

**webраск для реальных задач**



**webpack** — это сборщик фронтенда

# Сборщик фронтенда

```
// cow.js  
export function cow() {  
  console.log("Moo!");  
}
```

```
// main.js  
import { cow } from './cow.js';  
  
cow();
```



```
function cow() {  
  console.log("Moo!");  
};  
  
cow();
```

# План

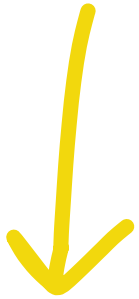
- Собрать фронтенд
- Добавить компиляцию
- Уменьшить размер фронтенда
- Улучшить кеширование
- Ускорить процесс билда
- Сделать процесс разработки приятнее

# План

- Собрать фронтенд
- Добавить компиляцию
- Уменьшить размер фронтенда
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**Задача: уменьшить размер  
фронтенда**

# Минификация



1

UglifyJS



2

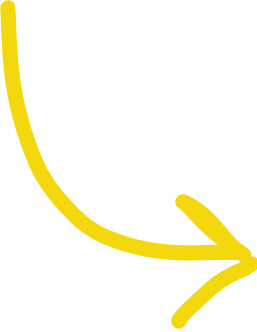
# Минификация

```
// webpack.config.js
const webpack = require('webpack');

module.exports = {
  plugins: [
    new webpack.optimize.UglifyJsPlugin()
  ]
};
```



```
// comments.js
import './comments.css';
export function render(data, target) {
  console.log('Rendered!');
}
```



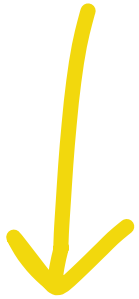
```
// bundle.js (part of)
"use strict";
Object.defineProperty(__webpack_exports__, "__esModule", { value: true });
var __WEBPACK_IMPORTED_MODULE_0__comments_css__ = __webpack_require__(4);
var __WEBPACK_IMPORTED_MODULE_0__comments_css__default =
  __webpack_require__.n(__WEBPACK_IMPORTED_MODULE_0__comments_css__);
__webpack_exports__["render"] = render;

function render(data, target) {
  console.log('Rendered!');
}
```

```
}  
  
// bundle.js (part of)  
"use strict";  
Object.defineProperty(__webpack_exports__, "__esModule", { value: true });  
var __WEBPACK_IMPORTED_MODULE_0__comments_css__ = __webpack_require__(4);  
var __WEBPACK_IMPORTED_MODULE_0__comments_css__default =  
  __webpack_require__.n(__WEBPACK_IMPORTED_MODULE_0__comments_css__);  
__webpack_exports__["render"] = render;  
  
function render(data, target) {  
  console.log('Rendered!');  
}
```

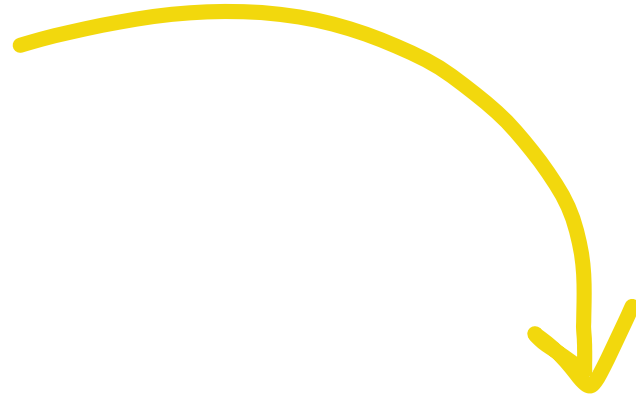
```
// bundle.js (part of)  
"use strict";function  
r(e,t){console.log("Rendered!")}Object.defineProperty(t,"__esModule",{value:!0});var  
o=n(4);n.n(o);t.render=r
```

# Минификация



1

UglifyJS



2

{ minimize: true }

# Минификация

```
// comments.css  
.comment {  
  color: black;  
}
```



```
// bundle.js (part of)  
exports = module.exports = __webpack_require__(1)();  
exports.push([module.i, ".comment {\r\n  color: black;\r\n}", ""]);
```

```
// webpack.config.js
module.exports = {
  module: {
    rules: [
      {
        test: /\.css$/,
        use: [
          'style-loader',
          { loader: 'css-loader', options: { minimize: true } }
        ]
      }
    ]
  }
};
```

# Подводные камни

— Webpack → Babili

# NODE\_ENV=production

```
// ...
```

```
if (process.env.NODE_ENV !== 'production') {  
  validateTypeDef(Constructor, propTypes, 'prop');  
}
```

```
// ...
```

