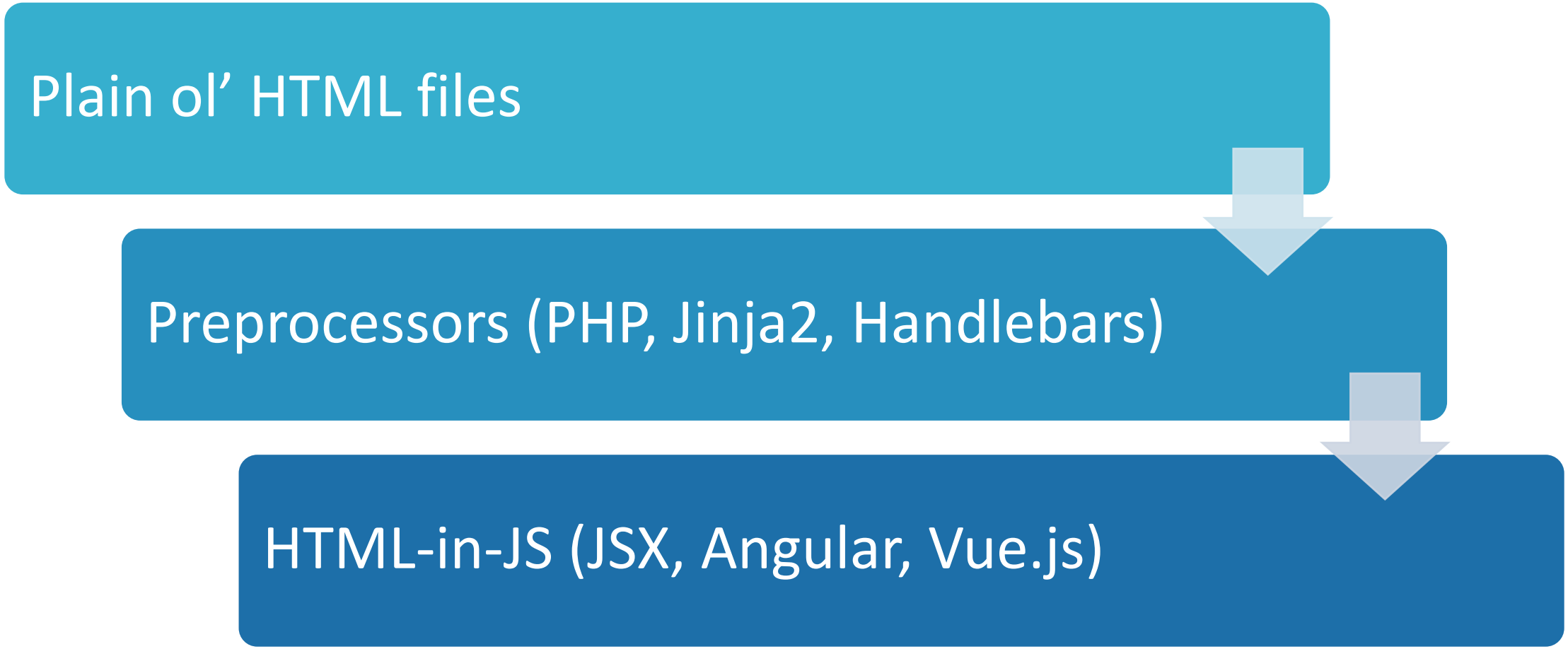
The Front End Stack

As of 2019

A brief history of web tech

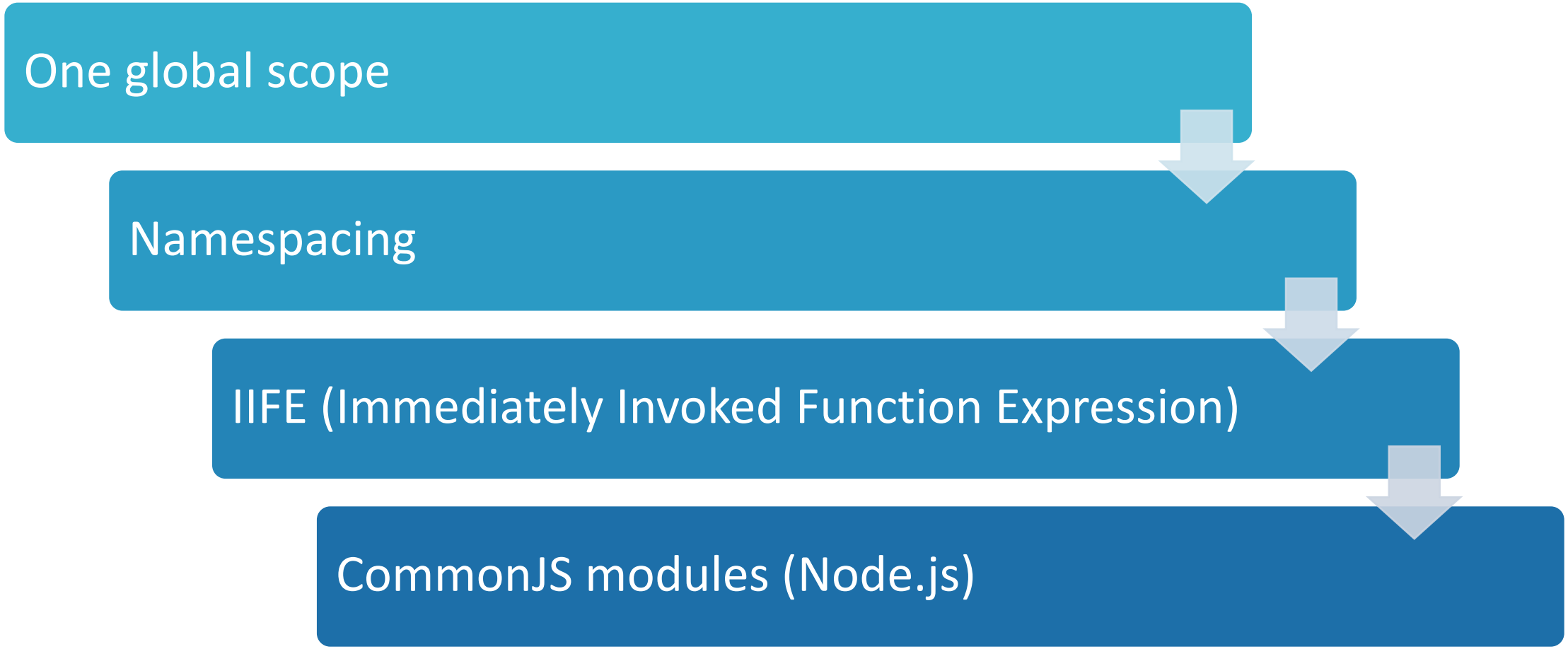
HTML, CSS, and JavaScript throughout the years

HTML (Hypertext Markup Language)



CSS (Cascading Style Sheets)

JavaScript (the old parts)



JavaScript (the new parts)

