

# Про node\_modules

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Ссылка на ссылки



- › `jquery.min.js`  
`hints.js`  
`carousel.js`  
`counters.js`  
`script.js`

```
<script src="./static/js/jquery.min.js"></script>  
<script src="./static/js/jquery-table-plugin.js"></script>
```



# Получение зависимостей

```
// 1.  
function reqListener() {  
    eval(this.responseText);  
}  
const req = new XMLHttpRequest();  
req.addEventListener("load", reqListener);  
req.open("GET", "http://www.example.org/example.txt");  
req.send();  
  
// 2.  
var script = document.createElement("script");  
script.type = "text/javascript";  
script.src = "url";  
document.head.appendChild(script);
```

\$.ajax

Mithgol the  
Webmaster



# Коллизии в глобале

```
// <script src="./static/js/external-script.js"></script>
(function() {
  // Copypasted libs
  // jquery v1
  // ...
  // Plugins, utils, etc
  // ...
  function start() {
    $('#main').addEventListener()
  }

  $.ready(start)
  window.$ = $
})(window)
```

```
// <script src="./static/js/my-script.js"></script>
(function() {
  // Load jquery v2
  // But $ refers to v1, so, for example
  $.parseXML() // returns DOM Object instead of XMLDOMDocument
})(window)
```



# Behold, Node.js

Evented I/O for V8 javascript.

```
// An example of a web server written with Node
// which responds with "Hello World" after waiting two seconds:
```

```
include("/utils.js");
include("/http.js");
createServer(function (req, res) {
  setTimeout(function () {
    res.writeHead(200, {"Content-Type": "text/plain"});
    res.sendBody("Hello World");
    res.finish();
  }, 2000);
}).listen(8000);
puts("Server running at http://127.0.0.1:8000/");
```

```
// To run the server, put the code into a file
// example.js and execute it with the node program
```

```
% /usr/local/bin/node example.js
Server running at http://127.0.0.1:8000/
```

Видал Райана  
Даля вживую  
на Холи. У меня  
даже автограф  
есть

nodeJS

<https://web.archive.org/web/20091003131634/http://nodejs.org/>

[https://en.wikipedia.org/wiki/Rhino\\_\(Java\\_Script\\_engine\)](https://en.wikipedia.org/wiki/Rhino_(Java_Script_engine))

# require

```
var sys = require('sys'),
    http = require('http');

http.createServer(function (req, res) {
  setTimeout(function () {
    res.writeHead(200, {'Content-Type': 'text/plain'});
    res.write('Hello World');
    res.close();
  }, 2000);
}).listen(8000);
sys.puts('Server running at http://127.0.0.1:8000/');
```

<https://web.archive.org/web/20100304154050/https://nodejs.org/>

**require**

CommonJS



```
const { PI } = Math
```

```
module.exports = (r) => 2 * PI * r
```

[https://en.wikipedia.org/  
wiki/CommonJS](https://en.wikipedia.org/wiki/CommonJS)



# require

- Независимые контексты
- Кэш загрузки (мутабельный)
- Контекстно-зависимый resolve

```
import { createRequire } from 'node:module'  
const require = createRequire(import.meta.url)
```

# require

```
node_modules
  a
    node_modules
      lodash@3
  b
    node_modules
      lodash@2
  lodash@4
index.js
```

```
// index.js
const _ = require('lodash')
require.cache['lodash'] // ?
```

**require**

**AMD**



```
// foobar.js
define(["jquery"], function ($) {
  // internals
  function foo() {}
  function bar() {}
  function baz() {}

  // exports
  return {
    foo: foo,
    bar: bar,
  }
})
```

```
// some.js
define(function (require) {
  var foo = require('foo')

  return function () {
    foo.doSomething()
  }
})
```

<https://requirejs.org/>

dojo еще был,  
<https://dojotoolkit.org/>

[https://en.wikipedia.org/wiki/Asynchronous\\_module\\_definition](https://en.wikipedia.org/wiki/Asynchronous_module_definition)

# require.js

## **r.js:**

The RequireJS optimizer,  
and AMD runtime for  
use in Node.

## **require.js**

The browser-based  
AMD loader.

