3	3/3	0/3	2/3	0/3	1/3	3/3	3/3	3/3	3/3
__proto__ in object literals [34] ▶	5/5	0/5	0/5	0/5	0/5	0/5	0/5	0/5	0/5	1/5	1/5	5/5	5/5	5/5	5/5	5/5	5/5	5/5	5/5	5/5	5/5	5/5	5/5	5/5	5/5	5/5	0/5	0/5	1/5	3/5	5/5	5/5	5/5	5/5
Object.prototype.__proto__ ▶	6/6	0/6	0/6	0/6	0/6	0/6	0/6	0/6	0/6	3/6	6/6	6/6	6/6	6/6	6/6	6/6	6/6	6/6	6/6	6/6	6/6	6/6	6/6	6/6	6/6	6/6	1/6	6/6	6/6	6/6	6/6	6/6	6/6	6/6
String.prototype HTML methods ▶	3/3	0/3	3/3	3/3	3/3	0/3	3/3	3/3	3/3	3/3	1/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3	0/3	3/3	3/3	3/3	3/3	3/3	0/3	0/3	0/3	0/3	3/3	3/3	3/3	3/3
RegExp.prototype.compile ▶	2/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	1/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	1/2	0/2	1/2	2/2	2/2	2/2	0/2	0/2	2/2	2/2	2/2	2/2	2/2	2/2
RegExp syntax extensions ▶	8/8	0/8	0/8	0/8	0/8	0/8	0/8	0/8	0/8	8/8	8/8	8/8	8/8	8/8	8/8	8/8	8/8	8/8	8/8	8/8	5/8	8/8	8/8	8/8	8/8	8/8	0/8	3/8	7/8	7/8	8/8	8/8	8/8	8/8
HTML-style comments	Yes	No	No	No	No	No	No	No	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	No	Yes	No	No	No	Yes	Yes	Yes

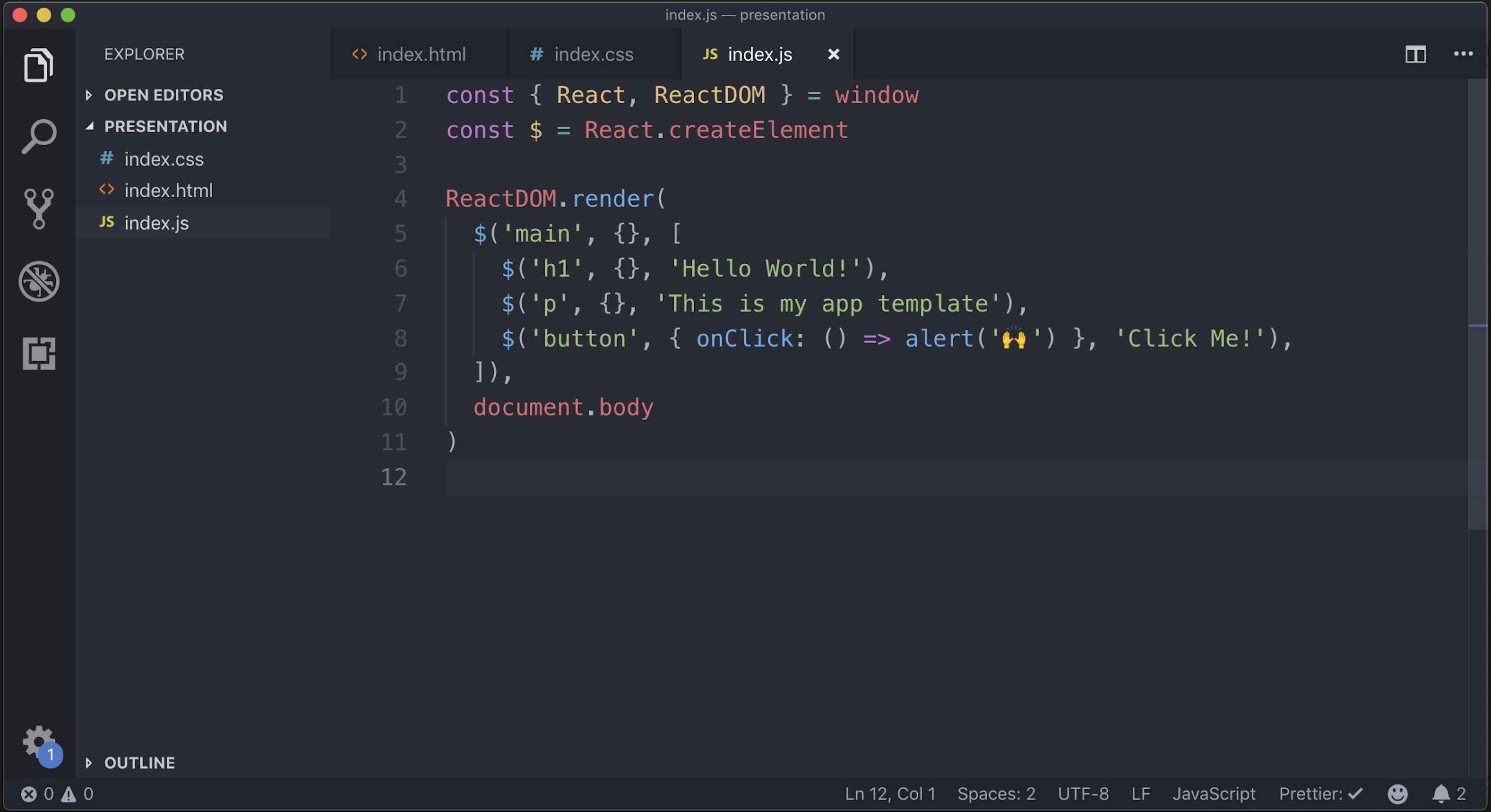
1. ~~Browser support for language features~~
2. Splitting up your code into modules



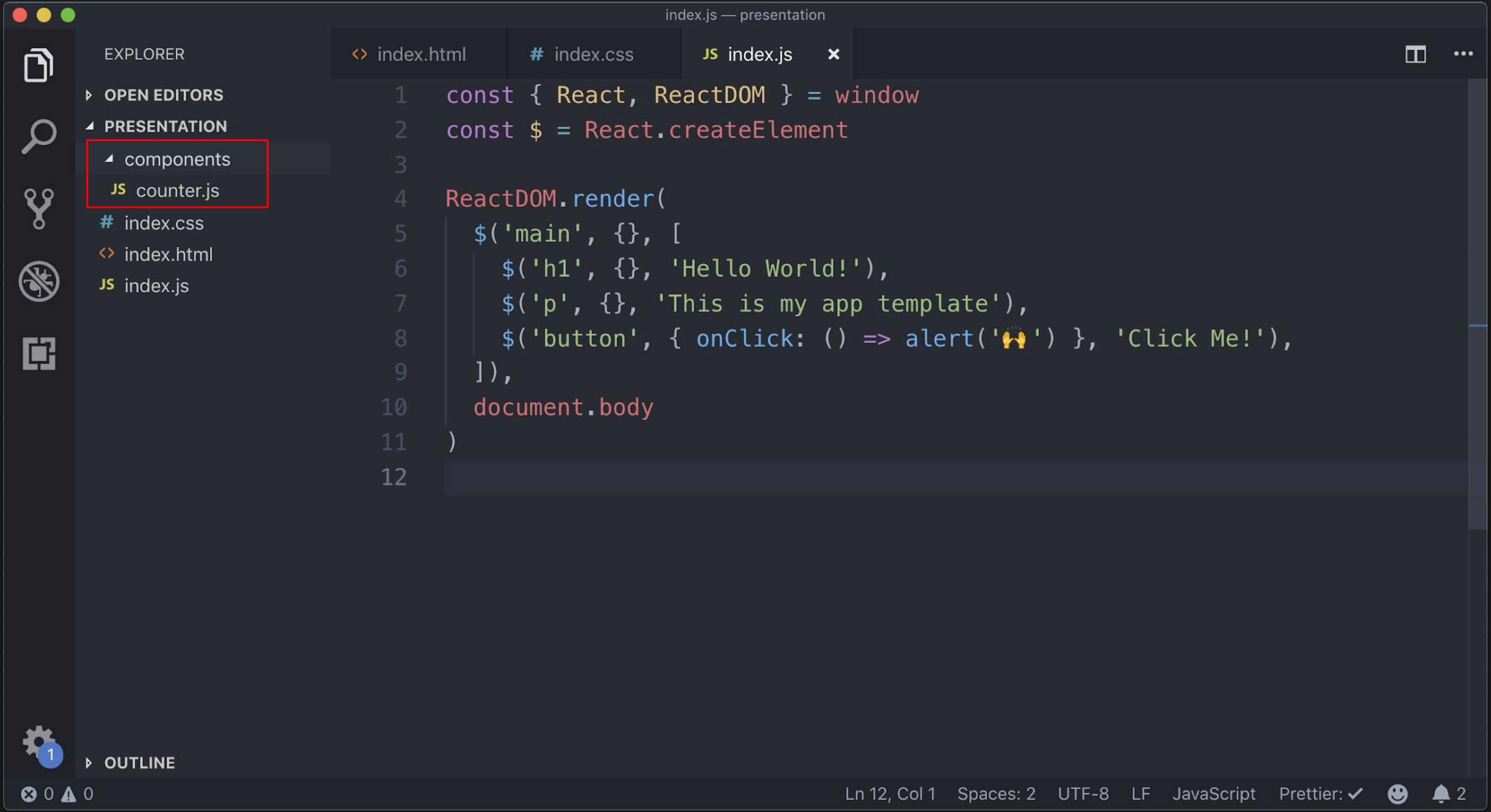
```html
<html>
  <head>
    <title>Experiment</title>
    <link rel="stylesheet" href="./index.css" />
    <script defer src="./index.js"></script>
  </head>
  <body>
    <h1>Hello World</h1>
    <p>This is my app template</p>
    <button>Click Me!</button>
  </body>
</html>

```



```html
<html>
  <head>
    <title>Experiment</title>
    <link rel="stylesheet" href="./index.css" />
    <script src="https://unpkg.com/react@16/umd/react.development.js"></script>
    <script src="https://unpkg.com/react-dom@16/umd/react-dom.development.js"></script>
    <script defer src="./index.js"></script>
  </head>
  <body></body>
</html>
```



```javascript
const { React, ReactDOM } = window
const $ = React.createElement

ReactDOM.render(
  $('main', {}, [
    $('h1', {}, 'Hello World!'),
    $('p', {}, 'This is my app template'),
    $('button', { onClick: () => alert('🙌') }, 'Click Me!'),
  ]),
  document.body
)

```



```javascript
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    $('h1', {}, 'Hello World!'),
    $('p', {}, 'This is my app template'),
    $('button', { onClick: () => alert('🙌') }, 'Click Me!'),
  ]),
  document.body
)

```
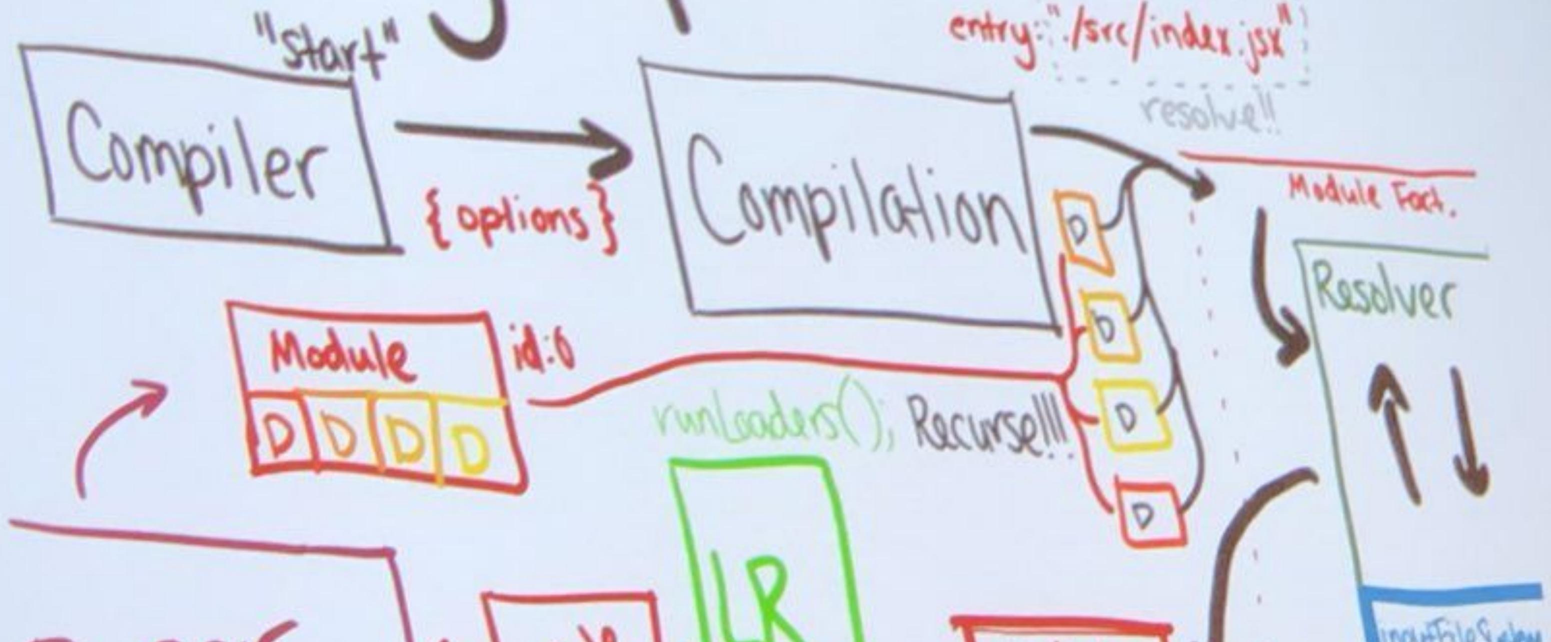
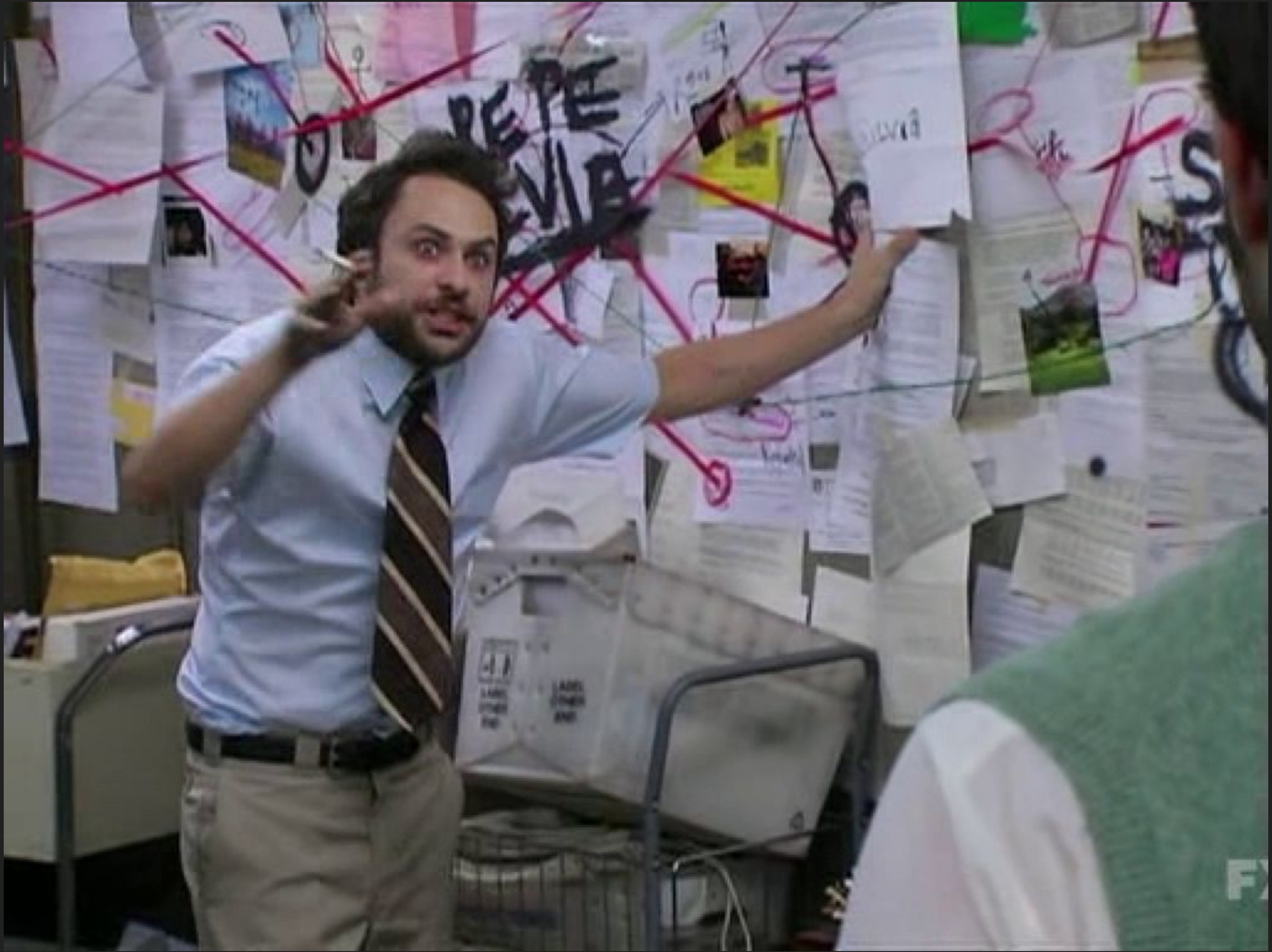
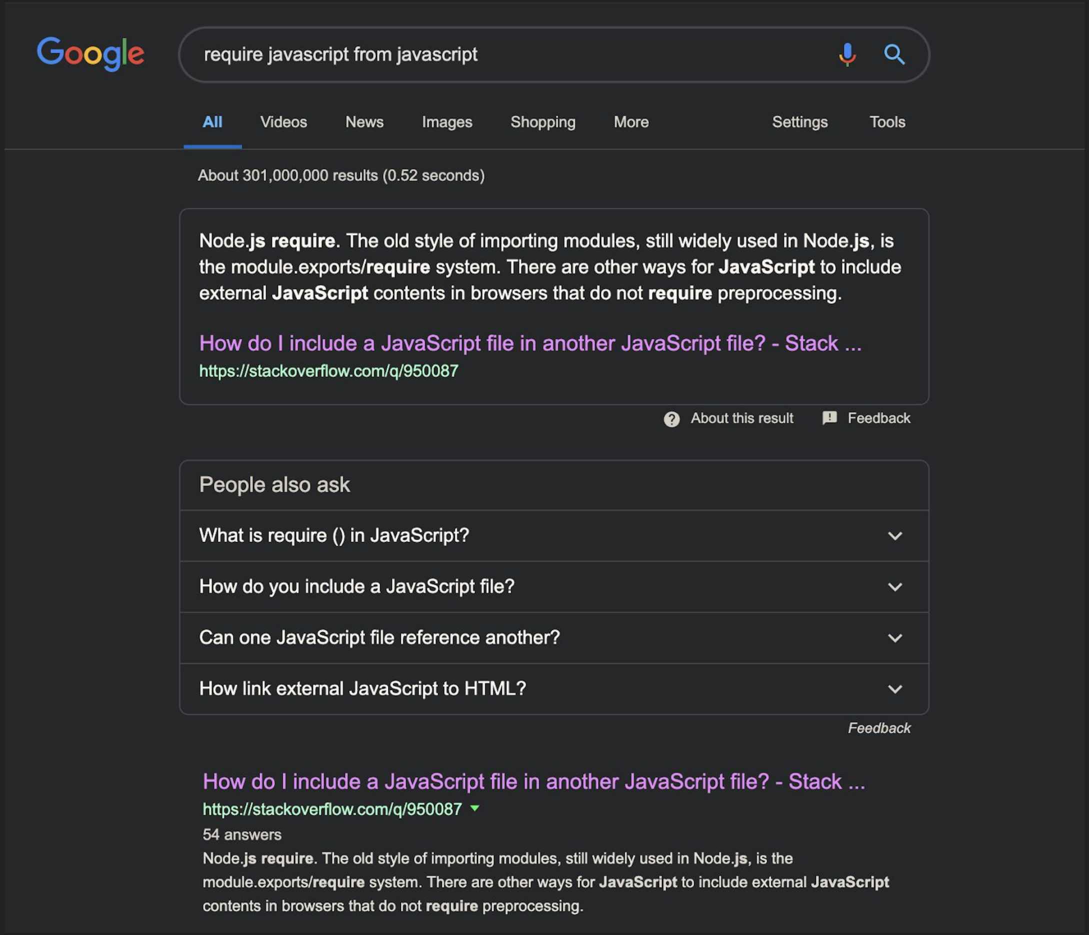