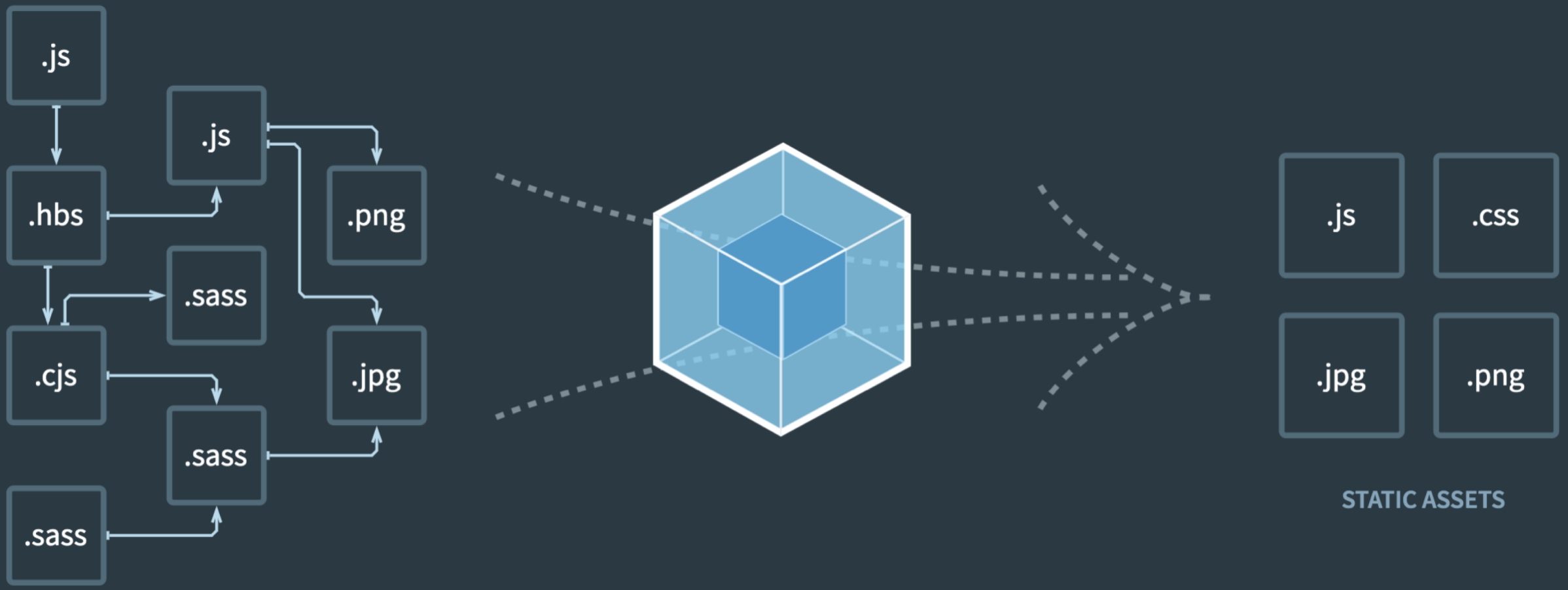
ES6 Modules

Dynamic imports

Entering the almighty *webpack*

webpack

Throwing stuff together (aka module bundler)


.js
.hbs
.cjs
.sass
.js
.png
.sass
.jpg
.sass
.js
.css
.jpg
.png
MODULES WITH DEPENDENCIES
STATIC ASSETS