[https://github.com/  
requirejs/r.js](https://github.com/requirejs/r.js)

[https://requirejs.org/  
docs/optimization.html](https://requirejs.org/<br/>docs/optimization.html)

Еще был steal.js,  
но там перемудрили

[https://github.com/  
stealjs/steal](https://github.com/<br/>stealjs/steal)

[https://github.com/  
stealjs/steal-conditional](https://github.com/<br/>stealjs/steal-conditional)

# require.js

Notice that the above module does not declare a name for itself. This is what makes the module very portable. It allows a developer to place the module in a different path to give it a different ID/name. The **AMD loader** will give the module an ID **based on how it is referenced by other scripts**.

```
function normalize(name, baseName, applyMap) {
  var pkgMain, mapValue, nameParts, i, j, nameSegment, lastIndex,
      foundMap, foundI, foundStarMap, starI, normalizedBaseParts,
      baseParts = (baseName && baseName.split('/')),
      map = config.map,
      starMap = map && map['*'];

  //Adjust any relative paths.
  if (name) {
    name = name.split('/');
    lastIndex = name.length - 1;
```

<https://requirejs.org/docs/whyamd.html>

<https://github.com/requirejs/requirejs/blob/master/require.js#L269>



# UMD

## Universal Module Definition

```
(function (root, factory) {  
  if (typeof define === "function" && define.amd) {  
    // AMD  
    define(["foo", "bar"], factory)  
  } else if (typeof exports === "object") {  
    // CommonJS  
    module.exports = factory(require("foo"), require("bar"))  
  } else {  
    // Browser globals  
    root.fooBarExports = factory(root.foo, root.bar)  
  }  
})(this, function (foo, bar) {  
  // ...  
})
```

“universal”

[https://github.com/  
umdjs/umd](https://github.com/umdjs/umd)



— Хрю.

# ESM

aka ES6 modules, native ES modules

- Независимые контексты
- Иммуutable кэш
- Иммуutable модули
- Динамические и статическая загрузка

<https://262.ecma-international.org/6.0/>

<https://hacks.mozilla.org/2018/03/es-modules-a-cartoon-deep-dive/>



# ESM

## «Безопасно»

- Нет моков модулей
- Никаких оверрайдов (метрики, мемоизация, дебаунсеры-троттлеры, spyOn, пост-инит инъекты)

### ⚠ CAUTION

Jest ships with **experimental** support for ECMAScript Modules (ESM).

The implementation may have bugs and lack features. For the latest status check out the [issue](#) and the [label](#) on the issue tracker.

Also note that the APIs Jest uses to implement ESM support are still [considered experimental by Node](#) (as of version `18.8.0`).

With the warnings out of the way, this is how you activate ESM support in you

1. Ensure you either disable `code transforms` by passing `transform: {}` or otherwise configure your transformer to emit ESM rather than the default CommonJS (CJS).
2. Execute `node` with `--experimental-vm-modules`, e.g. `node --experimental-vm-modules node_modules/jest/bin/jest.js` or `NODE_OPTIONS=--experimental-vm-modules npx jest` etc.



<https://github.com/search?q=repo%3Ajestjs%2Fjest+esm+mock&type=issues>

<https://jestjs.io/docs/ecmascript-modules>

# ESM

## std/esm

*...esm is the world's most advanced ECMAScript module loader. This fast, production ready, zero dependency loader is all you need to support ECMAScript modules in Node 6+.*

```
require = require("esm")(module/*, options*/)
module.exports = require("./main.js")
```

<https://github.com/standard-things/esm>

<https://github.com/jdalton>

Далтон клевый

# ESM

## SystemJS

*...is a hookable, standards-based module loader. It provides a workflow where code written for production workflows of native ES modules in browsers ([like Rollup code-splitting builds](#)), can be transpiled to the [System.register module format](#) to work in older browsers that don't support native modules...*

<https://github.com/systemjs/systemjs>

```
System.register(['dependency'], function (_export, _context) {
  var dep;
  return {
    setters: [function (_dep) {
      dep = _dep;
    }],
    execute: function () {
      _export({
        name: 'value'
      });
    }
  };
}, /*optional metas*/ [
  /*optional meta for dependency*/ {assert: {type: 'javascript'}},
]);
```

# Комбинаторная дилемма: раздельные артефакты или разделяемое содержимое



<https://2ality.com/2019/10/hybrid-npm-packages.html>

# package.json

## garbage.json

- Точки входа
- Зависимости
- Конфиги
- Метаинфа
- Ассерты рантайма
- Копирайты / лицензии
- Скрипты / пайплайны
- Реджистри
- ...