How webpack builds the graph!!!





PEPE



require javascript from javascript

About 301,000,000 results (0.52 seconds)

Node.**js require**. The old style of importing modules, still widely used in Node.**js**, is the module.exports/**require** system. There are other ways for **JavaScript** to include external **JavaScript** contents in browsers that do not **require** preprocessing.

How do I include a JavaScript file in another JavaScript file? - Stack ...
https://stackoverflow.com/q/950087

People also ask

What is require () in JavaScript?

How do you include a JavaScript file?

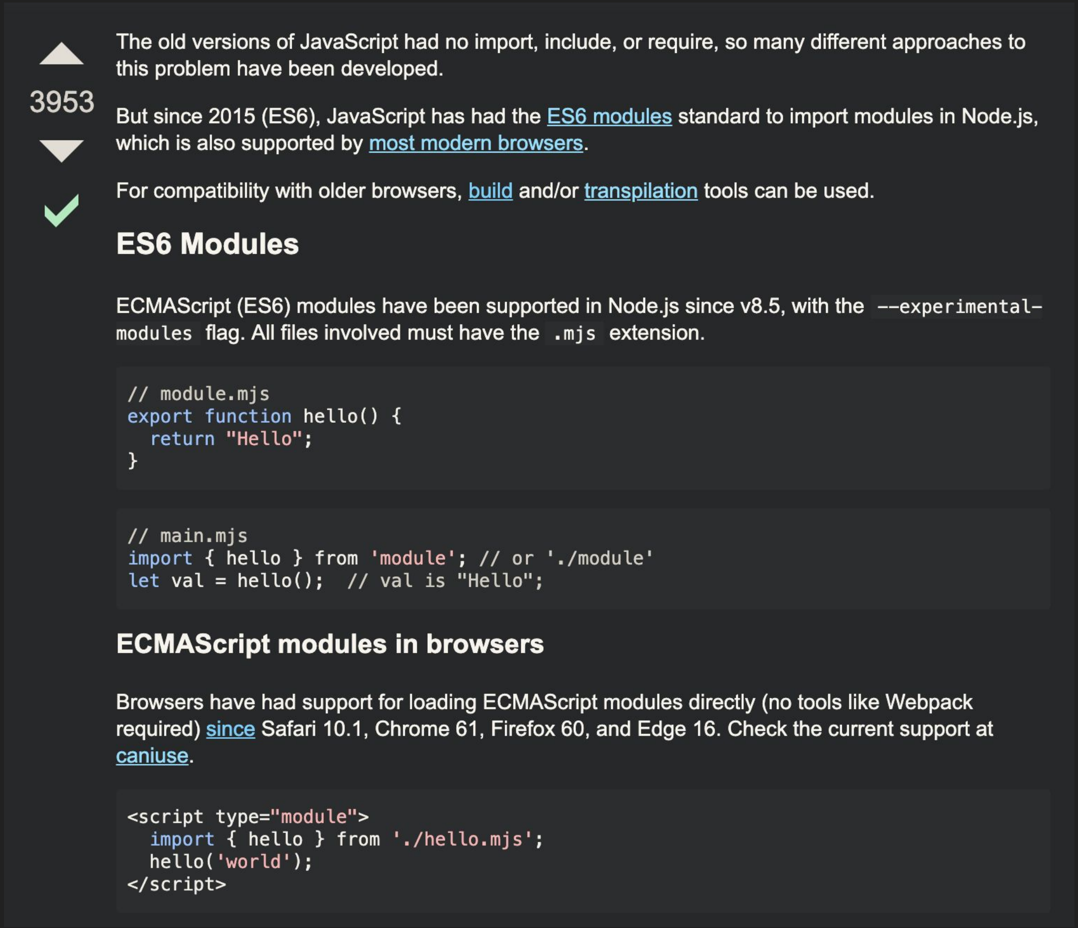
Can one JavaScript file reference another?

How link external JavaScript to HTML?

How do I include a JavaScript file in another JavaScript file? - Stack ...
https://stackoverflow.com/q/950087

54 answers

Node.**js require**. The old style of importing modules, still widely used in Node.**js**, is the module.exports/**require** system. There are other ways for **JavaScript** to include external **JavaScript** contents in browsers that do not **require** preprocessing.



The old versions of JavaScript had no import, include, or require, so many different approaches to this problem have been developed.

But since 2015 (ES6), JavaScript has had the ES6 modules standard to import modules in Node.js, which is also supported by most modern browsers.

For compatibility with older browsers, build and/or transpilation tools can be used.

ES6 Modules

ECMAScript (ES6) modules have been supported in Node.js since v8.5, with the `--experimental-modules` flag. All files involved must have the `.mjs` extension.

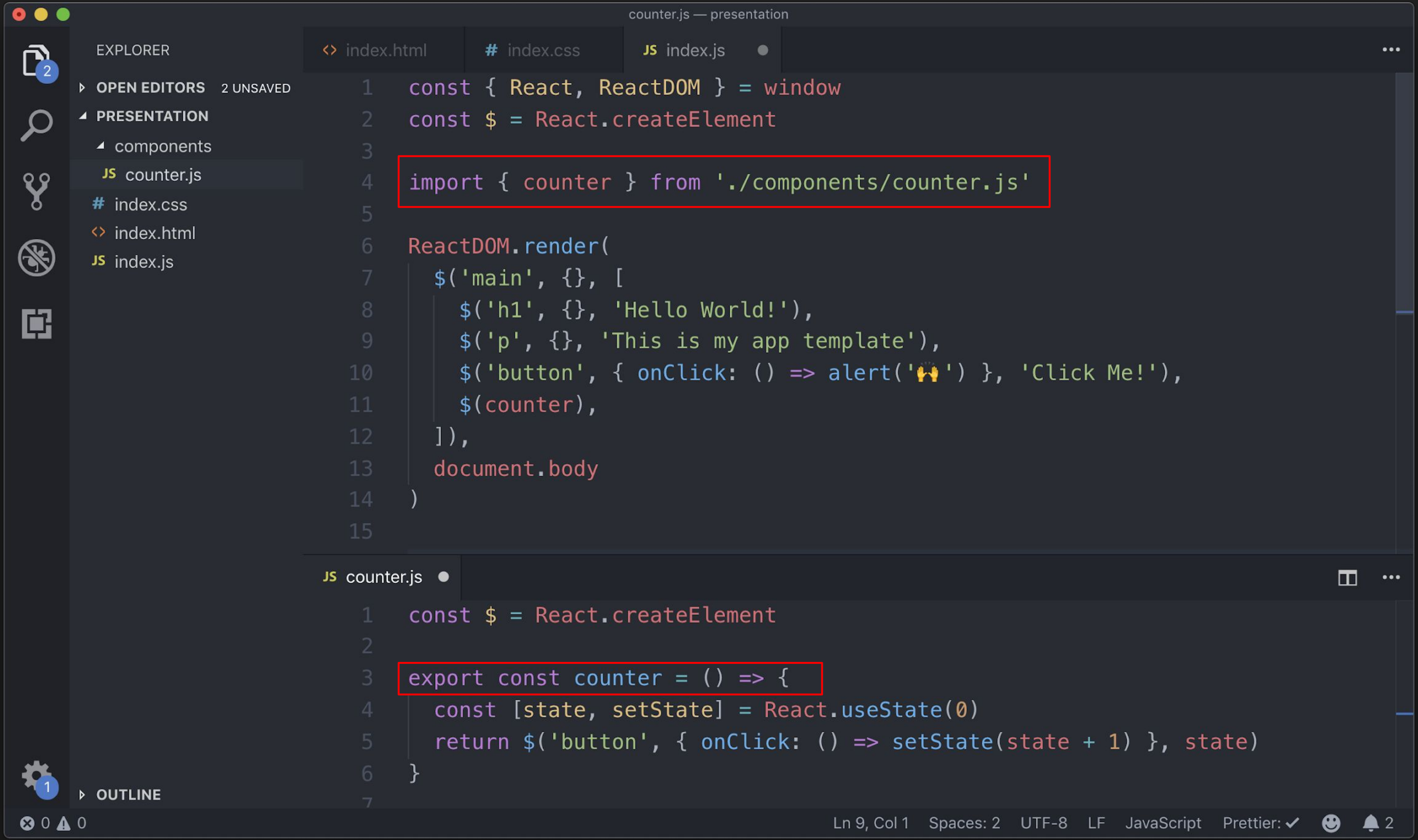
```
// module.mjs
export function hello() {
  return "Hello";
}
```

```
// main.mjs
import { hello } from 'module'; // or './module'
let val = hello();  // val is "Hello";
```

ECMAScript modules in browsers

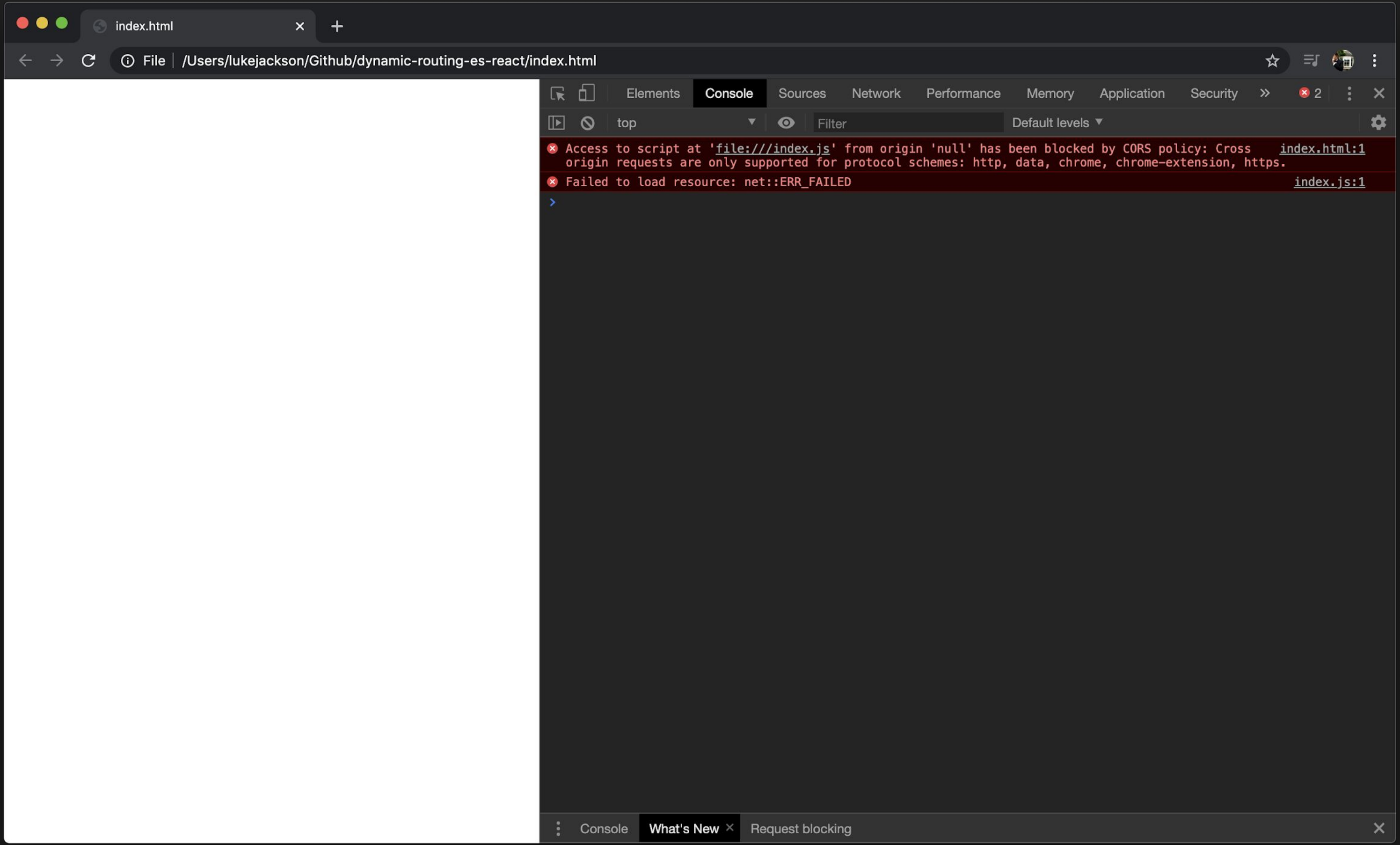
Browsers have had support for loading ECMAScript modules directly (no tools like Webpack required) since Safari 10.1, Chrome 61, Firefox 60, and Edge 16. Check the current support at caniuse.

```
<script type="module">
  import { hello } from './hello.mjs';
  hello('world');
</script>
```

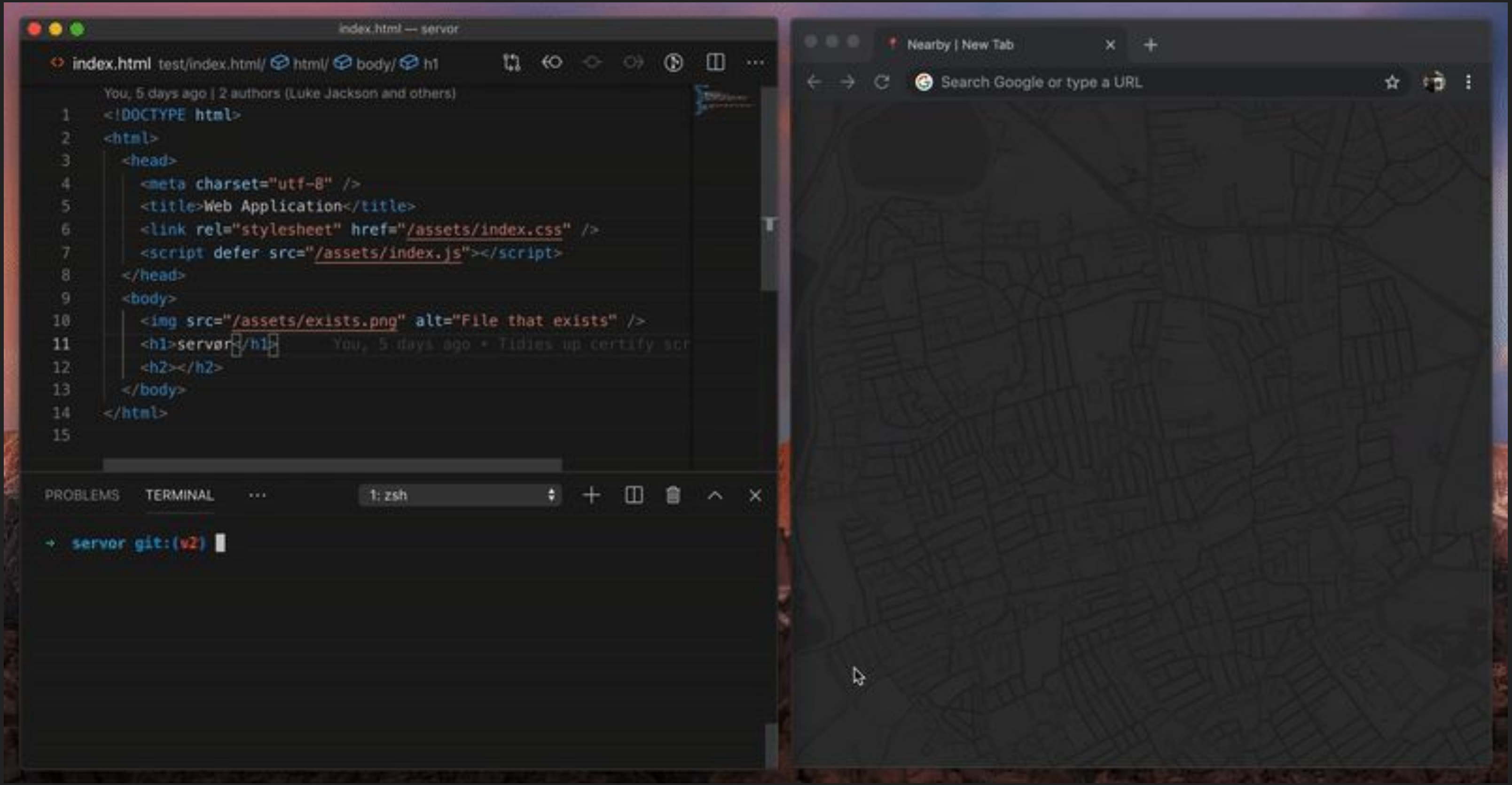


```
const { React, ReactDOM } = window
const $ = React.createElement

import { counter } from './components/counter.js'

ReactDOM.render(
  $('main', {}, [
    $('h1', {}, 'Hello World!'),
    $('p', {}, 'This is my app template'),
    $('button', { onClick: () => alert('🙌') }, 'Click Me!'),
    $(counter),
  ]),
  document.body
)