# NODE\_ENV=production

```
// webpack.config.js
const webpack = require('webpack');

module.exports = {
  plugins: {
    new webpack.DefinePlugin({
      'process.env.NODE_ENV': JSON.stringify('production')
    })
  }
};
```



# NODE\_ENV=production

```
// ...  
  
if ('production' !== 'production') {  
  validateTypeDef(Constructor, propTypes, 'prop');  
}  
  
// ...
```

# NODE\_ENV=production

```
// ...
```

```
if ('production' !== 'production') {  
  validateTypeDef(Constructor, propTypes, 'prop');  
}
```

```
// ...
```

# ES-импорты

```
// comments.js  
export const commentRestEndpoint = '/rest/comments';  
export const render = () => { return 'Rendered!'; };
```

```
// index.js  
import { render } from './a.js';  
  
render();
```

# ES-импорты

```
// comments.js  
export const commentRestEndpoint = '/rest/comments';  
export const render = () => { return 'Rendered!'; };
```

```
// index.js  
import { render } from './comments.js';  
  
render();
```

# ES-импорты

```
// bundle.js (part of)
"use strict";
__webpack_exports__["a"] = commentRestEndpoint;
__webpack_exports__["b"] = render;

var commentRestEndpoint = '/rest/comments';
var render = function () { return 'Rendered!'; }
```

# ES-импорты

```
"use strict";r.d(n,"a",function(){return t});  
var t=function(){return 'Rendered!'}
```

# Подводные камни

```
// webpack.config.js
const webpack = require('webpack');

module.exports = {
  plugins: {
    new webpack.optimize.UglifyJsPlugin()
  }
};
```

```
// webpack.config.js
module.exports = {
  module: {
    rules: [
      {
        test: /\.js$/,
        use: ['babel-loader', options: {
          presets: [['es2015', { modules: false }]]
        }]
      }
    ]
  }
};
```



# Подводные камни

```
// article.js  
export { default as renderComments } from './comments.js';
```

[webpack/webpack#2867](https://webpack.js.org/blog/2016-09-26-webpack2/#comment-2867)

# moment.js

```
import moment from 'moment'; // +243 K6
```

```
// moment.js
```

```
require('./locale/' + name);
```

# moment.js

```
// webpack.config.js
const webpack = require('webpack');

module.exports = {
  plugins: {
    new webpack.ContextReplacementPlugin(
      /moment[\/\\]locale/,
      /(en-gb|ru)\.js/
    )
  }
};
```

# lodash

```
import _ from 'lodash'; // +70 K6  
_.get({ a: { b: 5 } }, 'a.b');
```

```
import get from 'lodash/get';  
get({ a: { b: 5 } }, 'a.b');
```

# babel-plugin-lodash

```
// До babel-plugin-lodash  
import _ from 'lodash';  
_.get({ a: { b: 5 } }, 'a.b');
```

```
// После babel-plugin-lodash  
import _get from 'lodash/get';  
_get({ a: { b: 5 } }, 'a.b');
```

73 K6



11 K6

# lodash-webpack-plugin

```
// до lodash-webpack-plugin  
import _ from 'lodash';  
_.get({ a: { b: 5 } }, 'a.b'); // 5
```

```
// lodash-webpack-plugin c {paths: false}  
import _ from 'lodash';  
_.get({ a: { b: 5 } }, 'a.b'); // undef.
```

11 K6



<1 K6

Feature	Description
deburring	Support deburring letters.
unicode	Support Unicode symbols.
chaining	Components to support chain sequences.
memoizing	Support <code>_.memoize</code> & memoization.
coercions	Support for coercing values to integers, numbers, & strings.
flattening	Support “flatten” methods & flattening rest arguments.
paths	Deep property path support for methods like <code>_.get</code> , <code>_.has</code> , & <code>_.set</code> .
placeholders	Argument placeholder support for “bind”, “curry”, & “partial” methods. <i>(requires currying)</i>

Feature	Description
shorthands	Iteratee shorthands for <code>_.property</code> , <code>_.matches</code> , & <code>_.matchesProperty</code> .
cloning	Support “clone” methods & cloning source objects.
currying	Support “curry” methods.
caching	Caches for methods like <code>_.cloneDeep</code> , <code>_.isEqual</code> , & <code>_.uniq</code> .
collections	Support objects in “Collection” methods.
exotics	Support objects like buffers, maps, sets, symbols, typed arrays, etc.
guards	Guards for host objects, sparse arrays, & other edge cases.
metadata	Metadata to reduce wrapping of bound, curried, & partially applied functions. <i>(requires currying)</i>