# package

## exports & imports

```
{
  "exports": {
    "foo": [
      "./foo.js",
      "./foo.mjs",
      {
        "require": "./foo.cjs"
      }
    ]
  }
}

{
  "imports": {
    "#foo": "./foo.js"
  }
}
```

```
{
  "exports": "foo.js"
}

{
  "exports": {
    "import": "./foo.js",
    "require": "./foo.cjs",
    "default": "./foo.js"
  }
}

{
  "exports": {
    "foo": {
      "import": "./foo.js",
      "require": "./foo.cjs",
      "default": "./foo.js"
    },
    "bar/*": {
      "import": "./bar/*.js",
      "require": "./bar/*.cjs",
      "default": "./bar/*.js"
    }
  }
}
```

<https://stackoverflow.com/questions/71610111/node-package-json-export-vs-imports-fields>

<https://github.com/jestjs/jest/issues/13707>

# package

## полный не-JS










 **Readme**

 **Code** Beta

 **0 Dependencies**

 **10**

/ @types/lodash /

|   |                        |         |
|---|------------------------|---------|
|  common/         | folder                 | 456 kB  |
|  fp/             | folder                 | 20.6 kB |
|  LICENSE         | text/plain             | 1.14 kB |
|  README.md       | text/markdown          | 763 B   |
|  add.d.ts      | application/typescript | 45 B    |
|  after.d.ts    | application/typescript | 49 B    |
|  ary.d.ts      | application/typescript | 45 B    |
|  assign.d.ts   | application/typescript | 51 B    |
|  assignIn.d.ts | application/typescript | 55 B    |



<https://github.com/DefinitelyTyped/DefinitelyTyped/>



# package

## императивное выполнение не-JS

```
const sh = new Proxy({}, {
  get: (_, bin) => function (...args) {
    const out = require('child_process').spawnSync(bin, args, {...this})
    return Object.assign(new String(out.stdout), out)
  }
})

const {python} = sh
const result = python('./src/py/main.py')
```

<https://www.graalvm.org/>



<https://github.com/antonmedv/tinysh/blob/master/index.js>

# package

## node-gyp: пост-инсталл компиляция

*Cross-platform command-line tool written in Node.js for compiling native addon modules for Node.js  
“generate your projects”*

- Сборка зависимостей на стороне клиента
- Использование низкоуровневых API
- Высокопроизводительная имплементация
- Шорткат для портирования

<https://github.com/nodejs/node-gyp>

<https://blog.logrocket.com/solving-common-issues-node-gyp/>

<https://stackoverflow.com/questions/39739626/what-is-node-gyp>

<https://ru.stackoverflow.com/questions/1453109/node-gyp-что-это-и-на-что-ругается>

# package

## node-gyp: it's a kind of magic

*package.json*

```
{
  "name": "hello-world",
  "version": "0.0.0",
  "scripts": {
    "install": "node-gyp rebuild"
  },
  "gypfile": true,
  "dependencies": {
    "node-addon-api": "^7.0.0"
  }
}
```

*binding.cc*

```
#include <node.h>
#include <v8.h>

using namespace v8;

Handle<Value> Method(const Arguments& args) {
  HandleScope scope;
  return scope.Close(String::New("world"));
}

void init(Handle<Object> target) {
  NODE_SET_METHOD(target, "hello", Method);
}

NODE_MODULE(mybinding, init);
```

*binding.gyp*

```
{
  "targets": [
    {
      "target_name": "mybinding",
      "sources": [ "binding.cc" ]
    }
  ]
}
```

<https://nodejs.org/api/addons.html>

<https://github.com/nodejs/node-v0.x-archive/tree/v0.10.26/test/addons>



<https://www.npmjs.com/package/node-sass?activeTab=code>

# package

## node-gyp: почему python?

GYP is the only Python dependency of Node.js



<https://github.com/nodejs/node-gyp/blob/main/lib/find-python.js>

<https://gyp.gsrc.io/>

<https://github.com/indutny/gyp.js/>



# package

## wasm

WASI API provides an implementation of the [WebAssembly System Interface](#) specification.