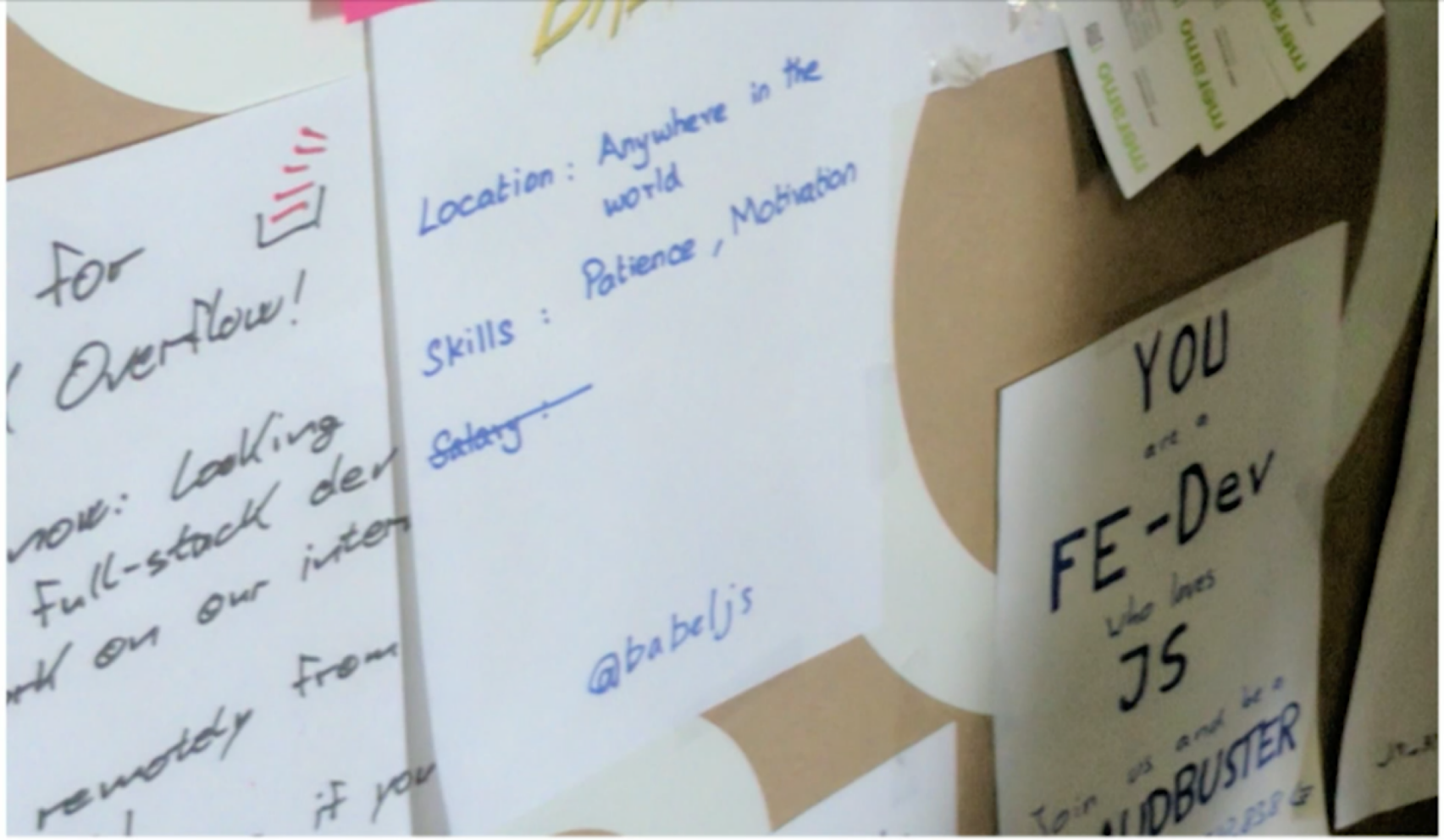
https://www.youtube.com/watch?v=jFc898NTh5Q

Babel

Transform something into usable JavaScript (aka compiler)

```
function foo () {
  return 'foo'
}

class Bar {
  constructor () {
    this.value = foo()
  }
}

new Bar()

```

```
"use strict";

function _classCallCheck(instance, Constructor) {
  if (!(instance instanceof Constructor)) {
    throw new TypeError("Cannot call a class as a function");
  }
}

function foo() {
  return "foo";
}

var Bar = function Bar() {
  _classCallCheck(this, Bar);

  this.value = foo();
};

new Bar();