```

```
const $ = React.createElement

export const counter = () => {
  const [state, setState] = React.useState(0)
  return $('button', { onClick: () => setState(state + 1) }, state)
}
```



```
Access to script at 'file:///index.js' from origin 'null' has been blocked by CORS policy: Cross    index.html:1
origin requests are only supported for protocol schemes: http, data, chrome, chrome-extension, https.
Failed to load resource: net::ERR_FAILED                                                              index.js:1
```

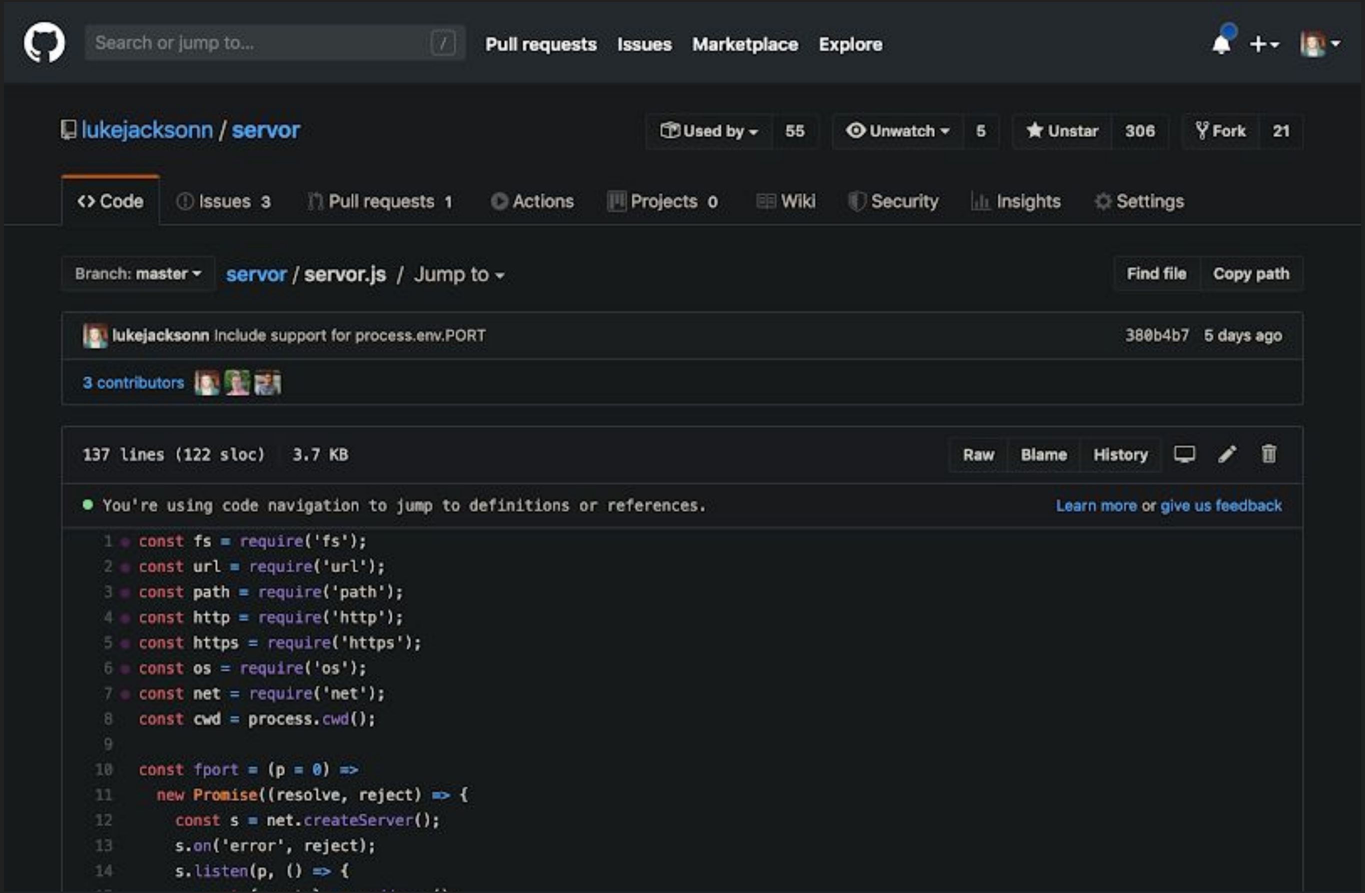


index.html — servor
index.html test/index.html/ html/ body/ h1
PROBLEMS
TERMINAL
1: zsh
Nearby | New Tab
Search Google or type a URL

You, 5 days ago | 2 authors (Luke Jackson and others)

```html
<!DOCTYPE html>
<html>
  <head>
    <meta charset="utf-8" />
    <title>Web Application</title>
    <link rel="stylesheet" href="/assets/index.css" />
    <script defer src="/assets/index.js"></script>
  </head>
  <body>
    <img src="/assets/exists.png" alt="File that exists" />
    <h1>servør</h1>      You, 5 days ago • Tidies up certify scr
    <h2></h2>
  </body>
</html>
```

```
→ servor git:(v2) █
```



lukejacksonn Include support for process.env.PORT 380b4b7 5 days ago

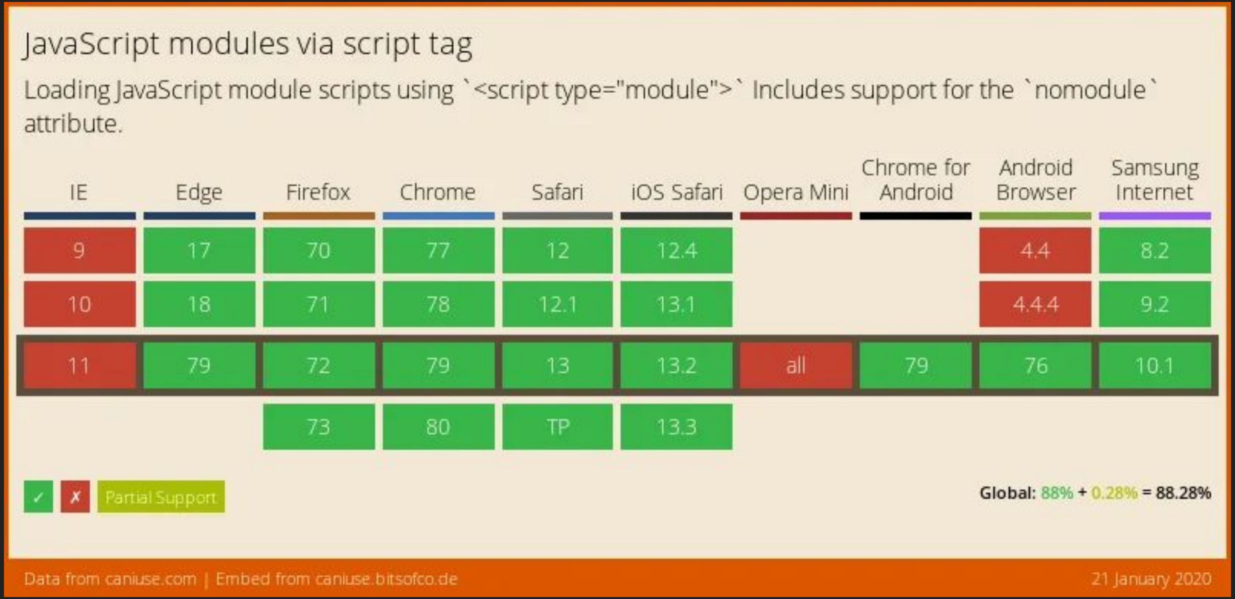
3 contributors

137 lines (122 sloc) 3.7 KB

You're using code navigation to jump to definitions or references. Learn more or give us feedback

```
const fs = require('fs');
const url = require('url');
const path = require('path');
const http = require('http');
const https = require('https');
const os = require('os');
const net = require('net');
const cwd = process.cwd();

const fport = (p = 0) =>
  new Promise((resolve, reject) => {
    const s = net.createServer();
    s.on('error', reject);
    s.listen(p, () => {
```

IT'S ALMOST TOO EASY



JavaScript modules via script tag

Loading JavaScript module scripts using `<script type="module">` Includes support for the `nomodule` attribute.

IE	Edge	Firefox	Chrome	Safari	iOS Safari	Opera Mini	Chrome for Android	Android Browser	Samsung Internet
9	17	70	77	12	12.4			4.4	8.2
10	18	71	78	12.1	13.1			4.4.4	9.2
11	79	72	79	13	13.2	all	79	76	10.1
		73	80	TP	13.3				

✓ ✗ Partial Support

Global: 88% + 0.28% = 88.28%

Data from caniuse.com | Embed from caniuse.bitsofco.de

21 January 2020

```
<script type="module" src="..."></script>
```

```
// Static Import

import { something } from ‘./somewhere.js’
```

```
// Dynamic Import

import(‘./somewhere.js’)
  .then(module => console.log(module))
```

```
import { something } from ‘./somewhere.js’

…

{
  onClick: () => import(‘./expensive.js’)
    .then(module => console.log(module))
}
```

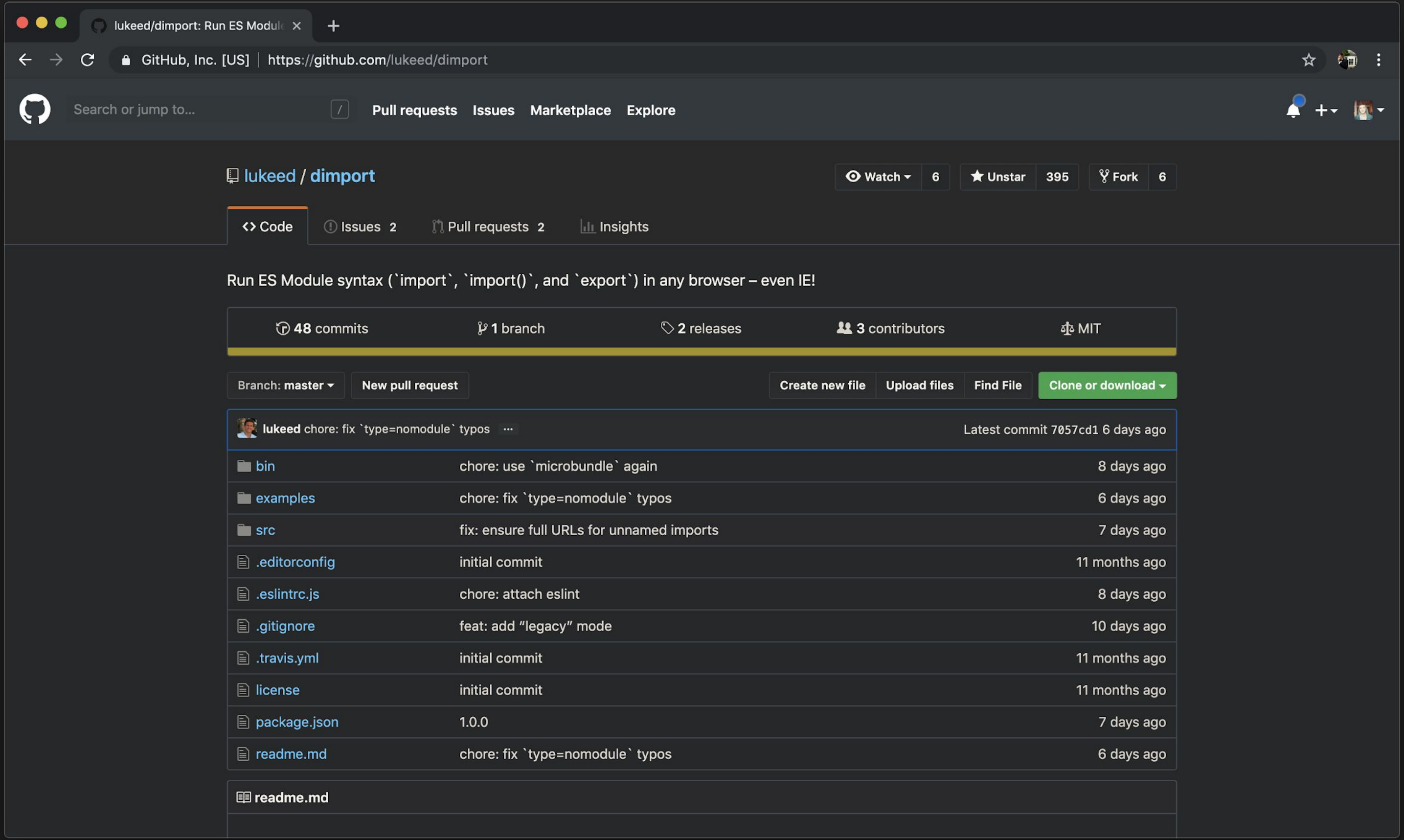
Code-Splitting

To avoid winding up with a large bundle, it's good to **get ahead of the problem and start "splitting" your bundle**.

The best way to introduce code-splitting into your app is through the dynamic import syntax.

https://reactjs.org/docs/code-splitting.html

```
const Home = React.lazy(() => import(‘./routes/home.js’))

...

<React.Suspense>

    <Home />

</React.Suspense>
```



Run ES Module syntax (`import`, `import()`, and `export`) in any browser – even IE!

48 commits | 1 branch | 2 releases | 3 contributors | MIT

lukeed chore: fix `type=nomodule` typos … Latest commit 7057cd1 6 days ago

bin	chore: use `microbundle` again	8 days ago
examples	chore: fix `type=nomodule` typos	6 days ago
src	fix: ensure full URLs for unnamed imports	7 days ago
.editorconfig	initial commit	11 months ago
.eslintrc.js	chore: attach eslint	8 days ago
.gitignore	feat: add “legacy” mode	10 days ago
.travis.yml	initial commit	11 months ago
license	initial commit	11 months ago
package.json	1.0.0	7 days ago
readme.md	chore: fix `type=nomodule` typos	6 days ago

readme.md

1. ~~Browser support for language features~~
2. ~~Splitting up your code into modules~~

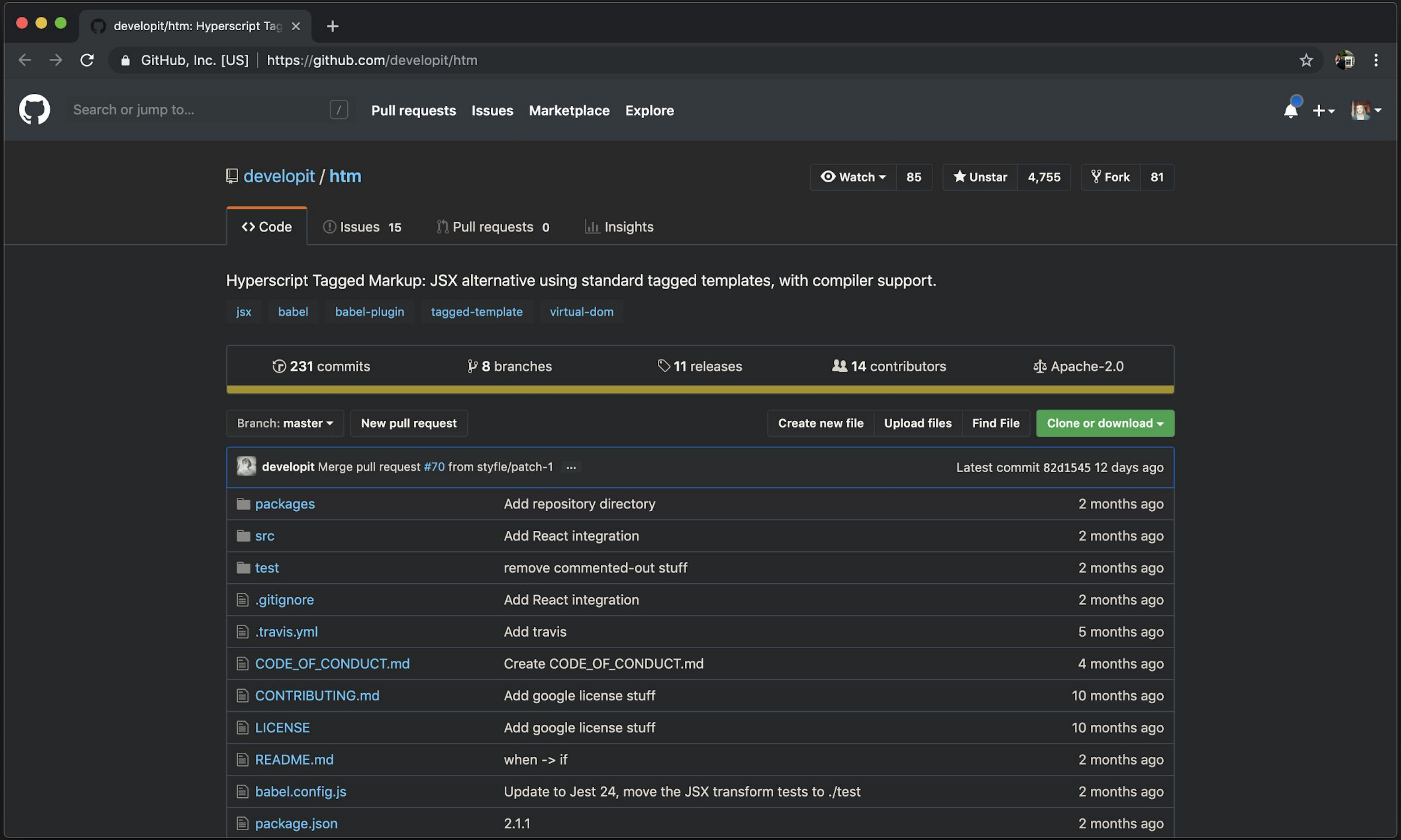
The world is my 🦞

JSX

> *I wanted to use Virtual DOM [JSX], but I wanted to eschew build tooling and use ES Modules directly.*