WASI gives sandboxed WebAssembly applications access to the underlying operating system via a collection of POSIX-like functions

- C, Cpp, C#, Go → wat
- wat → wasm

```
import { readFile } from "node:fs/promises";
import { WASI } from "wasi";
import { argv, env } from "node:process";

const wasi = new WASI({
  version: "preview1",
  args: argv,
  env,
  preopens: {
    "/sandbox": "/some/real/path/that/wasm/can/access",
  },
});

const wasm = await WebAssembly.compile(
  await readFile(new URL("./demo.wasm", import.meta.url)),
);
const instance = await WebAssembly.instantiate(
  wasm, wasi.getImportObject()
);
wasi.start(instance);
```



<https://wasi.dev/>

<https://nodejs.dev/en/learn/nodejs-with-webassembly/>

<https://nodejs.org/api/wasi.html>

<https://github.com/harryheman/Blog-Posts/tree/master/wasm-test>

[https://developer.mozilla.org/ru/docs/WebAssembly/Understanding\\_the\\_text\\_format](https://developer.mozilla.org/ru/docs/WebAssembly/Understanding_the_text_format)

# package

## loaders & resolvers

- Транспиляция на лету
- Кастомные провайдеры ресурсов
- Тестирование, мокирование, покрытие
- ISEC надзор
- Реинициализация контекста, hot-reload

```
NODE_OPTIONS="--loader ts-node/esm"
```

<https://github.com/nodejs/loaders>

<https://github.com/TypeStrong/ts-node>



<https://dev.to/mxfellner/dynamic-import-with-http-urls-in-node-js-7og>

# package

## VM

- Динамическое наполнение контекста
- Виртуальное дерево зависимостей
- Метрики ресурсов

```
// Create an initial module
const module = new vm.SourceTextModule('const a = 1;');

// Create cached data from this module
const cachedData = module.createCachedData();

// Create a new module using the cached data. The code must be the same.
const module2 = new vm.SourceTextModule('const a = 1;', { cachedData });
```

```
NODE_OPTIONS=--experimental-vm-modules
```

<https://nodejs.org/api/vm.html>

<https://nodejsdev.ru/api/vm/#vmmodule>

<https://github.com/felixge/node-sandboxed-module>

<https://snyk.io/blog/security-concerns-javascript-sandbox-node-js-vm-module/>

# package

## PnP

*This loader file, named **.pnp.cjs**, contains all information about your project's dependency tree, informing your tools as to the location of the packages on the disk and letting them know how to resolve require and import calls.*

```
const dynamicFsLayer = new DynamicFS();
let manager;
const defaultApi = Object.assign(makeApi(defaultRuntimeState
  fakeFs: dynamicFsLayer,
  pnpapiResolution: defaultPnpapiResolution
}), {
  makeApi: ({
    basePath = void 0,
    fakeFs = dynamicFsLayer,
    pnpapiResolution = defaultPnpapiResolution,
    ...rest
  }) => {
    const apiRuntimeState = typeof basePath !== `undefined`
    return makeApi(apiRuntimeState, {
      fakeFs,
      pnpapiResolution,
      ...rest
    });
  },
  setup: (api) => {
    applyPatch(api || defaultApi, {
      fakeFs: defaultFsLayer,
      manager
    });
    dynamicFsLayer.baseFs = new NodeFS(fs__default.default);
  }
});
manager = makeManager(defaultApi, {
  fakeFs: dynamicFsLayer
});
```

<https://yarnpkg.com/features/pnp>

<https://raw.githubusercontent.com/yarnpkg/berry/master/.pnp.cjs>



# package

## PnP

- Архивы в репе
- Ломается аудит
- Отладка депсов недоступна
- Лишняя зависимость в проде

<https://github.com/pnpm/pnpm/releases/tag/v5.9.0>

# Пакетные менеджеры

## В чем различия?

- Протоколы доступа
- Отображение nmtree, deptree и depgraph
- Обработка ошибок
- Переопределение зависимостей
- Воркспейсы
- **Скорость работы**
- Кастомизируемость и расширяемость
- Хуки
- Кэширование
- Верификация пакетов

npm  
bower  
yarn  
pnpm  
bun  
jlpm  
jspm  
cnpm  
volt  
ultra

# Верификация и локфайлы

- Определяют источники
- Контрольные суммы, хэши
- Фиксируют снимок дерева
- Проецируют метаинфу

```
# THIS IS AN AUTOGENERATED FILE. DO NOT EDIT THIS FILE
# yarn lockfile v1
```

```
"@aashutoshrathi/word-wrap@^1.2.3":
  version "1.2.6"
  resolved "https://registry.yarnpkg.com/@aashutoshrathi/word-wrap"
  integrity sha512-1Yjs2SvM8TfLER/OD3c0jhWW0Zb58A2t"
```

```
"@babel/code-frame@^7.0.0":
  version "7.21.4"
  resolved "https://registry.yarnpkg.com/@babel/code-frame"
  integrity sha512-1LYvNKfwWSPpocw8GI7gpK2nq3HSDuEP
  dependencies:
    "@babel/highlight" "^7.18.6"
```

```
"@babel/helper-validator-identifier@^7.18.6", "@babel/
  version "7.19.1"
  resolved "https://registry.yarnpkg.com/@babel/hel
  integrity sha512-awrNfaMtnHUr653GgGEs++LlAvW6w+Dcl
```

```
"@babel/highlight@^7.18.6":
  version "7.18.6"
  resolved "https://registry.yarnpkg.com/@babel/higl
  integrity sha512-u7stb0uYjaPezCuLj29hNW1v64M2Md2q
  dependencies:
```

