



Web Advanced

Javascript: Webpack,
Babel, Jest

**DE HOGESCHOOL
MET HET NETWERK**

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What is Babel?

Babel is a JavaScript compiler

Babel is a toolchain that is mainly used to convert ECMAScript 2015+ code into a backwards compatible version of JavaScript in current and older browsers or environments. Here are the main things Babel can do for you:

- Transform syntax
- Polyfill features that are missing in your target environment (through [@babel/polyfill](#))
- Source code transformations (codemods)
- And more! (check out these [videos](#) for inspiration)

JavaScript

 Copy

```
// Babel Input: ES2015 arrow function
[1, 2, 3].map((n) => n + 1);

// Babel Output: ES5 equivalent
[1, 2, 3].map(function(n) {
  return n + 1;
});
```

What is Webpack?

cats.js

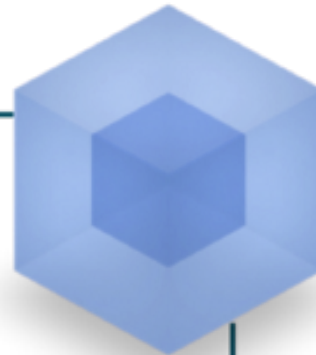
```
var cats = ['dave', 'henry', 'martha'];  
module.exports = cats;
```

app.js

```
var cats = require('./cats.js');  
console.log(cats);
```

1

webpack reads the entry point and analyzes its dependencies, its dependencies' dependencies, and so on.



webpack
MODULE BUNDLER

2

webpack bundles the entry point and all its dependencies into a single file.

app.bundle.js

```
!function(r){function t(o){if(n[o])return n[o].exports;  
var e=n[o]={i:o,l:!1,exports:{}};return r[o].call(  
e.exports,e,e.exports,t),e.l=!0,e.exports}var n={};  
return t.m=r,t.c=n,t.p="",t(t.s=1)}([function(r,t){  
var n=["dave","henry","martha"];r.exports=n},function  
(r,t,n){cats=n(0),console.log(cats)}}]);
```

Installatie

(1) Installeer nodejs

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

(2) Installeer npm

<https://www.npmjs.com/get-npm>

(3) Download de skelet-toepassing van Blackboard
webpack_babel_skeleton.zip



node_modules



public



src



test



index.html



package.json



webpack.config.js



.babelrc

package.json ✕

```
1|{
2|  "name": "webpack_babel_jest_skeleton",
3|  "version": "1.0.0",
4|  "description": "",
5|  "main": "app.js",
6|  "scripts": {
7|    "build": "webpack --config webpack.config.js",
8|    "test": "jest",
9|    "start:server": "webpack-dev-server"
10|  },
11|  "keywords": [],
12|  "author": "",
13|  "license": "ISC",
14|  "devDependencies": {
15|    "babel-cli": "^6.26.0",
16|    "babel-core": "^6.26.3",
17|    "babel-jest": "^23.6.0",
18|    "babel-loader": "^7.1.5",
19|    "babel-preset-env": "^1.7.0",
20|    "jest": "^23.6.0",
21|    "jest-cli": "^23.6.0"
```

Desktop

code

webpack_babel_jest_skeleton



node_modules



public



src



test



index.html



package.json



webpack.config.js



.babelrc

JS webpack.config.js ✕

```
1 const path = require("path");
2
3 module.exports = {
4   mode: 'development',
5   entry: "./src/js/app.js",
6   output: {
7     path: path.resolve(__dirname, "public/js"),
8     filename: "bundle.js"
9   },
10  module: {
11    rules: [
12      {
13        test: /\.js$/,
14        exclude: /(node_modules)/,
15        use: {
16          loader: "babel-loader",
17          options: {
18            presets: ["babel-preset-env"]
19          }
20        }
21      }
22    ]
23  }
24};
```



node_modules



public



src



test



index.html



package.json



webpack.config.js



.babelrc

.babelrc x

```
1 {
2   "presets": [
3     [
4       "env",
5       {
6         "targets": {
7           "browsers": ["last 2 versions", "safari >= 7"]
8         }
9       }
10    ]
11  ]
12 }
```

Alle modules downloaden:

\$ npm install

babel, webpack, jest worden in node_modules geplaatst

Bundle maken

\$ npm run build

script met naam build (uit package.json) wordt uitgevoerd

```
"scripts": {  
  "build": "webpack --config webpack.config.js",  
  "test": "jest",  
  "start:server": "webpack-dev-server"
```

in public/ wordt bundle.js gemaakt

Tests runnen

\$ npm run test

Server starten

\$ npm run start:server