```



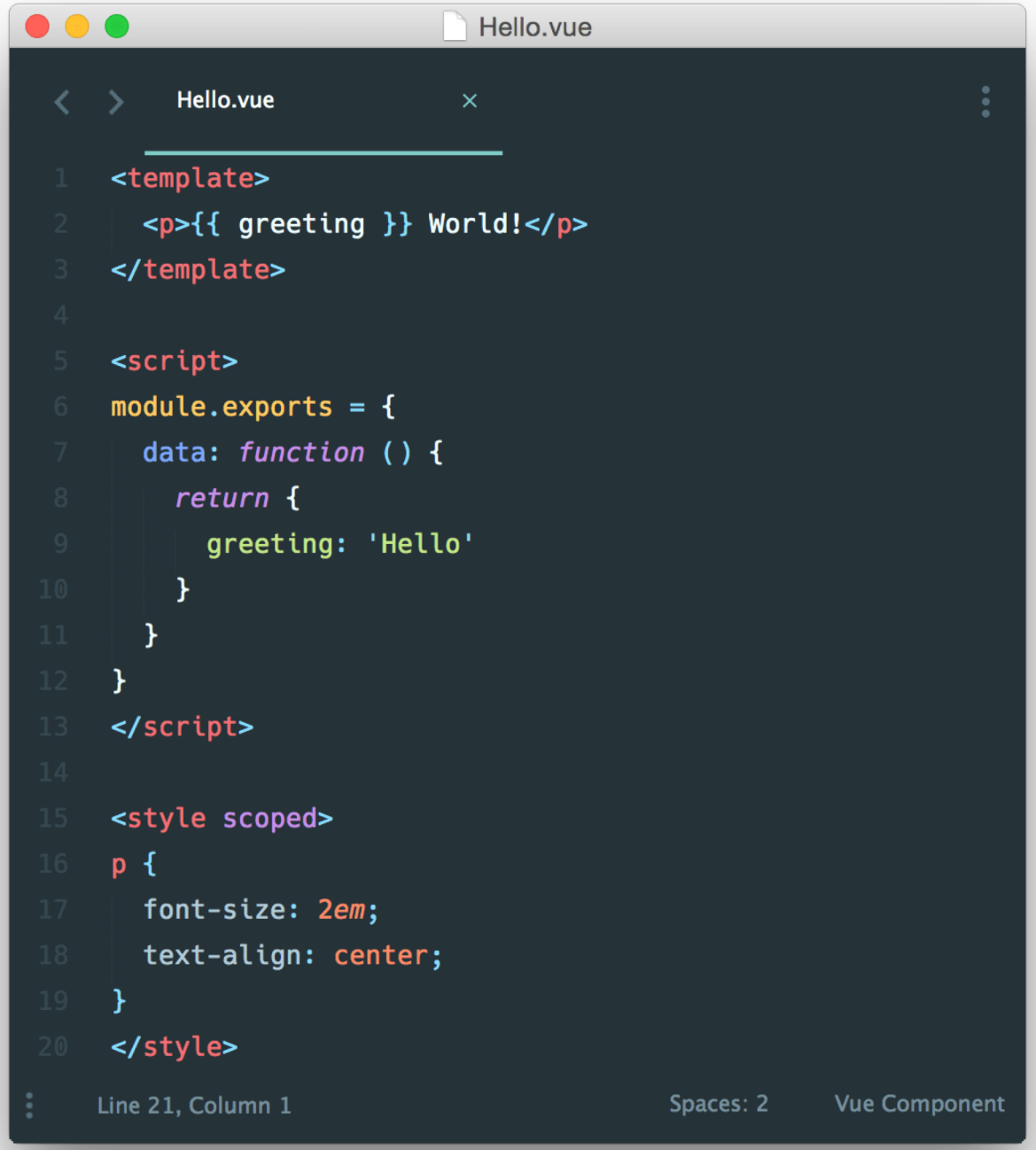
So how does Babel even work?

Henry Zhu

https://www.youtube.com/watch?v=fntd0sPMOtQ

Vue.js

Getting fancy with Single File Components


Hello.vue
Hello.vue
<template>
{{ greeting }} World!
</template>
<script>
module.exports = {
data: function () {
return {
greeting: 'Hello'
}
}
}
</script>
<style scoped>
p {
font-size: 2em;
text-align: center;
}
</style>
Line 21, Column 1
Spaces: 2
Vue Component

Tree Shaking

Dead-code elimination 🔫

Tree Shaking

- Relies on static “import” statements
- Smaller overall production code
- Only bundle stuff that’s actually used

Code Splitting

Create smaller chunks of JavaScript

Code Splitting

- On demand or parallel loading
- Smaller bundles (aka “chunks”)
- Shorter load and compute times
- “Prefetching” and “Preloading” with resource hints

webpack configs

Putting it all together in an (sometimes) ugly config file

Some examples

Basic

- https://github.com/webpack/webpack/blob/master/examples/two-explicit-vendor-chunks/webpack.config.js

Advanced

- https://github.com/pangolinjs/core/tree/master/lib/config

Insane

- https://github.com/vuejs/vue-cli/tree/dev/packages/%40vue/cli-service/lib/config