<https://docs.npmjs.com/cli/v10/configuring-npm/package-lock-json>

<https://github.com/antongolub/lockfile>

# Деревья

## От проекции к декларации

### nmtree

```
node_modules/a@0.0.1
node_modules/b@0.0.1
node_modules/a@0.0.1/node_modules/b@0.0.2
node_modules/c@0.0.1
```

### deptree

```
a@0.0.1
b@0.0.1
a@0.0.1 → b@0.0.2 → c@0.0.1
```

### depgraph

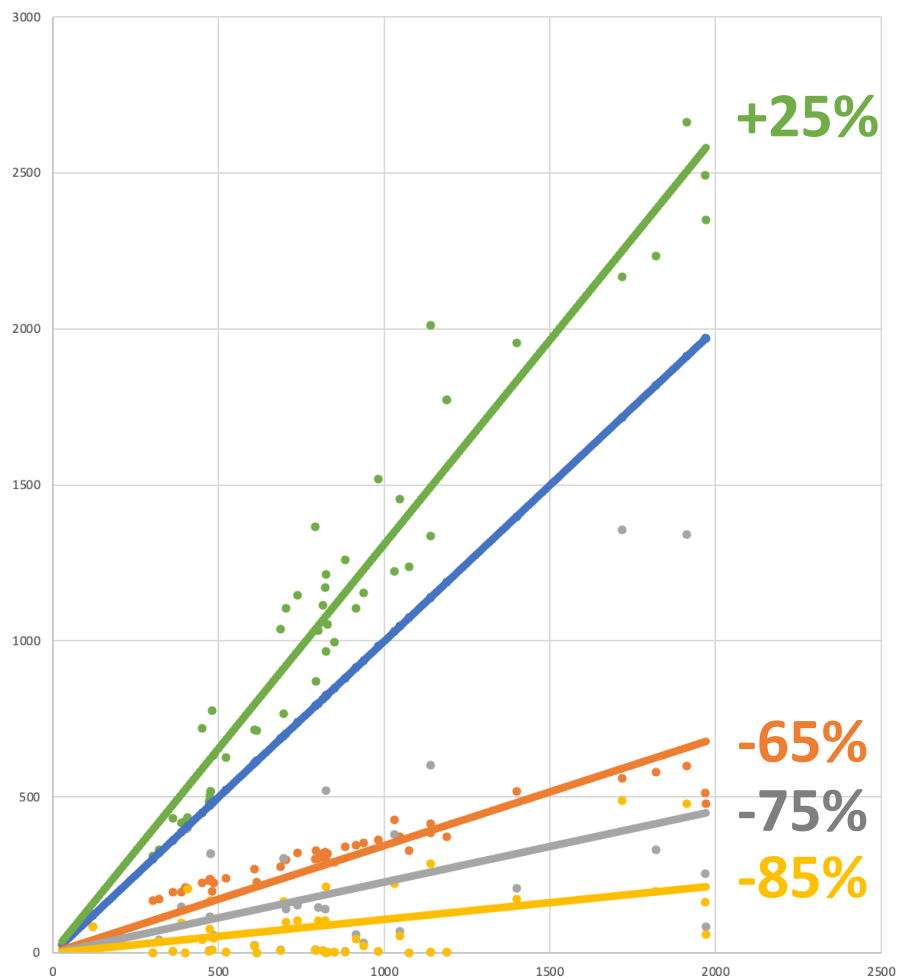
```
"" → [a@0.0.1, b@0.0.1]
a@0.0.1 → [b@0.0.2]
b@0.0.1 → [],
b@0.0.2 → [c@0.0.1]
c@0.0.1 → []
```

<https://github.com/snyk/nodejs-lockfile-parser>

<https://medium.com/helpshift-engineering/package-lock-json-the-complete-guide-2ae40175ebdd>