Jason Miller (@developit)

🤘



developit / htm

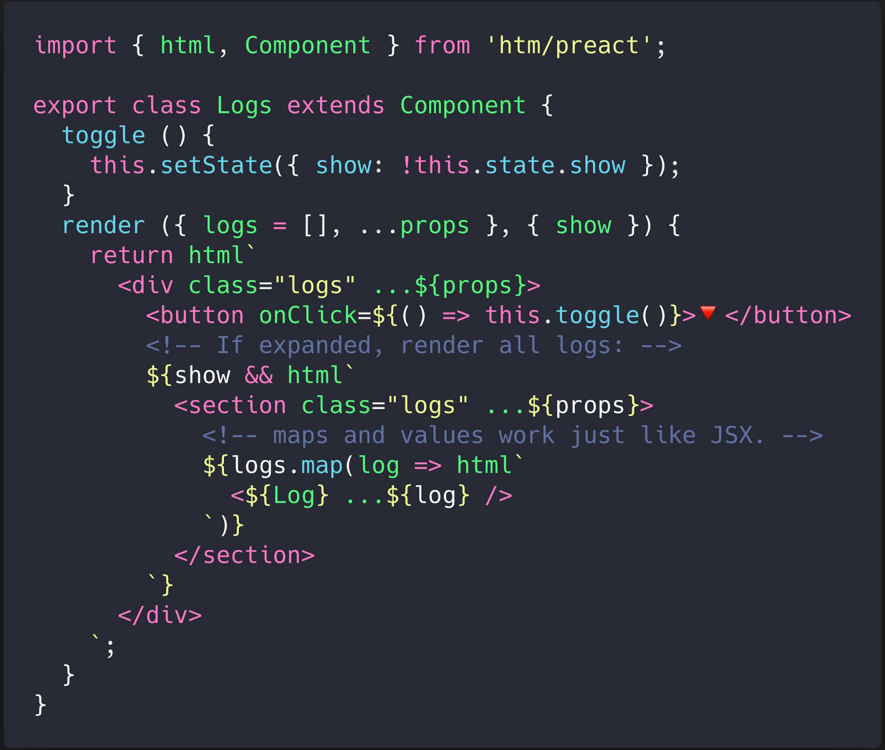
Hyperscript Tagged Markup: JSX alternative using standard tagged templates, with compiler support.

jsx babel babel-plugin tagged-template virtual-dom

231 commits | 8 branches | 11 releases | 14 contributors | Apache-2.0

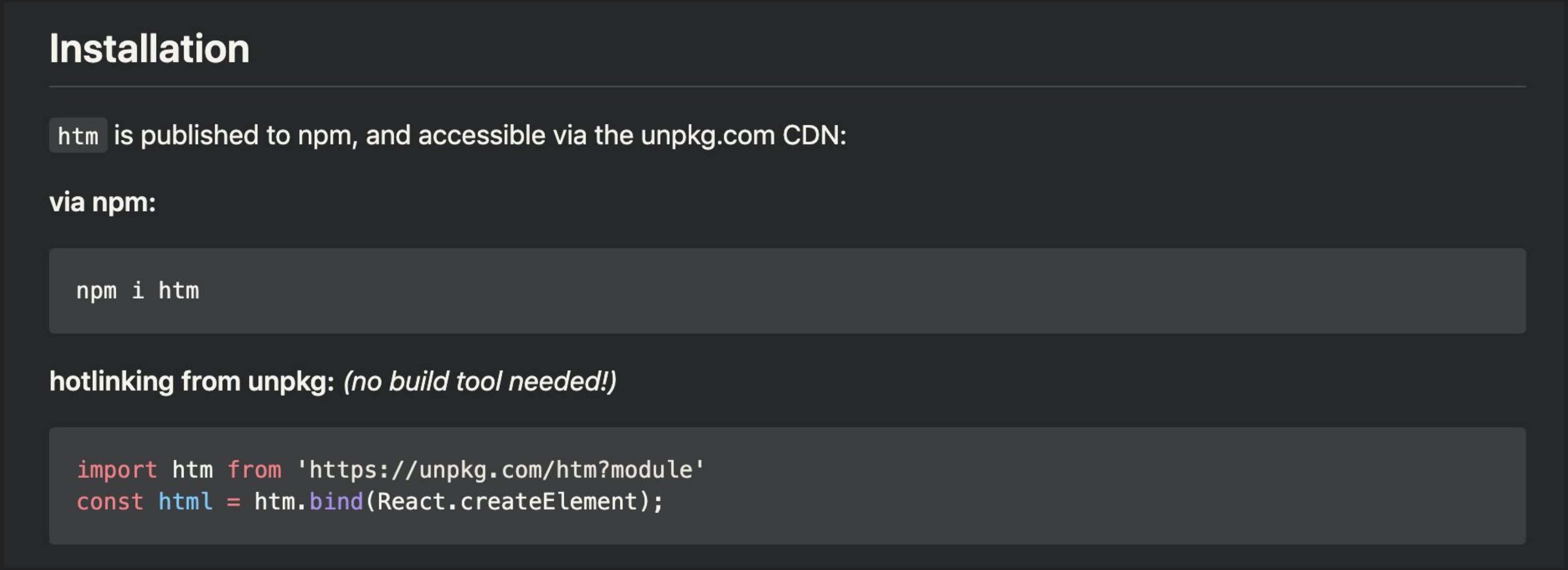
developit Merge pull request #70 from stylfe/patch-1 … Latest commit 82d1545 12 days ago

packages	Add repository directory	2 months ago
src	Add React integration	2 months ago
test	remove commented-out stuff	2 months ago
.gitignore	Add React integration	2 months ago
.travis.yml	Add travis	5 months ago
CODE_OF_CONDUCT.md	Create CODE_OF_CONDUCT.md	4 months ago
CONTRIBUTING.md	Add google license stuff	10 months ago
LICENSE	Add google license stuff	10 months ago
README.md	when -> if	2 months ago
babel.config.js	Update to Jest 24, move the JSX transform tests to ./test	2 months ago
package.json	2.1.1	2 months ago



```
import { html, Component } from 'htm/preact';

export class Logs extends Component {
  toggle () {
    this.setState({ show: !this.state.show });
  }
  render ({ logs = [], ...props }, { show }) {
    return html`
      <div class="logs" ...${props}>
        <button onClick=${() => this.toggle()}>🔻 </button>
        <!-- If expanded, render all logs: -->
        ${show && html`
          <section class="logs" ...${props}>
            <!-- maps and values work just like JSX. -->
            ${logs.map(log => html`
              <${Log} ...${log} />
            `)}
          </section>
        `}
      </div>
    `;
  }
}
```

- Less than 600 bytes
- No transpiler necessary
- Optional quotes
- Self closing components
- class == className
- Multiple root elements
- Comment support
- Syntax highlighting via the lit-html extension.



Installation

`htm` is published to npm, and accessible via the unpkg.com CDN:

via npm:

```
npm i htm
```

hotlinking from unpkg: *(no build tool needed!)*

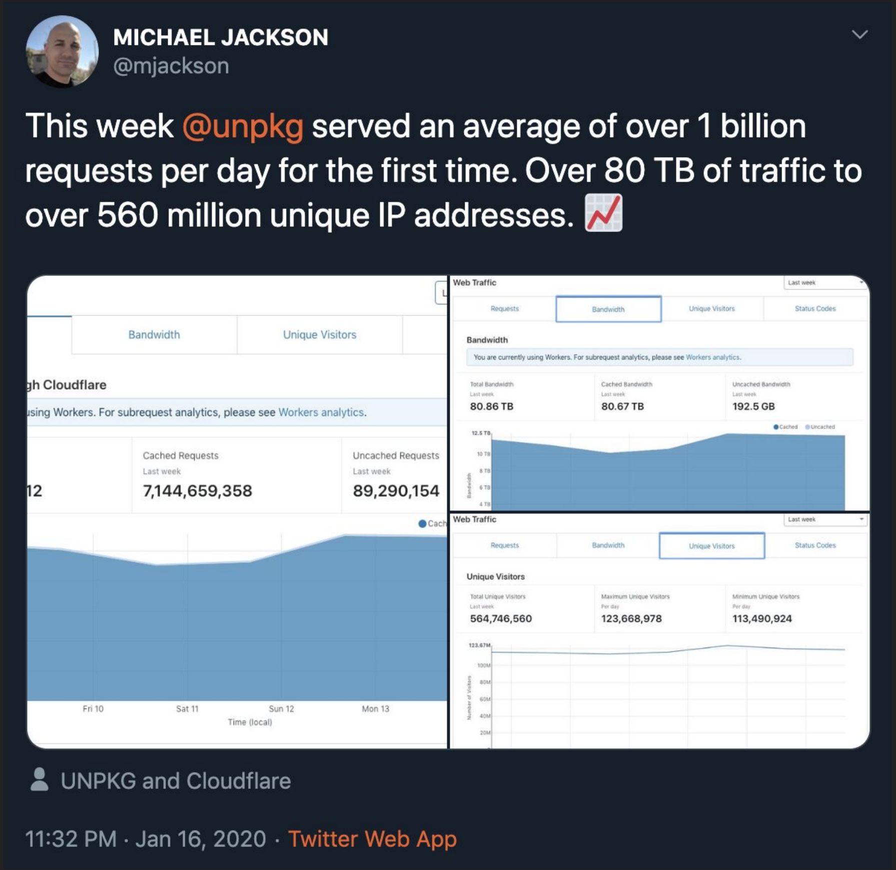
```
import htm from 'https://unpkg.com/htm?module'
const html = htm.bind(React.createElement);
```

```
import htm from 'https://unpkg.com/htm?module'
```

UNPKG

unpkg.com/:package@:version/:file

A CDN MIRROR OF NPM



MICHAEL JACKSON
@mjackson

This week @unpkg served an average of over 1 billion requests per day for the first time. Over 80 TB of traffic to over 560 million unique IP addresses. 📈

gh Cloudflare

using Workers. For subrequest analytics, please see Workers analytics.

	Cached Requests Last week	Uncached Requests Last week
12	7,144,659,358	89,290,154

Web Traffic

Bandwidth

You are currently using Workers. For subrequest analytics, please see Workers analytics.

Total Bandwidth Last week	Cached Bandwidth Last week	Uncached Bandwidth Last week
80.86 TB	80.67 TB	192.5 GB

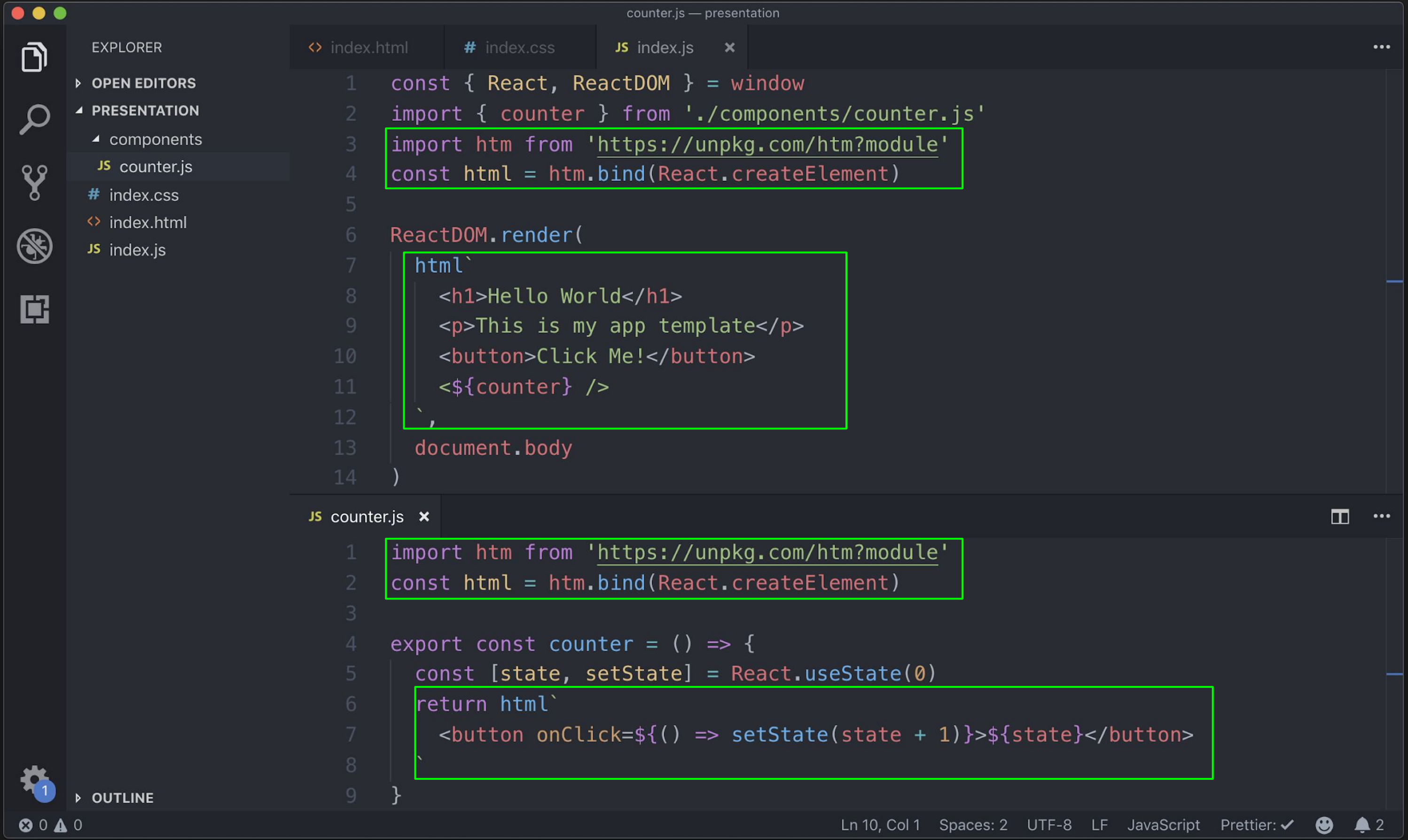
Web Traffic

Unique Visitors

Total Unique Visitors Last week	Maximum Unique Visitors Per day	Minimum Unique Visitors Per day
564,746,560	123,668,978	113,490,924