## Crosswords

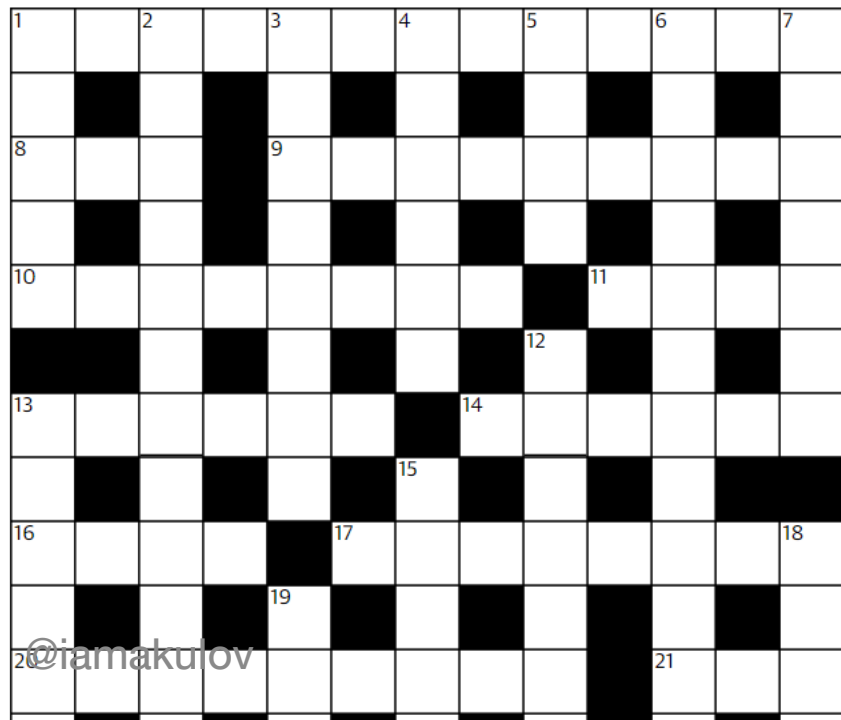
Tuesday 28 February 2017  
00.00 GMT

# Quick crossword No 14,605

[Print](#) | [PDF version](#) | [Accessible version](#)




  
295



### Across

- 1 More than sufficient (13)
- 8 Meadow (3)
- 9 Person showing people to their seats (9)
- 10 Port-au-Prince inhabitants? (8)
- 11, 13 Woman after a man's money (4,6)
- 13 See 11
- 14 Conflict (6)
- 16 Sudden impulse (4)
- 17 Half-hearted (8)
- 20 Pool of water in the bed of a stream

### Down

- 1 Slender and graceful young woman (5)
- 2 Sports grounds (7,6)
- 3 Brought together again (8)
- 4, 19 Serving time (6,4)
- 5 Stool pigeon (4)
- 6 Commanding and self-assured (13)
- 7 Foot-operated lever (7)
- 12 For an extended period (2,6)
- 13 Violin stroke (7)
- 15 9 x 9 1-9 puzzle (6)



# externals

```
// webpack.config.js
module.exports = {
  externals: {
    'react': 'React',
    'react-dom': 'ReactDOM',
  }
};
```

# externals

```
// webpack.config.js
module.exports = {
  output: { libraryTarget: 'amd' },

  externals: {
    'react': { amd: '/libraries/react.min.js' },
    'react-dom': { amd: '/libraries/react-dom.min.js' },
  }
};
```

# Итого: уменьшить размер фронтенда

- Настроить минификацию
- Передавать `NODE_ENV=production`
- Использовать ES-импорты и экспорты
- Выбрасывать locales в moment.js
- Выбрасывать ненужные методы в lodash
- Использовать externals

**Задача: улучшить кеширование**

# Использовать хеш

```
<script src="./index.js?version=1">
```

```
<script src="./index.js?version=2">
```

# Использовать хеш

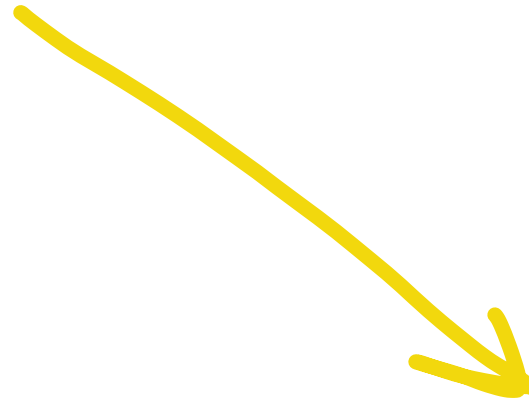
```
// webpack.config.js
module.exports = {
  entry: './index.js',
  output: {
    filename: 'bundle.[chunkhash].js
      // → bundle.8e0d62a03.js
  }
};
```