# Деревья

## Расходование ресурсов fs

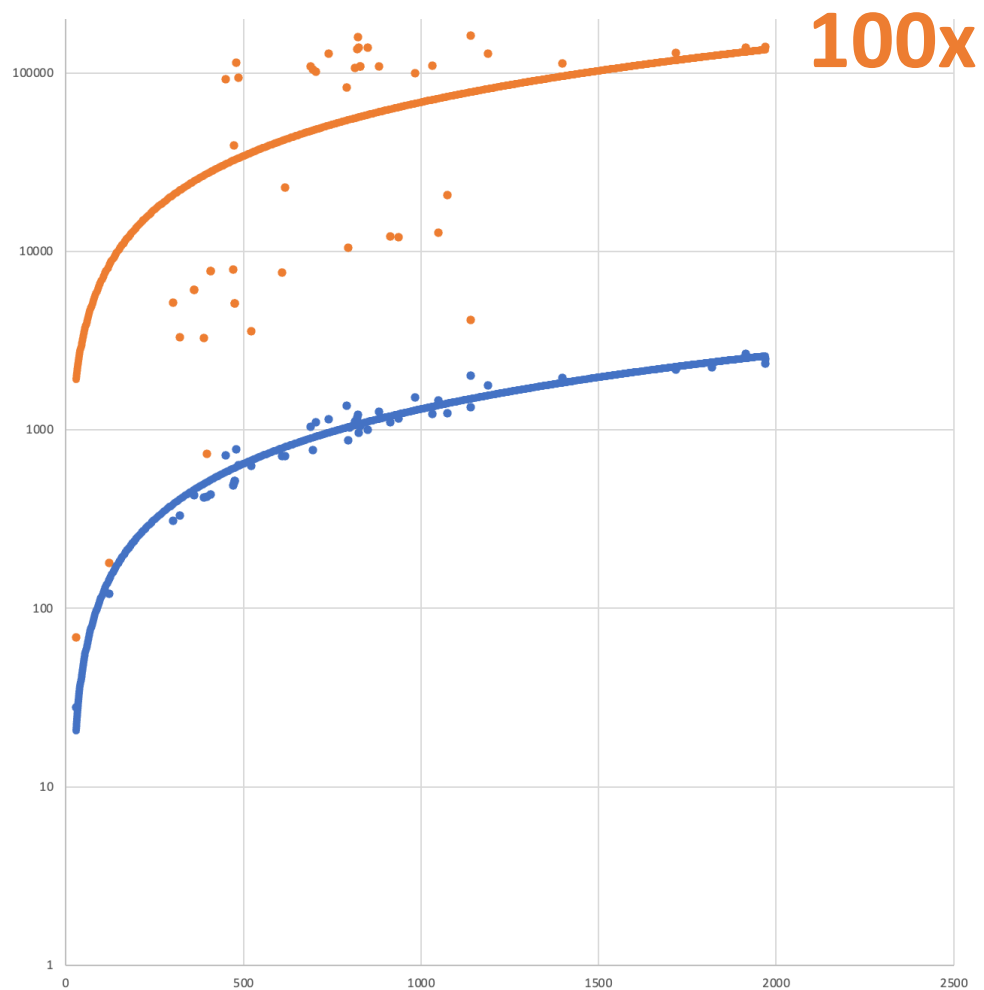


nmtree  
depgraph  
unique  
prod  
prod unique

Рандомная выборка  
JS/TS репозиторийев  
<https://github.com/qiwi>  
<https://<nda>.qiwi.com>

# Деревья

Расходование ресурсов fs



deptree  
depgraph

# Типы зависимостей

## Границы условны

optional — отрицание

bundled — гнев

dev — торг

peer — печаль

prod — принятие

[https://github.com/  
npm/npm/issues/19428](https://github.com/npm/npm/issues/19428)

[https://www.geeksforgee  
ks.org/what-are-the-  
different-types-of-  
dependencies-in-node-js/](https://www.geeksforgeeks.org/what-are-the-different-types-of-dependencies-in-node-js/)

# Типы зависимостей

## prod vs dev

### SPA

react → bundle  
webpack polyfills → bundle

### SSR

react → runtime

<https://maven.apache.org/guides/introduction/introduction-to-dependency-mechanism.html#dependency-scope>



# Типы зависимостей

## peer

- Снижает степень «разноверсионности»
- Обратный ход при построении дерева
- Ресолв опирается на deptime, а не nmtree

```
NODE_PATH=$(npm root -g).:/my_modules/ node
```