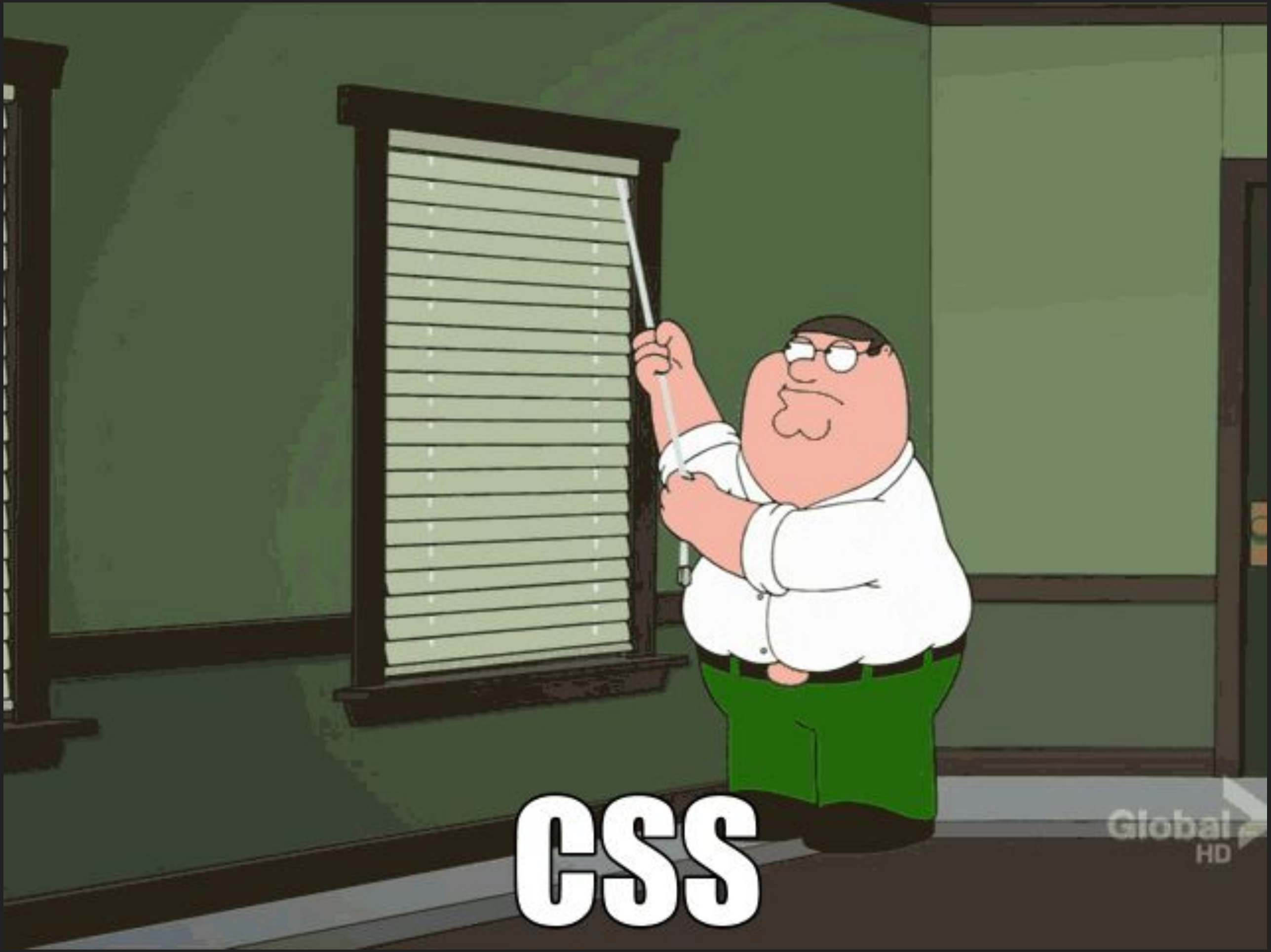
UNPKG and Cloudflare

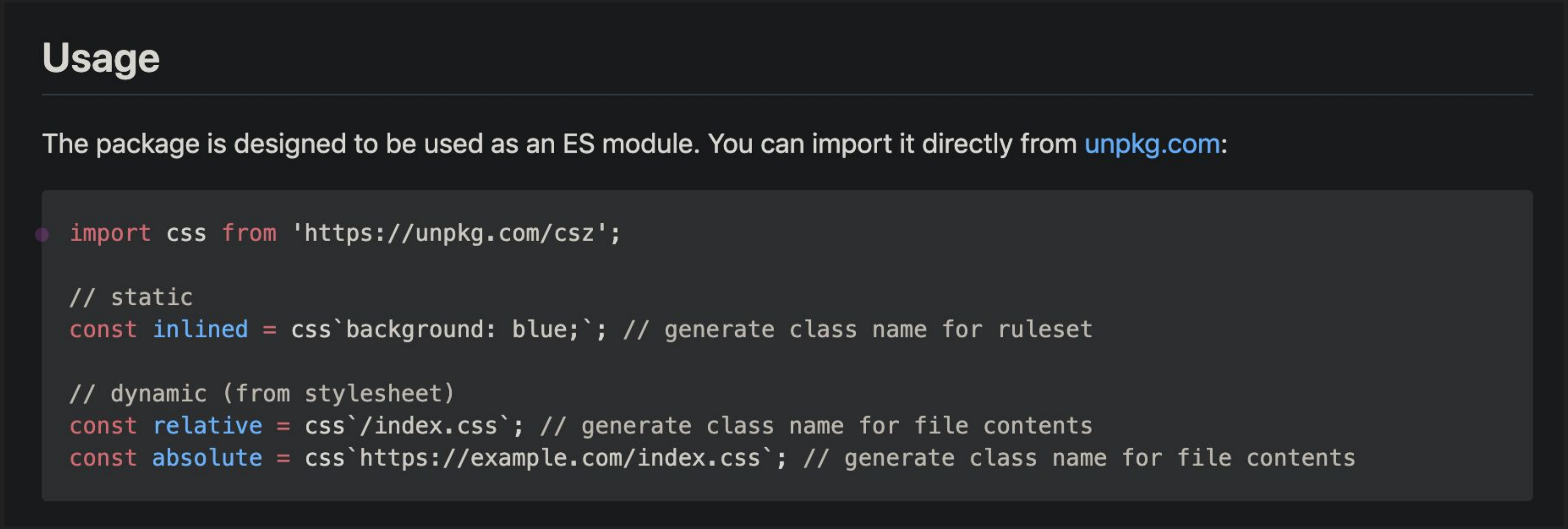
11:32 PM · Jan 16, 2020 · Twitter Web App



```javascript
const { React, ReactDOM } = window
import { counter } from './components/counter.js'
import htm from 'https://unpkg.com/htm?module'
const html = htm.bind(React.createElement)

ReactDOM.render(
  html`
    <h1>Hello World</h1>
    <p>This is my app template</p>
    <button>Click Me!</button>
    <${counter} />
  `,
  document.body
)
```

```javascript
import htm from 'https://unpkg.com/htm?module'
const html = htm.bind(React.createElement)

export const counter = () => {
  const [state, setState] = React.useState(0)
  return html`
    <button onClick=${() => setState(state + 1)}>${state}</button>
  `
}
```


CSS
Global HD

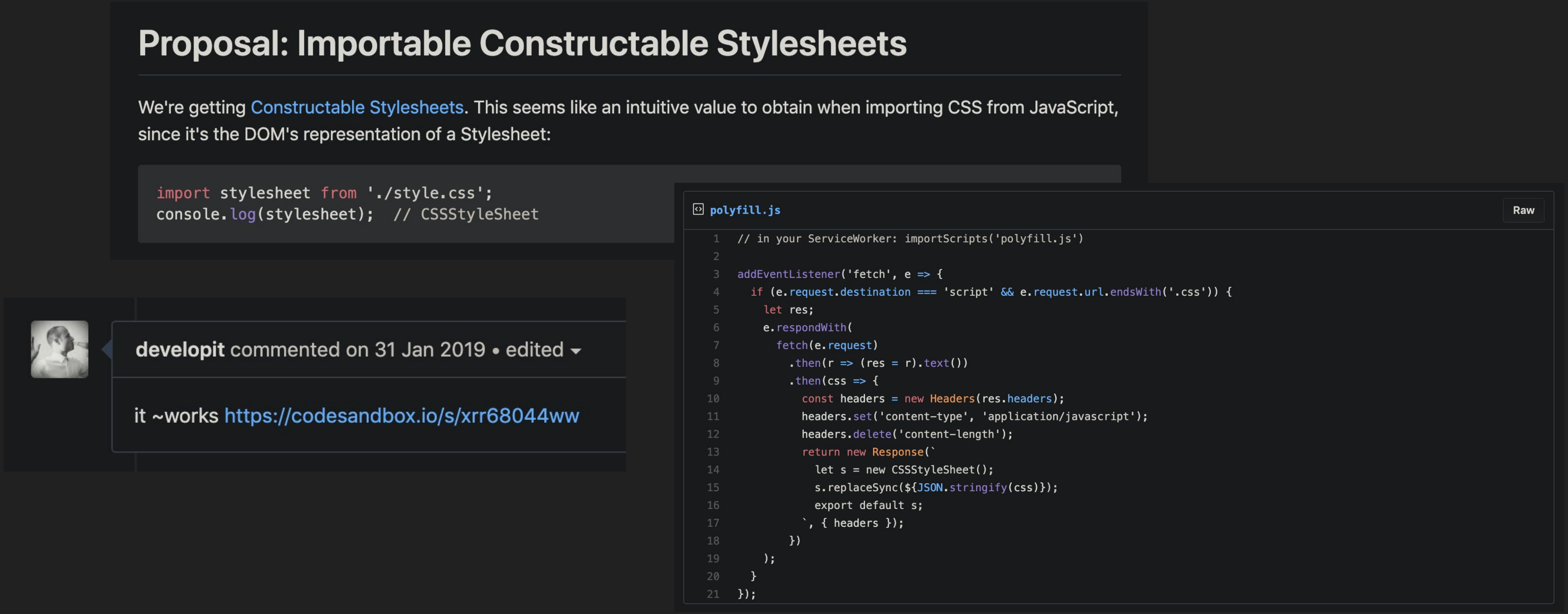


Usage

The package is designed to be used as an ES module. You can import it directly from unpkg.com:

```
import css from 'https://unpkg.com/csz';

// static
const inlined = css`background: blue;`; // generate class name for ruleset

// dynamic (from stylesheet)
const relative = css`/index.css`; // generate class name for file contents
const absolute = css`https://example.com/index.css`; // generate class name for file contents
```

https://github.com/lukejacksonn/csz



Proposal: Importable Constructable Stylesheets

We're getting Constructable Stylesheets. This seems like an intuitive value to obtain when importing CSS from JavaScript, since it's the DOM's representation of a Stylesheet:

```
import stylesheet from './style.css';
console.log(stylesheet);  // CSSStyleSheet
```

developit commented on 31 Jan 2019 • edited

it ~works https://codesandbox.io/s/xrr68044ww

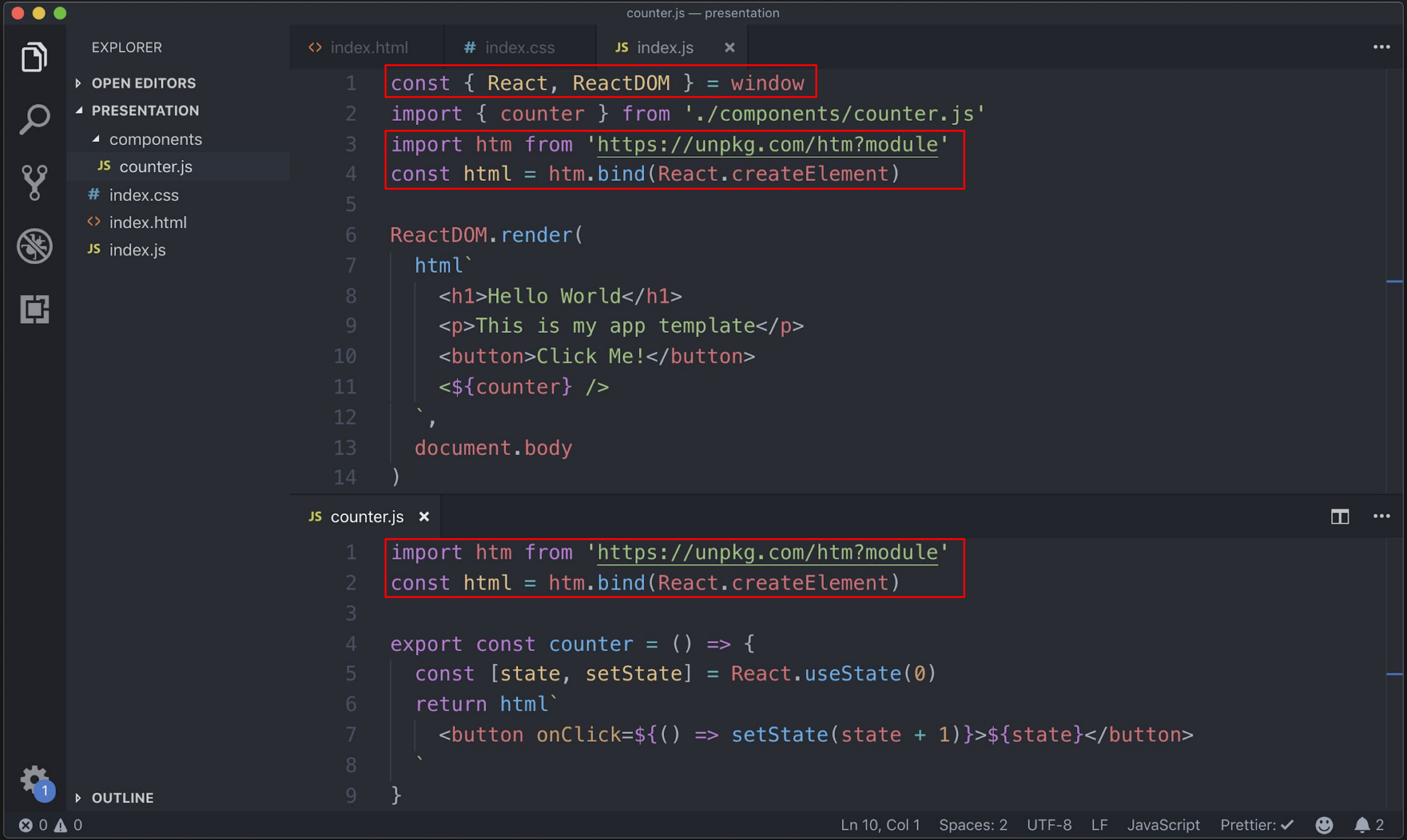
polyfill.js

```
// in your ServiceWorker: importScripts('polyfill.js')

addEventListener('fetch', e => {
  if (e.request.destination === 'script' && e.request.url.endsWith('.css')) {
    let res;
    e.respondWith(
      fetch(e.request)
        .then(r => (res = r).text())
        .then(css => {
          const headers = new Headers(res.headers);
          headers.set('content-type', 'application/javascript');
          headers.delete('content-length');
          return new Response(`
            let s = new CSSStyleSheet();
            s.replaceSync(${JSON.stringify(css)});
            export default s;
          `, { headers });
        })
    );
  }
});
```

```
https://unpkg.com/package@version/file.extension
```

Always be explicit about your imports..

- Avoid cascading breaking changes
- Skips unpkgs resolution step
- Prevents unwanted injection
- Straight forward static analysis



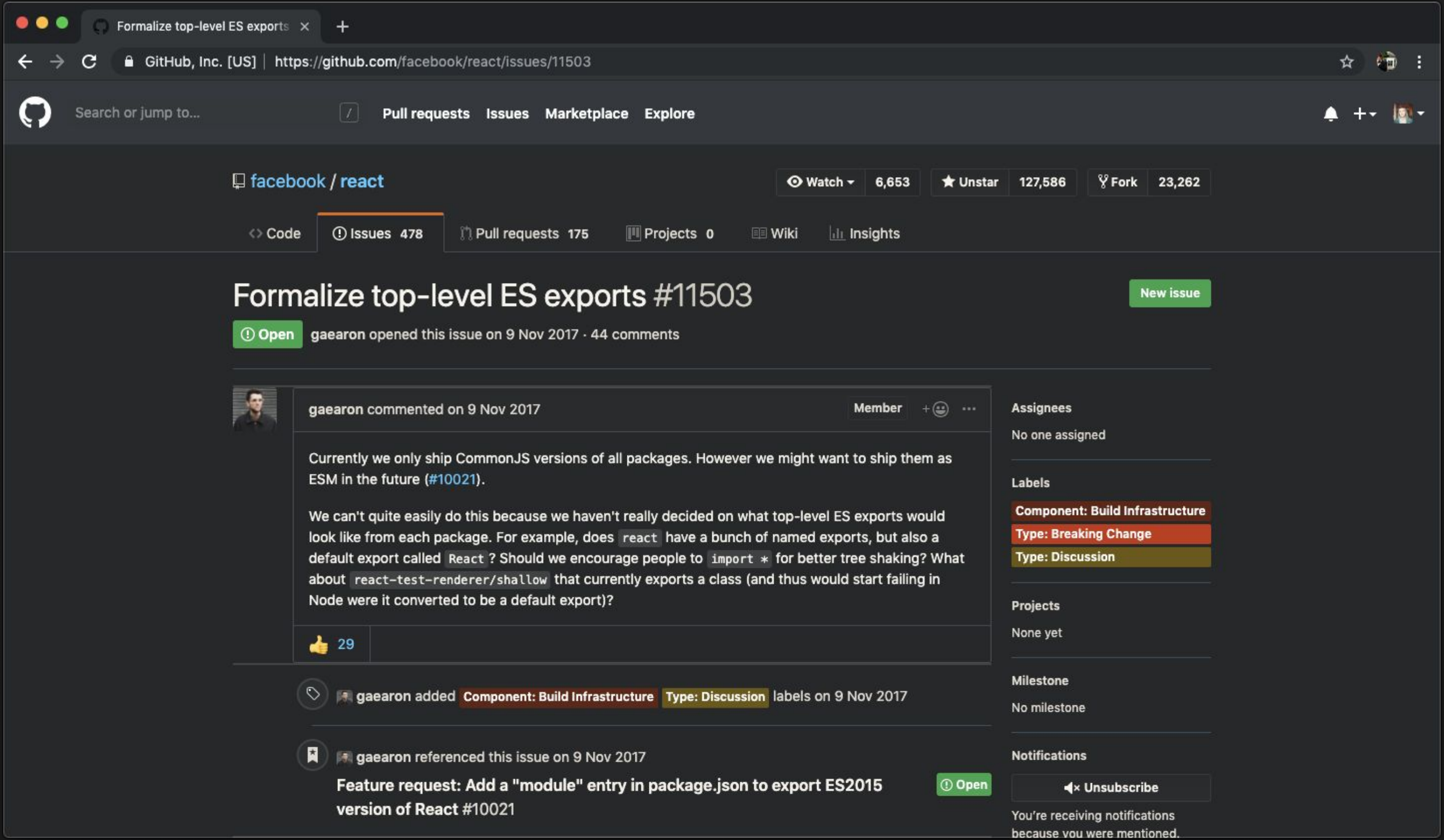
```
const { React, ReactDOM } = window
import { counter } from './components/counter.js'
import htm from 'https://unpkg.com/htm?module'
const html = htm.bind(React.createElement)

ReactDOM.render(
  html`
    <h1>Hello World</h1>
    <p>This is my app template</p>
    <button>Click Me!</button>
    <${counter} />
  `,
  document.body
)
```

```
import htm from 'https://unpkg.com/htm?module'
const html = htm.bind(React.createElement)

export const counter = () => {
  const [state, setState] = React.useState(0)
  return html`
    <button onClick=${() => setState(state + 1)}>${state}</button>
  `
}
```

https://unpkg.com/react?module

(the ?module suffix tells unpkg to go look for the es module build of the package)

🙏



Formalize top-level ES exports #11503

Open gaearon opened this issue on 9 Nov 2017 · 44 comments

gaearon commented on 9 Nov 2017

Currently we only ship CommonJS versions of all packages. However we might want to ship them as ESM in the future (#10021).

We can't quite easily do this because we haven't really decided on what top-level ES exports would look like from each package. For example, does `react` have a bunch of named exports, but also a default export called `React`? Should we encourage people to `import *` for better tree shaking? What about `react-test-renderer/shallow` that currently exports a class (and thus would start failing in Node were it converted to be a default export)?