# Узнать название бандла



## HtmlWebpackPlugin

```
<!doctype html>  
<!-- -->  
<script src="bundle.8e0d62a03.js">  
</script>
```



## WebpackManifestPlugin

```
{  
  "bundle.js": "bundle.8e0d62a03.js"  
}
```

# Подводные камни

```
// webpack.config.js
module.exports = {
  entry: './index.js',
  output: {
    filename: 'bundle.[chunkhash].js'
  },
  plugins: [
    new WebpackChunkHash() // пакет webpack-chunk-hash
  ]
};
```



home

## headlines

Wednesday  
21 October 2015

Now  
7°C



00:00 8°C	03:00 7°C	06:00 7°C

Hill Valley

### Honduras / US-trained military veterans among suspects in activist's killing

Berta Cáceres's killing a year ago bears hallmarks of a well-planned operation designed by military intelligence, says legal source



### US / Trump to detail 'promises made and promises kept' in speech to Congress

'He's behind it' / Trump accuses Obama over protests and leaks



### 'Living hellholes' / Refugees beaten, raped and starved in Libya



### Olga Korbut / 'Almost destitute' ex-gymnast sells Olympic medals

### Turkey / Formal arrest of Die Welt journalist Deniz Yücel condemned

### US / Tibetan women's football players denied visas for Texas tournament

### Berlin truck attack / Mosque

### Tunisia beach attack / UK victims' families to sue travel firm after inquest verdict

### Marine Le Pen / MEPs say Front National leader can be prosecuted over violent Isis images

### France / Police officer

```
module.exports = {
  entry: {
    homepage: './index.js',
    article: './article.js'
  },
  output: {
    filename: '[name].[chunkhash].js'
  },
  plugins: [
    new WebpackManifestPlugin(),
    new WebpackChunkHash(),
    //
  ]
};
```

```
module.exports = {
  plugins: [
    // ...
    new webpack.optimize.CommonsChunkPlugin({
      name: 'vendor',
      minChunks: m => m.context && m.context.includes('node_modules'),
    }),
    new webpack.optimize.CommonsChunkPlugin({
      name: 'runtime',
      chunks: ['vendor'],
      minChunks: Infinity,
    }),
    // ...
  ]
};
```

```
module.exports = {
  plugins: [
    // ...
    new ChunkManifestPlugin({ // chunk-manifest-webpack-plugin package
      filename: 'chunk-manifest.json',
      manifestVariable: 'webpackManifest'
    }),
    new webpack.HashedModuleIdsPlugin()
  ]
};
```

# Разбить код на модули

`homepage.a68cd93e1a43281ecaf0.js`

`article.d07a1a5e55dbd86d572b.js`

`vendor.1ebfd76d9dbc95deaed0.js`

`runtime.d41d8cd98f00b204e980.js`

`manifest.json`

`chunk-manifest.json`

**Arrival**  
First look review

## Arrival review: heartfelt alien-contact movie communicates spectacular ideas

★★★★☆

Amy Adams stars as a linguist reaching out to extraterrestrial visitors in Denis Villeneuve's high-concept highwire act of a film



2004 | 97

Peter Bradshaw

@PeterBradshaw1

Thursday 1 September  
2016 14.54 BST



### Most popular in US



Detained by US immigration: 'In that moment I loathed America' | Mem Fox



Donald Trump accuses Obama of orchestrating protests against him



Female engineer sues Tesla, describing a

# Загружать по частям

```
// article.js
import { renderArticle } from './components/article';
import { renderComments } from './components/comments';
import { renderSidebar } from './components/sidebar';

renderArticle();
renderComments();
renderSidebar();
```

# Загружать по частям

```
// article.js
import { renderArticle } from './components/article';
renderArticle();

import('./comments.js').then((m) => { m.renderComments(); });
import('./sidebar.js').then((m) => { m.renderSidebar(); });
```



# Подводные камни

```
// article.js
import { renderArticle } from './components/article';
renderArticle();
```

```
import('./comments.js').then((m) => { m.renderComments(); });
import('./sidebar.js').then((m) => { m.renderSidebar(); });
```

[babel-plugin-syntax-dynamic-import](#)

# Предзагрузить все чанки

```
// webpack.config.js
module.exports = {
  plugins: [
    new OfflinePlugin() // offline-plugin package
  ]
};
```

```
// index.js
import runtime from 'offline-plugin/runtime';
runtime.install();
```

# Итого: улучшить кеширование

- Использовать хэш
- Разбить код на чанки
- Загружать чанки по частям
- Предзагрузить все чанки

# Спасибо!

Иван Акулов

ERAM

Текстовая версия: [iamakulov.com/webpack](http://iamakulov.com/webpack)

Подписывайтесь в Твиттере: [@iamakulov](https://twitter.com/iamakulov)