<https://javascript.plainenglish.io/understanding-peer-dependencies-a-key-concept-in-coding-aa8507cc74ea>

<https://www.geeksforgeeks.org/difference-between-dependencies-devdependencies-and-peerdependencies/>

<https://github.com/npm/cli/blob/94f535b5d9bf912c25f08d522b3208dedb8ace0a/workspaces/config/lib/definitions/definitions.js#L1179>

[https://nodejs.org/api/modules.html#modules\\_loading\\_from\\_the\\_global\\_folders](https://nodejs.org/api/modules.html#modules_loading_from_the_global_folders)

# Типы зависимостей

## bundled

- Когда bundle.js не собрать: импорты из переменных, бинарники
- Для ускорения установки

```
{  
  "name": "foo",  
  "version": "1.0.0",  
  "bundledDependencies": [  
    "bar", "baz"  
  ]  
}
```

<https://docs.npmjs.com/cli/v7/configuring-npm/package-json#bundleddependencies>

<https://github.com/npm/cli/issues/2491>

<https://github.com/pnpm/pnpm/issues/1643>

<https://www.npmjs.com/package/npm?activeTab=code>

# Типы зависимостей

## optional

- Установка по условию: рантайм, архитектура, os
- Замещение peer api на advanced, если пакет доступен (console.debug → debug)

```
> YN0076: | esbuild-linux-riscv64@npm:0.15.18 The darwin-arm64 architecture is incompat
> YN0076: | esbuild-linux-s390x@npm:0.15.18 The darwin-arm64 architecture is incompat
> YN0076: | esbuild-netbsd-64@npm:0.15.18 The darwin-arm64 architecture is incompatib
> YN0076: | esbuild-openbsd-64@npm:0.15.18 The darwin-arm64 architecture is incompatil
> YN0076: | esbuild-sunos-64@npm:0.15.18 The darwin-arm64 architecture is incompatibl
> YN0076: | esbuild-windows-32@npm:0.15.18 The darwin-arm64 architecture is incompatil
> YN0076: | esbuild-windows-64@npm:0.15.18 The darwin-arm64 architecture is incompatil
> YN0076: | esbuild-windows-arm64@npm:0.15.18 The darwin-arm64 architecture is incompa
```

<https://github.com/yarnpkg/yarn/issues/6487>

# Типы зависимостей

## протоколы

|                  |                                       |  |
|------------------|---------------------------------------|--|
| <b>semver</b>    | ^1.2.3                                | Resolves from the default registry                             |
| <b>tag</b>       | latest                                | Resolves from the default registry                             |
| <b>npm</b>       | npm:name@...                          | Resolves from the npm registry                                 |
| <b>git</b>       | git@github.com:foo/bar.git            | Downloads a public package from a Git repository               |
| <b>github</b>    | github:foo/bar                        | Downloads a public package from GitHub                         |
| <b>github</b>    | foo/bar                               | Alias for the github: protocol                                 |
| <b>file</b>      | file:./my-package                     | Copies the target location into the cache                      |
| <b>link</b>      | link:./my-folder                      | Creates a link to the ./my-folder folder (ignore dependencies) |
| <b>patch</b>     | patch:left-pad@1.0.0#./my-patch.patch | Creates a patched copy of the original package                 |
| <b>portal</b>    | portal:./my-folder                    | Creates a link to the ./my-folder folder (follow dependencies) |
| <b>workspace</b> | workspace:*                           | Creates a link to a package in another workspace               |

<https://docs.npmjs.com/cli/v10/configuring-npm/package-json#dependencies>

<https://yarnpkg.com/protocols>

<https://v3.yarnpkg.com/features/protocols>

<https://bower.io/docs/api/>

# Реджистри

## GET

### Meta Endpoints

GET /

GET /-/all

```
{
  "db_name": "registry",
  "doc_count": 399172,
  "doc_del_count": 354,
  "update_seq": 3351374,
  "purge_seq": 0,
  "compact_running": false,
  "disk_size": 2118398075,
  "data_size": 1600835750,
  "instance_start_time": "1475135224217333",
  "disk_format_version": 6,
  "committed_update_seq": 3351374
}
```