👍 29

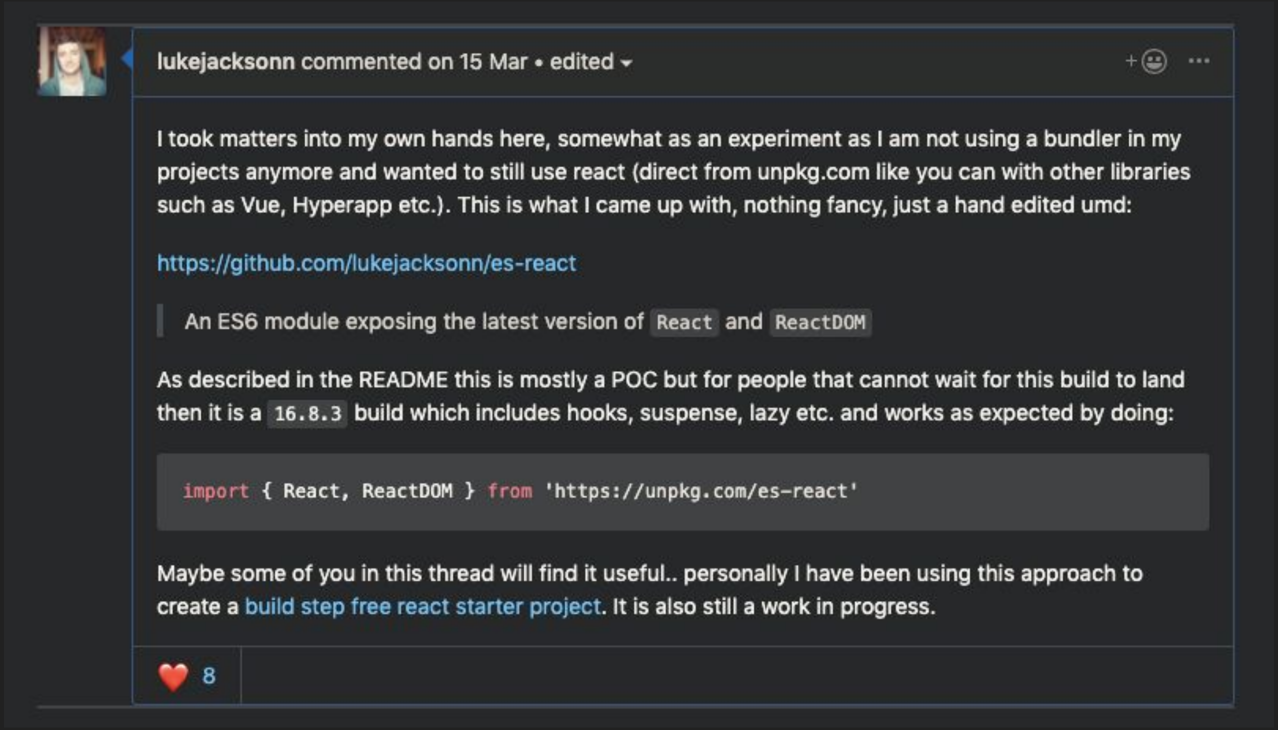
gaearon added Component: Build Infrastructure Type: Discussion labels on 9 Nov 2017

gaearon referenced this issue on 9 Nov 2017

Feature request: Add a "module" entry in package.json to export ES2015 version of React #10021 Open

🚧

This might happen a lot until package authors start shipping unbundled versions



lukejacksonn commented on 15 Mar • edited

I took matters into my own hands here, somewhat as an experiment as I am not using a bundler in my projects anymore and wanted to still use react (direct from unpkg.com like you can with other libraries such as Vue, Hyperapp etc.). This is what I came up with, nothing fancy, just a hand edited umd:

https://github.com/lukejacksonn/es-react

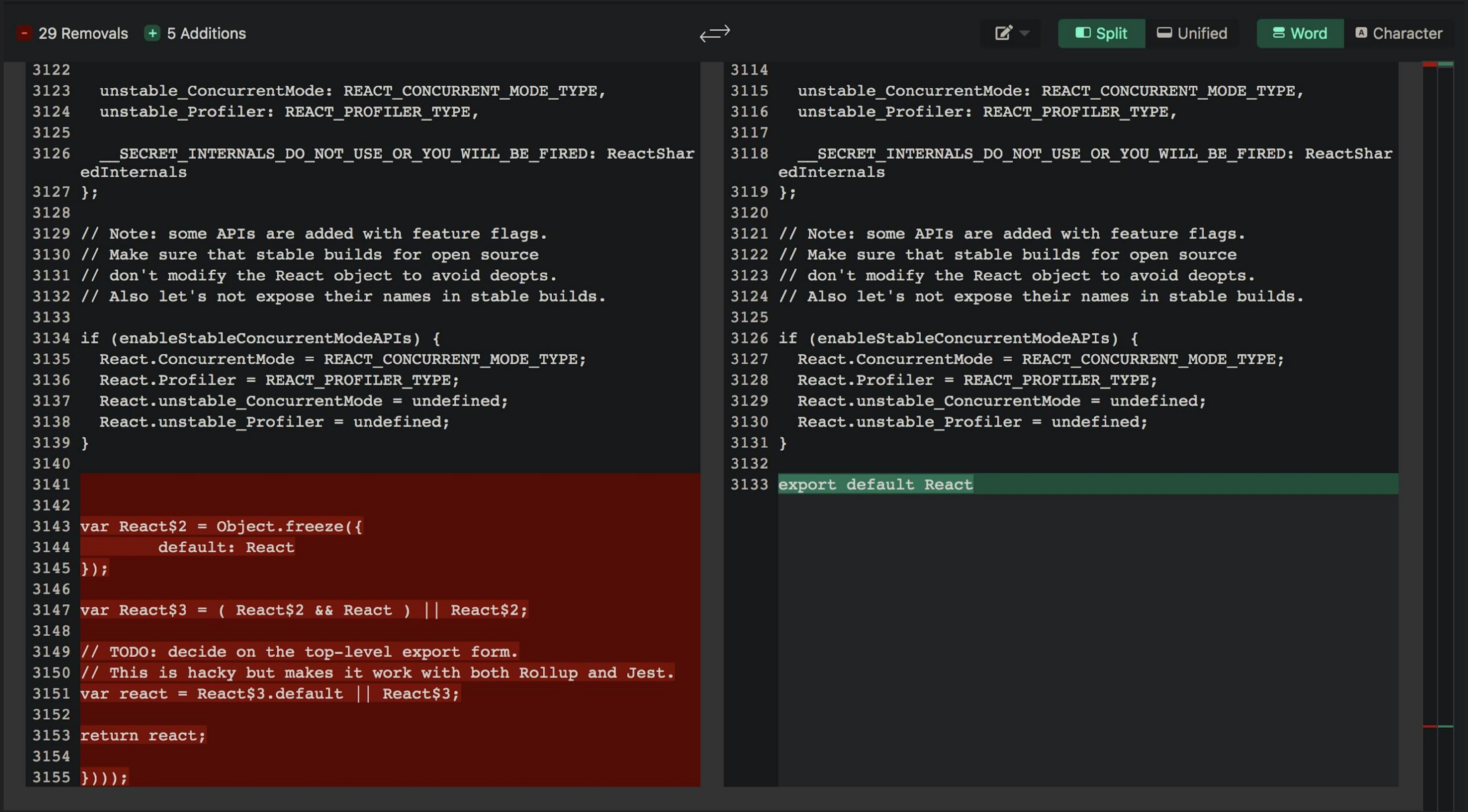
> An ES6 module exposing the latest version of `React` and `ReactDOM`

As described in the README this is mostly a POC but for people that cannot wait for this build to land then it is a `16.8.3` build which includes hooks, suspense, lazy etc. and works as expected by doing:

```
import { React, ReactDOM } from 'https://unpkg.com/es-react'
```

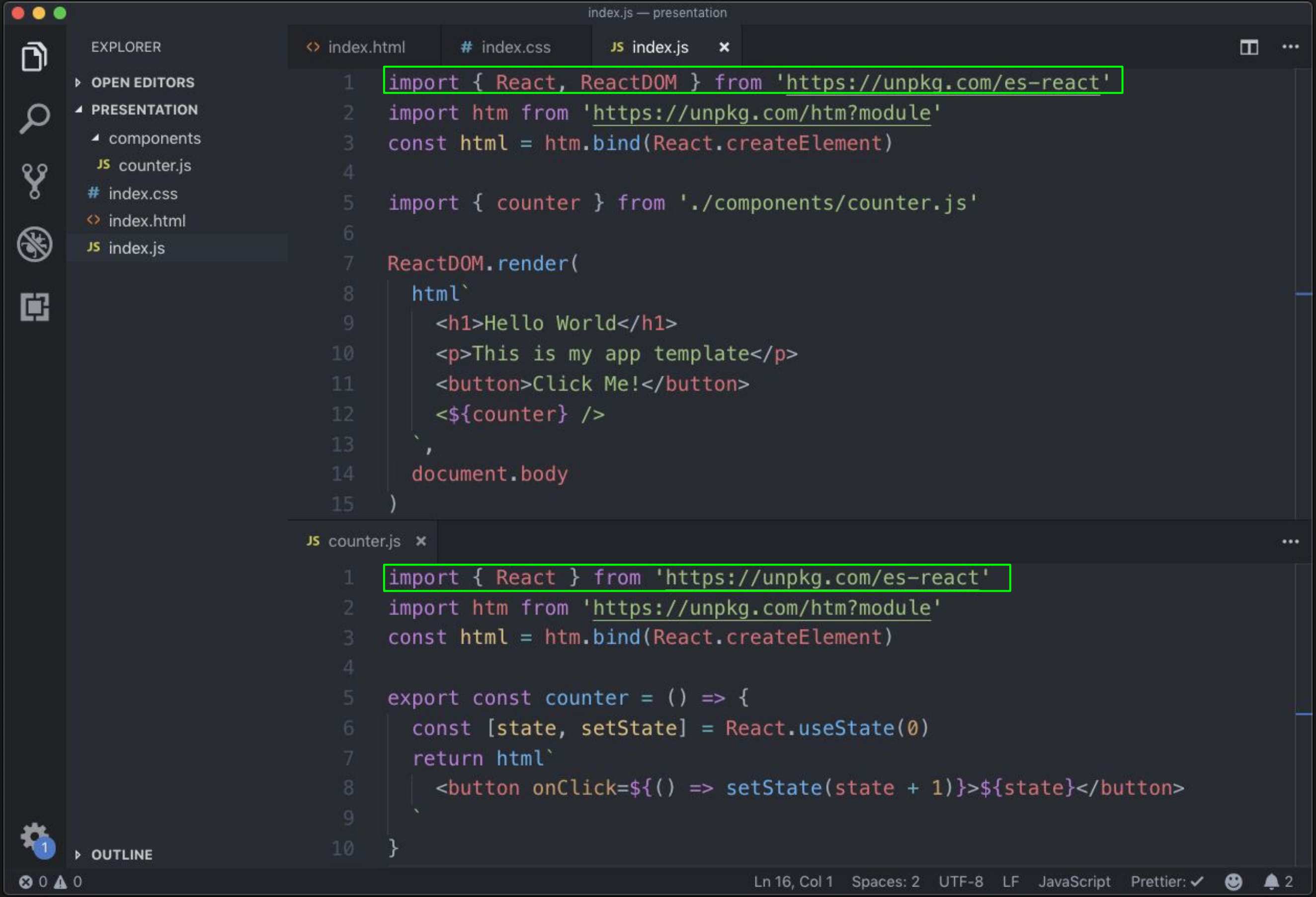
Maybe some of you in this thread will find it useful.. personally I have been using this approach to create a build step free react starter project. It is also still a work in progress.

❤️ 8



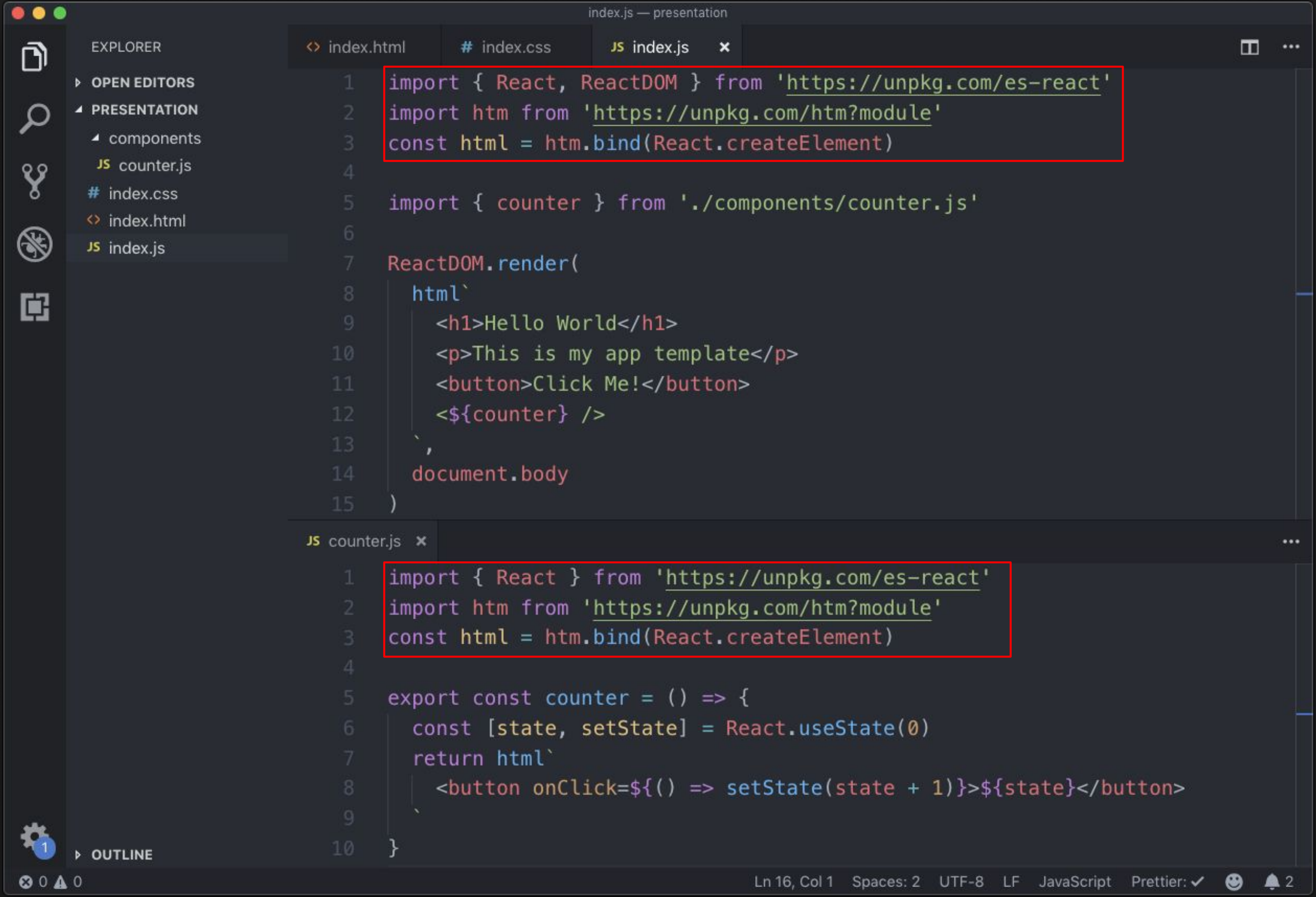
```

  unstable_ConcurrentMode: REACT_CONCURRENT_MODE_TYPE,
  unstable_Profiler: REACT_PROFILER_TYPE,

  __SECRET_INTERNALS_DO_NOT_USE_OR_YOU_WILL_BE_FIRED: ReactSharedInternals
};

// Note: some APIs are added with feature flags.
// Make sure that stable builds for open source
// don't modify the React object to avoid deopts.
// Also let's not expose their names in stable builds.

if (enableStableConcurrentModeAPIs) {
  React.ConcurrentMode = REACT_CONCURRENT_MODE_TYPE;
  React.Profiler = REACT_PROFILER_TYPE;
  React.unstable_ConcurrentMode = undefined;
  React.unstable_Profiler = undefined;
}



var React$2 = Object.freeze({
	default: React
});

var React$3 = ( React$2 && React ) || React$2;

// TODO: decide on the top-level export form.
// This is hacky but makes it work with both Rollup and Jest.
var react = React$3.default || React$3;

return react;

})));
```

```

  unstable_ConcurrentMode: REACT_CONCURRENT_MODE_TYPE,
  unstable_Profiler: REACT_PROFILER_TYPE,

  __SECRET_INTERNALS_DO_NOT_USE_OR_YOU_WILL_BE_FIRED: ReactSharedInternals
};

// Note: some APIs are added with feature flags.
// Make sure that stable builds for open source
// don't modify the React object to avoid deopts.
// Also let's not expose their names in stable builds.

if (enableStableConcurrentModeAPIs) {
  React.ConcurrentMode = REACT_CONCURRENT_MODE_TYPE;
  React.Profiler = REACT_PROFILER_TYPE;
  React.unstable_ConcurrentMode = undefined;
  React.unstable_Profiler = undefined;
}

export default React
```