### Package Endpoints

GET /{package}

GET /{package}/{version}

GET /{package}/{version}.tgz

GET /-/v1/search

<https://github.com/verdaccio/verdaccio>



<https://github.com/npm/registry/blob/master/docs/REGISTRY-API.md>

# Реджистри

## packument.json

- Метаданные
- Каналы (теги)
- Список всех версий и их манифесты
- Данные о публикации

```
"_id": "@ampproject/remapping",
"_rev": "37-199d3607a07a98bf2a50668d5f0411b6",
"name": "@ampproject/remapping",
"dist-tags": {
  "latest": "2.2.1"
},
"versions": {
  "0.1.0": {
```

```
"time": {
  "created": "2019-08-08T17:52:34.963Z",
  "0.1.0": "2019-08-08T17:52:35.249Z",
  "modified": "2023-07-09T22:06:24.934Z",
  "0.2.0": "2020-01-29T01:35:22.956Z",
  "0.3.0": "2020-06-13T09:17:15.752Z",
```

```
"_npmUser": {
  "name": "jridgewell",
  "email": "justin+npm@ridgewell.name"
},
```

<https://registry.npmjs.org/@ampproject/remapping>

# Реджистри

## PUT

```
curl -u user:password -X POST "https://<registry>"  
-F "npm.asset=@pkg-name-1.0.0.tgz" -v
```

[https://github.com/  
npm/npm-registry-  
client/tree/latest  
#clientpublishuri-params-  
cb](https://github.com/npm/npm-registry-client/tree/latest#clientpublishuri-params-cb)

[https://github.com/  
verdaccio/verdaccio/  
blob/master/packages/  
api/src/publish.ts](https://github.com/verdaccio/verdaccio/blob/master/packages/api/src/publish.ts)

[https://help.sonatype  
.com/repomanager3/  
integrations/rest-and-  
integration-api/  
components-api  
#ComponentsAPI-NPM](https://help.sonatype.com/repomanager3/integrations/rest-and-integration-api/components-api#ComponentsAPI-NPM)

[https://github.com/  
taskforcesh/nandu](https://github.com/taskforcesh/nandu)

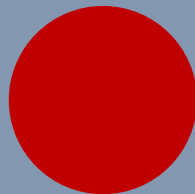
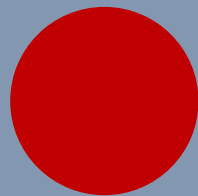
# Реджистри Audit

```
yarn audit --json > audit-report.txt
```

```
{
  "type": "auditAdvisory",
  "data": {
    "resolution": {
      "id": 1094415,
      "path": "prettier-config-qiwi@trivago/prettier-plugin-sort-import",
      "dev": false,
      "optional": false,
      "bundled": false
    },
    "advisory": {
      "findings": [
        {"version": "7.22.20", "paths": []},
        {"version": "7.17.3", "paths": ["prettier-config-qiwi@trivago/"]},
      ],
      "metadata": null,
      "vulnerable_versions": "<7.23.2",
      "module_name": "@babel/traverse",
      "severity": "critical",
      "github_advisory_id": "GHSA-67hx-6x53-jw92",
      "cves": [
        "CVE-2023-45133"
      ],
      "access": "public",
      "patched_versions": ">=7.23.2",
      "cvss": {
        "score": 9.3,
        "vectorString": "CVSS:3.1/AV:L/AC:L/PR:N/UI:N/S:C/C:H/I:H/A:H"
      },
      "updated": "2023-10-20T13:27:09.000Z",
      "recommendation": "Upgrade to version 7.23.2 or later",
      "cwe": [
        "CWE-184"
      ],
      "found_by": null,
      "deleted": null,
      "id": 1094415,
      "references": "- https://github.com/babel/babel/security/advisori",
      "created": "2023-10-16T13:55:36.000Z",
      "reported_by": null,
      "title": "Babel vulnerable to arbitrary code execution when compi",
      "npm_advisory_id": null,
      "overview": "### Impact\n\nUsing Babel to compile code that was s",
      "url": "https://github.com/advisories/GHSA-67hx-6x53-jw92"
    }
  }
}
```

<https://github.com/antongolub/npm-registry-firewall/blob/master/src/main/js/firewall/plugins/audit.js>





- Error [ERR\_REQUIRE\_ESM]: require() of ES Module not supported
- Переполненность пакетов (bloating)
- Размытый контракт зависимостей

## Ок, что делать?

- Прокси
  - Патчить пакументы
  - Патчить тарболы
- Снижать «разноверсионность»
- Depcheck
- Перенести dev & build депсы в инфраструктуру
- Свой клиент

## Что дальше?

- Аудируемые реестры (tidelift?)
- npm chatgpt fix
- Инфраструктурные бустеры
- Новые протоколы доставки



# EOF

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