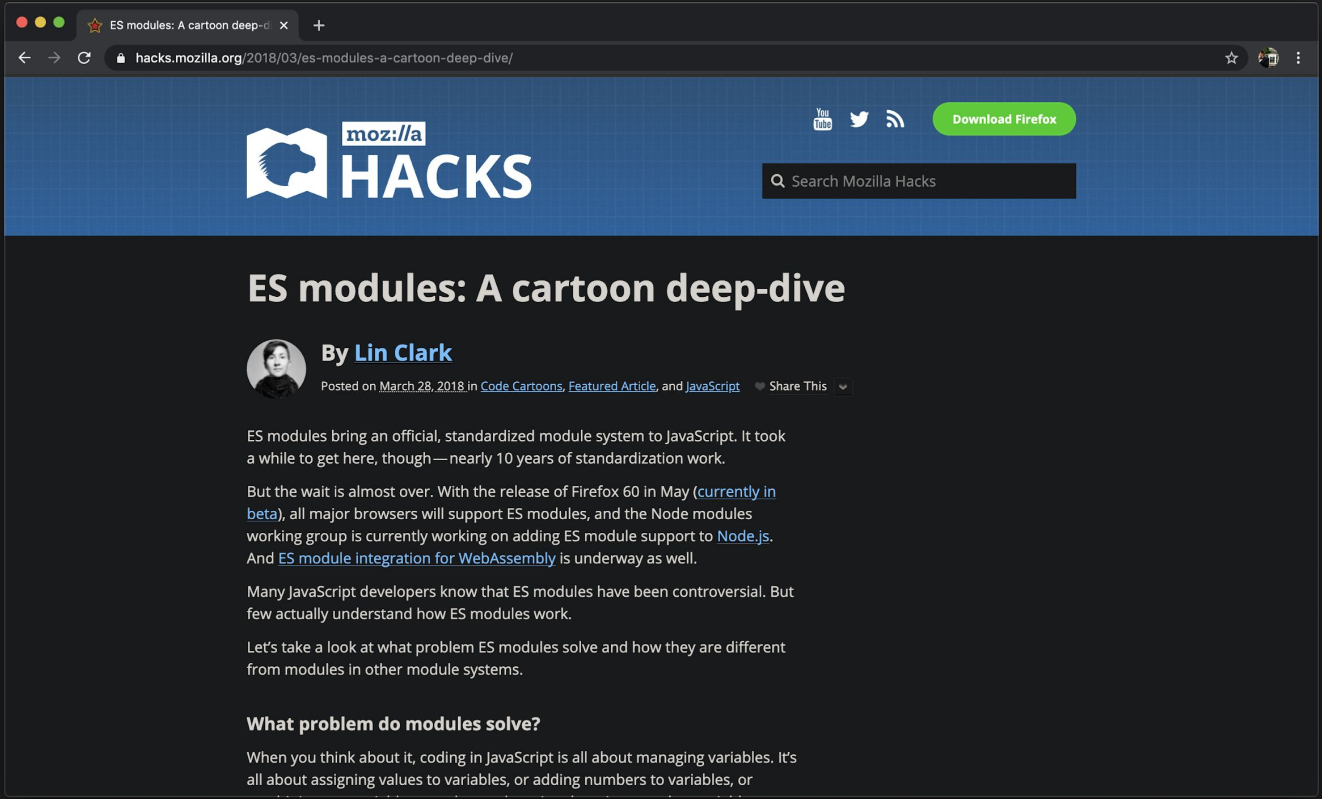
```js
import { React, ReactDOM } from 'https://unpkg.com/es-react'
import htm from 'https://unpkg.com/htm?module'
const html = htm.bind(React.createElement)

import { counter } from './components/counter.js'

ReactDOM.render(
  html`
    <h1>Hello World</h1>
    <p>This is my app template</p>
    <button>Click Me!</button>
    <${counter} />
  `,
  document.body
)
```

```js
import { React } from 'https://unpkg.com/es-react'
import htm from 'https://unpkg.com/htm?module'
const html = htm.bind(React.createElement)

export const counter = () => {
  const [state, setState] = React.useState(0)
  return html`
    <button onClick=${() => setState(state + 1)}>${state}</button>
  `
}
```



```javascript
import { React, ReactDOM } from 'https://unpkg.com/es-react'
import htm from 'https://unpkg.com/htm?module'
const html = htm.bind(React.createElement)

import { counter } from './components/counter.js'

ReactDOM.render(
  html`
    <h1>Hello World</h1>
    <p>This is my app template</p>
    <button>Click Me!</button>
    <${counter} />
  `,
  document.body
)
```

```javascript
import { React } from 'https://unpkg.com/es-react'
import htm from 'https://unpkg.com/htm?module'
const html = htm.bind(React.createElement)

export const counter = () => {
  const [state, setState] = React.useState(0)
  return html`
    <button onClick=${() => setState(state + 1)}>${state}</button>
  `
}
```


ES modules: A cartoon deep-d
hacks.mozilla.org/2018/03/es-modules-a-cartoon-deep-dive/
moz://a HACKS
You Tube
Download Firefox
Search Mozilla Hacks

ES modules: A cartoon deep-dive

By Lin Clark

Posted on March 28, 2018 in Code Cartoons, Featured Article, and JavaScript · Share This

ES modules bring an official, standardized module system to JavaScript. It took a while to get here, though—nearly 10 years of standardization work.

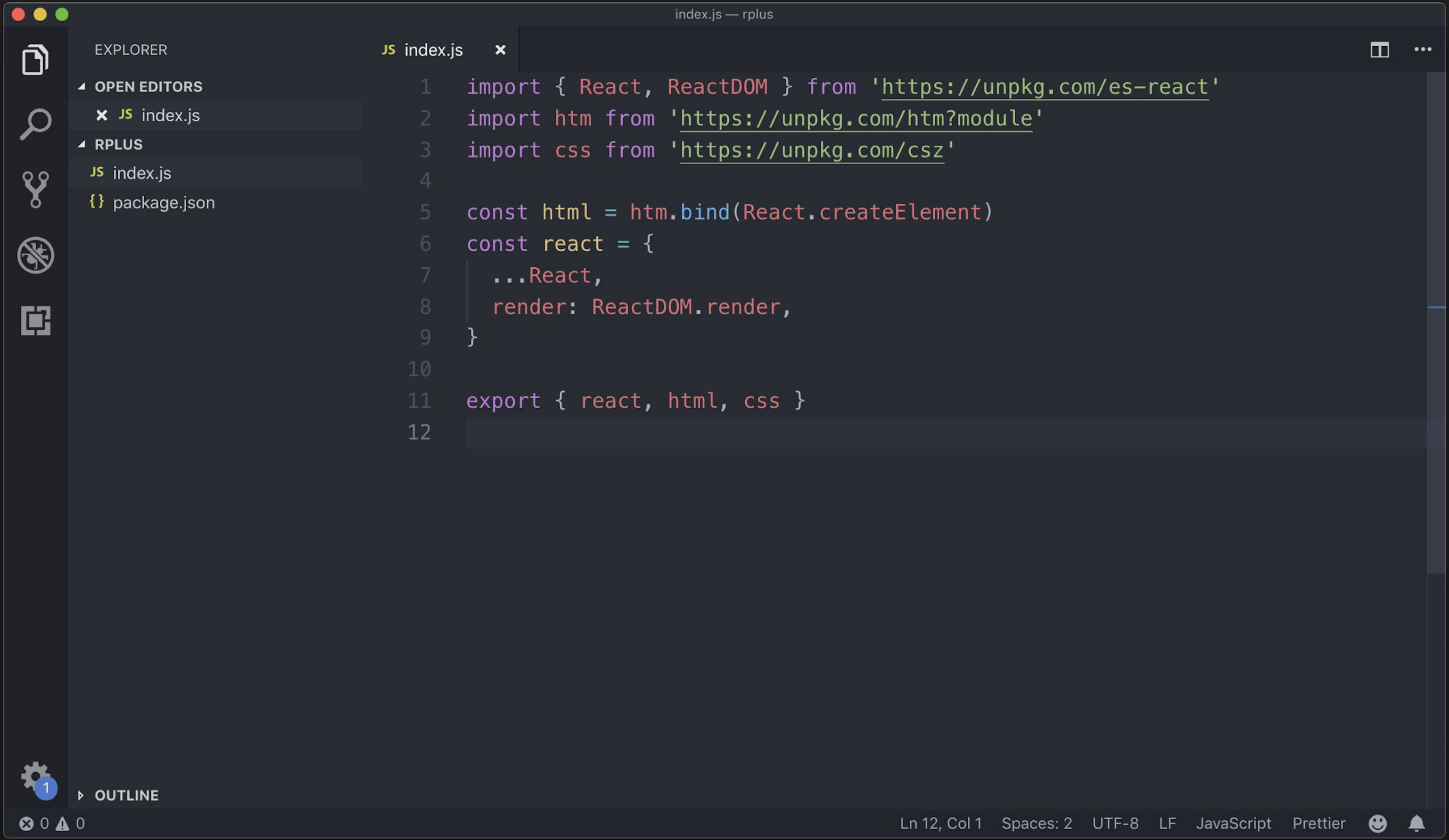
But the wait is almost over. With the release of Firefox 60 in May (currently in beta), all major browsers will support ES modules, and the Node modules working group is currently working on adding ES module support to Node.js. And ES module integration for WebAssembly is underway as well.

Many JavaScript developers know that ES modules have been controversial. But few actually understand how ES modules work.

Let's take a look at what problem ES modules solve and how they are different from modules in other module systems.

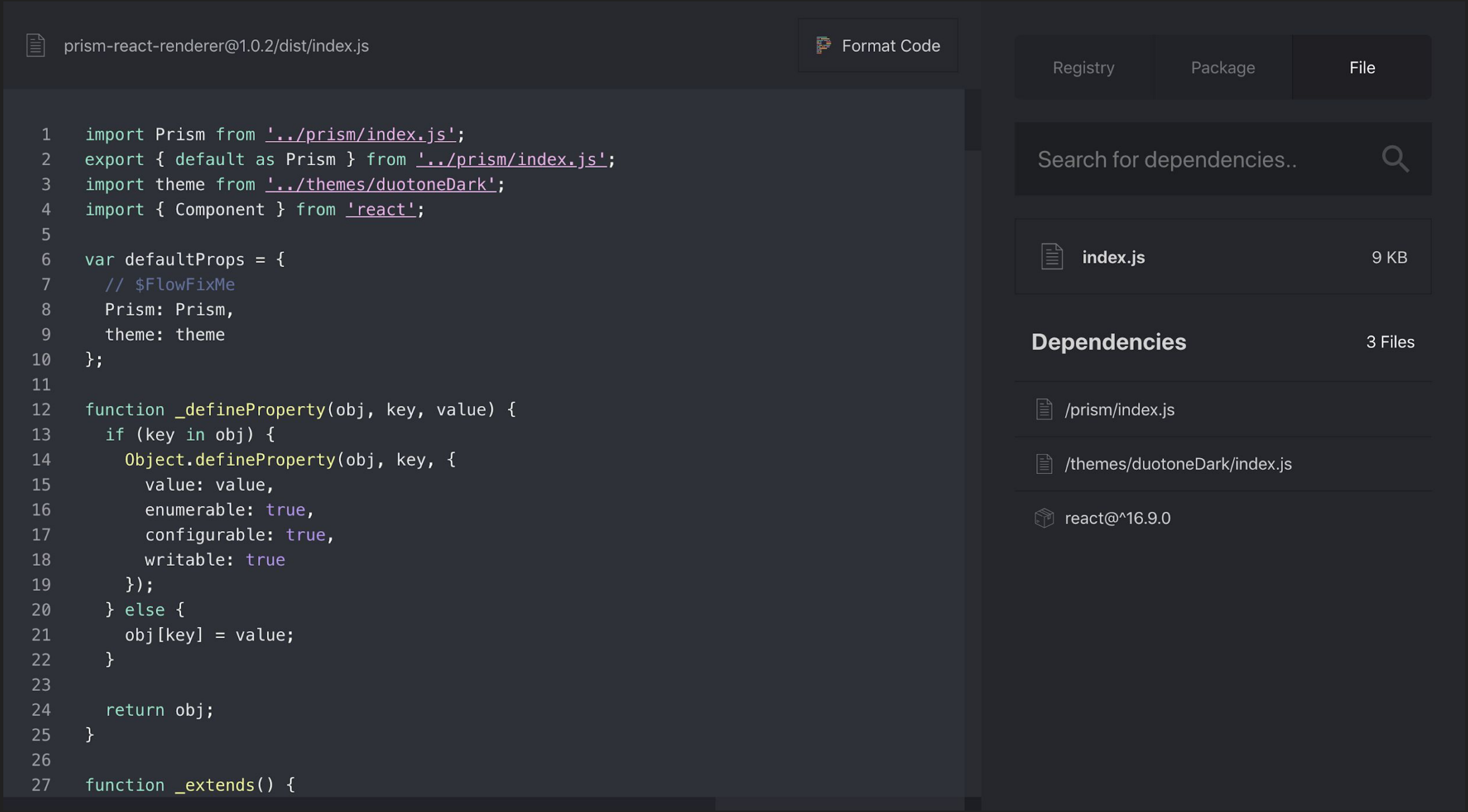
What problem do modules solve?

When you think about it, coding in JavaScript is all about managing variables. It's all about assigning values to variables, or adding numbers to variables, or



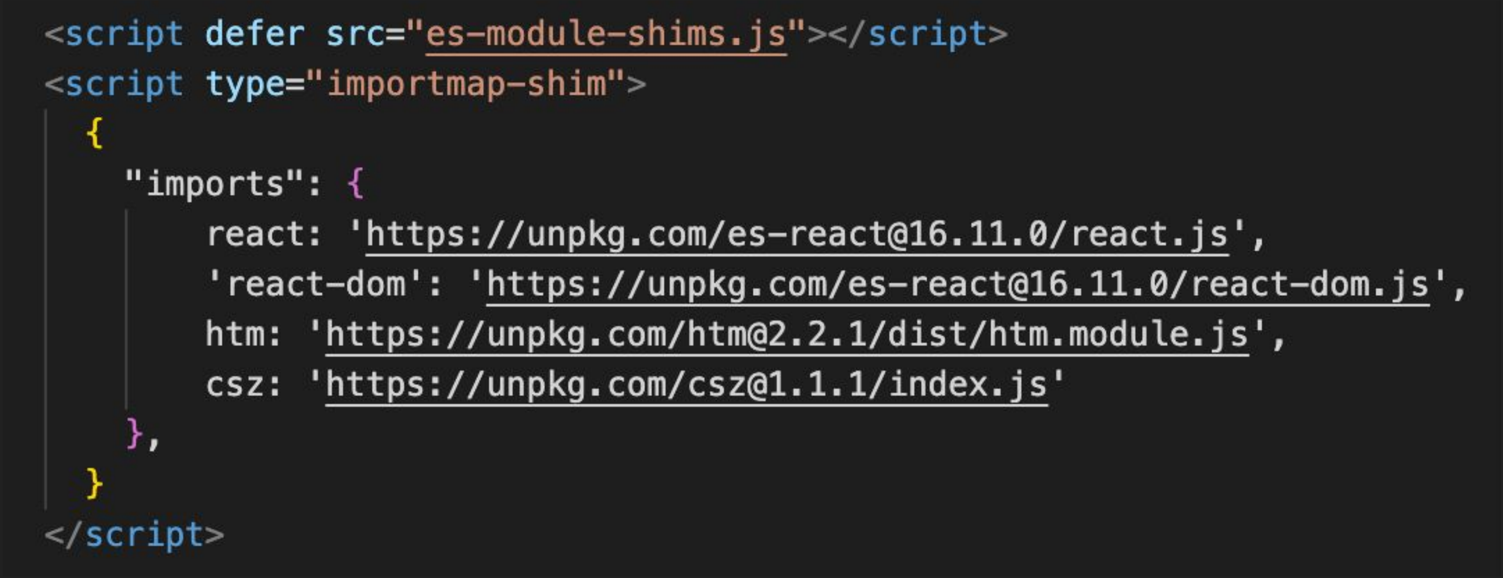
```js
import { React, ReactDOM } from 'https://unpkg.com/es-react'
import htm from 'https://unpkg.com/htm?module'
import css from 'https://unpkg.com/csz'

const html = htm.bind(React.createElement)
const react = {
  ...React,
  render: ReactDOM.render,
}

export { react, html, css }

```

Resolving external dependencies of dependencies
is still not really a solved problem

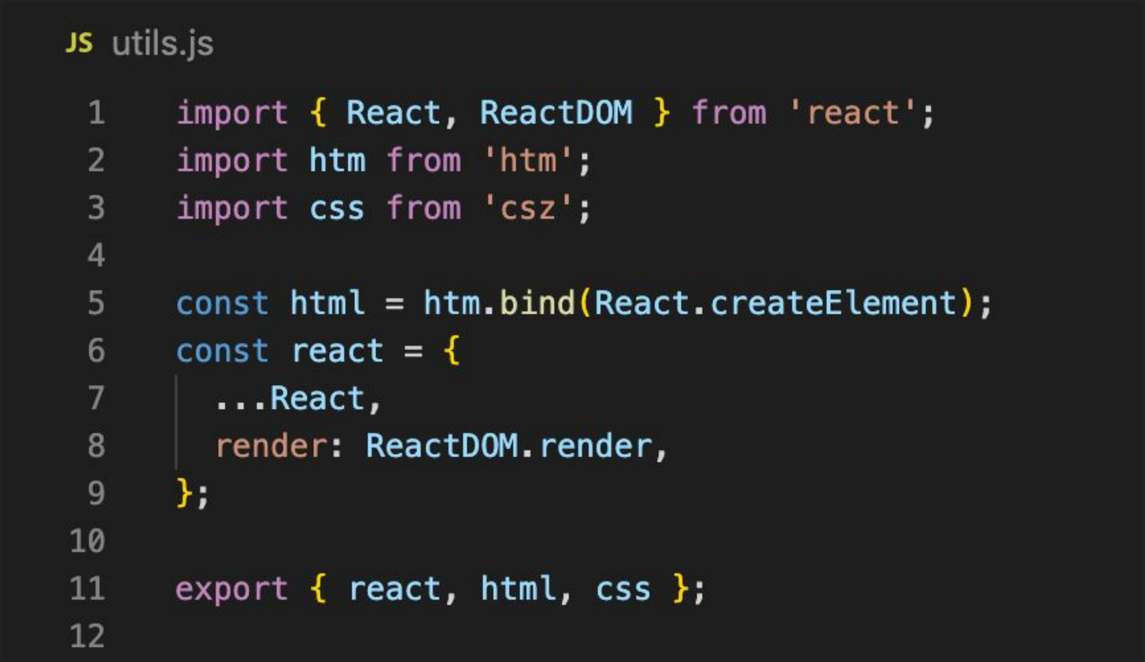


prism-react-renderer@1.0.2/dist/index.js
Format Code
Registry
Package
File
Search for dependencies..
index.js
9 KB
Dependencies
3 Files
/prism/index.js
/themes/duotoneDark/index.js
react@^16.9.0

```
import Prism from '../prism/index.js';
export { default as Prism } from '../prism/index.js';
import theme from '../themes/duotoneDark';
import { Component } from 'react';

var defaultProps = {
  // $FlowFixMe
  Prism: Prism,
  theme: theme
};

function _defineProperty(obj, key, value) {
  if (key in obj) {
    Object.defineProperty(obj, key, {
      value: value,
      enumerable: true,
      configurable: true,
      writable: true
    });
  } else {
    obj[key] = value;
  }

  return obj;
}

function _extends() {
```

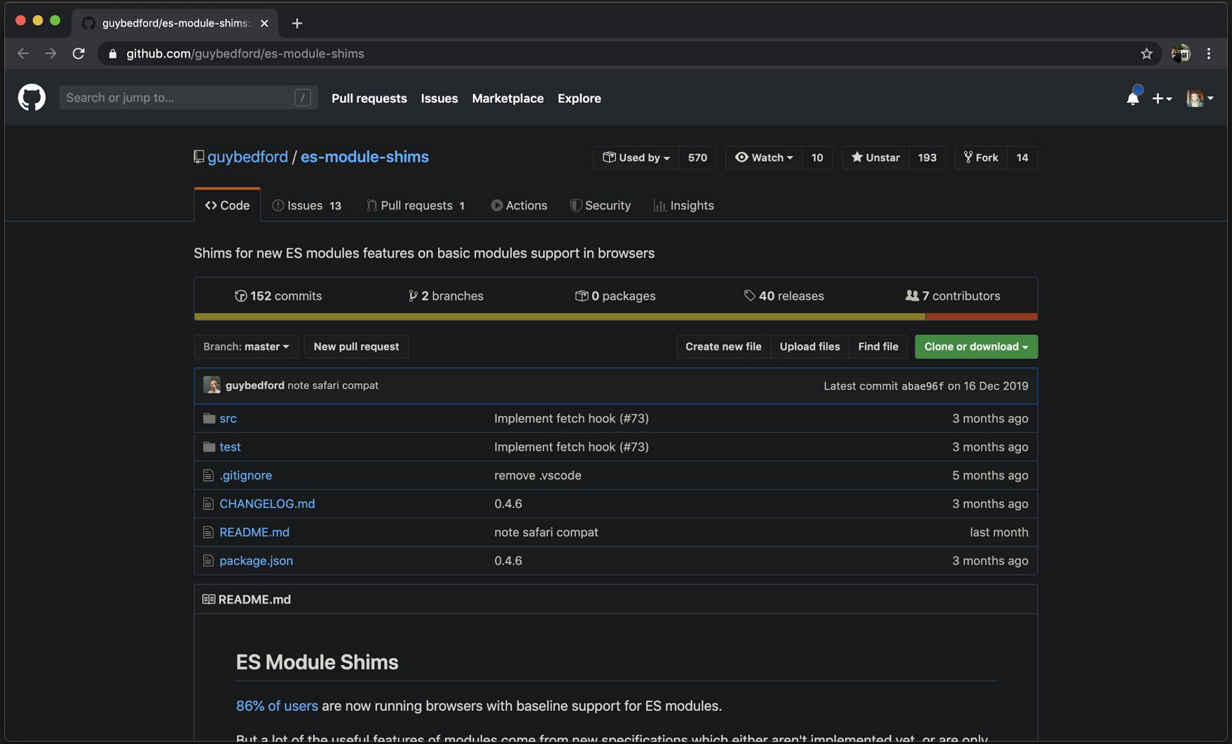


```
<script defer src="es-module-shims.js"></script>
<script type="importmap-shim">
  {
    "imports": {
        react: 'https://unpkg.com/es-react@16.11.0/react.js',
        'react-dom': 'https://unpkg.com/es-react@16.11.0/react-dom.js',
        htm: 'https://unpkg.com/htm@2.2.1/dist/htm.module.js',
        csz: 'https://unpkg.com/csz@1.1.1/index.js'
    },
  }
</script>
```



JS utils.js

```javascript
import { React, ReactDOM } from 'react';
import htm from 'htm';
import css from 'csz';

const html = htm.bind(React.createElement);
const react = {
  ...React,
  render: ReactDOM.render,
};

export { react, html, css };
```



Shims for new ES modules features on basic modules support in browsers

guybedford note safari compat — Latest commit abae96f on 16 Dec 2019

src	Implement fetch hook (#73)	3 months ago
test	Implement fetch hook (#73)	3 months ago
.gitignore	remove .vscode	5 months ago
CHANGELOG.md	0.4.6	3 months ago
README.md	note safari compat	last month
package.json	0.4.6	3 months ago

README.md

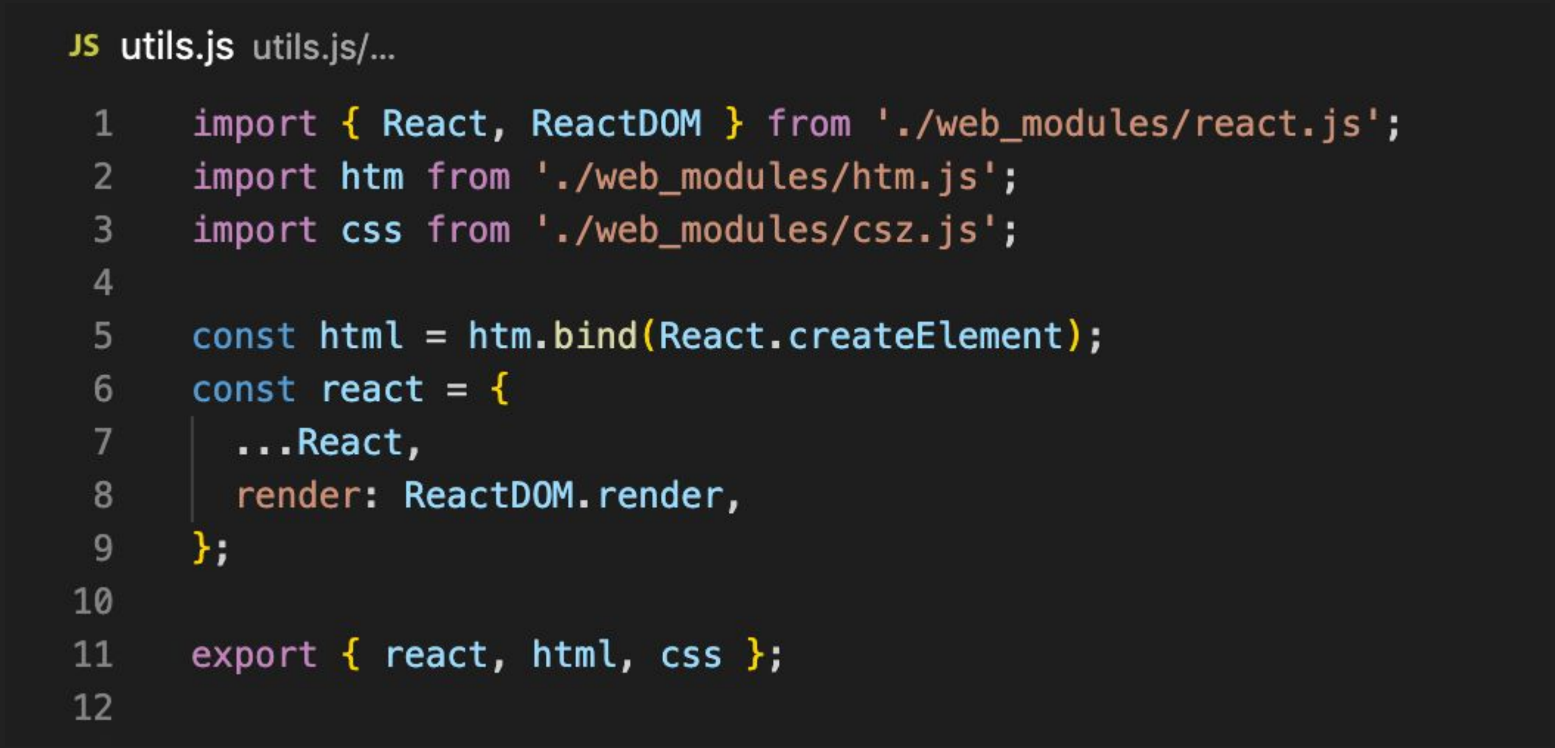
ES Module Shims

86% of users are now running browsers with baseline support for ES modules.

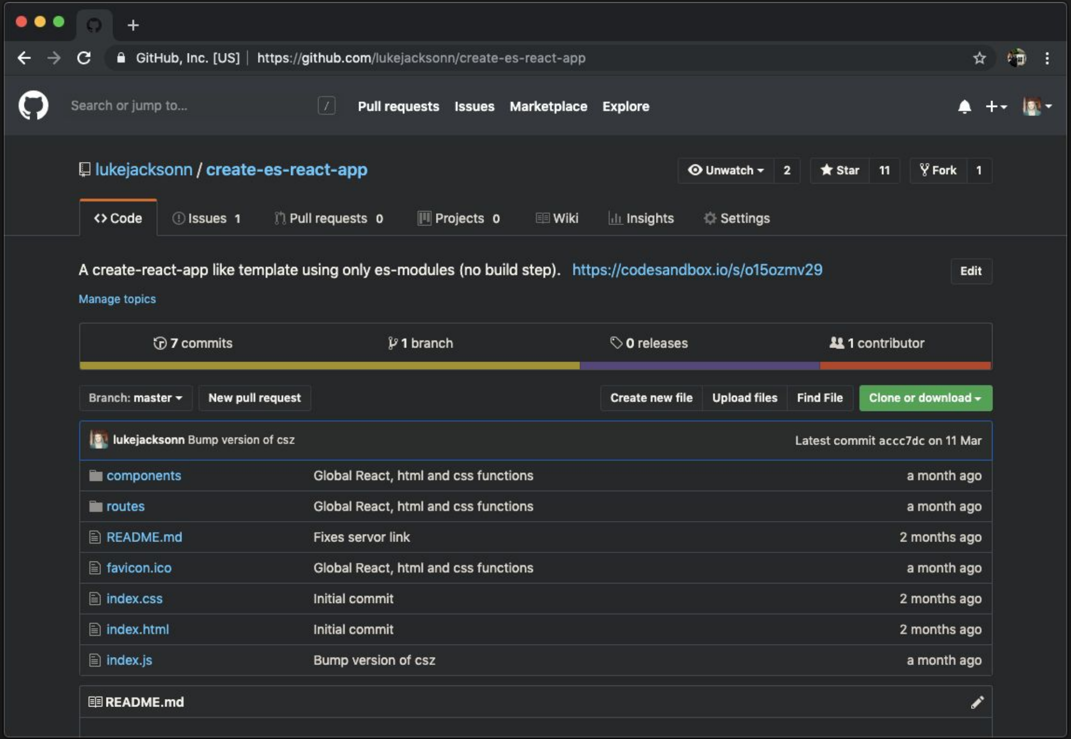
But a lot of the useful features of modules come from new specifications which either aren't implemented yet, or are only

Snowpack

1. Scans your source code looking for dependencies
2. Downloads and turns the dependencies into es-modules
3. Tree shakes any unused code from dependencies
4. Puts resultant modules into a folder called web_modules



```js
import { React, ReactDOM } from './web_modules/react.js';
import htm from './web_modules/htm.js';
import css from './web_modules/csz.js';

const html = htm.bind(React.createElement);
const react = {
  ...React,
  render: ReactDOM.render,
};

export { react, html, css };

```



A create-react-app like template using only es-modules (no build step). https://codesandbox.io/s/o15ozmv29

lukejacksonn Bump version of csz — Latest commit accc7dc on 11 Mar

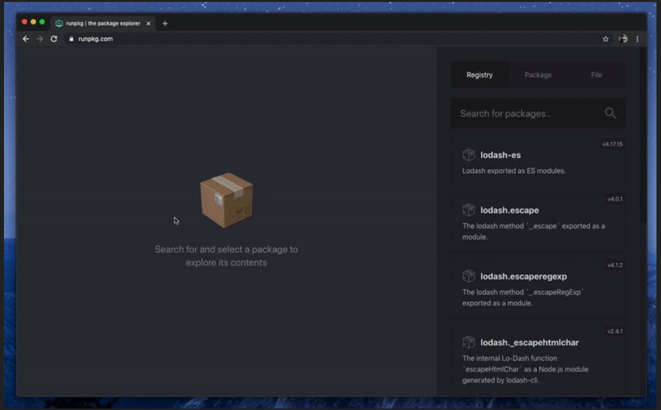
components	Global React, html and css functions	a month ago
routes	Global React, html and css functions	a month ago
README.md	Fixes servor link	2 months ago
favicon.ico	Global React, html and css functions	a month ago
index.css	Initial commit	2 months ago
index.html	Initial commit	2 months ago
index.js	Bump version of csz	a month ago

https://github.com/lukejacksonn/create-es-react-app

4784

create-es-react-app
per gigabyte

https://runpkg.com 👉


runpkg | the package explorer

runpkg.com

Registry Package File

Search for packages..

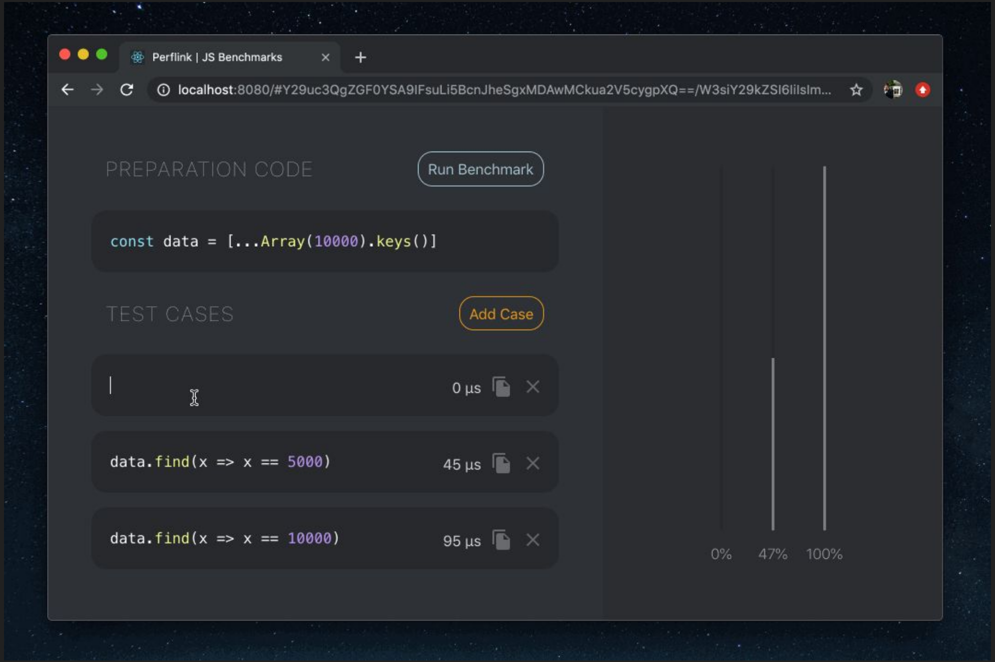
Search for and select a package to explore its contents

v4.17.15
lodash-es
Lodash exported as ES modules.

v4.0.1
lodash.escape
The lodash method `_.escape` exported as a module.

v4.1.2
lodash.escaperegexp
The lodash method `_.escapeRegExp` exported as a module.

v2.4.1
lodash._escapehtmlchar
The internal Lo-Dash function `escapeHtmlChar` as a Node.js module generated by lodash-cli.


Perflink | JS Benchmarks

localhost:8080/#Y29uc3QgZGF0YSA9IFsuLi5BcnJheSgxMDAwMCkua2V5cygpXQ==/W3siY29kZSI6IlsIm...

PREPARATION CODE

Run Benchmark

```
const data = [...Array(10000).keys()]
```

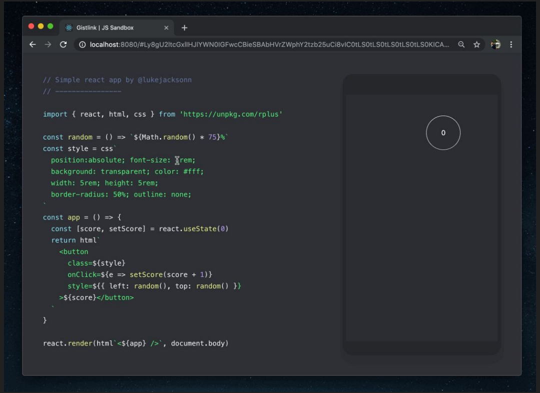
TEST CASES

Add Case

	0 µs
`data.find(x => x == 5000)`	45 µs
`data.find(x => x == 10000)`	95 µs

https://perf.link ☝️

https://gist.link 👉


Gistlink | JS Sandbox

localhost:8080/#Ly8gU2ltcGxlIHJlYWN0IGFwcCBieSBAbHVrZWphY2tzb25uCi8vIC0tLS0tLS0tLS0tLS0tLS0KICA...

```
// Simple react app by @lukejacksonn
// ----------------

import { react, html, css } from 'https://unpkg.com/rplus'

const random = () => `${Math.random() * 75}%`
const style = css`
  position:absolute; font-size: [illegible]rem;
  background: transparent; color: #fff;
  width: 5rem; height: 5rem;
  border-radius: 50%; outline: none;
`

const app = () => {
  const [score, setScore] = react.useState(0)
  return html`
    <button
      class=${style}
      onClick=${e => setScore(score + 1)}
      style=${{ left: random(), top: random() }}
    >${score}</button>
  `
}

react.render(html`<${app} />`, document.body)
```

The landscape is changing

Of course whenever there is a **fundamental shift in paradigms** there is going to be resistance and people are going to find **edge cases where the application of an idea is inappropriate**. However, I have seen a lot of different architectures in my time as a developer and firmly believe that the simplicity of an **ES module architecture is revolutionary** and will be **sufficient for the majority of use cases**.

PLEASE AND
THANK YOU
memegenerator.net

@lukejacksonn

Follow me on Twitter and Github for news and updates!

https://formidable.com/blog/2019/no-build-step